ACCT3110 External Financial Reporting I

[4 credit hours]

This course covers accounting topics applicable to asset valuation, income measurement and financial statement disclosure. It concentrates on accounting for corporations and emphasizes the accounting cycle and the asset side of the balance sheet.

Prerequisites: BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF C AND BUAD 2050 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT3120 External Financial Reporting II

[3 credit hours]

This course concentrates on financial accounting for corporations and emphasizes the liability and stockholders' equity sections of the balance sheet, and related income statement issues.

Prerequisites: ACCT 3110 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT3210 Individual Taxation

[3 credit hours]

This class focuses on the concepts and principles applicable to the taxation of individuals.

Prerequisites: BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF C AND BUAD 2050 FOR LEVEL UG WITH MIN. GRADE OF C AND ACCT 3110 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

ACCT3310 Accounting Information Systems And Controls

[3 credit hours]

This course provides an introduction to processing and reporting of accounting information. Major emphasis is placed on basic accounting information processing including accounting applications in an advanced information technology environment.

Prerequisites: ACCT 3110 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT3320 Internal Reporting

[3 credit hours]

Internal Reporting focuses on budgeting, product and service costing and the ability to recognize and provide management with relevant information for strategic cost management and performance evaluation.

Prerequisites: ACCT 3110 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT4130 External Financial Reporting III

[3 credit hours]

This is the third course in the external financial reporting sequence. This course covers topics such as foreign exchange, partnerships, business consolidations and mergers.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT4250 Taxation of Business Entities

[3 credit hours]

This course covers the taxation of corporations, their shareholders, and other business entities. Topics include formation of business entities, taxation of income, and tax treatment of distributions.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C AND ACCT 3210 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT4410 Governmental And Not-For-profit Accounting

[3 credit hours]

Principles, procedures and ethics of financial reporting for not-for-profit organizations, including state and local government. Includes the use of funds, budgets, appropriations and encumbrances as means of control.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT4420 Auditing

[3 credit hours]

Auditing integrates financial and cost accounting, ethics, accounting theory, information systems and control structure concepts into a systematic process of obtaining, evaluating and reporting on economic events and activities.

Prerequisites: (ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C AND ACCT 3310 FOR LEVEL UG WITH MIN. GRADE OF C)

ACCT4940 Accounting Internship

[1-3 credit hours]

The accounting internship allows superior accounting students to obtain practical training through a rigorous learning experience. This program enables students to secure a broad exposure to business operations and problems.

Prerequisites: ACCT 3110 FOR LEVEL UG WITH MIN. GRADE OF B

ACCT4990 Independent Study: Readings And Research

[1-3 credit hours]

The student will write a research report on an accounting topic of interest to both student and faculty adviser. The topic must not be covered in another undergraduate accounting course.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT5000 Financial And Managerial Accounting

[3 credit hours]

The study of the principles of Financial and Managerial accounting. The financial accounting segment of the course will focus on the preparation, interpretation and analysis of financial statements and the use of the financial information. The managerial accounting segment of the course will focus on an introduction to cost accounting, managerial accounting concepts and the use of accounting information in managerial decision-making.

ACCT5120 External Financial Reporting II

[3 credit hours]

This class concentrates on financial accounting for coporations and emphasizes the liability and owner's equity sections of the balance sheet and related income statement issues.

Prerequisites: ACCT 3110 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT5320 Internal Reporting

[3 credit hours]

This course focuses on budgeting, product and service costing, and the ability to recognize and provide management with relevant information for strategic cost management and performance evaluation. This class will include a project for additional analysis. Prerequisite: Acct 5100 with a grade of C (2.0) or better.

Prerequisites: ACCT 3110 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT5420 Auditing

[3 credit hours]

Auditing integrates financial and cost accounting, ethics, accounting theory, information systems and control structure concepts into a systematic process of obtaining, evaluating and reporting on economic events and activities.

Prerequisites: ACCT 5120 FOR LEVEL GR WITH MIN. GRADE OF C OR ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C AND ACCT 3310 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT5940 Internship

[1-3 credit hours]

A combination of practical experience at a business concern with discussion to be held at the University with others in the program. An oral and written report is required.

ACCT6130 External Financial Reporting III

[3 credit hours]

This is the third course in the external financial reporting sequence. This course covers topics such as foreign exchange, partnerships, business consolidations and mergers.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5120 FOR LEVEL GR WITH MIN. GRADE OF C

ACCT6150 International Accounting And Taxation

[3 credit hours]

Analysis of accounting issues crucial to multinational companies. Issues to be addressed include: comparing accounting across countries, effects of harmonization of financial reporting requirements and the translation of foreign currency financial statements.

Prerequisites: ACCT 6210 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

ACCT6190 Contemporary Accounting Problems

[3 credit hours]

An overview of current topics and issues concerning the accounting profession. The course will focus on, but not be limited to, topics in external financial reporting.

Prerequisites: (ACCT 6210 FOR LEVEL GR WITH MIN. GRADE OF C AND ACCT 6130 FOR LEVEL GR WITH MIN. GRADE OF C)

ACCT6210 Research In Accounting And Taxation

[3 credit hours]

Provides the methodology necessary for accountants to perform effective, efficient and ethical accounting and tax research and the means of communicating those results.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5120 FOR LEVEL GR WITH MIN. GRADE OF C AND ACCT 3210 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT6250 Corporate Taxation

[3 credit hours]

This course covers the taxation of corporations, their shareholders, and other business entities. Topics include the formation, taxation of income, and the tax treatment of distributions.

Prerequisites: ACCT 3210 FOR LEVEL UG WITH MIN. GRADE OF C AND ACCT 5120 FOR LEVEL GR WITH MIN. GRADE OF C OR ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C

ACCT6310 Advanced Managerial Accounting

[3 credit hours]

Use of accounting information in planning and controlling an organization, including case studies in cost-volume-profit, budgeting, transfer pricing and performance evaluation.

Prerequisites: ACCT 3320 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5320 FOR LEVEL GR WITH MIN. GRADE OF C

ACCT6330 Advanced Topics In Accounting Information Systems

[3 credit hours]

Additional analysis of processing and reporting accounting information. Major emphasis is placed on accounting information processing including accounting applications in an advanced technology environment.

Prerequisites: ACCT 3310 FOR LEVEL GR WITH MIN. GRADE OF C

ACCT6410 Governmental And Not-For-profit Accounting

[3 credit hours]

Principles, procedures and ethics of financial reporting for not-for-profit organizations, including state and local government. Includes the use of funds, budgets, appropriations and encumbrances as a means of control.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5120 FOR LEVEL GR WITH MIN. GRADE OF C

ACCT6430 Business Valuation And Analysis

[3 credit hours]

Analyzes business analysis and valuation techniques with majpr emphasis placed on how a firm's financial reporting decisions affect fundamental analysis.

Prerequisites: ACCT 3120 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5120 FOR LEVEL GR WITH MIN. GRADE OF C

ACCT6440 Advanced Auditing

[3 credit hours]

Advanced Auditing aims to extend students' knowledge on auditing learned from lower level auditing course(s). The course introduces students to topics such as financial statement audit, audit planning, analytical procedures, professional judgment framework, financial statement fraud, professional ethics, and so on. In addition, cases, practitioners' and academic journal articles assigned during the semester enhance students' understanding and application of concepts learned. Finally, students can develop necessary audit skills through involving in doing Real Audit simulation.

Prerequisites: ACCT 4420 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5420 FOR LEVEL GR WITH MIN. GRADE OF C

ACCT6450 Fraud and Forensic Accounting

[3 credit hours]

This course is designed to introduce the student to the basic concepts of Fraud Examination and Forensic Accounting.

Prerequisites: ACCT 4420 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5420 FOR LEVEL GR WITH MIN. GRADE OF C

ACCT6960 Independent Study In Accounting

[1-3 credit hours]

Independent research report on an accounting topic of interest to both the student and the faculty member. Research related to a topic not covered in the listed graduate accounting courses.

ACTG1040 Principles Of Financial Accounting

[3 credit hours]

Basic financial accounting principles for a business enterprise. Topics include transaction analysis, preparation,interpretation and use of financial reports such as an income statement and balance sheet. Students will calculate and interpret a variety of financial ratios. Familiarity with business terms and concepts will be emphasized.

ACTG1050 Principles Of Management Accounting

[3 credit hours]

Management uses of accounting data for analysis, decision making, financial planning and control. Topics include understanding cost behavior, job order and activity-based costing, cost-volume profit analysis and budgeting. Emphasis on development of critical thinking skills.

Prerequisites: ACTG 1040 FOR LEVEL UG WITH MIN. GRADE OF D- OR BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF D-

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ACTG1200 QuickBooks

[3 credit hours]

This course will introduce students to QuickBooks software. Students will record financial transactions for fictional companies. Topics include creating a chart of accounts, recording customer and vendor transactions, processing payroll, and printing recipts.

ACTG2100 Intermediate Accounting I

[3 credit hours]

In-depth expansion of financial accounting principles and financial statement presentation. Emphasis on balance sheet accounts with particular attention applied to working capital (cash, receivables, inventory, and current liabilities) and long-term assets. Discussion of revenue recognition and internal control.

Prerequisites: ACTG 1040 FOR LEVEL UG WITH MIN. GRADE OF D- OR BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF D-

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ACTG2300 Cost Accounting

[3 credit hours]

Practice of cost accounting especially applied to manufacturing business. Includes accounting for materials, labor and overhead under job order and process cost systems, standard costing, use of the Balanced Scorecard, and quantitative tools useful in decision making.

Prerequisites: ACTG 1050 FOR LEVEL UG WITH MIN. GRADE OF D- OR BUAD 2050 FOR LEVEL UG WITH MIN. GRADE OF D-

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ACTG2310 Financial Management for Health Care

[3 credit hours]

Provides a basic foundation in both financial and management accounting and corporate finance aimed at entry level managers working in a healthcare setting. Explains the basic forms of business financing, capital decision processes, capital investment analysis, and financial statements. Introduces business terminology and explains financial issues relevant to health care providers.

ACTG2400 Fundamentals Of Taxation

[3 credit hours]

Consideration of the basic features of the federal income tax system. Emphasis is placed on the determination of taxable income of individuals and corporations. Also covered will be the preparation of the form 1040.

AED2940 Field Placements In Special Settings

[1-4 credit hours]

Independent field work which will allow the undergraduate student to develop a course of study. Optional placement in a school system or in programs for children and youth at The Toledo Museum of Art.

AED3100 Art Education for the Pre-Primary and Primary Child

[3 credit hours]

Focuses on the supporting the young child's capacity to create, perceive and appreciate the visual arts. Orientation to materials and instructional techniques will be explored through studio and gallery instruction with a young child.

AED3130 Multi-Cultural Approaches For Art Appreciation

[3 credit hours]

An investigation of innovative methods for teaching multi-cultural understanding through art history and art appreciation. The Toledo Museum of Art's collection will be the focus for the course.

AED3300 Crafts In Art

[3 credit hours]

This course is designed to investigate the philosophy and variety of craft processes used to make art. Topics that may be covered include fibers, metal crafts, ceramics, paper making.

AED3500 Innovations In Art Education

[3 credit hours]

An introduction to new directions in secondary art education. Current views of philosophy and psychology are implemented as the rationale for contemporary curricula in art education. Field experience is to be arranged.

AED3940 Art Field Placements In The Elementary School

[1-4 credit hours]

Field placement in an elementary school setting allowing the undergraduate student, with art teacher approval, to develop a course of study that will satisfy the special needs of the student in art education.

AED4140 Art Education For The Special Child

[3 credit hours]

This course introduces and surveys a wide variety of art strategies and instructional adaptations for use with the child with physical, emotional or mental differences.

AED4200 Computer Graphics In Art Education

[3 credit hours]

This course examines the tools, technology and instructional applications of computer graphics in art settings. This course is especially appropriate for art educators interested in integrating art concepts using the Macintosh environment.

AED4230 Integrating Aesthetic Experiences

[3 credit hours]

This course will provide students in education an overview of the role of art and music in curriculum development. (Students may enroll in either art or music education sections.)

AED4300 Media And Methods In Therapeutic Art

[3 credit hours]

An investigation into group and individual processes as they relate to art media and methods in therapeutic art will be presented. Experiences in art media will be explored.

Prerequisites: AED 4560 FOR LEVEL UG WITH MIN. GRADE OF D-

AED4450 Curriculum In Art Education

[3 credit hours]

An exploration of discipline-based art education (DBAE) philosophy in the schools. Field placement in the Toledo Museum of Art's Youth program and the area schools will be used to implement the theoretical base.

AED4560 Introduction To Therapeutic Art

[3 credit hours]

This course will introduce students to therapeutic art through investigation of theories in art education and art therapy. Students will explore art media and methods in therapeutic art programming.

AED4900 Seminar In Professional Development

[2 credit hours]

This seminar is designed to enhance the student teacher's final preparation for employment. Professional issues, ethical behavior, interview techniques and other processes and concerns involved in entry into the profession will be examined.

AED4930 Student Teaching In Art

[6-12 credit hours]

Planned field experiences in public school classrooms under the direction of experienced art teachers. Gradual acceptance of full responsibility by student teacher. A scheduled time will be included to facilitating professional practices.

Prerequisites: UPDV FOR MIN. SCORE OF 1

AED4950 Innovations In Art Education

[3 credit hours]

Students are introduced to a variety of activities and materials based upon children's interests and needs, available materials, and time allotted to art activities in the self-contained classroom.

AED4990 Individual Study In Art Education For The Undergraduate Student

[1-4 credit hours]

Individual study is designed to provide the student the opportunity to work individually on professional problems under the direction of the art education staff without formal class meetings.

AED5000 Research In Art Education

[4 credit hours]

This course will provide an overview of empirical and historical research structures, application of research to classroom activities and development of research for publication.

AED5140 Art Education For The Special Child

[3 credit hours]

This course introduces and surveys a wide variety of art strategies and instructional adaptations for use with the child with physical, emotional or mental differences.

AED5150 Setting The Stage For Early Childhood Learning: Inspirations From Reggio Emilia

[3 credit hours]

This course will explore Reggio's philosophy of early childhood education and the numerous ways that children explore the "hundred languages." Reggio uses these languages (art, clay, wire, sculpture, light, shadow, etc.) as a way to help children represent their world and what they know about it.

AED5200 Computer Graphics In Art Education

[3 credit hours]

This course examines the tools, technology and instructional application of computer graphics education settings. The course is appropriate for art educators as well as others interested in using graphics and the microcomputer.

AED5220 Issues In Therapeutic Art

[3 credit hours]

The study of art processes that provide physical, emotional and intellectual development. Topics covered include art history, art appreciation, aesthetics, making art and art materials.

AED5240 Adaptive Methods In Art Education For Special Populations

[3 credit hours]

This course is designed to provide understanding of how art experiences relate to special populations. Students will research and develop strategies and instructional adaptations for use with special populations in a therapeutic or rehabilitative setting.

Prerequisites: AED 5200 FOR LEVEL GR WITH MIN. GRADE OF D-

AED5320 The Art Museum And The Art/Humanities Educator

[3 credit hours]

This course will introduce the role of the museum for the art/humanities educator and will examine the installation and design of exhibitions and the implications for teaching. Life center issues, museum education, curriculum issues, interactive galleries and technology will be presented.

AED5930 Advanced Seminar In Philosophy Of Art Education

[1-4 credit hours]

Guest lecturers from other institutions of higher learning are invited to The Toledo Museum of Art or The University of Toledo Department of Art to present seminars relevant to their endeavors.

AED5990 Individual Study Of Art For The Graduate Student

[1-4 credit hours]

Individual study is designed to provide a student with the opportunity to work independently on professional problems under the direction of the faculty in the Department of Art.

AED6940 Internship

[1-4 credit hours]

This course will incorporate advanced recreational therapy program concepts in therapeutic art within an internship environment using expressive techniques.

AERO1110 Air Force Organization I

[2 credit hours]

Organization of the United States Air Force. Focus on missions involving airlift forces, strategic forces, tactical forces as well as overseas forces. Development and employment of weapon systems and logistic support functions. Leadership laboratory activities.

AERO1120 Air Force Organization II

[2 credit hours]

Organization of the United States Air Force. Focus on U.S. Defense policies, military balance between U.S. and eastern European forces as well as capabilities of Army, Navy and Reserve/Guard forces. Officership/Professionalism and introduction to flight.

AERO2110 Air Force History I

[2 credit hours]

Development of air power from the first lighter-than-air vehicles through the establishment of the Department of the Air Force as an independent military force. Various concepts of employment of air power and factors which have prompted research and technological change. Examples of impact of air power on strategic thought. Leadership laboratory activities.

AERO2120 Air Force History II

[2 credit hours]

Development of air power since the establishment of the independent Air Force to the present. Various concepts of employment of air power and factors which have prompted research and technological change. Examples of impact of air power on strategic thought. Leadership laboratory activities.

AERO3110 Air Force Management I

[3 credit hours]

Integrated management course emphasizing individual as a leader in the Air Force. Human behavior, individual and in groups, historical development of management thought, discussion of classical leadership theory; oral and written communication, writing and briefing formats. Leadership laboratory activities.

AERO3120 Air Force Management II

[3 credit hours]

Air Force leadership, planning, organizing, coordinating, directing and controlling functions of management with emphasis on Air Force application, concept of command and staff, junior as administrative leader, Air Force personnel system, management of environment. Leadership laboratory activities.

AERO4110 American And National Security

[3 credit hours]

Role of the President, the Congress and National Security Council in national security making policy; American defense strategy; alliance; regional security; arms control. Leadership laboratory activities.

AERO4120 Air Force Officership

[3 credit hours]

Air Force officer as part of national security force; military law; laws of armed conflict; the military profession; transition to military life; relations with civilian community. Leadership laboratory activities.

AERO4910 Air Force Issues

[3 credit hours]

On demand. In-depth study of selected topics. Offered to individuals in lecture, seminar or independent study depending on student needs and nature of material. May be repeated twice for up to 6 hours.

AFST1100 Introduction To Africana Studies

[3 credit hours]

Introductory survey of basic theoretical concepts to analyze the Black experience, with special focus on the general historical process common to the African Diaspora (Africa, Caribbean and the Americas - South, Central and North, especially the USA.)

AFST1110 African Civilization

[3 credit hours]

General cultural and historical survey of Africa south of the Sahara from earliest times to the 20th century. Includes topics on art, literature, philosophy, religion and society.

AFST1200 Introduction To The African Experience

[3 credit hours]

Introduction to the African experience through case studies of critical historical experiences: origin of humanity, origin of civilization, empire and traditional society.

AFST2100 Foundations Of Black Intellectual History

[3 credit hours]

An examination of slavery and colonialism in the intellectual history of the African Diaspora, especially in the work of W.E.B. Dubois, C.L.R. James and Kwame Nkrumah.

Prerequisites: AFST 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR AFST 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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AFST2200 Foundation Of Culture In The African Diaspora

[3 credit hours]

Examination of culture in the African Diaspora by focusing on continuities and discontinuities in music and dance, material culture, language and folklore and the cultural practices of everyday life.

Prerequisites: AFST 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR AFST 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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AFST2220 History Of Jazz

[3 credit hours]

A study of the development of jazz styles including listening skills and historical perspectives. Because the major innovations and stylistic interpretations of jazz are a result of African Americans, the course includes a study of how their culture influenced the development of jazz. Students may take P/NC.

AFST2300 Black Community Research Methods

[3 credit hours]

Survey of basic social research methods and studies focusing on the Black community. Class conducts research on Black community of Toledo. Offered as companion to AFST 2400. Topics change each year. Course can be taken twice.

Prerequisites: AFST 1100 FOR LEVEL UG WITH MIN. GRADE OF D-

AFST2660 Politics In Africa

[3 credit hours]

The character and development of African political institutions and processes with a special emphasis on patterns in the post-independence period and prospects for the future.

AFST3250 African-American History To 1865

[3 credit hours]

An examination of the historical experiences of African-Americans in the United States from 1619 to 1865.

AFST3260 African-American History From 1865

[3 credit hours]

An examination of the historical experiences of African-Americans in the United States since 1865.

AFST3500 Environmental Inequalities & Opportunities

[3 credit hours]

Explores environmental inequality along racial, ethnic, class and national lines. Applies diverse perspectives on the environment to explain, predict and correct environmental inequality in America and throughout the world.

AFST3600 Entrepeneurship and the Black Community

[3 credit hours]

Explores the gap between entrepeneurial aspirations and the actual entrepeneurial enterprises in the black community. Examines the subject in a socio'historical context. Diverse sociological perspectives, methodologies and analyses are employed. Student would need 3 hours of Soci-Science or 3 hours of AFST.

AFST3700 African Women & the Enviornment

[3 credit hours]

Overview of empirical evidence and interpretive models of African women with reference to ennvironment. Specific topics: African women managing natural resources; implications of climate change in Africa; ecology and feminism. Student will need 3 hours of Soci-Science or 3 hours of AFST.

AFST3800 Ecotourism: Studies of the Africana World

[3 credit hours]

Introduce students to the field of ecotourism studies and specific challenges of community development and sustainability. The course covers ecotoursim in the Africana world of Africa, the Caribbean, and Latin America.

AFST3850 Political Institutions and Grassroots Politics

[3 credit hours]

Using a hybrid of professional experience and relevant literature, the instructor will educate students about macro and micro levels of political engagement. The course is taught by a seasoned politician, professional policy formulator, and/or experienced grassroots organizer who synergizes grassroots politics with mainstream political institutions to effect positive social change.

AFST3900 Perspectives on African American Education

[3 credit hours]

Covers the history and cultural heritage of African Americans and an in-depth knowledge of experiences of African American student populations in preparation for a variety of career fields, including education, social work, criminal justice, business, nursing, and other professions. Examines key debates and policy proposals to better understand current issues impacting African American student populations. U.S. Diversity

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AFST4650 African American Writers Before The 20th Century

[3 credit hours]

A survey of African-American prose, poetry, drama and fiction from 1760 to 1915. Recommended: ENGL 2700, 2800, or 3790.

AFST4660 African American Literature In The 20th Century

[3 credit hours]

Study of the literary achievement of major African-American writers beginning with DuBois and ending with Gwendolyn Brooks and Ed Bullins. Recommended: ENGL 2700, 2800, or 3790.

AFST4800 Social Change in Developing Nations

[3 credit hours]

The new emerging ideological, political, social and economic patterns which repeat themselves in and determine the Third World transition from a traditional to a new society.

AFST4900 Senior Seminar

[3 credit hours]

General theoretical synthesis of the field focusing on a close reading of a recent biographical work of intellectual history, a recent work of cultural criticism and a recent work of social analysis.

AFST4910 Directed Research

[1-6 credit hours]

Student selected research topic under the supervision of faculty member and the Director of Africana Studies. Permission to enroll is contingent on a written proposal by the student being accepted by the two sponsoring faculty.

AFST4920 Directed Readings

[1-6 credit hours]

For advanced students wishing to read a specialized literature in the field. Requires a written proposal approved by faculty and Director of the Program.

Prerequisites: AFST 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR AFST 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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AFST4980 Special Topics In Africana Studies

[3 credit hours]

Discussion of a substantial issue in scholarly research or public discourse relative to the African Diaspora. May be repeated for different issues. Maximum number of hours for AFST 4980 should not exceed 9 semester hours.

AL2010 Portfolio Development

[1-3 credit hours]

Course is designed for non-traditional students whose prior learning experiences will be formatted into a portfolio for faculty assessment with the potential of earning college credit.

AL2020 Foundations of Lifelong Learning

[1 credit hour]

This interactive course is designed to provide non-traditional students with the tools to establish a foundation for learning and success in college and beyond. Students will be able to select topics relevant to their circumstances and goals

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AL3000 Introduction to Professional Studies

[3 credit hours]

This course will prepare students with advanced computer and information skills necessary for research specific to professional health, business, and community related disciplines.

AL3500 Fundamentals of Interdisciplinary Research

[3 credit hours]

This course is designed as a foundational course for University College for all IDVP and Liberal Studies degree program students. It is the required prerequisite course for students needing to take the Senior Capstone (AL 4950 or AL 4940) courses. It is a review of the research process course designed for undergraduate students majoring in all disciplines. It emphasizes the fundamentals of conducting college-level research and the practice of writing about and properly citing that process.

AL4940 Field Experiences and Internship

[4 credit hours]

This is the capstone course for Individualized Program students. The field experience internship is gone under the guidance of academic advisor. It is done prior to graduation.

AL4950 Senior Capstone

[4 credit hours]

The purpose of this class is to provide a culminating integrative experience of self-reflection, academic research, and critical thinking as a capstone to your multi-disciplinary University College undergraduate degree. This course will result in a Senior Final Project – an Annotated Bibliography and Multimedia Presentation of your research – in which you will learn, practice and demonstrate skills that will prove your proficiency and facility with the research process. Students will design a Capstone Project based upon research related to an area of concentration.

ALS1900 Intro Seminar: Adult Liberal Studies

[2 credit hours]

Introduction to liberal studies. Library use, writing of a documented paper and the development of critical thinking through classroom discussion.

ALS3040 Topical Seminar: Social Sciences

[4 credit hours]

Focus on topics of general interest to liberal arts students with particular reference to tools, concepts and analytical methods of social scientists. Jr. Standing required and completion of Comp. II, or permission of instructor.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1170 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ALS3050 Topical Seminar: Humanities

[4 credit hours]

Focus of general interest in humanities; writing and communication; religious, philosophical and idealogical traditions; traditional and performing arts. Jr. Standing required and completion of Comp. II, or permission of instructor.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1170 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ALS3060 Topical Seminar: Natural Sciences

[4 credit hours]

Topics of general interest that consider scientific problem solving in such areas as biology, chemistry, geology, astronomy, physics, mathematics and statistics. Jr. Standing required and completion of Comp. II, or permission of instructor.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1170 FOR LEVEL UG WITH MIN. GRADE OF D- OR

AMST2700 Introduction To American Studies

[3 credit hours]

An introduction to the interdisciplinary field of American Studies and U.S. cultural identity through cultural expression and theoretical examination.

AMST3730 Folklore

[3 credit hours]

A survey of the field of folklore with an emphasis on folk narrative, folk music and material culture in America. Recommended: Permission of instructor and Composition II

AMST4960 Senior Thesis, Parts I & II

[5 credit hours]

Part I Research and initial organizational design of the senior thesis. Advanced American Studies majors work under an adviser's direction. Part II Completion of a preliminary and then final draft of the senior thesis. The American Studies Faculty Steering Committee administers an oral exam upon thesis completion.

AMST4980 Special Topics In American Studies

[3 credit hours]

Investigations of American Culture. Discovering patterns and interrelated phenomena in history, literature, sports, the arts, etc.

AMST4990 Independent Investigation In American Studies

[1-4 credit hours]

Supervised independent study. Interdisciplinary topics within American culture. For majors only.

ANAT5000 Anatomy for Physician Assist

[5 credit hours]

Provides students with a working knowledge of the major anatomical regions and structures. Emphasis placed on the relationships of components as well as topographical and functional anatomy. Case studies will be utilized.

ANAT679 Human Structure and Developmnt

[0-16 credit hours]

Human Structure & Development (Block 2)

ANAT6790 Microanatomy for Pathology Assistants

[4 credit hours]

Microanatomy for Pathology Assistants is a course that includes the study of the structure and function of cells, tissues, and organs. Particular emphasis is placed on histology at the light microscopic level. The course uses hundreds of high-resolution photographs and images of human and domestic animal tissues. Histology laboratories involve finding and identifying histological structures at low, medium, high, and oil immersion views. Clinical exercises will be used to develop “problem solving” and “critical thinking” skills.

ANAT680 Neuroscience

[0-6 credit hours]

The content of the medical neuroscience course includes not only the basic science concepts introduced in more traditional neuroanatomy courses, it also incorporates neurohistology, neuroembryology, neurophysiology, neuropathology, and neuroradiology. The usefulness of these concepts are reinforced by numerous clinically-based lectures which emphasize the importance of integrating basic neuroanatomical knowledge with the clinical symptoms presented by a neurological deficit. Other clinically-based lectures present current medical concepts concerning neuroimmunology, neurodegenerative diseases, pain, sleep, epilepsy, substance abuse, and memory and learning.

ANAT710 Clinical Anatomy

[0-6 credit hours]

The elective provides the student an opportunity to review, refine, and consolidate their understanding of the morphologic and physiologic bases of human biology as related to the practice of medicine and surgery in which they are most interested.Each student, in consultation with instructor, should determine an area(s) of concentration which may draw from any or all of the anatomical subdisciplines (gross anatomy, microanatomy, developmental anatomy, neuroscience). A plan of study should be established through consultation. During the execution of the plan of study, the student is expected to be present in the laboratory approximately two hours per day, five days per week.. The student is also expected to perform independent reading in the area(s) of study. The readings should include both basic and clinical science topics as relevant to the topic and student. The student may be requested/required to make a formal presentation of information related to the topics covered during the rotation.

Prerequisites: (FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ANAT711 Clinical Anatomy

[0-3 credit hours]

The elective provides the student an opportunity to review, refine, and consolidate their understanding of the morphologic and physiologic bases of human biology as related to the practice of medicine and surgery in which they are most interested.Each student, in consultation with instructor, should determine an area(s) of concentration which may draw from any or all of the anatomical subdisciplines (gross anatomy, microanatomy, developmental anatomy, neuroscience). A plan of study should be established through consultation. During the execution of the plan of study, the student is expected to be present in the laboratory approximately two hours per day, five days per week.. The student is also expected to perform independent reading in the area(s) of study. The readings should include both basic and clinical science topics as relevant to the topic and student. The student may be requested/required to make a formal presentation of information related to the topics covered during the rotation.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ANAT8330 Advanced Topographic Anatomy

[3 credit hours]

Detailed dissections of specific body regions. May be repeated for credit.

ANES702 Anesthesiology

[0-6 credit hours]

This clerkship will offer the student grounding in the medical basis and clinical practice of anesthesiology. They will participate directly in patient care throughout the process of preoperative evaluation, selection of anesthesia plan, implementation of that plan and emergence and post-op care. Students will also become acquainted with the technical aspects necessary for anesthesia practice including those of intubation, obtaining IV access, monitoring and performance of regional blocks. Participation in, and/or observation of, a requisite number of specific modalities, procedures and patient types is required of all students. The list of requisites can be found on the Department of Anesthesiology website.

Prerequisites: (FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ANES703 Pain Management

[6 credit hours]

The student will actively participate in the management of patients with acute Peri-op Pain, Cancer Pain, and Chronic Pain. In combination, these various experiences within the Pain Medicine Division provide the student with exposure to comprehensive pain management of all post-operative patients as well as patients visiting the Pain Medicine Clinic withchronic pain syndromes and cancer-related pain. The student will participate in patient evaluation, intake interviews, perform admission histories and physicals, and round with the Peri-operative Pain Service and on the in patients on the Chronic Pain service. The patient volume seen by the Pain Medicine Division is in excess of 200 patients per month. This rotation presents a unique opportunity to learn many of the skills associated with the management of these complex patients. During this rotation, the student will work under the supervision of attending Anesthesiologists, Anesthesiology residents and Nurse Specialists. This course is recommended for all students regardless of specialty interests, as pain in one form or another is the most common presenting complaint for any clinician.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ANES704 Critical Care/Perioperative

[3 credit hours]

Perioperative medicine addresses the medical care of the surgical patient and focuses on the patient’s status before, during, and after the actual surgical procedure. Critical Care/Peri-op students will be integral members of the service caring for the critically ill.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

ANES705 Critical Care

[0-6 credit hours]

Perioperative medicine addresses the medical care of the surgical patient and focuses on the patient's status before, during, and after the actual surgical procedure. Critical Care/Peri-op students will be integral members of the service caring for the critically ill.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P (MAY BE TAKEN CONCURRENTLY) AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P (MAY BE TAKEN CONCURRENTLY) AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF

ANES760 Anesthesiolgy Elective

[6 credit hours]

This clerkship will offer the student grounding in the medical basis and clinical practice of anesthesiology. They will participate directly in patient care throughout the process of preoperative evaluation, selection of anesthia plan, implementation of that plan and emergence and post-op care. Students will also become acquainted with the technical aspects necessary for anesthesia practice including those of intubation, obtaining IV access, monitoring and performance of regional blocks. Participation in, and/or observation of, a requisite number of specific modalities, procedures and patient types is required of all students. The list of requisites can be found on the Deparment of Anesthesiology website.

ANTH1020 Introduction To Anthropology

[3 credit hours]

A survey of the varied aspects of anthropology, including cultural anthropology, prehistory, physical anthropology and linguistics. (not for major credit)

ANTH2000 Proseminar In Anthropology I

[1 credit hour]

Students are introduced to the academic and professional nature of Anthropology. Topics covered include professional socialization, honor theses, portfolio construction, preparation for graduate studies, and career development.

ANTH2020 Introduction To Archaeology

[3 credit hours]

An introduction to the history, methods and techniques of archaeology and how the discipline of archaeology is related to anthropology, ethnohistory, history and geology. (not for major credit)

ANTH2100 Human Society Through Film

[3 credit hours]

An introduction through the use of ethnographic film to various aspects of non-western culture and the development of the use of film in anthropology.

ANTH2700 Human Evolution

[3 credit hours]

A survey of the human species in time, place and culture and the investigation of the factors underlying human biological variation.

ANTH2750 World Prehistory

[3 credit hours]

A survey of the processes of cultural development from the lower Pleistocene to development of writing.

ANTH2800 Cultural Anthropology

[3 credit hours]

Introduction to culture patterns and processes and their relationship to human society and language.

ANTH2900 African American Culture

[3 credit hours]

A survey of the socio-historical and cultural factors of African Americans in the U.S.

ANTH2980 Topics in Anthropology

[3 credit hours]

Examination of Special Topics in Anthropology. May be rpeated on different topics.

ANTH3000 Culture and Sustainability

[3 credit hours]

A study of the functional interrelationships of humans and their biophysical environment in cross cultural perspective, with special emphasis on non-western cultures.

Prerequisites: ANTH 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

ANTH3020 Ohio Prehistory

[3 credit hours]

A study of the prehistoric peoples in Ohio from the end of the Ice Age to the arrival of the Europeans.

ANTH3330 Food, Health, Society

[3 credit hours]

This course deals with multi-cultural dietary patterns through time and space, as well as cross-cultural influences on health and disease.

ANTH3500 Cultural Diversity in Business

[3 credit hours]

Drawing on ethnographic and case studies to compare and contrast cultural institutions and behavioral patterns of diverse cultures, this course explores the influence of culture on business operations across cultures.

ANTH3510 Field Methods In Archaeology

[1-6 credit hours]

Methods of excavation and recovery of archaeological data. Field school conducted during excavation of a prehistoric site in the Toledo area.

ANTH3520 QUALITATIVE APPROACHES IN SOCIAL SCIENCE RESEARCH

[3 credit hours]

This course examines qualitative methods used in social science research. Focusing on ethnographic and qualitative methods, the course provides students the skills necessary to design and conduct qualitative research studies.

ANTH3800 Ecotourism: Studies of the Africana World

[3 credit hours]

Introduce students to the field of ecotourism studies and specific challenges of community development and sustainability. The course covers ecotoursim in the Africana world of Africa, the Caribbean, and Latin America.

ANTH3850 Peoples Of World: An Evolutionary Approach

[3 credit hours]

An introduction to the socioeconomic activities in societies of varying sociocultural complexity.

ANTH3900 North American Archaeology

[3 credit hours]

This course focuses on the history of North America as known from the archaeological record; from the peopling of North America through early historical contexts.

Prerequisites: ANTH 1020 FOR LEVEL UG WITH MIN. GRADE OF D- OR ANTH 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

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ANTH3920 Indians Of North America

[3 credit hours]

A survey of North America Indians from prehistoric times to the present.

Prerequisites: ANTH 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

ANTH3940 Peoples Of Subsaharan Africa

[3 credit hours]

The cultures and societies of the Subsaharan peoples of Africa.

Prerequisites: ANTH 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

ANTH4000 Proseminar In Anthropology II

[2 credit hours]

Discussion among faculty and students devoted to the study of Anthropology with a special focus on the development of a professional protfolio for graduate work or career.

Prerequisites: ANTH 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

ANTH4200 History and Theory in Anthropology-WAC

[3 credit hours]

This course acquaints students with various schools of anthropological theory, stressing the influence of traditional approaches on contemporary thought and the impact of historical context on the development of theory.

Prerequisites: ANTH 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

ANTH4450 Exploring the City

[3 credit hours]

This course takes an interdisciplinary approach to life in cities around the world, with emphasis on the ethnographic exploration of how power, cultural difference, and social inequality in cities are produced and experienced.

ANTH4520 Laboratory Methods In Archaeology

[3 credit hours]

Instruction in the methods and techniques employed by the archaeologist to analyze cultural material recovered in the field.

ANTH4560 Fieldwork In Ethnology

[1-6 credit hours]

Consists of field work involving the student in meaningful research problems at the community level. Introduces the student to the methods and problems of participant research.

ANTH4760 Medical Anthropology

[3 credit hours]

An examination of the biocultural nature of health and illness, with special emphasis on changing patterns of disease in non-western societies.

ANTH4820 Anthropology Of Religion

[3 credit hours]

A cross-cultural approach to the description and analyses of magical and religious beliefs and practices in Asia, Africa, Latin America and Indigenous North America.

Prerequisites: ANTH 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

ANTH4860 The Irish-American Experience

[3 credit hours]

A survey of the sociohistorical and cultural factors related to the immigration and adaptation of the Irish in America.

ANTH4910 Independent Research In Anthropology

[1-3 credit hours]

Supervised independent research in anthropology.

ANTH4920 Directed Readings In Anthropology

[1-3 credit hours]

Designed for those wishing to continue course work in greater depth or seeking contact with unlisted subject areas. Written proposal and consent required.

ANTH4940 Internship in Anthropology

[1-6 credit hours]

This course provides students supervised field placement related to the field of anthropology. Qualified students will work in approved organizations, such as museums, parks, research libraries, government agencies, community organizations, businesses, schools, etc.

ANTH4950 Senior Research Project

[3-6 credit hours]

Supervised opportunity for senior majors to apply the anthropological approach to a theoretical or applied cultural historical/biocultural problem through individual research, an internship, professional participation or a public education experience.

ANTH4960 Honors Thesis

[3-6 credit hours]

The student completes a thesis under the direction and guidance of their faculty adviser.

ANTH4980 Problems In Anthropology

[3 credit hours]

Courses on varied anthropological specialties. May be repeated in different specialty areas such as religion, ethnohistory, ethnic conflict and area courses.

ANTH5450 Exploring the City

[3 credit hours]

This course takes an interdisciplinary approach to life in cities around the world, with emphasis on the ethnographic exploration of how power, cultural difference, and social inequality in cities are produced and experienced.

ANTH5560 Fieldwork In Anthropology

[1-6 credit hours]

Consists of field work involving the student in meaningful research problems at the community level. Introduces the student to the methods and problems of participant research.

ANTH5740 Nutritional Anthropo-Logy

[3 credit hours]

An examination of the historical, social, political and economic factors that influence the production, distribution and consumption of food and the effects on world health and development.

ANTH5760 Medical Anthropology

[3 credit hours]

An examination of the biocultural nature of health and illness.

ANTH5860 The Irish-American Experience

[3 credit hours]

A survey of the sociohistorical and cultural factors related to the immigration and adaptation of the Irish in America.

ANTH5920 Directed Readings In Anthropology

[1-3 credit hours]

Designed for those wishing to continue course work in greater depth or seeking contact with unlisted subject areas. Written proposal and consent required.

ANTH5980 Problems In Anthropology

[3 credit hours]

Courses on varied anthropological specialties. May be repeated in different specialty areas such as religion, ethnohistory, ethnic conflict and area courses.

ANTH6990 Independent Research In Anthropology

[1-3 credit hours]

Supervised independent research in anthropology.

AR1000 First Year Orientation

[1 credit hour]

Course will introduce new students to the university and college, provide information on requirements, regulartions, campus resources and career exploration and help students develop academic skills. It is required of all new students.

ARBC1080 Culture and Commerce in the Arabic-Speaking World

[3 credit hours]

A study of the culture and society of the Arabic-speaking world with emphasis on business and economics. Taught in English.

ARBC1090 Culture of the Arabic-Speaking World

[3 credit hours]

An introduction to prinicipal social, artistic, and literary aspect of modern culture in the Arabic-speaking worls. Taught in English.

ARBC1110 Elementary Arabic I

[4 credit hours]

An introduction to Arabic Language and culture through listening, speaking, reading and writing. Laboratory practice required.

ARBC1120 Elementary Arabic II

[4 credit hours]

An introduction to Arabic language and culture through listening, speaking, reading and writing. Laboratory practice required.

Prerequisites: ARBC 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC2140 Intermediate Arabic I

[3 credit hours]

Further practice of the four language skills with grammar building and readings of a literary-cultural nature.

Prerequisites: ARBC 1120 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC2150 Intermediate Arabic II

[3 credit hours]

Further practice of the four language skills with grammar building and readings of a literary-cultural nature.

Prerequisites: ARBC 2140 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC3010 Conversation and Composition I

[3 credit hours]

Work on advanced listening, speaking, reading, and writing skills through intensive work with authentic texts that deal contemporary issues relating to the Arabic-speaking world.

Prerequisites: ARBC 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC3020 Conversation and Composition II

[3 credit hours]

Work on advanced listening, speaking, reading, and writing skills through intensive work with authentic texts that deal comtemporary issues realting to the Arabic-speaking world.

Prerequisites: ARBC 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC3410 Survey of Arabic Civilization I

[3 credit hours]

The course examines the Arabic culture and civilization from Arabic authors' literature published in English as well as in Arabic and compares that to Western thought and expression.

Prerequisites: ARBC 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC3420 Survey of Arabic Civilization II

[3 credit hours]

This course further the students' knowledge of the Arabic civilization through examining the ways of thinking and social contexts as expected in literary works and poetry from different eras.

Prerequisites: ARBC 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC3430 Survey of Arabic Civilization III

[3 credit hours]

This course further the students' knowledge of the Arabic civilization through examining the ways od thinking and social contexts as exprssed in literary works and poetry from different eras.

Prerequisites: ARBC 3410 FOR LEVEL UG WITH MIN. GRADE OF D- AND ARBC 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

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ARBC3980 Special Topics in Arabic

[1-3 credit hours]

Study of a selected topic in Arabic language, literature or culture. May be repeated wheh topic varies.

Prerequisites: ARBC 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND ARBC 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

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ARBC4010 Arabic Syntax and Stylistics I

[3 credit hours]

It provides thorough intensive work with authentic texts that allows further study of syntax, morphology and complex grammatical structure of Arabic and the relationship between aural/oral aspects of the language.

Prerequisites: ARBC 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC4020 Arabic Syntax and Stylistics II

[3 credit hours]

It provides thorough intensive work with authentic texts that allows further study of syntax, morphology and complex grammatical structure of Arabic and the relationship between aural/oral aspects of the language.

Prerequisites: ARBC 4010 FOR LEVEL UG WITH MIN. GRADE OF D-

ARBC4850 Media in the Arab World

[3 credit hours]

The course provides an in-depth study and analysis of media and news sources in the Arab world and surveys major press and alternative publishing outlets produced in Arabic.

ARBC4980 Special Topics in Arabic

[1-3 credit hours]

Study of a selected topic in Arabic language, literature or culture. May be repeated when topic varies.

Prerequisites: ARBC 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND ARBC 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

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ARS1000 Orientation

[1 credit hour]

Course will introduce new students to the University and college, provide information on requirements, regulations, campus resources and career exploration and help students develop academic skills.

ART1030 Multi-Cultural Art Appreciation A Lived Game of Contemporary Art

[3 credit hours]

This course uses a narrative framework drawn from Alternate Reality Games (ARGs) so that it is not just a venue for being told about or discussing artworks, but for experiencing them. In the course, encounters with art in virtual and real spaces are reflected on through an online journal, image collections, the creation of visual artifacts, and individualized feedback on each student's own work from peers.

ART1040 Fundamentals of Art Studio Technology

[3 credit hours]

This course introduces art students to the wide range of tools and technologies available in the Department of Art. Students will make connections between different modes of thinking and making. Students will acquire the skills necessary to enter a workforce that requires an understanding of the tools, techniques, and collaborative process necessary to respond to a rapidly changing global economy and job market. This is a web-assisted course.

ART1050 Fundamentals of Surface

[3 credit hours]

Exploration of design concepts, formal and conceptual skills, materials and color, media manipulation and study of 2-dimensional surfaces. Discussion of contemporary studio practices and critiquing skills included. Web-assisted course. Humanities core course.

ART1060 Fundamentals of Form

[3 credit hours]

Exploration of design concepts, formal and conceptual skills, materials and color, through media manipulation and study of three-dimensional space. Discussion of contemporary studio practices and critiquing skills included. Web-assisted course. Humanities core course.

ART1070 Fundamentals of Digital Media

[3 credit hours]

This course introduces students to the basic digital technologies of contemporary art and design. This is a web-assisted course.

ART1080 Perceptual Drawing

[3 credit hours]

Various approaches to drawing intended to develop skills, perception, and visual acuity. Introduction to a broad range of subject matter and a variety of graphic media. Web-assisted course. Humanities core course.

ART1090 Explorations in Drawing

[3 credit hours]

Dimensional, perspective and volumetric drawing applied to natural, man-made forms, environment and the figure. Rendering techniques, skills and exploration of media integrated with formal composition. This is a web-assisted course. Humanities core course.

Prerequisites: ART 1080 FOR LEVEL UG WITH MIN. GRADE OF D-

ART1110 Art Journey

[3 credit hours]

Distance learning course that introduces aesthetic, cultural and social interpretations of art, community and justice against the background of a "virtual" journey across the United States. Web-assisted course. Humanities core course.

ART1990 Special Topics in Art

[3 credit hours]

Group study in studio topics by various instructors. Web-assisted course. May be repeated under different course titles.

ART2010 Digital Print-Based Media

[3 credit hours]

This course covers basic computer operations in a visual art context, utilizing bitmap, vector and page layout programs. This is a web-assisted course.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1070 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART2020 Digital Interactive Media

[3 credit hours]

Survey of interactive computer operations in a visual art context, utilizing web, 2D animation, and sound applications. This is a web-assisted course.

Prerequisites: ART 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

ART2030 Photography

[3 credit hours]

An introduction to photography as a fine art medium; includes digital and traditional camera operations, printing processes, presentation techniques and historic and contemporary photographic concerns. This is a web-assisted course.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1070 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART2100 Life Drawing

[3 credit hours]

Development of visual and technical skills necessary to represent the figure, working from live models. Presentations focused on artistic understanding of the human body in architectural space, proportion, volume, and anatomy. Web-assisted course.

Prerequisites: ART 1090 FOR LEVEL UG WITH MIN. GRADE OF D-

ART2110 Printmaking

[3 credit hours]

Study of basic print materials and media, including relief, monoprint, planographic and intaglio process, general print shop skills, and safety practices. The course forms the basis for further exploration. Web-assisted course.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1070 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1080 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART2200 Sculpture

[3 credit hours]

An exploration of the application of traditional methods of sculpture making to additive, subtractive, constructive, and replicative processes with clay, plaster, wood, stone, and metal. Formal and expressive content addressed. Web-assisted course.

Prerequisites: (ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1060 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1080 FOR LEVEL UG WITH MIN. GRADE OF D-)

ART2210 Ceramics

[3 credit hours]

Basic ceramic techniques explored. Introduction to hand-building, simple mold techniques and the potter's wheel. Basic glaze and clay body formulation and firing procedures. Web-assisted course.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1060 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART2300 Painting

[3 credit hours]

Introduction and overview of painting materials and techniques; may include oil, acrylic, and watercolor media. Explores design concepts, formal and conceptual skills, and color theory. Web-assisted course.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1090 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART3000 NM Imaging

[3 credit hours]

Varying studio topics in fine art photography and digital imaging, including Digital Photography Expanded and B&W photography. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2030 FOR LEVEL UG WITH MIN. GRADE OF D-

ART3010 NW Interactivity

[3 credit hours]

Varying studio topics in interactive new media including web-art and the exploration of interface design and information dissemination. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

ART3100 2D Methods

[3 credit hours]

Studio courses focusing on one of the following disciplines: drawing, painting, or printmaking, within separate class settings. Courses explore various topics and techniques. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART3110 2D Visual Perception

[3 credit hours]

Studio course in one of these disciplines: drawing, painting, or printmaking, within separate class settings. Courses explore visual perception relating to the creation of works of art. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART3120 2D Concepts

[3 credit hours]

Studio course in one of the following disciplines: drawing, painting, or printmaking, within separate class settings. Courses deal with various concepts and topics. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2100 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART3200 3D Methods

[3 credit hours]

Varying topics in 3D form creation and processes, including sculptural fabrication and casting, replication, and subtraction; or ceramics form execution. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1060 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1080 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1090 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART3210 3D Concepts

[3 credit hours]

Varying studio topics in 3D art, including the creation of works and the exploration of new models of sculpture and ceramics including installation. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1060 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1080 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1090 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART3400 Concepts in Art, Studio and Theory

[3 credit hours]

This course surveys advanced theories and practices of contemporary art while creating a forum for engaging visiting artists and the broader art community. The course prepares studio art majors for their degree capstone. Web-assisted course.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ARTH 2050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ARTH 2060 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART3850 Gallery Practices

[3 credit hours]

Workshop covering the planning, installing, promoting, and documenting of exhibitions. Offers hands-on training and directly engages students in all aspects of UT's CVA Gallery operations. May be offered as WAC. Web-assisted course.

ART3900 NMDP Externship

[3 credit hours]

Students will participate in multiple externship experiences throughout the term in print-based, and organizational/educational settings. The externship will involve pre-observational research, job shadowing, and post-observational seminar sessions. Web-assisted course.

ART3950 NMPD Methods and Practices

[3 credit hours]

Survey of methods, techniques, and professional practices in new media design including: historical overview, creative and design processes, new media design environments, marketing, commerce, workflow, and collaboration. Web-assisted course. May be offered as WAC

Prerequisites: ART 3900 FOR LEVEL UG WITH MIN. GRADE OF D-

ART3990 Special Topics in Art

[3 credit hours]

Group study in studio topics by various instructors. Web-assisted course. May be repeated under different course titles.

ART4000 NM Imaging

[3 credit hours]

Advanced studio courses in fine art photography and digital imaging, within separate class settings may include a variety of processes and topics. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 3000 FOR LEVEL UG WITH MIN. GRADE OF D-

ART4010 NM Interactivity

[3 credit hours]

Advanced studio courses in interactive new media including web-art, multi-media, electronic publishing, and the expanded exploration of interface design and information dissemination. Web-assisted course. May be repeated under different course titles.

ART4020 NM Time, Motion, Space

[3 credit hours]

Advanced studio topics in time-based new media, within separate class settings may include a variety of media and topics, such as 3D modeling, rendering, digital video, and compositing. Web-assisted course. May be repeated under different course titles.

ART4100 2D Methods

[3 credit hours]

Advanced studio course focusing on one of the following disciplines: drawing, painting, or printmaking, within separate class settings. Courses explore various topics and techniques. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART4110 2D Visual Perception

[3 credit hours]

Advanced studio course in one of these disciplines: drawing, painting, or printmaking, within separate class settings. Courses explore visual perception relating to creating works of art. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART4120 2D Concepts

[3 credit hours]

Advanced studio courses in one of the following disciplines: drawing, painting, or printmaking, within separate class settings. Courses deal with various concepts and topics. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART4200 3D Methods

[3 credit hours]

Advanced studio courses in 3D form creation that, within separate class settings, addresses a variety of processes and topics. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1060 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND ART 1080 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1090 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2200 FOR LEVEL

ART4210 3D Concepts

[3 credit hours]

Advanced studio topics in 3D art include the creation of works and the further exploration of emerging issues in contemporary sculpture and ceramics. Web-assisted course. May be repeated under different course titles.

Prerequisites: ART 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1060 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1080 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 1090 FOR LEVEL UG WITH MIN. GRADE OF D- AND ART 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART4400 BFA Thesis Exhibition

[3 credit hours]

A capstone course to be taken by BFA students during the final spring semester that creates a context for accomplishing a professional gallery exhibition with supporting materials. Web-assisted course.

ART4410 BA Thesis Project

[3 credit hours]

A capstone course taken by BAVA students resulting in topic-based projects and published bodies of works relating to their areas of focus. Web-assisted course.

ART4850 Professional Practices

[3 credit hours]

Professional skills WAC course for advanced art students. Topics include portfolios, resumes, taxes, contracts, shipping, documenting artwork, artists' statements, exhibitions/competitions, galleries, artists' talks and more. Web-assisted course.

ART4910 Independent Study

[1-6 credit hours]

Individual study into special studio problems. Weekly critiques. Every semester. Time arranged. Web-assisted course. May be repeated as topic varies.

ART4940 Internship

[1-4 credit hours]

Student works in professional venue related to a diversity of art fields or endeavors. Web-assisted course. May be repeated for a maximum of 8 credit hours.

ART4950 NMDP Intensive

[3 credit hours]

Working with AMP students, art history faculty, and museum professionals, students will create a delivery system related to a TMA exhibition topic studied in ARTH 3950. Web-assisted course.

Prerequisites: ART 3950 FOR LEVEL UG WITH MIN. GRADE OF D- AND ARTH 3950 FOR LEVEL UG WITH MIN. GRADE OF D-

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ART4951 NMDP Seminar

[1 credit hour]

Analysis of the NMDP experience and creation of a written and mediated project focusing on student activities, client relationship, collaborative efforts, and final product/audience assessment. Web-assisted course.

Prerequisites: ART 4950 FOR LEVEL UG WITH MIN. GRADE OF D-

ARTH1500 Art In History

[3 credit hours]

Introduction to the aesthetic, cultural and social interpretation of works of art and architecture, and to the historical relationships of artists, patrons, and audiences in art's production and purposes. Web-assisted course. Humanities core course. (Not for major credit in Art History, Studio Art or Art Education).

ARTH2050 History of Western Art

[3 credit hours]

Introduces students to major styles of western art from prehistoric to Early Renaissance. Students will learn to analyze art in terms of formal, cultural, historical, and iconographic contexts. Web-assisted course.

ARTH2060 History of Western Art II

[3 credit hours]

Introduces students to major styles of western art from the Renaissance through the modern era. Students will learn to analyze art in terms of formal, cultural, historical, and iconographic contexts. Web-assisted course.

ARTH2080 History Of Modern Art

[3 credit hours]

European and American art 1700-1940, from the Rococo through Romanticism, Impressionism, Expressionism, Cubism, Dada, and Surrealism. Web-assisted course. Humanities core course.

ARTH2100 Asian Art

[3 credit hours]

An introduction to the architecture, painting and sculpture of India, China and Japan and their relationship to the major religions and philosophies of each culture. Web-assisted course.

ARTH2200 Ethnographic Art

[3 credit hours]

Contextual exploration of traditional art forms in the principle cultures of the Americas, Africa and Oceania. Web-assisted course.

ARTH2300 Introduction To Architecture

[3 credit hours]

Study of architectural design (function, materials, structure, aesthetics and symbolism), with focus on significant historical examples from antiquity through the late 20th century. Web-assisted course.

ARTH2550 History of Graphic Design

[3 credit hours]

History of Graphic Design introduces students to the history and theory of graphic design from the Roman codex to the modern poster. Topics examined include: how imagery interacts with text aesthetically and visually, the logic and development of typefaces, and the relationship and importance of graphic design to social and political developments throughout history. This three-credit course addresses graphic design from Western cultures and dynamic eras. ARTH 2550 partially fulfills the curricular requirements in Humanities and Fine Arts and is an elective within the Department of Art.

ARTH2700 Women Artists In History

[3 credit hours]

An introductory survey of women artists from the Middle Ages to the present with consideration of their position in the formation of art history's canon. Web-assisted course.

ARTH2980 Special Topics

[1-3 credit hours]

Topics in art history selected by instructor; may be repeated when topic varies. Web-assisted course.

ARTH3110 Topics In Ancient Art

[3 credit hours]

Special topics in the history of the art or architecture of the ancient world; may be repeated when topic varies. Web-assisted course. May be offered as WAC.

ARTH3130 Topics In Medieval Art

[3 credit hours]

Special topics in the history of western art or architecture from 200 to 1500 A.D.; may be repeated when topic varies. Web-assisted course. May be offered as WAC.

ARTH3150 Topics In Renaissance Art

[3 credit hours]

Special topics in the history of Renaissance art or architecture; may be repeated when topic varies. Web-assisted course.

ARTH3190 Topics In 19th-Century Art

[3 credit hours]

Special topics in the history of 19th century art. May be repeated when topic varies. Web-assisted course.

ARTH3210 Topics In 20th-Century Art

[3 credit hours]

Special topics in the history of 20th century art. May be repeated when topic varies. Web-assisted course. May be offered as WAC.

ARTH3230 Topics In American Art

[3 credit hours]

Special topics in the history of American art or architecture. May be repeated when topic varies. Web-assisted course. May be offered as WAC.

ARTH3250 Topics In Asian Art

[3 credit hours]

Special topics in the history of Asian art or architecture; may be repeated when topic varies. Web-assisted course.

ARTH3290 Topics In Architecture

[3 credit hours]

Special topics in the history of architecture; may be repeated when topic varies. Web-assisted course.

ARTH3300 African Art

[3 credit hours]

Study of the diversity of African art. The course will emphasize region and style with focus upon the collections of African art in the Toledo Museum of Art. Web-assisted course.

ARTH3350 Ancient Art Of The Americas

[3 credit hours]

A course that focuses on the artifacts produced by the indigenous populations of the Americas before the arrival of Columbus in the New World. Web-assisted course.

ARTH3400 Contemporary Art

[3 credit hours]

This WAC course introduces students to art of the 20th and 21st centuries, relating recent makers and movements to critical, cultural, and social issues. Web-assisted course.

ARTH3500 History Of Photography

[3 credit hours]

An in-depth study of the history of photography. Web-assisted course.

ARTH3600 History Of New Media

[3 credit hours]

This course explores the development of technology as an art medium with a focus on significant historical examples from the 19th through the 21st centuries. Web-assisted course.

ARTH3700 Art And Feminism

[3 credit hours]

A WAC course offering study of 20th and 21st century feminist thought in relation to contemporary art makers and social issues, with consideration of performance and installation. Web-assisted course.

ARTH3750 Art and Disease - WAC

[3 credit hours]

This WAC course considers how objects of material culture (film, photography, painting, sculpture, etc.) have intersected with disease while studying disease-related texts and histories of contagion (e.g., AIDS). Web-assisted course.

ARTH3820 Visual Construction Of Gender

[3 credit hours]

This WAC course focuses on the ways in which images reflect and shape our understanding of gender. Students learn to analyze visual material to identify and articulate their cultural significance in relation to gender. Web-assisted course.

ARTH3900 Art Museum Practices

[3 credit hours]

Overview of issues and professional practices in art museums, including curatorial responsibilities, interpretation of collections, conceptualization and design of exhibitions, development, education, marketing, and administration. Web-assisted course.

ARTH3920 Exhibition

[3 credit hours]

Study of art historical topic with culmination in an exhibition in a Toledo Museum of Art gallery. Web-assisted course. May be repeated when topics varies.

ARTH3950 AMP

[3 credit hours]

Study of art historical topic theme relating to Toledo Museum of Art works. Precedes ARTH 3960, Exhibition course, but may be taken independently. Web-assisted course. May be repeated when topic varies.

ARTH3960 TMA Exhibit

[3 credit hours]

Working with faculty and museum professionals, students create a Toledo Museum of Art exhibition relating to topic studied in ARTH 3950. Web-assisted course. May be repeated when topic varies. Permission of Instructor.

Prerequisites: ARTH 3900 FOR LEVEL UG WITH MIN. GRADE OF D- AND ARTH 3950 FOR LEVEL UG WITH MIN. GRADE OF D-

ARTH3980 Special Studies

[3-5 credit hours]

Topics in art history selected by the instructor. Web-assisted course. May be repeated when topic varies.

ARTH4500 Contemporary Art And Theory

[3 credit hours]

A WAC course offering study of 20th and 21st century critical theory in relation to contemporary art makers and social issues, with a consideration of modernist versus postmodernist eras. Web-assisted course.

ARTH4910 Senior Thesis I

[2 credit hours]

Directed research in the history of art for the Senior Thesis. May only be taken with consent of instructor; see department for application form. Must be taken consecutively with ARTH 4920, Senior Thesis II. Web-assisted course.

ARTH4920 Senior Thesis II

[2 credit hours]

Writing the Senior Thesis. May only be taken after successful completion of ARTH 4910, Senior Thesis I, and with instructor's consent. See Department for application form. Web-assisted course.

Prerequisites: ARTH 4910 FOR LEVEL UG WITH MIN. GRADE OF D-

ARTH4940 Internship

[1-4 credit hours]

Student works in professional venue related to a diversity of art fields or endeavors. Web-assisted course. May be repeated for a maximum of 8 credit hours.

ARTH4950 AMP Seminar

[1 credit hour]

Analysis of the AMP experience and creation of a written project focusing on art museum practices.

ARTH4980 Special Topics

[1-5 credit hours]

Topics in art history selected by instructor; may be repeated when topic varies. Web-assisted course. May be offered as WAC.

ARTH4990 Independent Study In Art History

[1-4 credit hours]

Independent Study in special problems of art history. Web-assisted course. May be repeated when topic varies.

ASST2100 Introduction to Asian Studies

[3 credit hours]

Introduction to Asian studies will introduce students to important facet of Asian countries including their culture, historical and modern, social and economic systems. Students will learn the cultural bases of Asian countries or regions. The course will be an integral part of the education of those majoring or minoring in Asian Studies.

ASST3010 Topic in Asian Studies

[3 credit hours]

The course covers various topics in Asian Studies, from some specific topics such as Buddhism to the general area of Asian culture. the particular topic may vary depending on the areas of the instructor and the academic interest of the students. It can also serve various topics offered in the study-abroad program.

Prerequisites: ASST 1110 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHIN 2100 FOR LEVEL UG WITH MIN. GRADE OF D- AND JAPN 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

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ASST4910 Directed Research

[1-4 credit hours]

Directed research on a specific topic in Asian Studies. The topic will vary on the instructor and the interest of student in the field.

ASST4920 Directed Readings

[1-4 credit hours]

Directed readings in Asian Studies of various natures or special topics in Asian Studies. The topic may vary depending on the areas of the instructor and the academic interest of the students.

ASST4980 Selected Topics in Asian Studies

[3 credit hours]

This course examines various fields with the focus on selected academic topics and substantial Asian Studies. Topics may vary depending on the instructor. May be repeated for different topics.

ASTR1010 Survey Of Astronomy

[3 credit hours]

Not for major credit; not open to science majors; no credit after 2010, 2020. General astronomy, including appearance of the sky and nature and evolution of the Earth, Moon, solar system, stars, galaxies and the Universe.

ASTR2010 Solar System Astronomy

[3 credit hours]

A quantitative introduction to the contents, origin and evolution of the solar system, as revealed by recent advances in space exploration. High school mathematics at the level of graphs, algebra and elementary logarithms is required.

ASTR2020 Stars, Galaxies, And The Universe

[3 credit hours]

A quantitative introduction to the nature and evolution of stars, galaxies and the universe, as revealed by observation and physical theory. High school mathematics at the level of graphs, algebra and elementary logarithms is required.

ASTR2050 Elementary Astronomy Laboratory

[1 credit hour]

Laboratory exercises and observational measurements in elementary astronomy. Two hours laboratory per week. (not for major credit)

ASTR2310 Mars

[3 credit hours]

The history of observations of Mars, information gathered during the space program, potential for human exploration and colonization and related contemporary science fiction. High school algebra and graphs will be used.

Prerequisites: ASTR 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ASTR 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

ASTR2320 Life In The Universe

[3 credit hours]

The astronomical factors involved in the emergence of life in the universe, the search for extraterrestrial intelligence and the likelihood of advanced civilizations in the Galaxy. May be offered as writing intensive.

Prerequisites: ASTR 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR (ASTR 2010 FOR LEVEL UG WITH MIN. GRADE OF D- AND ASTR 2020 FOR LEVEL UG WITH MIN. GRADE OF D-)

ASTR2330 Black Holes, General Relativity And The Big Bang Theory

[3 credit hours]

Descriptive discussion of the theory of general relativity, the final states of stellar evolution, black holes and history of the universe from the big bang through the formation of the solar system. May be offered as writing intensive.

Prerequisites: ASTR 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ASTR 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

ASTR2340 New Frontiers In Astronomy

[3 credit hours]

Descriptive treatment of recent developments in astronomy from spacecraft, such as the Hubble Space Telescope, or from the newest, very large ground based telescopes. May be offered as a writing intensive.

Prerequisites: ASTR 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ASTR 2010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ASTR 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

ASTR3880 Foundations of Astronomy

[4 credit hours]

Positional Astronomy and Time; Telescopes and Optics; Detection and Characterization of Light (Imaging, Photometry and Spectroscopy); Data Reduction and Measurements; Fundamental Techniques of Astronomy (Parallax, Magnitudes, Interstellar Extinction, Doppler Shift and Spectral Line Widths, Stellar Classification, Color-Magnitude and Color-Color Diagrams, Lightcurves, and Redshifts); Measuring Properties of Stars, Star Clusters, Galaxies, and the Universe.

Prerequisites: ASTR 2020 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 3310 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 3610 FOR LEVEL UG WITH MIN. GRADE OF D-

ASTR4800 Astronomy In The Planetarium

[3 credit hours]

Theory and practice of astronomical outreach programming. Sky and calendar, mythology, constellations, astrophysics, buying and using small telescopes, operating and maintaining planetarium projectors, sky simulation software, projects and program production.

Prerequisites: ASTR 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ASTR 2010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ASTR 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

ASTR4810 Astrophysics I

[3 credit hours]

Spherical coordinate systems, astronomical time, celestial mechanics, the solar system and planetary physics, photometry, radiative transfer, stellar spectra and classification, binary stars and stellar masses.

Prerequisites: ASTR 3880 FOR LEVEL UG WITH MIN. GRADE OF D-

ASTR4820 Astrophysics II

[3 credit hours]

Stellar structure and evolution, close binaries, origin of the elements, the sun, variable stars, star clusters, the interstellar medium, the Milky Way Galaxy, stellar statistics, galaxy structure and evolution, cosmology.

Prerequisites: ASTR 4810 FOR LEVEL UG WITH MIN. GRADE OF D-

ASTR4880 Astrophysical Measurements

[3 credit hours]

Astronomical, optical and electronic principles of operation of a modern astronomical observatory. Observing with the 1 meter telescope of Ritter Observatory, introduction to reduction, analysis and interpretation of astrophysical data. Six hours laboratory per week. May be offered as writing intensive.

Prerequisites: ASTR 3880 FOR LEVEL UG WITH MIN. GRADE OF D-

BANS3060 Managerial Economics

[3 credit hours]

Applications of economic concepts and analytical techniques to business decisions and operations, including pricing and product management, market segmentation, technological development and the regulatory environment.

Prerequisites: (ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-) OR ECON 1880 FOR LEVEL UG WITH MIN. GRADE OF D-

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BANS3070 Business Fluctuations And Outlooks

[3 credit hours]

Course focuses on the dynamics of business cycles and economic processes, and how they relate to business. Economic outlooks are examined through key indicators, cases, statistical analyses, and computer applications.

Prerequisites: (ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-) OR ECON 1880 FOR LEVEL UG WITH MIN. GRADE OF D-

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BANS6050 Health Care Economics

[3 credit hours]

Health care national policy, third party payment systems, capital formation, delivery systems, health care budgeting and macro economic health issues are examined.

Prerequisites: ACCT 5000 FOR LEVEL GR WITH MIN. GRADE OF D- OR BANS 5210 FOR LEVEL GR WITH MIN. GRADE OF D-

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BANS6310 Business Forecasting

[3 credit hours]

Study and use of forecasting models, managing and monitoring the forecasting function and communicating forecasts to management.

Prerequisites: (BANS 5210 FOR LEVEL GR WITH MIN. GRADE OF D- AND OPMT 5510 FOR LEVEL GR WITH MIN. GRADE OF D-)

BANS6520 Managerial Economics

[3 credit hours]

Economic concepts and technique applied to company-level decision making. Focus on demand analysis, applied regression analysis and the interface between economies and human resource management, production, marketing and finance.

Prerequisites: (BANS 5210 FOR LEVEL GR WITH MIN. GRADE OF D- AND OPMT 5510 FOR LEVEL GR WITH MIN. GRADE OF D-)

BANS6740 Business Conditions Analysis

[3 credit hours]

Course develops a framework for measuring, tracking and forecasting national, regional and international business conditions. Focus is on how external economic conditions in the world economy influence business decisions.

Prerequisites: (BANS 5210 FOR LEVEL GR WITH MIN. GRADE OF D- AND OPMT 5510 FOR LEVEL GR WITH MIN. GRADE OF D-)

BANS7210 Economics For Business Decisions

[3 credit hours]

An examination of the basic economic concepts and techniques used in business decision-making. The course covers micro- and macro-economic theories, history and evolution of economic institutions, ethical questions and economic applications to business decisions in a global environment.

BIDI5000 Biostatistical Methods for Biomarkers

[3 credit hours]

This course will introduce students to biostastical concepts and methods for analyzing biomarker data. The course focuses on statistical methods for biomarkers to address various issues arising from studies assessing biomarkers in biomedical research and including associations with certain diseases or health conditions. The course presents both basic and advanced topics.

BIDI5100 Biomarkers and Diagnostics Internship

[6 credit hours]

Supervised full time work experience in Biomarker dicovery and validation in a pharmaceutical oriented company. Builds upon didactic course work.

BIDI5200 Readings in Biomarkers and Diagnostics

[1 credit hour]

Review of selected research topics related to Biomarkers and their application to diagnosis. Student discussion will be moderated through the Blackboard course management system by the course director.

BIO5200 Neurophysiology

[3 credit hours]

The function of vertebrate and invertebrate nervous systems in relation to biophysical mechanisms. Changes occurring during development, learning, aging, and neurological disorders.

BIOE1000 Orientation And Introduction To Bioengineering

[0-3 credit hours]

Orientation to the University of Toledo, the College of Engineering and the Department of Bioengineering. This course also provides a one-semester overview of the biomechanical and bioelectrical aspects of Bioengineering. The course is broken down into unit modules that illustrate key engineering principles and concepts. A major project based on the computational modeling of the cardiovascular system integrates the course units.

BIOE1010 Professional Development

[1 credit hour]

Preparation for co-op and full-time employment in industry. Topics include resume writing, interviewing skills, compensation and benefits, social protocol and corporate ethics, biomedical ethics, design and quality control processes and governmental regulation.

BIOE1200 Computer Applications For Bioengineering

[0-3 credit hours]

Introduction to the use of graphical design and numerical analysis software required for the solution of bioengineering problems.

BIOE2100 Bioengineering Thermodynamics

[0-3 credit hours]

Principles of thermodynamics and conservation of mass applied to living systems, biomedical devices and bioprocesses.

Prerequisites: PHYS 2130 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2950 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE2200 Biomaterials

[3 credit hours]

Physical and chemical properties of materials commonly used in medicine. Topics include inflammatory, immunogenic, carcinogenic and toxicologic responses within host tissues as well as testing and evaluation strategies for effective use of materials in medicine and biology.

Prerequisites: PHYS 2130 FOR LEVEL UG WITH MIN. GRADE OF D- AND (MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF D-) AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE3110 Introduction To Biomechanics

[3 credit hours]

Mechanics of the human musculoskeletal system and its joints. Basic concepts for deformable body mechanics, including stress and strain analysis, viscoelasticity, and applications to common problems in orthopedic biomechanics.

Prerequisites: (CIVE 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOE3300 Biomedical Electronics

[3 credit hours]

Measurement circuits, signal analysis, and computer design in biological systems and medicine. Electronic devices, digital devices, amplifier design and instrumentation safety.

Prerequisites: (EECS 2300 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 1200 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOE3400 Biotransport Phenomena

[3 credit hours]

The quantitative description of momentum transport (viscous flow) and mass transport (convection and diffusion) in living systems. Application of engineering methods to model and quantify aspects of bioengineering systems.

Prerequisites: BIOE 2100 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE3500 Bioprocessing Laboratory

[0-3 credit hours]

Introduction to processing techniques used in biotechnology and pharmaceutical industries. The process from concept to product is covered, including the creation and culture of recombinant organisms to synthesize a protein product and the extraction, purification, and assay of the final product.

Prerequisites: (BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-) AND BIOE 2100 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND (MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1930 FOR

BIOE3940 Co-Op Experience

[1 credit hour]

Approved co-op experience. Course may be repeated.

Prerequisites: BIOE 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE3950 Co-Op Experience

[1 credit hour]

Approved co-op work experience beyond third required co-op experience. Course may be repeated.

Prerequisites: BIOE 3940 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE4100 Physiology For Bioengineers

[3 credit hours]

Review of general physiological principles followed by a comprehensive study of the human nervous, muscle, circulatory, respiratory, excretory and digestive systems from an engineering perspective.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 2300 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

BIOE4110 Advanced Biomechanics

[3 credit hours]

The goal of this course is for students to be able to describe motions of the human body. Three-dimensional analysis and measurements of human body movements including kinematics, kinetics and energetics of human gait, anthropometry and application to bioengineering and orthopedics will be presented. Euler angles and the screw axis method will be used to describe three-dimensional motions.

Prerequisites: BIOE 3110 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE4120 Biosignal Processing

[3 credit hours]

Design and application of analog and digital signal processors to biomedical signals. Covered topics include the Laplace transform, analog filter design, continuous and discrete Fourier transform, and FIR/IIR digital filter design.

Prerequisites: BIOE 3300 FOR LEVEL UG WITH MIN. GRADE OF D- AND (MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOE4140 Biomedical Instrumentation Laboratory

[0-2 credit hours]

Design and construction of medical instrumentation, including aspects of signal and image processing, computer integration, and software development. Written skills are emphasized through laboratory report organization, documentation of results, error analysis and interpretation of findings.

Prerequisites: BIOE 3300 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

BIOE4300 Biomedical Quality Control

[3 credit hours]

Statistical methods for the design, testing and manufacturing of medical devices; the application of statistical methods to quality systems and process validation.

Prerequisites: (MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2950 FOR LEVEL UG WITH MIN. GRADE OF D-) AND BIOE 3940 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE4320 Advanced Biomedical Quality Control

[3 credit hours]

Advanced statistical methods for the design, testing and manufacturing of medical devices; the application of advanced statistical methods to quality systems and process validation.

Prerequisites: BIOE 4300 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE4410 Bioengineering Design Project I

[3 credit hours]

This course integrates the engineering and life science backgrounds of senior bioengineering students through the presentation of design principles for problems in biomechanical, bioelectrical, biochemical and biological systems. Oral and written communication, engineering economics and business plans are reviewed.

Prerequisites: (BIOE 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 3300 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 3400 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 3500 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 3940 FOR LEVEL UG WITH MIN. GRADE OF D

BIOE4420 Bioengineering Design Project II

[3 credit hours]

A continuation of BIOE 4410. Teams of senior bioengineering students solve problems in biomechanical, bioelectrical, biochemical and biological systems through a design project. Ethics discussions, testing and evaluation of designs, progress reports, oral presentations and a written final report are required.

Prerequisites: BIOE 4410 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE4610 Applications of Biotransport

[3 credit hours]

The application of engineering principles to the design and analysis of artificial organs, drug delivery systems, and tissue engineering and their clinical application.

Prerequisites: BIOE 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE4620 Biochemical Engineering

[3 credit hours]

The application of engineering principles to the design and analysis of biological processes that employ living organisms for the production of biochemicals.

Prerequisites: BIOE 3500 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE4630 Bioseparations

[3 credit hours]

Practical and theoretical aspects of processes required to separate and purify cells, proteins and other biological compounds.

Prerequisites: BIOE 3500 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE4640 Medical Imaging

[3 credit hours]

Mathematics and physics underlying major medical imaging modalities including X-ray radiography and computerized tomography (CT), magnetic resonance imaging (MRI), nuclear medicine imaging, and ultrasound imaging.

Prerequisites: BIOE 4300 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE4710 Biomechanics Of Soft And Hard Tissues

[3 credit hours]

Composite and hierarchical models bones; models of bone remodeling. Soft tissues models: linear and nonlinear viscoelasticity, Fung's quasilinear viscoelastic theory. Biphasic and triphasic models and mechano-ionic interactions.

Prerequisites: BIOE 3110 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE4720 Cellular Electrophysiology

[3 credit hours]

The physiology of electrically excitable tissues, including nerve, muscle and secretory tissues. Action potential generation, neurotransmission and modulatory mechanisms. Methods for constructing and using computational models of excitable membranes.

Prerequisites: (EECS 2300 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 4100 FOR LEVEL UG WITH MIN. GRADE OF D-) AND (MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D

BIOE4730 Computational Bioengineering

[3 credit hours]

Introduction to and utilization of computational packages for bioengineering applications. Introduction to finite element analysis and applications in biochemical, biofluidics, bioheat transfer, optimization.

Prerequisites: (BIOE 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 1200 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOE4740 Tissue Engineering

[3 credit hours]

Application of principles from engineering and the life sciences toward the development of biological substitutes that restore, maintain or improve tissue function.

Prerequisites: (BIOE 2200 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 4100 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOE4750 Experimental Methods In Orthopedic Biomechanics

[3 credit hours]

This course provides students with experience in experimental techniques used in orthopaedics and in the study of the musculoskeletal system including mechanical testing of different materials, experimental and analytical methods for stress analysis, strain gages, methods used in human motion analysis to include motion capture, force pressure plates and electromyography. Students will learn to analyze human motion by capturing movements of their choice and will then conduct a biomechanical analysis to quantitatively describe their capture movements.

Prerequisites: BIOE 3110 FOR LEVEL UG WITH MIN. GRADE OF D- OR CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE4980 Bioengineering Special Topics

[1-3 credit hours]

Selected subjects in the field of bioengineering with intensive investigation of the recent literature in a few areas of special interest to the class and the professor.

BIOE4990 Bioengineering Independent Study

[1-3 credit hours]

The student, under the guidance of their research adviser, explores in-depth specific areas or topics related to their research.

BIOE5200 Physiology And Anatomy For Bioengineers

[3 credit hours]

Review and study of general physiological principles and bioengineering perspectives of the human circulatory, respiratory, digestive, immune, nervous, muscular and excretory systems.

BIOE5260 Medical Imaging Systems I

[3 credit hours]

An introduction to the physical principles, design and function of x-ray based diagnostic imaging systems, including radiographic, fluoroscopic and computer tomography (CT) systems.

Prerequisites: EECS 3200 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE5300 Analysis Of Bioengineering Systems

[3 credit hours]

Application of modern computing methods to the numerical and statistical analysis of bioengineering systems.

BIOE5620 Cellular Electrophysiology

[3 credit hours]

The generation of electrical impulses by ion channels in excitable tissues. Models of ion channel gating include the Hodgkin-Huxley equations and Markov models. Principles of electrodiffusion applied to ionic flow through open channels.

BIOE5640 Applications of Biotransport

[3 credit hours]

The application of engineering principles to the design and analysis of artificial organs and their clinical application.

BIOE5650 Bioseparations

[3 credit hours]

Practical and theoretical aspects of processes required to separate and purify cells, proteins and other biological compounds. This course will focus on new and nontraditional methods.

Prerequisites: BIOE 3500 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE5710 Biomechanics of Soft and Hard Materials

[3 credit hours]

Composite and hierarchical models of bone remodeling models presented. Soft tissue models include linear and nonlinear viscoelasticity, Fung's quasilinear viscoelastic theory. Biphasic and triphasic models and mechano-ionic interactions.

BIOE5730 Computer Applications In Orthopedic Biomechanics

[3 credit hours]

Introduction to and utilization of computation packages in orthopedic biomechanics. Computer aided design of implants, shape-optimization, finite element analysis of implant performance and failure of musculoskeletal organs, tissues and cells.

Prerequisites: BIOE 3110 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE5740 Tissue Engineering

[3 credit hours]

Application of principles from engineering and the life sciences toward the development of biological substitutes that restore, maintain, or improve tissue function.

BIOE5750 Experimental Methods In Orthopedic Biomechanics

[3 credit hours]

The theory and implementation of techniques used for the measurement of forces and motion within the musculoskeletal system at the system, organ and tissue levels.

Prerequisites: BIOE 3110 FOR LEVEL UG WITH MIN. GRADE OF D- OR CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE5780 Advanced Biomechanics

[3 credit hours]

Three-diminsional analysis and measurement of human body motions. Applications to gait analysis, physical therapies, and impact analysis. Includes total hip and knee replacement: elbow, shoulder, wrist and finger arthrophasty: bone plates, hip fracture fixation devices, and external fixators.

BIOE5930 Bioengineering Seminar

[0- credit hours]

Presentations of ongoing research in the field of bioengineering. Includes presentations by guest speakers, faculty and graduate students.

BIOE5980 Special Topics In Bioengineering

[1-5 credit hours]

Selected subjects in the field of bioengineering with intensive investigation of the recent literature in a few areas of special interest to the class and the professor.

BIOE5990 Independent Study In Bioengineering

[1-6 credit hours]

The student, under the guidance of their research adviser, explores in-depth specific areas or topics related to their thesis or dissertation research.

BIOE6100 Computational Physiology

[3 credit hours]

Application of mathematical and computational techniques to physiological systems. Models include conductive cables and compartmental models of nerve fibers, nonlinear differential equation models of electrophysiology, and stochastic models of biomolecular interactions.

Prerequisites: MIME 6000 FOR LEVEL GR WITH MIN. GRADE OF D- AND BIOE 4100 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE6210 Optical Instrumentation For Bioengineering

[3 credit hours]

Introduction to the theory and design of topical instruments for bioengineers. Instruments using geometrical, physical and quantum optical principles will be discussed.

BIOE6310 Biochemical Engineering Principles

[3 credit hours]

The application of engineering principles to the design and analysis of biological processes that employ living organisms or biochemicals.

BIOE6520 Orthopaedic Biomechanics

[3 credit hours]

The course of orthopaedic biomechanics has been designed to fuse the biological and physiological problems with the science and technology of engineering. It focuses on a brief review of the physiology and biology of the human body, introduces the physics of manual industrial activities.

Prerequisites: BIOE 4110 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 5780 FOR LEVEL GR WITH MIN. GRADE OF D-

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BIOE6730 Biological Transport Phenomena

[3 credit hours]

Application of transport phenomena and reaction engineering in the understanding of signaling, growth processes and the flow of biological fluids in mammalian vessels in living systems.

BIOE6920 Bioengineering Project

[1-6 credit hours]

The student performs a special project of an advanced nature in bioengineering. The course is primarily intended for students pursuing a Masters degree with the project option in Bioengineering.

BIOE6960 Bioengineering Research And Thesis - Master's

[1-12 credit hours]

Graduate thesis research. The student completes and defends a written thesis under the direction and guidance of their faculty research adviser.

BIOE7260 Medical Imaging Systems I

[3 credit hours]

An introduction to the physical principles, design and function of x-ray based diagnostic imaging systems, including radiographic, fluoroscopic and computer tomography (CT) systems.

Prerequisites: EECS 3200 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOE7930 Bioengineering Seminar

[0- credit hours]

Presentations of ongoing research in the field of bioengineering. Includes presentations by guest speakers, faculty and graduate students.

BIOE7980 Special Topics In Bioengineering

[1-5 credit hours]

Selected subjects in the field of bioengineering with intensive investigation of the recent literature in a few areas of special interest to the class and the professor.

BIOE7990 Independent Study In Bioengineering

[1-6 credit hours]

The student, under the guidance of their research adviser, explores in-depth specific areas or topics related to their thesis or dissertation research.

BIOE8100 Computational Physiology

[3 credit hours]

Application of mathematical and computational techniques to physiological systems. Models include conductive cables and compartmental models of nerve fibers, nonlinear differential equation models of electrophysiology, and stochastic models of biomolecular interactions.

Prerequisites: MIME 6000 FOR LEVEL GR WITH MIN. GRADE OF D- AND BIOE 4100 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOE8210 Optical Instrumentation For Bioengineering

[3 credit hours]

Introduction to the theory and design of topical instruments for bioengineers. Instruments using geometrical, physical and quantum optical principles will be discussed.

BIOE8310 Biochemical Engineering Principles

[3 credit hours]

The application of engineering principles to the design and analysis of biological processes that employ living organisms or biochemicals.

BIOE8520 Orthopaedic Biomechanics

[3 credit hours]

The course of orthopaedic biomechanics has been designed to fuse the biological and physiological problems with the science and technology of engineering. It focuses on a brief review of the physiology and biology of the human body, introduces the physics of manual industrial activities.

Prerequisites: BIOE 4110 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOE 5780 FOR LEVEL GR WITH MIN. GRADE OF D-

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BIOE8730 Biological Transport Phenomena

[3 credit hours]

Application of transport phenomena and reaction engineering in the understanding of signaling, growth processes and the flow of biological fluids in mammalian vessels in living systems.

BIOE8960 Bioengineering Dissertation

[1-16 credit hours]

Original investigations of significant bioengineering problems at the graduate level under the guidance of a member of the faculty.

BIOL1120 Survey Of Biology

[3 credit hours]

A survey of major biological principles and phenomena in various plants and animals with emphasis on man. (not for major credit) .

Prerequisites: ENGL 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOL1220 Survey Of Biology Laboratory

[1 credit hour]

(Not for major credit) A series of laboratory exercises that supplement the material discussed in BIOL 1120.

BIOL2010 Major Concepts In Biology

[3 credit hours]

This course will discuss topics related to the major concepts of biology such as evolution, the cell, the gene and homeostasis. This course is designed for students majoring in science, engineering or other fields that require biology as a prerequisite who have not had sufficient preparation to begin the Fundamentals of Life Science series (BIOL 2150 or BIOL 2170).

BIOL2150 Fundamentals Of Life Science: Diversity Of Life, Evolution And Adaptation

[4 credit hours]

An introduction to the diversity of multicellular life on earth, evolution and physiological adaptations. Completion of BIOL 2170 prior to enrolling is strongly advised.

Prerequisites: BIOL 2010 FOR LEVEL UG WITH MIN. GRADE OF D- OR CHEM 1090 FOR LEVEL UG WITH MIN. GRADE OF D- OR CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- OR A05 FOR MIN. SCORE OF 21 OR BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOL2160 Fundamentals Of Life Science Laboratory: Diversity Of Life, Evolution And Adaptation

[1 credit hour]

A series of laboratory exercises which supplement the material discussed in BIOL 2150.

BIOL2170 Fundamentals of Life Science: Biomolecules, Cells, and Inheritance

[4 credit hours]

A general introduction to cell structure and function, energy processing in plants and animals, basic genetics, molecular biology and development.

Prerequisites: CHEM 1090 FOR LEVEL UG WITH MIN. GRADE OF D- OR CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- OR BIOL 2010 FOR LEVEL UG WITH MIN. GRADE OF D- OR BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR A05 FOR MIN. SCORE OF 21 OR CHPL FOR MIN. SCORE

BIOL2180 Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance

[1 credit hour]

A series of laboratory exercises which supplement the material discussed in BIOL 2170.

BIOL2910 Biological Research

[1 credit hour]

A discussion/demonstration of opportunities for undergraduate research in Biology at the University of Toledo and elsewhere.

BIOL3010 Molecular Genetics

[3 credit hours]

The principles of heredity at the molecular level, covering gene and chromosome structure, replication and repair, recombination, control of gene expression, control of cell division.

Prerequisites: BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF C AND CHEM 1220 FOR LEVEL UG WITH MIN. GRADE OF D- OR CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF C

BIOL3020 Molecular Genetics Laboratory

[2 credit hours]

A laboratory course in experimental molecular biology involving gene cloning, analysis of cloned product and other techniques of modern molecular genetics.

BIOL3030 Cell Biology

[3 credit hours]

A study of the internal organization of the eukaryotic cell, organelle and membrane function, cell-cell signaling, cell movement, cell adhesion, the extracellular matrix.

Prerequisites: BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF C AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOL3040 Cell Biology Laboratory

[2 credit hours]

Laboratory exercises involving cell culturing, protein analysis, protein localization and other techniques of modern cell biology.

BIOL3070 Human Physiology

[3 credit hours]

Detailed structural and functional analysis of the human endocrine, nervous, reproductive, circulatory, respiratory, digestive and excretory systems. An emphasis will be placed on system-system interactions and homeostatic mechanisms.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL3090 Developmental Biology

[3 credit hours]

Lectures on molecular and cellular interactions in animal and plant embryogenesis and development.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL3100 Developmental Biology Laboratory

[1 credit hour]

An analysis of development by biochemical and biological methods using live materials.

Prerequisites: BIOL 3090 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

BIOL3210 Human Nutrition

[3 credit hours]

Lectures covering nutrition and transport in humans, role of nutrition in growth and development, nutritional diseases.

Prerequisites: BIOL 3070 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL3510 Comparative Vertebrate Anatomy

[4 credit hours]

A comparative treatment of the evolutionary and developmental history of the major vertebrate organ systems.

Prerequisites: (BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2160 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2180 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOL3910 Research Project Laboratory

[2-3 credit hours]

Provides hands-on authentic research experience and comprehensive understanding of the scientific process. May be repeated once for credit, a maximum of 3 hours may be applied to BIOL elective credits in the major or minor.

Prerequisites: BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2180 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOL4010 Molecular Biology

[3 credit hours]

Analysis of the regulatory mechanisms for nucleic acid and protein synthesis; genome structure; recombination; genetic damage and repair.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL4030 Microbiology

[3 credit hours]

Lectures on the principles of modern microbiology and virology, including metabolism, growth, cellular morphology, genetics and host parasite relationships. Bacterial and viral diseases will be illustrated.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 2410 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOL4040 Microbiology Laboratory

[1 credit hour]

Laboratories utilizing basic microbiological techniques and illustrating principles of growth, identification and genetics and control of microbes.

Prerequisites: BIOL 4030 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

BIOL4050 Immunology

[3 credit hours]

Lectures on the chemical, genetic and cellular basis of the immune response.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL4060 Immunology Laboratory

[1 credit hour]

Laboratory studies of the immune response.

BIOL4090 Cancer Biology

[3 credit hours]

Introduction to carcinogenesis and the cellular and molecular features of malignancy. Methods to diagnose and treat malignancies will also be presented.

Prerequisites: (BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 3010 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOL4110 Human Genetics and Genomics

[3 credit hours]

A systematic survey of genetic variation in man with emphasis on modern research methodology including genomics.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL4170 Developmental Genetics

[3 credit hours]

Survey of animal and plant developmental genetics. Basic principles and methods of genetic analysis, model systems, genetic basis of tissue patterning, evolutionary implications and applications in tissue and plant engineering.

Prerequisites: BIOL 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL4210 Molecular Basis of Disease

[3 credit hours]

Examines the genetic, molecular, and biochemical defects associated with some of the most common human diseases. Includes a review of current research into the molecular causes of selected diseases.

Prerequisites: BIOL 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOL4230 Comparative Animal Physiology

[3 credit hours]

Lectures on the comparative and environmental physiology of vertebrates and invertebrates including metabolism, temperature regulation, respiration, circulation, excretion and osmotic regulation.

Prerequisites: (BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 3070 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOL4250 Introduction to Neurobiology

[3 credit hours]

An introduction to the molecular, genetic and cellular aspects of neurobiology in humans and model organisms. Topics include neuronal physiology and signaling, neural development, sensation, muscle control, learning and memory.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BIOL4330 Parasitology

[3 credit hours]

A study of the host-parasite interaction including aspects of parasite morphology, taxonomy, development and ecology.

Prerequisites: (BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOL4700 Biological Literature And Communication

[3 credit hours]

A writing intensive course that focuses on reading original literature in biology in a variety of formats. Required of all biology majors.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF C

BIOL4790 Biology Field Trip

[2-4 credit hours]

Faculty directed course that incorporates extensive field experience and individual projects.

BIOL4910 Undergraduate Research

[1-3 credit hours]

Faculty directed research. Both oral and written reports of results required.

BIOL4940 Extramural Research

[1-4 credit hours]

Prior consent of both the department and the proposed supervisor. Scientist-supervised study of research done in an extramural research institute or scientific laboratory. Written and oral reports to the department required. Maximum of 6 hours may count toward BIOL electives.

Prerequisites: (BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D-)

BIOL4950 Internship In Biology

[1-12 credit hours]

Supervised practical experience in the field of biology. Maximum of 6 hours may be used as biology elective credit for BS degree.

BIOL4980 Advanced Topics In Biology

[1-3 credit hours]

An advanced course for Biology majors in an important area of biology May be repeated for credit under different specialty numbers (topics).

BIOL4990 Independent Study In Biology

[1-3 credit hours]

Faculty directed readings or projects in a specific area of biology.

BIOL5030 Advanced Microbiology

[3 credit hours]

Lectures on the principles of modern microbiology and virology, including metabolism, growth, cellular morphology, genetics and host parasite relationships. Bacterial and viral diseases will be illustrated.

BIOL5040 Advanced Microbiology Laboratory

[1 credit hour]

Laboratories utilizing basic microbiological techniques and illustrating principles of growth, identification and genetics of microbes.

BIOL5050 Advanced Immunology

[3 credit hours]

The development, genetics and physiology of the immune response.

BIOL5060 Advanced Immunology Laboratory

[1 credit hour]

Laboratory studies of the immune response.

BIOL5230 Advanced Comparative Animal Physiology

[3 credit hours]

Lectures on the comparative and environmental physiology of vertebrates and invertebrates including metabolism, temperature regulation, respiration, circulation excretion and osmotic regulation.

Prerequisites: BIOL 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 3070 FOR LEVEL UG WITH MIN. GRADE OF D-

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BIOL5980 Advanced Topics In The Biological Sciences For Science Educators

[1-3 credit hours]

Lecture, seminar or distance learning course on current topics or problems in the biological sciences that are relevant for science educators.

BIOL6000 Introduction To Scientific Thought And Expression

[3 credit hours]

A writing intensive course for new graduate students that focuses on scientific hypothesis testing and reading the original literature in biology.

BIOL6010 Advanced Molecular Biology

[4 credit hours]

Analysis of recent developments in prokaryotic and eukaryotic molecular biology through evaluation and discussion of current literature.

BIOL6020 Advanced Molecular Biology Laboratory

[2 credit hours]

Students will gain a working knowledge of essential laboratory techniques used in molecular biology. These techniques, including polymerase chain reaction (PCR), electrophoresis, DNA cloning, microscopy and transfection, will be used in a course project to express and analyze a protein of interest in cultured mammalian cells. The concepts underlying these procedures will be studied online before the lab. This course is designed to prepare students for careers in research, biotechnology and science education.

BIOL6090 Advanced Cell Biology

[4 credit hours]

An advanced course that stresses the experimental basis for current concepts of cell structure and function.

BIOL6100 Research Methodology: Cell And Molecular Biology

[3 credit hours]

An in-depth discussion of techniques used in the study of cell and molecular biology. Examples include chromatography and fractionation, electrophoresis cell and molecular cloning.

BIOL6200 Advanced Signal Transduction

[3 credit hours]

This course will provide an in-depth discussion of signal transduction topics important for cell/molecular biology research, emphasizing the interplay between intracellular signaling molecules needed to regulate physiological responses.

Prerequisites: BIOL 6010 FOR LEVEL GR WITH MIN. GRADE OF D- AND BIOL 6090 FOR LEVEL GR WITH MIN. GRADE OF D-

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BIOL6260 Topics in Cancer Biology

[3 credit hours]

The course will cover our current understanding of carcinogenesis and provide in-depth discussion of the important topics and latest advances in cancer research.

Prerequisites: BIOL 6010 FOR LEVEL GR WITH MIN. GRADE OF D- AND BIOL 6090 FOR LEVEL GR WITH MIN. GRADE OF D- AND CHEM 6500 FOR LEVEL GR WITH MIN. GRADE OF D-

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BIOL6830 Molecular and Cellular Biology

[4 credit hours]

Essential concepts of molecular genetics and cell biology. Major topics include gene structure and composition, transcription, translation, protein structure and function, cell cycle, cell movement, and cell signaling. Primarily intended for Master students enrolled in a non-laboratory research based degree program. Students who have received credit for either BIOL 6010 or BIOL 6090 cannot receive credit for BIOL 6830.

BIOL6920 Special Projects In Biology

[2-4 credit hours]

Introduction to research on a selected problem under the direction of an individual faculty member.

BIOL6930 Seminar In Biology

[1 credit hour]

Presentation on research or current literature by graduate students, faculty, or guest speakers.

BIOL6960 Masters Thesis Research

[1-15 credit hours]

Research that normally contributes to the fulfillment of the M.S. thesis requirement.

BIOL6980 Advanced Topics In Biology

[2-4 credit hours]

Seminar/discussion of significant current topics or problems in biology.

BIOL6990 Advanced Readings In Biology

[2-4 credit hours]

Faculty directed readings or projects in a specific area of Biology.

BIOL7030 Advanced Microbiology

[3 credit hours]

Lectures on the principles of modern microbiology and virology, including metabolism, growth, cellular morphology, genetics and host parasite relationships. Bacterial and viral diseases will be illustrated.

BIOL7040 Advanced Microbiology Laboratory

[1 credit hour]

Laboratories utilizing basic microbiological techniques and illustrating principles of growth, identification and genetics of microbes.

BIOL7050 Advanced Immunology

[3 credit hours]

The development, genetics and physiology of the immune response.

BIOL7060 Advanced Immunology Laboratory

[1 credit hour]

Laboratory studies of the immune response.

BIOL8000 Introduction To Scientific Thought And Expression

[3 credit hours]

A writing intensive course for new graduate students that focuses on scientific hypothesis testing and reading the original literature in biology.

BIOL8010 Advanced Molecular Biology

[4 credit hours]

Analysis of recent developments in prokaryotic and eukaryotic molecular biology through evaluation and discussion of current literature.

BIOL8090 Advanced Cell Biology

[4 credit hours]

An advanced course that stresses the experimental basis for current concepts of cell structure and function.

BIOL8100 Research Methodology: Cell And Molecular Biology

[3 credit hours]

An in-depth discussion of techniques used in the study of cell and molecular biology. Examples include chromatography and fractionation, electrophoresis cell and molecular cloning.

BIOL8200 Advanced Signal Transduction

[3 credit hours]

This course will provide an in-depth discussion of signal transduction topics important for cell/molecular biology research, emphasizing the interplay between intracellular signaling molecules needed to regulate physiological responses.

Prerequisites: BIOL 8010 FOR LEVEL GR WITH MIN. GRADE OF D- AND BIOL 8090 FOR LEVEL GR WITH MIN. GRADE OF D-

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BIOL8260 Topics in Cancer Biology

[3 credit hours]

The course will cover our current understanding of carcinogenesis and provide in-depth discussion of the important topics and latest advances in cancer research.

Prerequisites: BIOL 8010 FOR LEVEL GR WITH MIN. GRADE OF D- AND BIOL 8090 FOR LEVEL GR WITH MIN. GRADE OF D- AND CHEM 8500 FOR LEVEL GR WITH MIN. GRADE OF D-

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BIOL8920 Special Projects In Biology

[2-4 credit hours]

Introduction to research on a selected problem under the direction of an individual faculty member.

BIOL8930 Seminar In Biology

[1 credit hour]

Presentation on research or current literature by graduate students, faculty, or guest speakers.

BIOL8960 Doctoral Dissertation Research

[1-15 credit hours]

Research normally leading to the fulfillment of the Ph.D. dissertation requirement.

BIOL8980 Advanced Topics In Biology

[2-4 credit hours]

Seminar/discussion of significant current topics or problems in biology.

BIOL8990 Advanced Readings In Biology

[2-4 credit hours]

Faculty directed readings or projects in a specific area of Biology.

BIPG5100 Fund Bioinformatics Proteomics

[3 credit hours]

Introduction to bioinformatics and computational biology. Both theory and practical methods for evaluating and managing biomedical data will be covered. Topics range from sequence analysis to structure prediction. Includes computer laboratory sessions. May be taken concurrently with BIPG520/720.

BIPG5110 Practical Bioinformatics

[1 credit hour]

This course will provide students with practical experience with the most common bioinformatics tasks. Short lectures will be integrated with computer exercises in the Bioinformatics Computer Lab.

BIPG5200 Statistical Meth Bioinformatic

[3 credit hours]

Application of probability and statistics to bioinformatic analysis. Topics include stochastic processes, Markov chains, statistical basis for DNA sequence analysis, evolutionary models, and statistical analysis of functional genomic data. Includes computer laboratory sessions. May be taken concurrently with BIPG510/710.

BIPG5300 Current Topics in BPG

[1 credit hour]

In-depth analysis of original scientific papers/seminars in the fields of bioinformatics, proteomics and genomics for the development of critical analysis and scientific communication skills. May be repeated for credit.

BIPG5400 Biodatabases

[1 credit hour]

This course will introduce students to database concepts, design, and implementation, using the most popular database formats utilized in biomedical research. The practicum provides hands-on experience with real-world databases.

BIPG5500 Microarray Analysis

[1 credit hour]

This course aims at providing hands-on training on analysis of microarray data. Students will learn how to handle and analyze microarray data. Topics covered include preprocessing, identifying differentially expressed genes, classification and presentation of findings. Different platforms of microarray technologies will be covered in this course.

BIPG5800 Rotations in BPG

[0-4 credit hours]

Students will participate in selected on-going research programs with faculty members in the Bioinformatics, Proteomics and Genomics program. May be repeated for credit.

BIPG5900 Scholarly Project in BPG

[0-12 credit hours]

Students will develop an in-depth scholarly project to fulfill the research project requirements for the MSBS degree with a concentration in Bioinformatics, Proteomics and Genomics. May be repeated for credit.

BIPG6100 Bioinformatic Computation

[3 credit hours]

Use, design, strengths and limitations of bioinformatics programs run on desktop computers. Programming in PERL to acquire and analyze biological sequences. Construction and management of databases. Introduction of LINUX, C++, and Java. Includes computer laboratory sessions.

BIPG6400 Applications of Bioinformatics

[3 credit hours]

Lectures and hands-on activities that demonstrate the application of bioinformatics, proteomic and genomics techniques to solve research problems being studied by selected faculty from MCO, UT, BGSU or another institution.

BIPG6600 BIPG Internship

[1-6 credit hours]

Focused practical training in Biomarker discovery and validation with a pharmaceutical-oriented company. Builds upon didactic course work.

BIPG6700 Research in Bioformatics

[1-6 credit hours]

Supervised research in bioinformatics, especially designed for new graduate students to gain research credits before taking their Qualifying Exam. Students will study bioinformatics applications to biochemical research, usually in a laboratory setting, as well as discussing current literature and advanced techniques in all areas of bioinformatics.

BIPG6890 Independent Study in BPG

[0-4 credit hours]

Intense study in an area of bioinformatics, proteomics and genomics (BPG). Course content, assignments, meeting times and grade requirements are arranged with a BPG faculty member. May be repeated for credit.

BIPG6990 Thesis in Bioinformatics

[1-15 credit hours]

Research in bioinformatics, or interdisciplinary investigation of biomedical problems with significant bioinformatic components. This research is at the masters level, leading to completion of a scientific project for presentation as a thesis. May be repeated for credit.

BIPG7100 Fund Bioinform and Proteomics

[3 credit hours]

Introduction to bioinformatics and computational biology. Both theory and practical methods for evaluating and managing biomedical data will be covered. Topics range from sequence analysis to structure prediction. Includes computer laboratory sessions. May be taken concurrently with BIPG520/720.

BIPG7110 Practical Bioinformatics

[1 credit hour]

Short lectures integrated with computer tasks in Bioinformatics Computer Lab. The bioinformatics resources will primarily be those freely available on the internet. The course will meet twice a week for 2-hour sessions in the Bioinformatics Computer Lab. The course will last four weeks during the Summer semester. The following topics will be presented in the eight sessions: searching biological databases, pair-wise sequence alignments, BLAST searches, multiple sequence alignment, phylogenetic analysis, gene prediction, and transcription factor binding sites and other DNA motifs. No prerequisites.

BIPG7200 Statistical Meth Bioinformatic

[3 credit hours]

Application of probability and statistics to bioinformatic analysis. Topics include stochastic processes, Markov chains, statistical basis for DNA sequence analysis, evolutionary models, and statistical analysis of functional genomic data. Includes computer laboratory sessions. May be taken concurrently with BIPG510/710.

BIPG7400 Biodatabases

[1 credit hour]

This course will introduce students to database concepts, design, and implementation, using the most popular database formats utilized in biomedical research. The practicum provides hands-on experience with real-world databases.

BIPG8100 Bioinformatic Computation

[3 credit hours]

Use, design, strengths and limitations of bioinformatics programs run on desktop computers. Programming in PERL to acquire and analyze biological sequences. Construction and management of databases. Introduction of LINUX, C++, and Java. Includes computer laboratory sessions.

BIPG8890 Independent Study in BPG

[0-4 credit hours]

Intense study in an area of bioinformatics, proteomics and genomics (BPG). Course content, assignments, meeting times and grade requirements are arranged with a BPG faculty member. May be repeated for credit.

BLAW3550 Legal And Safety Compliance Issues In Human Resource Management

[3 credit hours]

Introduction of the issues and challenges facing human resource specialists, generalists and managers in organizations. Legal, social and political aspects of human resource management, as well as compliance requirements for OSHA and other safety laws, are discussed.

Prerequisites: BUAD 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BLAW3570 The Laws Of Structuring And Operating A Business

[3 credit hours]

The role of law in structuring and operating business choices of sole proprietorship, agency, partnership, limited partnership, close private corporation, large public corporation, limited liability corporation and negotiable instruments law.

BLAW3670 International Business Law

[3 credit hours]

The role of laws and organizations governing business done in the global arena. Study of the legal environment of international business; international sales, credits and the commercial transaction; international trade law and the regulation of the international marketplace.

Prerequisites: BUAD 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

BLAW4570 Legal And Ethical Aspects Of Managing Innovation And Technology

[3 credit hours]

This course examines intellectual property systems and presents management options for the protection of intellectual property. Technology's legal and ethical aspects are covered, including case studies on specific technological innovations and products.

Prerequisites: (BUAD 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND BUAD 3470 FOR LEVEL UG WITH MIN. GRADE OF D-)

BLAW4580 Detection And Prevention Of Deceptive Business Practices

[3 credit hours]

The course prepares the student to prevent deceptive and fraudulent practices in business, including kinds and definitions of deception and fraud, history, legal aspects, legislation, detection and prevention.

Prerequisites: BUAD 3470 FOR LEVEL UG WITH MIN. GRADE OF D-

BLAW5150 Dynamics Of Legal Environment Of Business

[3 credit hours]

Emphasis will be placed on the law in those areas which would assist the student to have a better understanding of those ethical and social problems in our increasingly more complicated legal environment.

BLAW6040 Health Law

[3 credit hours]

Provides an analytical framework for the understanding of the legal climate within which the health care institution operates. Emphasis on the legal concepts which bear upon current health care problems and operation and planning decisions.

BLAW6100 Business, Government And Society

[3 credit hours]

Discussion of social criticisms of business and of responses which may improve its social performance. Topics include consumerism, ecology, market power, market organization, social responsibility and ethics regulation and public policy, social performance measurement.

BLAW7150 Dynamics Of Legal Environment Of Business

[3 credit hours]

Emphasis will be placed on the law in those areas that would assist the student to have a better understanding of those ethical and social problems in our increasingly more complicated legal environment.

BME8900 Independent Research

[1-16 credit hours]

[1-16 hours] Selected topics from current BME research with investigation into recent literature and/or via a laboratory experience in an area of mutual interest to the student and the instructor. Students are to use the section number of their instructor. Prerequisite: Instructor consent.

BME8930 Graduate Seminar

[0- credit hours]

0 hour] Biomedical engineering research presentations by external speakers from industry, universities and other organizations.

BME8960 Dissertation

[1-16 credit hours]

[1-16 hours] Doctoral dissertation research credit hours for students in the biomedical engineering program. Students are to use the section number of their dissertation adviser.

BME8980 Special Topics

[1-8 credit hours]

[1-8 hours] A special topic at the graduate level in biomedical engineering to be offered as a lecture course during a term by a BME faculty member. Prerequisite: Consent of the BME faculty member.

BMGT1010 Business Principles

[3 credit hours]

An introduction to the world of business focusing on an overview of business operations with special emphasis on management, marketing, accounting and finance.

BMGT1500 Workplace Communication And Presentations

[3 credit hours]

Covers all aspects of communicating in the workplace including oral, written and group communications. Specific subjects covered include composing agendas, conducting interviews and organizing meetings. Students will learn a computer graphics program and prepare a presentation.

BMGT1540 Organizational Behavior

[3 credit hours]

This course will address the impact of individual and group behavior on organizations. Topics covered include downsizing, stakeholder management, network organizations, participative management approaches and the quality movement.

BMGT2010 Workplace Management

[3 credit hours]

Covers issues dealing with managing a company in a predominantly service-oriented marketplace. Topics include training employees to deal with customers/clients, creating a customer-friendly business environment, problem-solving and strategic planning.

BMGT2020 Human Resource Development

[3 credit hours]

Explores the functions of Human Resource development that focus on training and employee development with special emphasis on improving the quality of work life.

BMGT2030 Supervision

[3 credit hours]

Explores the role of first-line managers in organizations with special emphasis on the responsibilities of supervisors. These responsibilities include delegation, communication, problem-solving, training and leading.

BMGT2050 Small Business Management

[3 credit hours]

Examines entrepreneurship with a special emphasis on formulating, developing and operating a small business.

BMGT2110 Managing In A Global Economy

[3 credit hours]

Students will examine one particular industry and learn the various economic factors associated with operating a business in an international setting.

BMGT2310 Legal Environment Of Business

[3 credit hours]

Carefully documents treatment of the legal framework of business. Emphasis on the international aspect of business law. Topics covered include contracts, bailments, agency relationships, legal forms of ownership and negotiable instruments.

BMGT2700 Managing Diversity In The Workplace

[3 credit hours]

This course offers a conceptual framework for understanding diversity and its effects on organizational behavior. It will also provide action tools for effective management of diversity in organizations.

BMGT2750 Cultural Communications In The Workplace

[3 credit hours]

Strategies taught to increase communication effectiveness among employees from differing cultural backgrounds. Students will also learn market-specific tips and taboos and develop strategies for negotiating across cultures.

BMGT2990 Independent Study

[1-3 credit hours]

Students will study a management-related subject mutually agreed upon between the student and instructor. The format may include lecture, computer lab and/or practical experience.

BMSP5320 Statistical Methods I

[3 credit hours]

Introduction to statistical methods with emphasis on problems in the biomedical sciences. Included are descriptive statistics, probability theory, statistical inference, experimental design and simple statistical tests.

BMSP6250 Grant Writing Workshop

[2 credit hours]

This is an interdisciplinary course designed to teach students skills in developing a research plan in the form of a grant proposal.

BMSP6310 Systems Pathophysiology I

[2.5 credit hours]

The course will cover the fundamentals and current research efforts in biomedical sciences, emphasizing diseases of the cardiovascular, immune, and nervous systems, as well as metabolic and infectious diseases.

BMSP6320 Systems Pathophysiology II

[2.5 credit hours]

The course will cover the fundamentals and current research efforts in biomedical sciences, emphasizing diseases of the cardiovascular, immune, and nervous systems, as well as metabolic and infectious diseases.

BMSP6330 Curr Prob Res App Protein Str

[2.5 credit hours]

The course will cover principles of protein structure/function relationships in proteins, protein folding, ligand-protein interactions and mechanism of enzyme-catalyzed reactions. Special emphasis will be given to the present-day research.

BMSP6340 Curr Prob Res App Genes/Genom

[2.5 credit hours]

This course provides an introduction to major areas of current research in genetics and molecular biology. Topics include gene structure and regulation, DNA replication, recombination, repair, mutation, and quantitative genetics.

BMSP6350 Cell Biology & Signaling

[3 credit hours]

The content of this course will encompass didactic lectures on current knowledge and methodological approaches in the area of fundamental cellular processes and cell communication.

BMSP6360 Curr Prob Cell Membranes

[3 credit hours]

This course will explore vital roles played by plasma and intracellular membranes in communication and homeostasis, and by membrane lipid/protein interactions in defining cytoarchitecture, protein sorting, excitability and synaptic transmission.

BMSP6370 Recent Advances in NND Journal

[1 credit hour]

Forum for the presentation,critique, and discussion of recent primary literature important to the development of the field of biomedical science.

BMSP6380 Methods Biomed Sciences

[3 credit hours]

This course will cover the basic principles and applications, of state-of-the-art technology in molecular biology, protein chemistry, and studies with culture cells, tissue explants and transgenic animal models.

BMSP6390 Mentored Research

[1-15 credit hours]

Students will be mentored in biomedical research and will gain familiarity with research projects ongoing in graduate laboratories. May be repeated for credit.

BMSP6400 BPG Intro to Mthds in Bio Sci

[1 credit hour]

Introduction to biomedical methods. Required for Bioinformatics, Proteomics and Genomics (BPG) MSBS (but not certificate) students. An abbreviated version of BMSP 638, BMSP 640 runs for first 8 weeks of Fall semester.

BMSP7320 Statistical Methods I

[3 credit hours]

Introduction to statistical methods with emphasis on problems in the biomedical sciences. Included are descriptive statistics, probability theory, statistical inference, experimental design and simple statistical tests.

BMSP8250 Grant Writing Workshop

[2 credit hours]

This is an interdisciplinary course designed to teach students skills in developing a research plan in the form of a grant proposal.

BMSP8310 Systems Pathophysiology I

[2.5 credit hours]

The course will cover the fundamentals and current research efforts in biomedical sciences, emphasizing diseases of the cardiovascular, immune, and nervous systems, as well as metabolic and infectious diseases.

BMSP8320 Systems Pathophysiology II

[2.5 credit hours]

The course will cover the fundamentals and current research efforts in biomedical sciences, emphasizing diseases of the cardiovascular, immune, and nervous systems, as well as metabolic and infectious diseases.

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[2.5 credit hours]

The course will cover principles of protein structure/function relationships in proteins, protein folding, ligand-protein interactions and mechanisms of enzyme-catalyzed reactions. Special emphasis will be given to the present-day research.

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[2.5 credit hours]

This course provides an introduction to major areas of current research in genetics and molecular biology. Topics include gene structure and regulation, DNA replication, recombination, repair, mutation, and quantitative genetics.

BMSP8350 Cell Biology & Signaling

[3 credit hours]

The content of this course will encompass didactic lectures on current knowledge and methodological approaches in the area of fundamental cellular processes and cell communication.

BMSP8360 Curr Prob Cell Membranes

[3 credit hours]

This course will explore vital roles played by plasma and intracellular membranes in communication and homeostasis, and by membrane lipid/protein interactions in defining cytoarchitecture, protein sorting, excitability and synaptic transmission.

BMSP8380 Methods Biomedical Sciences

[3 credit hours]

This course will cover the basic principles and applications, of state-of-the-art technology in molecular biology, protein chemistry, and studies with culture cells, tissue explants and transgenic animal models.

BMSP8390 Mentored Research

[1-15 credit hours]

Students will be mentored in biomedical research and will gain familiarity with research projects ongoing in graduate laboratories. May be repeated for credit.

BRIM6200 Biomarker Disc,Valid & Impleme

[3 credit hours]

Unit I of this survey course will explore the clinical need and methodologic approaches to biomarker development and validation. Unit 2 will consider biomarker use in individualized medicine.

BRIM8200 Biomarker Disc Valid & Impleme

[3 credit hours]

Unit I of this survey course will explore the clinical need and methodologic approaches to biomarker development and validation. Unit 2 will consider biomarker use in individualized medicine.

BSCI780 Ind Study in Rheumatic Disease

[6 credit hours]

Students will participate in a combination of laboratory research, literature studies, and small group meetings, which are all to be focused on hematological and immunological causes and complications in rheumatic diseases such as rheumatoid arthritis and systemic lupus erythematosus. Students will be expected to acquire fundamental skills required for generating testable hypotheses, carrying out bench research, data analysis, and reporting of results.

BSCI781 Path of Immunological Diseases

[6 credit hours]

Students will participate in a combination of laboratory research, literature studies, and small group meetings, which are all to be focused on immunological disease(s) of their own interests. Students will be expected to acquire fundamental skills required for generating testable hypotheses, carrying out bench research, and analyzing the data.

BSCI782 Research in Infectious Disease

[6 credit hours]

Students will participate in a combination of laboratory research, literature studies, and small group meetings, which are all to be focused on immunological disease(s) of their own interests. Students will be expected to acquire fundamental skills required for generating testable hypotheses, carrying out bench research, and analyzing the data.

BUAD1000 Orientation For Business Students

[1 credit hour]

Introduction to the University community. Strategies for successful college transition are explored.

BUAD1010 Introduction To Business

[3 credit hours]

Introduction to the various functional areas of business, the critical role business plays in the economy, the impact of globalization and the performance of business functions.

BUAD1020 Micro-Computer Applications In Business

[3 credit hours]

Course provides an overview of the role of micro-computers and information systems in business applications. It provides good training in word processing and spreadsheets for problem solving.

BUAD2000 Career Development I

[1 credit hour]

This course will assist students with self-assessment, exploring career options and developing a resume. Skills in communicating, listening, organizing and supervising are some of the areas required for long-term career success that are covered.

Prerequisites: BUAD 1000 FOR LEVEL UG WITH MIN. GRADE OF D-

BUAD2020 Information Technology Management

[3 credit hours]

The role of computers and information systems in business decision-making, particularly with regard to achieving key business goals such as competitive advantage, operational efficiency, and customer satisfaction in today's digital global economy, will be carefully examined. The student is also expected to become proficient in applying a range of software tools, such as SAP, advanced Excel, Microsoft Access, and Vizio, for business decision making and problem solving.

Prerequisites: BUAD 1020 FOR LEVEL UG WITH MIN. GRADE OF D-

BUAD2030 Executive Communication Essentials

[3 credit hours]

Skills-based course equips the student to effectively network with business professionals, make oral presentations alone and in teams, lead meetings, and write for a business audience. Prerequisite: Sophomore standing

BUAD2040 Financial Accounting Information

[3 credit hours]

This course is an introduction to financial accounting from the perspective of a financial statement user. Where appropriate, it provides a small and mid-sized company's perspective.

BUAD2050 Accounting For Business Decision-Making

[3 credit hours]

This course is an introduction to management accounting, including the use and limitations of cost-volume-profit analysis for fundamental decisions concerning products, services and activities.

Prerequisites: BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF D-

BUAD2060 Data Analysis For Business

[3 credit hours]

Course will cover the concepts of data representations, probability, probability distributions, sampling theory, interval estimation, and hypothesis testing. The collection and analysis of data for business decision-making using spreadsheet or other tools such as projects/cases where appropriate.

Prerequisites: (MATH 1260 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF D-) OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1730 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF D-

BUAD2070 Business Statistics and Analytics

[3 credit hours]

Course will cover testing of two or more population means and proportions, linear regression, and business analytics including forecasting, data mining and spreadsheet analysis. Will emphasize applications of statistics in business using spreadsheet, projects/cases where appropriate.

Prerequisites: BUAD 2060 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2600 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2630 FOR LEVEL UG WITH MIN. GRADE OF D-

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BUAD2080 Global Environment Of Business

[3 credit hours]

This course covers the global environmental challenges impacting businesses. Topics include globalization forces, country differences in political economy and culture, cross-border trade and investment, regional economic integration, and monetary systems.

BUAD3000 Career Development II

[1 credit hour]

This course will assist students in developing job search skills necessary to obtain an internship and full-time position. Skills covered include resume enhancement, cover letter design, networking, informational interviewing, interview preparation and professional dress.

Prerequisites: BUAD 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

BUAD3010 Principles Of Marketing

[3 credit hours]

The general purpose of this course is to provide a basic understanding of what marketing is about including marketing management, and the marketing environment. The course will examine issues such as marketing research, consumer behavior, segmentation, targeting, and positioning strategies, product strategy, pricing strategy, distribution strategy, promotional strategy, new product development, branding, advertising, sales promotion, and public relations.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR MIME 2600 FOR LEVEL UG WITH MIN. GRADE OF D-

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BUAD3020 Principles Of Manufacturing And Service Systems

[3 credit hours]

This course provides an overview of the functions, problems, solution techniques and decision making processes within the manufacturing and service environment. Topics include concept of supply chain, sales and operations planning, MRP, materials management, quality management, and project management.

Prerequisites: BUAD 2070 FOR LEVEL UG WITH MIN. GRADE OF D-

BUAD3030 Managerial And Behavioral Processes In Organizations

[3 credit hours]

Introduction to managerial and organizational concepts designed to develop knowledge, attitudes, techniques and skills in creating and managing innovative, adaptive organizations. Interactive exercises, videos, cases, discussions and lectures will be used.

BUAD3040 Principles Of Financial Management

[3 credit hours]

This course help students develop the skills necessary to understand how financial managers make value- maximizing decisions in their organization. Content stresses fundamentals of financial analysis, short and long-term investments, time value of money, stock and bond valuation, risk and return, and corporate structure.

Prerequisites: (BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF D- OR ACTG 1040 FOR LEVEL UG WITH MIN. GRADE OF D-) AND BUAD 2060 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

BUAD3050 Information Technology Management

[3 credit hours]

The role of computers and information systems in business decision-making will be carefully examined. The student is expected to develop computer-based applications for business decision making and problem solving through the use of state of the art software, including advanced spreadsheets, database and web design tools.

Prerequisites: BUAD 1020 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMPT 1100 FOR LEVEL UG WITH MIN. GRADE OF D-

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BUAD3470 The Legal And Ethical Environment Of Business

[3 credit hours]

The nature of the law and the formation and application of Legal Principles; the Legal and Ethical Environment in which business operates; regulation of commerce and competition through Contracts, Torts and the Uniform Commercial Code.

BUAD3500 Sustainable Business Practices

[3 credit hours]

This course examines the current state of business practice through the lens of sustainability. Coverage includes models and systems that businesses are using to address the social, environmental and economic challenges faced by our global community.

BUAD4020 Senior Business Policy Forum

[3 credit hours]

This course integrates functional business knowledge learned in the core and stresses their interconnectedness and interrelationships. Students will develop and implement strategies in response to changes in the external environment.

Prerequisites: (BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND BUAD 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND BUAD 3040 FOR LEVEL UG WITH MIN. G

BUAD6100 Accounting For Decision Making

[3 credit hours]

This course develops an appreciation for financial statements and their usefulness in making decisions. The nature of costs, opportunity costs, responsibility accounting, budgeting, cost allocations, absorption cost systems, activity based costing and standard costs are included.

Prerequisites: ACTG 1040 FOR LEVEL UG WITH MIN. GRADE OF C AND ACTG 1050 FOR LEVEL UG WITH MIN. GRADE OF C OR BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF C AND BUAD 2050 FOR LEVEL UG WITH MIN. GRADE OF C OR ACCT 5000 FOR LEVEL GR WITH MIN. GRADE OF C

BUAD6200 Corporate Finance

[3 credit hours]

The course reviews the analytical tools needed to solve a wide range of financial management issues. It concentrates on three major types of decisions in corporate finance: investment decisions, financing decisions, and payout decisions. Specific topics include stock and bond pricing, risk and returns, capital budgeting, leverage and capital structure choice, and dividend policy.

Prerequisites: FINA 5310 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF C AND BUAD 2050 FOR LEVEL UG WITH MIN. GRADE OF C OR ACTG 1040 FOR LEVEL UG WITH MIN. GRADE OF C AND ACTG 1050 FOR LEVEL UG WITH MIN. GRADE OF C

BUAD6300 Strategic Marketing And Analysis

[3 credit hours]

This course examines the fundamentals of marketing analysis and strategy. The purpose is to strengthen your basic understanding of marketing strategy and the management philosophy of being market-driven. Being market-driven means the organization’s decision-making is driven by customer information, market knowledge, competitive intelligence, an understanding of how the organization creates and delivers value, and a clear set of strategies that differentiate the organization and give it a competitive advantage.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C

BUAD6400 Results-Based Management

[3 credit hours]

This course is dedicated to understanding human behavior in organizational settings and how organizations can impact and support results-based management. The intent of this course is to provide an understanding of alternative managerial approaches to particular issues, and to introduce ways to analyze the various organizational and social costs and benefits typically associated with any given approach. Case analyses and team projects are core elements of this course.

BUAD6500 International Business

[3 credit hours]

This course focuses on an understanding of the process and controversies underlying globalization, as well as its supporting theories and strategic challenges encountered when firms "go global" or operate in the global context.

BUAD6600 Supply Chain Management

[3 credit hours]

This course presents an integrated approach to value chain management and analyzes key challenges, practices and trends concerning primary business functions and processes. The course also examines the strategic ramifications for the supply chain in an emerging digital economy.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF C OR OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C

BUAD6800 Information Technology And E-Business

[3 credit hours]

This course covers the strategic role of information technology resources, e-commerce initiatives and e-business transformation for competitive advantage, managerial decision support, business process streamlining and inter-firm collaboration. Also covered are analysis of business models, exposure to data analysis tools, evaluation of information system architecture and resource requirements.

BUAD6900 Strategic Management Capstone

[3 credit hours]

This capstone course integrates business functions toward the strategic management of organizations or subunits thereof. Course pedagogy includes lectures, guest speakers, cases, experiential exercises field projects and simulations.

Prerequisites: (BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C AND BUAD 6300 FOR LEVEL GR WITH MIN. GRADE OF C)

BUAD6920 Specialization Internship Opportunity

[1-4 credit hours]

Receive practical business experience working in an organization, while meeting with other students and learning about their experiences.

BUAD6980 Special Topics In Business Administration

[1-4 credit hours]

Independent study to be arranged with the Director, M.B.A. program.

CABP6250 Scientific Communication Skills and Cancer Goals

[2 credit hours]

Three-fourths of the course will be focused on individual, small group, and whole class participation in communication skills. One fourth of the class will be devoted to information and assessment of individual career options. Web based assessment tools and outside expertise will be recruited for this portion of the class.

CABP6270 Advanced Cancer Biology

[3 credit hours]

A comprehensive examination of the cellular and molecular foundation of cancer. Topics to be covered include: neoplasia; epidemiology and etiology; the role of causative agents such as chemicals, radiation, and viruses; cell proliferation, injury, and death; oncogenes; tumor suppressor genes; and an overview of cancer therapy.

CABP6560 Readings in Cancer Biology

[1 credit hour]

A readings and discussion course that will examine classic and current research publications from within the broad realm of cancer biology.

CABP6890 Ind Study in Cancer Biology

[1-15 credit hours]

Intensive study in the field of cancer biology including theoretical and experimental work. May be repeated for credit.

CABP8250 Scientific Communication Skills and Cancer Goals

[2 credit hours]

Three-fourths of the course will be focused on individual, small group, and whole class participation in communication skills. One fourth of the class will be devoted to information and assessment of individual career options. Web based assessment tools and outside expertise will be recruited for this portion of the class.

CABP8270 Advanced Cancer Biology

[3 credit hours]

A comprehensive examination of the cellular and molecular foundation of cancer. Topics to be covered include: neoplasia; epidemiology and etiology; the role of causative agents such as chemicals, radiation, and viruses; cell proliferation, injury, and death; oncogenes; tumor suppressor genes; and an overview of cancer therapy.

CABP8560 Readings in Cancer Biology

[1 credit hour]

A readings and discussion course that will examine classic and current research publications from within the broad realm of cancer biology.

CABP8890 Ind Study in Cancer Biology

[1-15 credit hours]

Intensive study in the field of cancer biology including theoretical and experimental work. May be repeated for credit.

CET1010 Intro to Constr Eng Technology

[1 credit hour]

An introduction to Construction Engineering by introducing career sectors, current topics, teamwork, safety and the curriculum in order to provide the freshman CET student with building blocks for success within the program.

CET1050 Computers for Construction

[3 credit hours]

This course covers fundamental concepts, techniques and the application of microcomputers to the solution of engineering technology problems. This course provides an introduction to microcomputer operating systems and technical productivity software in construction engineering. The course also serves as an introduction to specialized software used in the profession and in future courses with the curriculum, (AutoCAD, WinEst, Microsoft Project, Sketch-Up).

CET1100 Architectural Drafting

[0-3 credit hours]

"This course covers the basics of architectural graphic techniques beginning with fundamental drafting skills and representational processes, and progressing toward the production of a complete construction documentation package, including plans, sections, elevations and detail views of an architectural project. The course will emphasize methods and procedures of hand drafting, while introducing computer aided drafting and design production techniques. "

CET1150 Construction Materials And Codes

[3 credit hours]

This course consists of an introduction to terminologies and properties of construction materials and techniques from foundation, floor, wall and roof systems, as well as thermal and moisture protection and finish work. Sources of manufacturer's material information are discussed. An introduction is made into the various building codes and code organizations as related to new and existing buildings.

CET1200 Engineering Mechanics

[4 credit hours]

This course covers the basics of statics, load tracing and analysis of determinate structures. Special attention is paid to the application of the laws of statics and strength of materials as they relate to construction materials, techniques and methods. The course covers the analysis of direct and indirect stresses in structural members: stress, strain, bending moment, shear and deflection; and begins the structural design course progression with the design of beams, columns and structural connections.

Prerequisites: (PHYS 2010 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D-)

CET1210 Surveying

[0-3 credit hours]

Study of construction and land surveying techniques, including the use of a steel tape, level, transit and total station. Laboratory will stress surveying measurement and layout techniques. Laboratory exercises will also introduce "AUTOCAD" and associated third party software applications to surveying.

Prerequisites: MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D-

CET1250 Building Systems

[3 credit hours]

This course provides an introduction to selected building systems, equipment technologies and their capabilities. These systems include, but are not limited to: HVAC, plumbing, electrical, and other mechanical operations as they relate to building construction and building operations. Fundamentals of designing and sizing these systems will also be covered.

Prerequisites: CET 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND CET 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND (MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF D- OR

CET2030 Construction Graphics

[3 credit hours]

Computer drafting as related to construction engineering projects such as highways, streets, sanitary and storm sewers, and building sites. The computer drafting portion will use Microstation and associated third party support (e.g. Geopak).

Prerequisites: CET 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND CET 1210 FOR LEVEL UG WITH MIN. GRADE OF D-

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CET2060 Construction Estimating

[0-3 credit hours]

This course covers the fundamentals, concepts, and strategies used in the process of estimating construction costs. The organization of construction estimates and the bidding process will be discussed while focusing on materials, construction methods and labor strategies and costs. Use of spreadsheet software, as well as dedicated estimating and takeoff software will be explored in the recitation sections of the course.

Prerequisites: CET 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND CET 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

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CET2110 Materials Testing

[0-3 credit hours]

Design of portland and asphalt cement concrete mixes and associated quality control tests of mortar, aggregates, asphalt cements, portland and asphaltic concrete.

Prerequisites: CET 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

CET2220 Soil Mechanics

[0-3 credit hours]

This course covers the characteristics and behavior of soil as it relates to the design and construction of civil engineering projects. The course will focus on identifying types of soils, the methods by which soils act and react under stress and how they can be manipulated and modified. Standard soils testing procedures will be used to produce a basic knowledge of soil and its pertinent properties.

Prerequisites: CET 1200 FOR LEVEL UG WITH MIN. GRADE OF D- AND ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- AND (ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D-)

CET2250 Structural Design

[4 credit hours]

This course covers the principles of statics and strength of materials as applied to structural design of steel and timber products, using applicable codes. Applications of both allowable stress, load factored design and unified design methods will be covered for both spanning and axial elements.

Prerequisites: CET 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

CET2980 Special Topics

[1-4 credit hours]

Student performs work on a specialized project of an advanced nature under the supervision of a Construction Engineering Technology faculty member.

CET3010 Architectural CADD

[4 credit hours]

This course is designed as an introduction to digital architectural documentation techniques for design, building and lifecycle building maintenance. The course explores techniques using both traditional CAD approaches as well as BIM and parametric modeling. The course emphasizes methods and procedures of AutoCAD, parametric modeling through Bentley Building and AutoCAD for Architecture and develops greater skills in BIM through Autodesk's Revit.

Prerequisites: CET 1100 FOR LEVEL UG WITH MIN. GRADE OF D-

CET3020 Sustainability for Construction

[3 credit hours]

This course is an introduction to sustainable design, green building and the LEED rating system. Roles of engineers and constructors are examined within the integrated design approach to green building and sustainable design. Topics covered include sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor air quality and innovative design. The course is structured as a way to prepare for the LEED Green Associate exam.

Prerequisites: CET 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CET 1250 FOR LEVEL UG WITH MIN. GRADE OF D-

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CET3120 Advanced Construction Materials

[3 credit hours]

This course focuses on the design and construction of ground based structures such as flexible and rigid pavements, floor slabs and buried pipe loading. Coverage of the construction and preparation of soil is also covered in order to provide a quality subgrade upon which to construct the items. Standard industry manuals and procedures are used to complete design problems.

Prerequisites: (CET 2220 FOR LEVEL UG WITH MIN. GRADE OF D- AND CET 2110 FOR LEVEL UG WITH MIN. GRADE OF D-)

CET3160 Contracts and Specifications

[3 credit hours]

This course includes the review and understanding of construction contract documents and relationship of drawings, specifications, scheduling, and contracts. This course also includes the review and dissemination of construction specifications for purposes of defining scopes of work.

Prerequisites: CET 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND CET 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND (ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D-)

CET3210 Surveying Applications

[0-3 credit hours]

This course covers the study of surveys for construction layout and mapping, including traverses, horizontal and vertical curves and boundaries. The laboratory stresses the organization of projects under actual field conditions using total stations and data collectors. Hand and computer solutions will be used to solve field problems.

Prerequisites: CET 1210 FOR LEVEL UG WITH MIN. GRADE OF D-

CET3220 Hydrology And Hydraulics

[3 credit hours]

This course is designed to give an understanding of basic hydraulic principles as they pertain to stormwater management; from estimating runoff volumes, to channeling the stormwater in conduits and open channels, to detaining flows to reduce downstream flooding and reducing the effects of erosion due to concentrated stormwater flow. The course will utilize numerous methods including manual and computer-aided design tools.

Prerequisites: CET 2030 FOR LEVEL UG WITH MIN. GRADE OF D-

CET4250 Advanced Structural Design

[4 credit hours]

This course deals with the design of reinforced concrete structural elements as well the principles of masonry design in accordance with applicable standards and codes. The design of temporary structures for use during construction will also be introduced.

Prerequisites: CET 2250 FOR LEVEL UG WITH MIN. GRADE OF D-

CET4350 Soils, Foundations And Earth Structures

[4 credit hours]

This course covers the application of advanced soil mechanics topics which allow for proper design and analysis of foundations. Bearing capacity, shallow and deep foundations (both piles and drilled shafts) as well as soil settlement and slope stability are emphasized. Retaining wall design and OSHA excavation guidelines are also covered.

Prerequisites: (CET 2250 FOR LEVEL UG WITH MIN. GRADE OF D- AND CET 2220 FOR LEVEL UG WITH MIN. GRADE OF D-)

CET4460 Construction Management And Scheduling

[3 credit hours]

This course focuses on learning the basics of producing construction schedules based on cost estimates and work breakdown structures. Different scheduling methods will be investigated along with associated management techniques needed to plan, track, control and adjust schedules to project conditions. Project supervision, OSHA construction saftey and engineering ethics pertaining to construction will be covered.

Prerequisites: CET 2060 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE1000 Orientation And Computing For Chemical Engineers

[0-3 credit hours]

An introduction to the UT campus, campus resources, the College of Engineering and the Department of Chemical and Environmental Engineering. Primary emphasis is on engineering computing, data analysis and basic chemical engineering calculations.

CHEE1010 Professional Development

[1 credit hour]

Social protocol and ethics in industry. Resume writing and interview skills are presented in preparation for the Co-op experience. Review of resource materials for technical and non-technical individual learning. Oral and written presentation techniques are emphasized.

Prerequisites: CHEE 1000 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE2010 Mass And Energy Balances

[3 credit hours]

Introduction to the principles and techniques used in chemical engineering. Basic concepts of mathematics, physics and chemistry are applied to solving problems involving stoichiometry, material balances and energy balances.

Prerequisites: CHEE 1000 FOR LEVEL UG WITH MIN. GRADE OF D- AND (MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY))

CHEE2110 Process Fluid Mechanics

[3 credit hours]

A comprehensive introduction to process fluid mechanics. Topics include: hydrostatics, characteristics of laminar and turbulent flow, mechanical energy balance, flow through packed beds and fluidization of solids, design of pumping systems and piping networks and metering of fluids.

Prerequisites: CHEE 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE2230 Chemical Engineering Thermodynamics I

[3 credit hours]

The principles of thermodynamics and their application to chemical engineering. Topics include states and properties of matter, the first and second law of thermodynamics and thermo-chemical effects.

Prerequisites: CHEE 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE2330 Chemical Engineering Thermodynamics II

[3 credit hours]

Topics include properties of fluid mixtures, phase equilibria, chemical equilibria, power generation and refrigeration processes.

Prerequisites: CHEE 2230 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE3030 Separation Processes

[3 credit hours]

An introduction to equilibrium-based separation processes. Topics include distillation, extraction, leaching, drying and membrane separations. Preliminary equipment design calculations.

Prerequisites: CHEE 2330 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE3110 Process Heat Transfer

[2 credit hours]

Fundamental equations of heat transfer. Fourier's law. Steady and unsteady thermal conduction. Heat transfer coefficients. Heat exchangers. Condensation and boiling. Forced and natural convection. Radiation, Kirchoff's law and view factors.

Prerequisites: CHEE 2110 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CHEE 2230 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEE3120 Mass Transfer

[3 credit hours]

Mass transfer and its application in chemical engineering separations. Diffusivity, mass transfer coefficients and Fick's Law. Applications in continuous and stagewise processes, including absorption, extraction and distillation.

Prerequisites: (CHEE 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 3030 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY))

CHEE3300 Reactor Engineering And Design

[3 credit hours]

Fundamentals of chemical reaction engineering. Rate laws, kinetics and mechanisms of homogeneous and heterogeneous reactions. Analysis of reaction rate data. Design of industrial reactors.

Prerequisites: CHEE 2230 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE3400 Process Dynamics And Control

[3 credit hours]

An introduction to designing control systems for chemical engineering processes. Process stability and controller design and selection. Application of LaPlace transforms, frequency response techniques and simulation software for open-loop and closed-loop analysis.

Prerequisites: CHEE 3300 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 2110 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEE3940 Co-Op Work Experience

[1 credit hour]

Approved co-op work experience. Course may be repeated.

Prerequisites: CHEE 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE3950 Co-Op Experience

[1 credit hour]

Approved co-op work experience beyond third required co-op experience. Course may be repeated.

Prerequisites: CHEE 3940 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE4010 Green Engineering Principles

[3 credit hours]

The principles of chemical process analysis and design are introduced for the development of the green engineering processes. Common components of chemical processes are reviewed and quantitative analyses of process performance and economics developed. The impact of design variables on material and energy usage is demonstrated.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE4110 Green Engineering Applications

[3 credit hours]

Applications of green engineering principles in the chemical industry are discussed. Metrics for comparing process options are introduced along with common techniques for improving process performance.

Prerequisites: CHEE 4010 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE4120 Biofuels

[3 credit hours]

The technical, economic, social, and political issues associated with energy consumption are discussed. The potential for biofuels to replace current energy sources is examined based on the historical evolution of the industry and current research activity

Prerequisites: CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEE4410 New Separations

[3 credit hours]

Introduction to and analysis of new separation techniques relevant to downstream processing of bioreactor products. Topics include new extraction and adsorption methods, chromatography techniques, ultrafiltration and electrokinetic methods such as electrophoresis and isoelectric focusing.

Prerequisites: (CHEE 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 3120 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 3030 FOR LEVEL UG WITH MIN. GRADE OF D-)

CHEE4500 Chemical Engineering Laboratory I

[2 credit hours]

An experimental study of the design and performance of selected chemical engineering processes and equipment. Analysis of data, design of experiments and laboratory reports are emphasized.

Prerequisites: (CHEE 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 3030 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 3110 FOR LEVEL UG WITH MIN. GRADE OF D-)

CHEE4520 Chemical Process Economics And Design

[3 credit hours]

Chemical equipment and process design. Introduction to simulation and flow-sheeting techniques and software. Topics include plant safety and pollution prevention, market analysis, cost estimating, decision making and cash flow analysis.

Prerequisites: (CHEE 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 2330 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 3030 FOR LEVEL UG WITH MIN. GRADE OF D-) AND CHEE 3110 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEE4540 Chemical Process Simulation And Design

[3 credit hours]

Application of chemical engineering fundamentals and the use of process simulators in the synthesis of chemical processes. Use of cost factors and environmental considerations in process decisions. The solution of a comprehensive case study and the preparation of a formal report are required.

Prerequisites: CHEE 3120 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 4520 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 3300 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEE4550 Chemical Engineering Laboratory II

[2 credit hours]

An experimental study of the design and performance of selected chemical engineering process equipment, focusing on heat and mass transfer and process control. Design of experiments, analysis of data and presentation techniques are emphasized.

Prerequisites: (CHEE 3300 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CHEE 3120 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CHEE 3400 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CHEE

CHEE4800 Polymer Science And Engineering

[3 credit hours]

Polymerization processes, characterization, structure and properties of polymers, processing and engineering applications of the major polymer types.

CHEE4960 Senior Honors Thesis

[3 credit hours]

Independent research under the guidance of a faculty member, requiring an oral report and a written thesis upon completion of work.

CHEE4980 Special Topics In Chemical Engineering

[1-4 credit hours]

Special topics of interest to chemical engineers - upper division.

CHEE4990 Independent Studies In Chemical Engineering

[1-4 credit hours]

Independent studies in chemical engineering - upper division.

CHEE5410 New Separations

[3 credit hours]

Introduction to and analysis of new separation techniques relevant to downstream processing of bioreactor products. Topics include new extraction and adsorption methods, chromatography techniques, ultrafiltration and electrokinetic methods such as electrophoresis and isoelectric focusing.

CHEE5800 Polymer Science And Engineering

[3 credit hours]

Polymerization processes, characterization, structure and properties of polymers, processing and engineering applications of the major polymer types.

CHEE5930 Seminars In Chemical Engineering

[1 credit hour]

Research topics of current interest to chemical engineers will be presented by internal and external speakers in a research seminar format.

CHEE6010 Green Engineering Principles

[3 credit hours]

The principles of chemical process analysis and design are introduced for the development of green engineering processes. Common components of chemical processes are reviewed and quantitative analyses of process performance and economics developed. The impact of design variables on materials and energy usage is demonstrated.

CHEE6110 Green Engineering Applications

[3 credit hours]

Applications of green engineering principles in the chemical industry are discussed. Metrics for comparing process options are introduced along with common techniques for improving process performance.

Prerequisites: CHEE 6010 FOR LEVEL GR WITH MIN. GRADE OF C

CHEE6120 Biofuels

[3 credit hours]

The technical, economic, social, and political issues associated with energy consumption are discussed. The potential for biofuels to replace current energy sources is examined based on the historical evolution of the industry and current research activity.

CHEE6500 Advanced Chemical Reaction Engineering

[3 credit hours]

Analysis of kinetic, diffusive and flow factors on chemical reactor performance. Topics include batch, plug flow and CSTR reactors, empirical rate expressions, residence time distributions, catalytic reactors, stability and optimization.

CHEE6510 Advanced Chemical Engineering Thermodynamics

[3 credit hours]

Advanced treatment of fundamental principles of thermodynamics, especially as related to calculation of phase equilibria. Topics include intermolecular potentials, excess functions, theories of solutions, high-pressure equilibria and introductory statistical mechanics.

CHEE6550 Transport Phenomena I

[3 credit hours]

Students learn how to formulate and solve engineering problems involving momentum transfer from the microscopic view. Topics include vector/tensor analysis, approximation methods, computational solutions and non-Newtonian fluid phenomena.

CHEE6560 Transport Phenomena II

[3 credit hours]

Students learn how to formulate and solve engineering problems involving simultaneous momentum, heat and mass transfer from the microscopic view. Topics include conduction, radiation, diffusion, forced convection and free convection.

Prerequisites: CHEE 6550 FOR LEVEL GR WITH MIN. GRADE OF D-

CHEE6860 Polymer Laboratory Methods

[3 credit hours]

Characterization of polymers by physical testing (tensile, creep and rheological), physicochemical methods (viscosity, gel permeation chromatography), thermal analysis, spectroscopy, light microscopy, permeation, density, light scattering and processing.

CHEE6920 Chemical Engineering Project

[1-6 credit hours]

Students will perform a special project of an advanced nature in Chemical Engineering under the supervision of a faculty advisor. The project will culminate in submission of a written report. The course is intended primarily for Masters students pursuing a project Masters in Chemical Engineering.

CHEE6960 Master's Graduate Research And Thesis

[1-15 credit hours]

Graduate research towards the completion of a Master's Degree.

CHEE6970 Graduate Industrial Internship

[1-6 credit hours]

Academic advisor approved industrial or non-profit internship to provide an experiential learning component to the Masters degree program.

CHEE6980 Special Topics In Chemical Engineering

[1-6 credit hours]

Selected topics from current chemical engineering research with intensive investigation into the recent literature in an area of mutual interest to the student and the instructor.

CHEE8010 Green Engineering Principles

[3 credit hours]

The principles of chemical process analysis and design are introduced for the development of green engineering processes. Common components of chemical processes are reviewed and quantitative analyses of process performance and economics developed. The impact of design variables on materials and energy usage is demonstrated.

CHEE8110 Green Engineering Applications

[3 credit hours]

Applications of green engineering principles in the chemical industry are discussed. Metrics for comparing process options are introduced along with common techniques for improving process performance.

Prerequisites: CHEE 8010 FOR LEVEL GR WITH MIN. GRADE OF C

CHEE8120 Biofuels

[3 credit hours]

The technical, economic, social, and political issues associated with energy consumption are discussed. The potential for biofuels to replace current energy sources is examined based on the historical evolution of the industry and current research activity.

CHEE8500 Advanced Chemical Reaction Engineering

[3 credit hours]

Analysis of kinetic, diffusive and flow factors on chemical reactor performance. Topics include batch, plug flow and CSTR reactors, empirical rate expressions, residence time distributions, catalytic reactors, stability and optimization.

CHEE8510 Advanced Chemical Engineering Thermodynamics

[3 credit hours]

Advanced treatment of fundamental principles of thermodynamics, especially as related to calculation of phase equilibria. Topics include intermolecular potentials, excess functions, theories of solutions, high-pressure equilibria and introductory statistical mechanics.

CHEE8550 Transport Phenomena I

[3 credit hours]

Students learn how to formulate and solve engineering problems involving momentum transfer from the microscopic view. Topics include vector/tensor analysis, approximation methods, computational solutions and non-Newtonian fluid phenomena.

CHEE8560 Transport Phenomena II

[3 credit hours]

Students learn how to formulate and solve engineering problems involving simultaneous momentum, heat and mass transfer from the microscopic view. Topics include conduction, radiation, diffusion, forced convection and free convection.

Prerequisites: CHEE 8550 FOR LEVEL GR WITH MIN. GRADE OF D-

CHEE8860 Polymer Laboratory Methods

[3 credit hours]

Characterization of polymers by physical testing (tensile, creep and rheological), physicochemical methods (viscosity, gel permeation chromatography), thermal analysis, spectroscopy, light microscopy, permeation, density, light scattering and processing.

CHEE8960 Doctoral Graduate Research And Dissertation

[1-15 credit hours]

Graduate research towards the completion of a Doctoral Degree.

CHEE8980 Special Topics In Chemical Engineering

[1-6 credit hours]

Selected topics from current chemical engineering research with intensive investigation into the recent literature in an area of mutual interest to the student and the instructor.

CHEM1090 Elementary Chemistry

[0-3 credit hours]

For students who major in science, engineering or other fields which require chemistry as a prerequisite subject who have not had a previous course in chemistry and whose preparation is not sufficient to begin General Chemistry (CHEM 1230) .

Prerequisites: MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH

CHEM1100 Chemistry And Society

[3 credit hours]

An introduction to basic chemistry and a survey of the impact that chemistry has on society. Topics include: power, energy, and fuels; water and pollution; soaps and detergents; nutrition; poisons and toxins; plastics and polymers; drugs.

CHEM1110 Elementary Chemistry for the Health Sciences

[3 credit hours]

The study of chemistry for students that are studying nursing or other allied health related fields who have not had a previous course in chemistry or whose preparation in chemistry is not sufficient to begin Chemistry for the Health Sciences (CHEM 1120).

Prerequisites: A02 FOR MIN. SCORE OF 20 OR AMPT FOR MIN. SCORE OF 046 OR MTCA FOR MIN. SCORE OF 10 OR MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1750 FO

CHEM1120 Chemistry For Health Sciences

[4 credit hours]

The study of chemistry for students majoring in nursing and other health-related fields. This course includes general, organic and biochemical topics in condensed form. The impact of chemistry in health fields will be emphasized.

Prerequisites: CHEM 1110 FOR LEVEL UG WITH MIN. GRADE OF C OR HSCT FOR MIN. SCORE OF 34

CHEM1150 Chemistry And Society Laboratory

[1 credit hour]

Laboratory introduction to the concepts of chemistry to accompany Chemistry 1100. Demonstrations by laboratory experiments of lessons developed in the accompanying lecture course. Two hours of laboratory per week.

CHEM1200 Problem Solving In General Chemistry

[1 credit hour]

Problem solving and skill development for students enrolled in CHEM 1230 who obtained a satisfactory score on the chemistry placement test but need additional assistance in selected topics. May be taken only as P/NC. Pre-requisites: CHEM 1090 with a minimum grade of C or better OR pass placement exam.

Prerequisites: CHEM 1090 FOR LEVEL UG WITH MIN. GRADE OF C OR ACRT FOR MIN. SCORE OF 50 OR CHPL FOR MIN. SCORE OF 17

CHEM1230 General Chemistry I

[0-4 credit hours]

An introduction to atomic structure, chemical bonding, kinetic-molecular theory, energy relationships and structural concepts. This sequence is for students who major in science, engineering or other fields which require chemistry as a prerequisite subject. Three hours lecture and one hour discussion per week.

Prerequisites: CHEM 1090 FOR LEVEL UG WITH MIN. GRADE OF C OR CHPL FOR MIN. SCORE OF 17 OR ACRT FOR MIN. SCORE OF 50

CHEM1240 General Chemistry II

[0-4 credit hours]

An introduction to solutions, equilibrium, acid-base theory, energy relationships and structural concepts. This sequence is for students who major in science, engineering or other fields which require chemistry as a prerequisite subject. Three hours lecture and one hour discussion per week.

Prerequisites: CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM1280 General Chemistry Lab I

[1 credit hour]

Experiments over topics covered in CHEM 1230 lectures. Approved chemistry safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting. Three hours of laboratory per week.

Prerequisites: CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM1290 General Chemistry Lab II

[1 credit hour]

Experiments over topics covered in CHEM 1240 lectures. Approved chemistry safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting. Three hours of laboratory per week.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CHEM 1280 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEM1910 Survey Of Research

[1 credit hour]

Survey of current research areas at the frontiers of chemistry, including topics that cross the boundaries with other disciplines. May be taken only as P/NC.

CHEM2410 Organic Chemistry I

[0-3 credit hours]

Study of structure and reactions of organic compounds. Three hours lecture per week.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM2420 Organic Chemistry II

[3 credit hours]

Study of structure and reactions of organic compounds. Three hours lecture per week.

Prerequisites: CHEM 2410 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM2430 Recitation For Organic Chemistry I

[1 credit hour]

Optional recitation sections that discuss concepts and solve practice questions in CHEM2410.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM2440 Recitation For Organic Chemistry II

[1 credit hour]

Optional recitation sections that discuss concepts and solve practice questions in CHEM2420.

Prerequisites: CHEM 2410 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM2460 Organic Chemistry Laboratory I

[1 credit hour]

Practice of organic laboratory techniques. Four hours of laboratory per week. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: (CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1290 FOR LEVEL UG WITH MIN. GRADE OF D-) AND CHEM 2410 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM2470 Organic Chemistry Laboratory II

[1 credit hour]

Practice of organic laboratory techniques. Four hours of laboratory per week. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: CHEM 2460 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM2480 Organic Separations And Elementary Synthesis

[0-2 credit hours]

For Chemistry/Biochemistry majors. Introduction to theory and laboratory practice in modern methods of physical separation techniques, and introduction to organic synthetic methods. Special emphasis is made on spectrocscopic techniques used in the organic laboratory. Approved chemistry safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1290 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 2410 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM2490 Synthesis And Identification Of Organic Compounds

[0-2 credit hours]

For Chemistry/Biochemistry majors. Application of synthetic methods to elementary organic synthesis with special emphasis on instrumental approaches to problem solving in organic chemistry. Approved chemistry safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: (CHEM 2410 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 2480 FOR LEVEL UG WITH MIN. GRADE OF D-) AND CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM2500 Instrumental Methods For Organic Chemistry

[0-2 credit hours]

A bridge course for students wishing to major in chemistry or biochemistry at the B.S. level after taking the organic non-major lab sequence. Introduction to major instrumental methods employed in the organic laboratory. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: (CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 2470 FOR LEVEL UG WITH MIN. GRADE OF D-)

CHEM2910 Undergraduate Research I

[1-3 credit hours]

An introduction to research under the guidance of a faculty member. May be repeated. A maximum accumulated credit of 4 hours in 2910 and total of 10 hours in 2910, 3910, 4910 may be applied toward a degree. May be taken only as P/NC.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM2920 Readings In Chemistry

[1-2 credit hours]

Readings from the literature of chemistry. May be taken only as P/NC.

CHEM3310 Analytical Chemistry

[2 credit hours]

Theory and applications of chemical equilibria to gravimetric, volumetric and separation techniques. Emphasis on the quantitative aspects of analytical chemistry. Two hours lecture per week.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM3360 Analytical Chemistry Laboratory

[2 credit hours]

Practice of quantitative analytical methods of analysis. Six hours laboratory per week. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: (CHEM 3310 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1290 FOR LEVEL UG WITH MIN. GRADE OF D-)

CHEM3510 Biochemistry I

[3 credit hours]

The chemistry of living systems, beginning with the structures and molecular and biological functions of proteins, nucleic acids, carbohydrates and lipids. Other topics include enzyme kinetics and mechanism, biological membranes and membrane transport, and signal transduction.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM3520 Biochemistry II

[3 credit hours]

Continuing study of the chemistry of living systems. Topics include the metabolism of carbohydrates, lipids and amino acids, energy transductions and photosynthesis, mechanisms and regulation of nucleic acid and protein synthesis.

Prerequisites: CHEM 3510 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM3560 Biochemistry Laboratory

[2 credit hours]

Practice of biochemistry laboratory techniques. Six hours of laboratory per week.

Prerequisites: CHEM 3510 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM3610 Inorganic Chemistry I

[3 credit hours]

The application of modern theories to the elements and their inorganic compounds. Physical chemical principles are used throughout.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- OR CHEE 2230 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 2330 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEM3720 Physical Chemistry For The Biosciences II

[3 credit hours]

Physical and mathematical laws applied to chemistry with examples from biologically important processes. No credit given if Chemistry 3730-3740 are taken.

Prerequisites: CHEM 3710 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM3722 Recitation For Chem 3720

[1 credit hour]

Optional recitation section that discusses concepts and solves practice questions for CHEM 3720. Must be taken simultaneously with CHEM 3720. Not for major/minor credit.

Prerequisites: CHEM 3710 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 3720 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM3730 Physical Chemistry I

[3 credit hours]

Fundamental theories and basic laws of chemistry with emphasis on their mathematical development. Thermodynamics, equilibrium, electrochemistry, classical chemical kinetics.

Prerequisites: (CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 2470 FOR LEVEL UG WITH MIN. GRADE OF D- OR CHEM 2490 FOR LEVEL UG WITH MIN. GRADE OF D-) AND MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D

CHEM3732 Recitation for Chem 3730

[1 credit hour]

Optional recitation section that discusses concepts and solves practice questions for CHEM 3730. Must be taken simultaneously with CHEM 3730, Physical Chemistry I. Not for major/minor credit.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 3730 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM3740 Physical Chemistry II

[3 credit hours]

Fundamental theories and basic laws of chemistry with emphasis on their mathematical development. Structure of matter, statistical and quantum mechanics, reaction dynamics, spectroscopy.

Prerequisites: CHEM 3730 FOR LEVEL UG WITH MIN. GRADE OF D- OR CHEE 2230 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEE 2330 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEM3742 Recitation For Chem 3740

[1 credit hour]

Optional recitation section that discusses concepts and solves practice questions for CHEM 3740. Must be taken simultaneously with CHEM 3740, Physical Chemistry II. Not for major/minor credit.

Prerequisites: CHEM 3730 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 3740 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM3810 CHEMISTRY OF SUSTAINABLE ENERGY RESOURCES

[3 credit hours]

Application of the principles of chemistry to understand the issues related to implementing and optimizing a sustainable supply of energy.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1290 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEM3860 Advanced Laboratory I

[0-2 credit hours]

Laboratory experiments and techniques relating to subjects developed in CHEM 3710, 3730, or 4570. Three-hour laboratory and one-hour discussion per week. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: (CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 2470 FOR LEVEL UG WITH MIN. GRADE OF D-) OR CHEM 2490 FOR LEVEL UG WITH MIN. GRADE OF D- AND (CHEM 3710 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR CHEM 3730 FOR

CHEM3870 Advanced Laboratory II

[2 credit hours]

Laboratory experiments and techniques relating to subjects developed in 3710/3720, 3730/3740. Six hours of laboratory per week. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: CHEM 3860 FOR LEVEL UG WITH MIN. GRADE OF D- AND (CHEM 3470 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR CHEM 3720 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY))

CHEM3910 Undergraduate Research II

[1-3 credit hours]

Research under the guidance of a faculty member. A written report is required. May be repeated. A maximum accumulated credit of 10 hours in CHEM 2910, 3910 and 4910 may be applied toward a degree. May be taken only as P/NC.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM3920 Readings In Chemistry II

[1-2 credit hours]

Readings from the literature of chemistry. May be taken only as P/NC.

CHEM4200 Green Chemistry

[3 credit hours]

Introduction to the principles and applications of green chemistry, including industrial applications, atom economy, safer solvent substitutions, chemical alternatives assessment, green chemistry metrics, basic life cycle assessment, and an introduction to chemical toxicology. Students need CHEM 2420 or permission of instructor.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4210 Environmental Chemistry

[3 credit hours]

This course will focus on the chemistry of air, water, and soil with specific emphasis on the effects of human made chemical products and byproducts on the environment. Connections with green chemistry will be highlighted. Students need CHEM 2420 or permission of instructor.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4300 Instrumental Analysis

[2 credit hours]

An introduction to modern chemical instrumentation and applications to chemical analysis. Topics include electrical, magnetic, nuclear and spectroscopic instrumentation.

Prerequisites: (CHEM 3310 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 3360 FOR LEVEL UG WITH MIN. GRADE OF D-) AND CHEM 3710 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR CHEM 3730 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONC

CHEM4305 Advanced Analytical Chemistry

[4 credit hours]

An overview of new techniques in analytical chemistry. Topics include sample preparation and sampling, spectroscopic, separation, electrochemical, surface characterization and thermal methods.

Prerequisites: CHEM 3310 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4310 Separation Methods

[3 credit hours]

The theory, design and application of separation methods. Topics include extraction techniques, gas, liquid, and supercritical fluid chromatography, affinity and chiral separation, and capillary electrophoresis.

Prerequisites: CHEM 3310 FOR LEVEL UG WITH MIN. GRADE OF C OR CHEM 4300 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4320 Electrochemistry

[4 credit hours]

A fundamental study of electrochemical concepts, methods, instrumentation and applications.

Prerequisites: CHEM 4300 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4330 Spectroscopic Methods

[4 credit hours]

A comprehensive study of theory and instrumentation. Applications of spectroscopic methods including spectral interpretation. Topics include a study of absorption, emission, Raman, NMR, ESR, mass spectrometry, and related subjects. Important methodology and strategy in organic synthesis including disconnection and retrosynthetic analysis.

Prerequisites: CHEM 2410 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4350 Separation Methods Laboratory

[1 credit hour]

Experiments covering topics discussed in CHEM 4310 lectures. Five hours of laboratory per week. Approved chemical safety goggles meeting the American National Standard 287.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: (CHEM 3310 FOR LEVEL UG WITH MIN. GRADE OF C AND CHEM 3360 FOR LEVEL UG WITH MIN. GRADE OF C) OR (CHEM 4300 FOR LEVEL UG WITH MIN. GRADE OF C AND CHEM 4880 FOR LEVEL UG WITH MIN. GRADE OF C)

CHEM4400 Advanced Organic Chemistry

[4 credit hours]

This course deals with chemical structure and reactivity correlations applied to the study of organic reaction mechanisms; stereochemical features including conformation and stereoelectronic effects; reaction dynamics, isotope effects and molecular orbital theory applied to pericyclic and photochemical reactions; and special reactive intermediates including carbenes, carbanions, and free radicals.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF B

CHEM4410 Organic Synthesis

[4 credit hours]

Important methodology and strategy in organic synthesis including disconnection and retrosynthetic analysis.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF B

CHEM4430 Medicinal Chemistry

[4 credit hours]

Qualitative and quantitative aspects of the design of new therapeutic agents are discussed. Approaches to the design of drugs and new therapeutic modalities directed at enzymes, receptors, membrane transport proteins and nucleic acids will be examined.

CHEM4500 Advanced Biological Chemistry

[4 credit hours]

The chemistry of cellular and molecular transformations in biochemical systems. Molecular structure of proteins, nucleic acids and membranes. Metabolism and biosynthesis of carbohydrates, amino acids and lipids; gene regulation and replication.

Prerequisites: CHEM 3520 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4510 Protein Chemistry

[4 credit hours]

A detailed analysis of the structure and function of proteins. Current methodology for the analysis of structure, the basis for molecular associations and relationships between structure and biological function.

Prerequisites: CHEM 3510 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4520 Enzymology

[4 credit hours]

Survey of current methods to study enzyme-catalyzed reactions, and application to examples from major enzyme, groups. Current topics in enzymology include abzymes and ribozymes, artificial enzymes, and enzymes, and enzyme engineering.

Prerequisites: CHEM 3510 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4530 Nucleic Acid Chemistry

[4 credit hours]

The structural and chemical properties of nucleic acids and the resulting biological consequences. Topics include: 3D structures, conformation, protein/nucleic acid interactions, physical properties and chemical reactions, mutagenesis, damage/repair, and reconbination.

Prerequisites: CHEM 3510 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4570 Biophysical Chemistry

[4 credit hours]

Principles and applications of physical chemistry as applied to biological macromolecules (i.e., proteins and nucleic acids in solution), including thermodynamics, kinetics and spectroscopy of macromolecular interactions.

Prerequisites: PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 3520 FOR LEVEL UG WITH MIN. GRADE OF D-

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CHEM4580 Bioinorganic Chemistry

[4 credit hours]

Survey of biologically important metals and metal-ligand complexes, and the role of metal ions in proteins, metal ion transport and regulation, and metals in medicine.

Prerequisites: CHEM 3520 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4600 Physical Inorganic Chemistry

[4 credit hours]

Symmetry, bonding theories, magnetism, and spectroscopic characterization of inorganic compounds are described. Coverage of spectroscopic techniques such as NMR, EPR, UV/VIS, IR, AND Mossbauer focus on applications to inorganic systems.

Prerequisites: CHEM 3610 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4610 Chemistry of the Transition and Post-Transition Elements

[4 credit hours]

The organometallic chemistry of the transition metals, lanthanides and actinides is described. Synthesis, structure, bonding, and reactivity are considered. Applications in catalysis, bioinorganic, and materials chlemistry are discussed.

Prerequisites: CHEM 3610 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4620 Inorganic Chemistry II

[3 credit hours]

The application of modern theories to the elements and their inorganic compounds-advanced topics. Physical chemical principles are used throughout.

Prerequisites: CHEM 3610 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4625 Chemistry of Main Group Elements

[4 credit hours]

The inorganic and organometallic chemistry of main group elements is described. Synthesis, structure, bonding, and reactivity are considered. The use of main group reagents in synthesis, catalysis, and materials chemistry are discussed.

Prerequisites: CHEM 3610 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4700 Advanced Physical Chemistry

[4 credit hours]

Chemical systems and processes in the context of classical equilibrium thermodynamics. It introduces non-equilibrium and statistical thermodynamics to elucidate chemical changes and the connection between molecular and macroscopic system properties.

Prerequisites: CHEM 3740 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4710 Quantum Chemistry and Spectroscopy

[4 credit hours]

Fundamental principles of quantum mechanics and their application to model systems, atoms and molecules; Introduction to molecular spectroscopy.

Prerequisites: CHEM 3740 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4720 Modern Topics in Physical Chemistry

[4 credit hours]

Advanced topics of current interest in physical chemistry. Examples of topics include nanomaterials science, spectroscopic techniques, or molecular modeling.

Prerequisites: CHEM 3740 FOR LEVEL UG WITH MIN. GRADE OF D-

CHEM4800 Advanced Materials Chemistry

[4 credit hours]

Introduction to important classes of solids, including conductors, magnetic materials, ferroelectrics, glasses, microporous materials, organic solids. Traditional and novel synthetic approaches, structure/property relationships, and characterization methods specific to solids.

Prerequisites: CHEM 3740 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4810 Materials Science I

[4 credit hours]

A generic materials science approach to the study of crystalline structure and defects (point, line and planar) in crystalline materials. The mechanisms and kinetics of diffusion in the condensed state.

CHEM4820 Materials Science II

[4 credit hours]

A materials science approach to the thermodynamics of condensed state equilibria. Phase transformation kinetics.

CHEM4850 X-Ray Crystallography

[4 credit hours]

Theory and practice of structure determination by X-ray diffraction. Basics of symmetry, diffraction, and reciprocal space. Hands-on introduction to single-crystal and powder methods.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C

CHEM4880 Advanced Laboratory III

[2 credit hours]

Laboratory experiments and techniques relating to subjects developed in CHEM 4300. Six hours of laboratory per week. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: CHEM 3860 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 4300 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM4910 Undergraduate Research III

[1-3 credit hours]

Thesis level research under the guidance of a faculty member. May be repeated. A minimum of three hours and an acceptable thesis required for credit toward the B.S. major. A maximum accumulated credit of 10 hours in CHEM 2910, 3910 and 4910 may be applied toward a degree. A written report is required. May be taken only as P/NC. Prerequisite: GPA (overall and in chemistry courses) above 2.5 and permission of department Corequisite: CHEM 3740 or 4570

Prerequisites: CHEM 3740 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR CHEM 4570 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CHEM4920 Readings In Chemistry III

[1-2 credit hours]

Readings from the literature of chemistry. May be taken only as P/NC.

CHEM4980 Special Topics In Chemistry

[2-4 credit hours]

An advanced course for chemistry majors in an important area of chemistry. Consult the undergraduate adviser for details. Course may be repeated for credit under different specialty numbers (topics).

Prerequisites: (CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 3740 FOR LEVEL UG WITH MIN. GRADE OF D-)

CHEM5100 Principles of Organic and Inorganic Chemistry

[4 credit hours]

Study of coordination compounds with a focus on ligand bonding, electron counting, molecular orbital theory, reactivity, and catalysis. In addition, polymerization, structure-property relationships, and commercial materials will be explored. A review of undergraduate-level general and organic chemistry topics with discussions concerning teaching these subjects is also included.

CHEM5160 Chemistry Laboratory Techniques Development

[2 credit hours]

Study of general and organic chemistry laboratory techniques, such as the characterization, structural determination and reactions of organic and inorganic compounds, with an emphasis on pedagogical aspects of the techniques. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

CHEM5170 Chemistry Instrumentation Techniques

[2 credit hours]

The study of advanced instrumentation techniques and structural determination of organic and inorganic compounds with an emphasis on pedagogical aspects of the techniques. Approved chemical safety goggles meeting the American National Standard Z87.1-1968 must be worn by every student during every laboratory class meeting.

Prerequisites: CHEM 5160 FOR LEVEL GR WITH MIN. GRADE OF D-

CHEM5230 Chemistry of Sustainable Materials

[4 credit hours]

Applications of the principles of chemistry to understand the issues related to a sustainable energy future.

CHEM5300 Principles Of Analytical Chemistry

[1-4 credit hours]

Tutorial in selected topics in analytical chemistry. S/U grading only.

CHEM5400 Principles Of Organic Chemistry

[1-4 credit hours]

Tutorial in selected topics in organic chemistry. S/U grading only.

CHEM5500 Principles Of Biological Chemistry

[1-4 credit hours]

Tutorial in selected topics in biological chemistry. S/U grading only.

CHEM5600 Principles Of Inorganic And Organometallic Chemistry

[1-4 credit hours]

Tutorial in selected topics in inorganic and organometallic chemistry. S/U grading only.

CHEM5700 Principles Of Physical Chemistry

[1-4 credit hours]

Tutorial in selected topics in physical chemistry. S/U grading only.

CHEM5800 Principles Of Materials Chemistry

[1-4 credit hours]

Tutorial in selected topics in materials chemistry. S/U grading only.

CHEM6200 Green Chemistry

[3 credit hours]

Advanced topics in green chemistry, including industrial applications, atom economy, safer solvent substitutions, alternatives assessment, green metrics (PMI, E-factor), basic life cycle analysis, and an introduction to chemical toxicology.

CHEM6210 Environmental Chemistry

[3 credit hours]

This course will focus on the chemistry of air, water, and soil with specific emphasis on the effects of human-made chemical products and by-products on the environment. Connections with green chemistry will be highlighted.

CHEM6300 Advanced Analytical Chemistry

[4 credit hours]

An overview of new techniques in analytical chemistry. Topics include sample preparation and sampling, spectroscopic, separation, electrochemical, surface characterization and thermal methods. Prerequisite: Permission of department.

CHEM6310 Separation Methods

[3 credit hours]

The theory, design and application of separation methods. Topics include extraction techniques, gas, liquid, and supercritical fluid chromatography, affinity and chiral separation, and capillary electrophoresis.

CHEM6320 Electrochemistry

[4 credit hours]

A fundamental study of electrochemical concepts, methods, instrumentation and applications.

CHEM6330 Spectroscopic Methods And Analysis Of Spectra

[4 credit hours]

A comprehensive study of theory and instrumentation. Applications of spectroscopic methods including spectral interpretation. Topics include a study of absorption, emission, Raman, NMR, ESR, mass spectrometry, and related subjects. Important methodology and strategy in organic synthesis including disconnection and retrosynthetic analysis.

CHEM6350 Separation Methods Laboratory

[1 credit hour]

Experiments covering topics discussed in CHEM 6310 lectures. Five hours of laboratory per week. Approved chemical safety goggles meeting the American National Standard 287.1-1968 must be worn by every student during every laboratory class meeting.

CHEM6400 Advanced Organic Chemistry

[4 credit hours]

This course deals with chemical structure and reactivity correlations applied to the study of organic reaction mechanisms; stereochemical features including conformation and stereoelectronic effects; reaction dynamics, isotope effects and molecular orbital theory applied to pericyclic and photochemical reactions; and special reactive intermediates including carbenes, carbanions, and free radicals.

CHEM6410 Organic Synthesis

[4 credit hours]

Important methodology and strategy in organic synthesis including disconnection and retrosynthetic analysis.

CHEM6430 Medicinal Chemistry

[4 credit hours]

Qualitative and quantitative aspects of the design of new therapeutic agents are discussed. Approaches to the design of drugs and new therapeutic modalities directed at enzymes, receptors, membrane transport proteins and nucleic acids will be examined.

CHEM6500 Advanced Biological Chemistry

[4 credit hours]

The chemistry of cellular and molecular transformations in biochemical systems. Molecular structure of proteins, nucleic acids and membranes. Metabolism and biosynthesis of carbohydrates, amino acids and lipids; gene regulation and replication.

CHEM6510 Protein Chemistry

[4 credit hours]

A detailed analysis of the structure and function of proteins. Current methodology for the analysis of structure, the basis for molecular associations and relationships between structure and biological function.

Prerequisites: CHEM 6500 FOR LEVEL GR WITH MIN. GRADE OF D-

CHEM6520 Enzymology

[4 credit hours]

Survey of current methods to study enzyme-catalyzed reactions, and application to examples from major enzyme, groups. Current topics in enzymology include abzymes and ribozymes, artificial enzymes, and enzymes, and enzyme engineering.

CHEM6530 Nucleic Acid Chemistry

[4 credit hours]

The structural and chemical properties of nucleic acids and the resulting biological consequences. Topics include: 3D structures, conformation, protein/nucleic acid interactions, physical properties and chemical reactions, mutagenesis, damage/repair, and recombination.

Prerequisites: CHEM 6500 FOR LEVEL GR WITH MIN. GRADE OF D-

CHEM6570 Biophysical Chemistry

[4 credit hours]

Principles and applications of physical chemistry as applied to biological macromolecules (i.e., proteins and nucleic acids in solution), including thermodynamics, kinetics and spectroscopy of macromolecular interactions.

CHEM6580 Bioinorganic Chemistry

[4 credit hours]

Survey of biologically important metals and metal-ligand complexes, and the role of metal ions in proteins, metal ion transport and regulation, and metals in medicine.

CHEM6600 Physical Inorganic Chemistry

[4 credit hours]

Symmetry, bonding theories, magnetism, and spectroscopic characterization of inorganic compounds are described. Coverage of spectroscopic techniques such as NMR, EPR, UV/VIS, IR, AND Mossbauer focus on applications to inorganic systems.

CHEM6610 Chemistry of Transition and Post-Transition Elements

[4 credit hours]

The organometallic chemistry of the transition metals, lanthanides and actinides is described. Synthesis, structure, bonding, and reactivity are considered. Applications in catalysis, bioinorganic, and materials chlemistry are discussed.

CHEM6620 Chemistry of the Main Group Elements

[4 credit hours]

The inorganic and organomethallic chemistry of main group elements is described. Synthesis, structure, bonding, and reactivity are considered. The use of main group reagents in synthesis, catalysis, and materials chemistry are discussed.

CHEM6700 Advanced Physical Chemistry

[4 credit hours]

Chemical systems and processes in the context of classical equilibrium thermodynamics. It introduces non-equilibrium and statistical themodynamics to elucidate chemical changes and the connection between molecular and macroscopic system properties.

CHEM6710 Quantum_Chemistry and Spectroscopy

[4 credit hours]

Fundamental principles of quantum mechanics and their application to model systems, atoms and molecules; Introduction to molecular spectroscopy.

CHEM6720 Modern Topics in Physical Chemistry

[4 credit hours]

Advanced topics of current interest is physical chemistry. Examples of topics include nanomaterials science, spectroscopic techniques, or molecular modeling.

CHEM6800 Advanced Materials Chemistry

[4 credit hours]

Introduction to important classes of solids, including conductors, magnetic materials, ferroelectrics, glasses, microporous materials, organic solids. Traditional and novel synthetic approaches, structure/property relationships, and characterization methods specific to solids.

CHEM6810 Materials Science I

[4 credit hours]

A generic materials science approach to the study of crystalline structure and defects (point, line and planar) in crystalline materials. The mechanisms and kinetics of diffusion in the condensed state.

CHEM6820 Materials Science II

[4 credit hours]

A materials science approach to the thermodynamics of condensed state equilibria. Phase transformation kinetics.

CHEM6850 X-Ray Crystallography

[4 credit hours]

Theory and practice of structure determination by X-ray diffraction. Basics of symmetry, diffraction, and reciprocal space. Hands-on introduction to single-crystal and powder methods.

CHEM6920 Chemistry Colloquium

[1-4 credit hours]

Presentations on research or current literature.

CHEM6930 Chemistry Seminar

[1-2 credit hours]

Seminars conducted by individual members of the department.

CHEM6940 Scientific Communication

[2 credit hours]

Instructions on different modes of scientific communication : written communication, oral presentation, and research proposal, to enable students to think and converse competently in the language of science.

CHEM6960 Thesis Research

[1-15 credit hours]

Original investigations of significant chemical problems at the master's level under the guidance of a member of the faculty.

CHEM6970 Graduate Professional Internship

[1-6 credit hours]

Academic adviser approved industrial or non profit internship to provide an experiential learning component to the MS and PhD degrees in chemistry, including the Professional Science Masters Degree in Green Chemistry and Engineering.

CHEM6980 Special Topics In Chemistry

[1-4 credit hours]

Discussions of newly developing areas in chemistry research.

CHEM7300 Principles Of Analytical Chemistry

[1-4 credit hours]

Tutorial in selected topics in analytical chemistry. S/U grading only.

CHEM7400 Principles Of Organic Chemistry

[1-4 credit hours]

Tutorial in selected topics in organic chemistry. S/U grading only.

CHEM7500 Principles Of Biological Chemistry

[1-4 credit hours]

Tutorial in selected topics in biological chemistry. S/U grading only.

CHEM7600 Principles Of Inorganic And Organometallic Chemistry

[1-4 credit hours]

Tutorial in selected topics in inorganic and organometallic chemistry. S/U grading only.

CHEM7700 Principles Of Physical Chemistry

[1-4 credit hours]

Tutorial in selected topics in physical chemistry. S/U grading only.

CHEM7800 Principles Of Materials Chemistry

[1-4 credit hours]

Tutorial in selected topics in materials chemistry. S/U grading only.

CHEM8200 Green Chemistry

[3 credit hours]

Advanced topics in green chemistry, including industrial applications, atom economy, safer solvent substitutions, alternatives assessment, green metrics (PMI, E-factor), basic life cycle analysis, and an introduction to chemical toxicology.

CHEM8210 Environmental Chemistry

[3 credit hours]

This course will focus on the chemistry of air, water, and soil with specific emphasis on the effects of human-made chemical products and by-products on the environment. Connections with green chemistry will be highlighted.

CHEM8300 Advanced Analytical Chemistry

[4 credit hours]

An overview of new techniques in analytical chemistry. Topics include sample preparation and sampling, spectroscopic, separation, electrochemical, surface characterization and thermal methods.

CHEM8310 Separation Methods

[3 credit hours]

The theory, design and application of separation methods. Topics include extraction techniques, gas, liquid, and supercritical fluid chromatography, affinity and chiral separation, and capillary electrophoresis.

CHEM8320 Electrochemistry

[4 credit hours]

A fundamental study of electrochemical concepts, methods, instrumentation and applications. Prerequisite: Permission of department.

CHEM8330 Spectroscopic Methods And Analysis Of Spectra

[4 credit hours]

A comprehensive study of theory and instrumentation. Applications of spectroscopic methods including spectral interpretation. Topics include a study of absorption, emission, Raman, NMR, ESR, mass spectrometry, and related subjects. Important methodology and strategy in organic synthesis including disconnection and retrosynthetic analysis.

CHEM8350 Separation Methods Laboratory

[1 credit hour]

Experiments covering topics discussed in CHEM 8310 lectures. Five hours of laboratory per week. Approved chemical safety goggles meeting the American National Standard 287.1-1968 must be worn by every student during every laboratory class meeting.

CHEM8400 Advanced Organic Chemistry

[4 credit hours]

This course deals with chemical structure and reactivity correlations applied to the study of organic reaction mechanisms; stereochemical features including conformation and stereoelectronic effects; reaction dynamics, isotope effects and molecular orbital theory applied to pericyclic and photochemical reactions; and special reactive intermediates including carbenes, carbanions, and free radicals.

CHEM8410 Organic Synthesis

[4 credit hours]

Important methodology and strategy in organic synthesis including disconnection and retrosynthetic analysis.

CHEM8430 Medicinal Chemistry

[4 credit hours]

Qualitative and quantitative aspects of the design of new therapeutic agents are discussed. Approaches to the design of drugs and new therapeutic modalities directed at enzymes, receptors, membrane transport proteins and nucleic acids will be examined.

CHEM8500 Advanced Biological Chemistry

[4 credit hours]

The chemistry of cellular and molecular transformations in biochemical systems. Molecular structure of proteins, nucleic acids and membranes. Metabolism and biosynthesis of carbohydrates, amino acids and lipids; gene regulation and replication.

CHEM8510 Protein Chemistry

[4 credit hours]

A detailed analysis of the structure and function of proteins. Current methodology for the analysis of structure, the basis for molecular associations and relationships between structure and biological function.

Prerequisites: CHEM 6500 FOR LEVEL GR WITH MIN. GRADE OF D- OR CHEM 8500 FOR LEVEL GR WITH MIN. GRADE OF D-

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CHEM8520 Enzymology

[4 credit hours]

Survey of current methods to study enzyme-catalyzed reactions, and application to examples from major enzyme, groups. Current topics in enzymology include abzymes and ribozymes, artificial enzymes, and enzymes, and enzyme engineering.

CHEM8530 Nucleic Acid Chemistry

[4 credit hours]

The structural and chemical properties of nucleic acids and the resulting biological consequences. Topics include: 3D structures, conformation, protein/nucleic acid interactions, physical properties and chemical reactions, mutagenesis, damage/repair, and reconbination.

Prerequisites: CHEM 6500 FOR LEVEL GR WITH MIN. GRADE OF D- OR CHEM 8500 FOR LEVEL GR WITH MIN. GRADE OF D-

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CHEM8570 Biophysical Chemistry

[4 credit hours]

Principles and applications of physical chemistry as applied to biological macromolecules (i.e., proteins and nucleic acids in solution), including thermodynamics, kinetics and spectroscopy of macromolecular interactions.

CHEM8580 Bioinorganic Chemistry

[4 credit hours]

Survey of biologically important metals and metal-ligand complexes, and the role of metal ions in proteins, metal ion transport and regulation, and metals in medicine.

CHEM8600 Advanced Inorganic And Organometallic Chemistry

[4 credit hours]

Symmetry, bonding theories, magnetism, and spectroscopic characterization of inorganic compounds are described. Coverage of spectroscopic techniques such as NMR, EPR, UV/VIS, IR, AND Mossbauer focus on applications to inorganic systems.

CHEM8610 Chemistry of Transition and Post-Transition Elements

[4 credit hours]

The organometallic chemistry of the transition metals, lanthanides and actinides is described. Synthesis, structure, bonding, and reactivity are considered. Applications in catalysis, bioinorganic, and materials chemistry are discussed.

CHEM8620 Chemistry of the Main Elements

[4 credit hours]

The inorganic and organometallic chemistry of main group elements is described. Synthesis, structure, bonding, and reactivity are considered. The use of main group reagents in synthesis, catalysis, and materials chemistry are discussed.

CHEM8700 Advanced Physical Chemistry

[4 credit hours]

Chemical systems and processes in the context of classical equilibrium thermodynamics. It introduces non-equilibrium and statistical themodynamics to elucidate chemical changes and the connection between molecular and macroscopie system properties.

CHEM8710 Quantum_Chemistry and Spectroscopy

[4 credit hours]

Fundamental principles of quantum mechanics and their application to model systems, atoms and molecules; Introduction to molecular spectroscopy.

CHEM8720 Modern Topics in Physical Chemistry

[4 credit hours]

Advanced topics of current interest is physical chemistry. Examples of topics include nanomaterials science, spectroscopic techniques, or molecular modeling.

CHEM8800 Advanced Materials Chemistry

[4 credit hours]

Introduction to important classes of solids, including conductors, magnetic materials, ferroelectrics, glasses, microporous materials, organic solids. Traditional and novel synthic approaches, structure/property relationships, and characterization methods specific to solids.

CHEM8810 Materials Science I

[4 credit hours]

A generic materials science approach to the study of crystalline structure and defects (point, line and planar) in crystalline materials. The mechanisms and kinetics of diffusion in the condensed state.

CHEM8820 Materials Science II

[4 credit hours]

A materials science approach to the thermodynamics of condensed state equilibria. Phase transformation kinetics.

CHEM8850 X-Ray Crystallography

[4 credit hours]

Theory and practice of structure determination by X-ray diffraction. Basics of symmetry, diffraction, and reciprocal space. Hand-on introduction to single-crystal and powder methods.

CHEM8920 Chemistry Colloquium

[1-4 credit hours]

Presentations on research or current literature.

CHEM8930 Chemistry Seminar

[1-2 credit hours]

Seminars conducted by individual members of the Department.

CHEM8940 Graduate Readings in Chemistry

[2 credit hours]

Instructions on different modes of scientific communication: written communication, oral presentation, and research proposal to enable students to think and converse competently in the language of science.

CHEM8960 Dissertation Research

[1-15 credit hours]

Original investigations of significant chemical problems at the Doctoral level under the guidance of a member of the faculty.

CHEM8970 Graduate Professional Internship

[1-6 credit hours]

Academic adviser approved industrial or non profit internship to provide an experiential learning component to the M.S. and Ph.D. degrees in chemistry, including the Professional Science Masters Degree in Green Chemistry and Engineering.

CHEM8980 Special Topics In Chemistry

[1-4 credit hours]

Discussions of newly developing areas in chemistry research.

CHIN1090 Chinese Culture

[3 credit hours]

Through a systematic study of Chinese values and patterns of behaviors, this course builds students' proficiency in cultural competence of Chinese.

CHIN1110 Elementary Chinese I

[4 credit hours]

An introduction to Chinese language and culture through listening, speaking, reading and writing. Laboratory practice required.

CHIN1120 Elementary Chinese II

[4 credit hours]

An introduction to Chinese language and culture through listening, speaking, reading and writing. Laboratory practice required. Prerequisite: CHIN 1110 or satisfactory score on placement test.

Prerequisites: CHIN 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

CHIN3980 Special topics in Chinese

[0-6 credit hours]

Study of a selected topic in Chinese language, literature or culture. May be repeated when topic varies.

CI3400 Foundations of Literacy

[3 credit hours]

An introduction to contemporary literacy instruction to (a) develop a deep understanding of the central role literacy plays in education, (b) understand the theoretical and evidence-based foundations of reading and writing processes and instruction and, (c) develop awareness, understanding, respect, and a valuing of differences in our society as they relate to literacy instruction. Issues related specifically to the needs of English Language Learners and learners with dyslexia introduced.

CI3430 Phonics And Word Identification For Early Childhood Education

[3 credit hours]

Phonological and morphological underpinnings of English spelling, reading disabilities such as dyslexia, sound awareness in spoken language examined. Instructional approaches for assessing and teaching phonics, word recognition, and vocabulary introduced. Extensive use of case study data included.

Prerequisites: CI 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

CI3440 Phonics And Word Identification For Middle Childhood Education

[3 credit hours]

Phonological and morphological underpinnings of English spelling, reading disabilities such as dyslexia, sound awareness in spoken language examined. Instructional approaches for assessing and teaching phonics, word recognition, and vocabulary introduced. Extensive use of case study data included.

Prerequisites: CI 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

CI3460 Literacy And Reading Development For Young Children

[3 credit hours]

An examination of professional standards for literacy/language arts with specific attention to diverse learners preK through grade 3. Developmentally-appropriate classroom design and methods including Readers' and Writers' Workshop, Guided Reading, Interactive Read Alouds, Interactive Writing, and Integrated Inquiry. Attention to instructional and cognitive strategies as well as reading-writing connections and oral language development.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CI4050 Teaching Methods in Middle Grades English Language Arts

[3 credit hours]

In-depth study of the methods, standards and materials for teaching middle grades English Language Arts.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4320 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4060 Teaching Methods in Middle Grades Mathematics

[3 credit hours]

In-depth study of the methods, standards and materials for teaching middle mathematics.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4320 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4070 Teaching Methods in Middle Grades Science

[3 credit hours]

In-depth study of the methods, standards and materials for teaching middle grades science.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF D- AND CI 4680 FOR LEVEL UG WITH MIN. GRADE OF D-CI 4680 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4680 FOR LEVEL UG WITH MIN. GRAD

CI4080 Teaching Methods in Middle Grades Social Studies

[3 credit hours]

In-depth study of the methods, standards and materials for teaching middle grades social studies.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4720 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4140 Teaching Methods For Foreign Languages

[3 credit hours]

Consideration of current theory and practice in teaching foreign languages in elementary and secondary schools. Focus on planning instruction, materials selection and methods for teaching communication skills and culture.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CI4150 Methods of Teaching AYA English Language Arts

[3 credit hours]

In-depth study of the methods, standards and materials for teaching English Language Arts at the secondary level.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4320 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4160 Methods of Teaching AYA Mathematics

[3 credit hours]

In-depth study of the methods, standards and materials for teaching mathematics at the secondary level.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4550 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4170 Methods of Teaching AYA Science

[3 credit hours]

In-depth study of the methods, standards and materials for teaching science at the secondary level.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4680 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4180 Methods of Teaching AYA Social Studies

[3 credit hours]

In-depth study of the methods, standards and materials for teaching social studies at the secondary level.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4720 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4190 Practicum I

[3 credit hours]

Teacher candidates will be immersed in a classroom studying the student as a learner of content and the classroom as community. Teacher candidate will co-teach lessons and independently teach two or more lessons.

Prerequisites: CI 4320 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR CI 4680 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR CI 4720 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR CI 4550 FOR LEV

CI4210 Advanced Teaching Methods in Middle Grades English Language Arts

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in middle grades English language arts.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4050 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4220 Advanced Teaching Methods in Middle Grades Mathematics

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in middle mathematics.

Prerequisites: CI 4060 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4060 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4230 Advanced Teaching Methods in Middle Grades Science

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in middle science.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4070 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4240 Advanced Teaching Methods in Middle Grades Social Studies

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in middle grades social studies.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4080 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4250 Advanced Methods of Teaching AYA English Language Arts

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in secondary English language arts.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4150 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4260 Advanced Methods of Teaching AYA Mathematics

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in secondary mathematics.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4160 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4270 Advanced Methods of Teaching AYA Science

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in secondary science.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4170 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4280 Advanced Methods of Teaching AYA Social Studies

[3 credit hours]

The focus of this course is advanced planning and methods with special attention placed on the varied needs of students, disciplinary specific assessment, and related current issues in secondary social studies.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4180 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4290 Practicum II

[3 credit hours]

Teacher candidates will continue field placement studying the role of the teacher and community in learning as well as a variety of students. Teacher candidate will co-teach lessons and independently teach two small units of study.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1 AND (CI 4050 FOR LEVEL UG WITH MIN. GRADE OF (MAY BE TAKEN CONCURRENTLY) OR CI 4060 FOR LEVEL UG WITH MIN. GRADE OF (MAY BE TAKEN CONCURRENTLY) OR CI 4070 FOR LEVEL

CI4300 Literature For Children

[3 credit hours]

Emphasis on all genres of literature for children, including poetry, traditional literature, fantasy, realistic fiction, biography and other information books, particularly for early childhood and middle grades learners. Instructional strategies for engaging learners with children's literature and ways of increasing home-school connections through use of children's literature also introduced.

CI4320 Literature For Young Adults

[3 credit hours]

Survey of literature materials written for the junior and senior high school student. Emphasis is placed on all genres, literary elements and the use of literature across the curriculum.

Prerequisites: UPDV FOR MIN. SCORE OF 1 AND CI 4190 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CI4390 Practicum III

[3 credit hours]

Candidate will be placed in their student teaching site(s) and focus on developing and teaching instructional unit(s) in their licensure area(s) with a focus on the role of assessment throughout the planning-teaching-reflection process.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1 AND (CI 4210 FOR LEVEL UG WITH MIN. GRADE OF (MAY BE TAKEN CONCURRENTLY) OR CI 4220 FOR LEVEL UG WITH MIN. GRADE OF (MAY BE TAKEN CONCURRENTLY) OR CI 4230 FOR LEVEL

CI4400 Reading In Middle Grades

[3 credit hours]

Using various genres of literature, students focus on instructional approaches across the curriculum for supporting middle grades students to become literate in multiple subject domains. Teaching methods to support comprehension of text-based content-area materials and writing across the curriculum emphasized. Attention to instructional and cognitive strategies as well as reading-writing connections and oral language development.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CI4430 Issues In Second Language Teaching

[3 credit hours]

A critical study of teaching foreign languages and English as a second language in secondary schools including current curriculum, materials, teaching strategies and evaluation.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CI4470 Literacy Assessment and Remediation

[3 credit hours]

Examine current literacy practices in assessment and remediation. Emphasis on knowledge and skill needed to diagnose and assess students in reading and writing by working with an at-risk learner in a public school setting. Apply word identification, comprehension, fluency, vocabulary and writing instructional strategies for supporting readers in an experiential learning environment.

Prerequisites: CI 3430 FOR LEVEL UG WITH MIN. GRADE OF D- OR CI 3440 FOR LEVEL UG WITH MIN. GRADE OF D-

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CI4490 Content Area Reading For Adolescent Young Adult, Multi-Age, And Career And Technical Education Teach

[3 credit hours]

Study of the integration of reading comprehension, writing, oral language and word skill development in content reading. Attention will be given to instructional methods as well as assessment practices.

CI4510 Mathematics For The Young Child

[3 credit hours]

Development of mathematical understanding in young children, appropriate learning and assessment experiences and analysis of curriculum. Mathematical focus on place value, number sense, geometry, measurement, algebra, data analysis and probability.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CI4550 Teaching Problem Solving In Mathematics

[3 credit hours]

Focuses on the art of problem solving and its implementation in the classroom. Basic problem solving strategies are developed; materials and methods for their integration in mathematics teaching are provided.

Prerequisites: UPDV FOR MIN. SCORE OF 1 AND CI 4190 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND CI 4190 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CI4640 Environmental Education

[3 credit hours]

An experiential course for those interested in developing their knowledge and expertise in Environmental Education. Participants will develop a personal response to current environmental issues and learn how to help others do the same. Participants include teachers, naturalists, environmental science professionals and anyone interested in environmental education. The course will take a practical approach to the NAEE standards for environmental and conservation education as well as the NGSS and relevant Common Core State Standards.

CI4680 The Nature of Science

[3 credit hours]

This course focuses on nature of science education as to teaching science and is designed for pre-service teachers.

Prerequisites: CI 4190 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND UPDV FOR MIN. SCORE OF 1

CI4720 Best Practices for Teaching Social Studies

[3 credit hours]

An introduction to lesson planning, pedagogy, and how these principles relate to the Social Studies classroom.

Prerequisites: UPDV FOR MIN. SCORE OF 1 AND CI 4190 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

CI4730 Seminar Managing the English Language Arts Classroom

[3 credit hours]

A professional teaching and reflection seminar that places internship experience in the context of issues in English language arts education including Ohio mandates for practicing teachers, classroom management, diverse learners and learning environments, and professional portfolio development.

Prerequisites: CI 4390 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4250 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4740 Seminar: Managing the Mathematics Classroom

[3 credit hours]

A professional teaching and reflection seminar that places internship experience in the context of issues in mathematics education including Ohio mandates for practicing teachers, classroom management, diverse learners and learning environments, and professional portfolio development.

Prerequisites: CI 4290 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4260 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4760 Seminar: Managing the Science Classroom

[3 credit hours]

A professional teaching and reflection seminar that places internship experience in the context of issues in science education including Ohio mandates for practicing teachers, classroom management, diverse learners and learning environments, and professional portfolio development.

Prerequisites: CI 4390 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4270 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4790 Seminar: Managing the Social Studies Classroom

[3 credit hours]

A professional teaching and reflection seminar that places internship experience in the context of issues in Social Studies education including Ohio mandates for practicing teachers, classroom management, diverse learners and learning environments, and professional portfolio development.

Prerequisites: UPDV FOR MIN. SCORE OF 1 AND CI 4390 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4280 FOR LEVEL UG WITH MIN. GRADE OF CCI 4390 FOR LEVEL UG WITH MIN. GRADE OF C AND CI 4280 FOR LEVEL UG WITH MIN. GRADE OF C AND UPDV FOR MIN. SCORE OF 1

CI4900 Student Teaching Seminar

[2-4 credit hours]

Focuses reflectivity on common experiences in Student Teaching. Attention to resume preparation, portfolio use, job interviews.

CI4930 Internship/Student Teaching

[6-12 credit hours]

Full-time supervised classroom teaching for 8-15 weeks.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CI4950 Workshop In Curriculum And Instruction

[1-5 credit hours]

Workshops developed around topics of interest and concern for pre-service and in-service teachers and other education personnel. Practical application of workshop topics will be emphasized.

CI4980 Special Topics In Curriculum And Instruction

[1-5 credit hours]

Topics of interest and concern to preservice, inservice and non-degree teachers within school districts and community agencies. The course may be included in an undergraduate degree program.

CI4990 Undergraduate Independent Study In Curriculum And Instruction

[1-5 credit hours]

Provides student the opportunity to work individually on professional problems under the direction of faculty in Curriculum and Instruction.

CI5190 Secondary Field Experience II

[3 credit hours]

Field experience for alternative 712 certification. Classroom observations and reports Teach series of lessons or unit of study in secondary classroom. Students will develop and implement a unit plan in the content area integrating teaching of content, thinking skills and adjusting the unit to a special needs population.

CI5300 Literature For Children

[3 credit hours]

Emphasis on all genres of literature for children, including poetry, traditional literature, fantasy, realistic fiction, biography and other information books, particularly for early childhood and middle grades learners. Instructional strategies for engaging learners with children's literature and ways of increasing home-school connections through use of children's literature also introduced.

CI5320 Literature For Young Adults

[3 credit hours]

Survey of literature materials written for the junior and senior high school student. Emphasis is placed on all genres, literary elements and uses of literature across the curriculum.

CI5360 Multicultural Literature

[3 credit hours]

Picture books, fiction, biography and poetry appropriate for elementary and middle school students that interpret and reflect honestly the lives of persons of color will be studied and evaluated.

CI5430 Issues In Second Language Instruction

[3 credit hours]

A critical study of teaching foreign languages and English as a second language across age groups including current theories, curriculum, materials, teaching strategies and assessment.

CI5470 Reading Assessment And Diagnosis

[3 credit hours]

Examine current literacy practices in assessment and remediation. Emphasis on knowledge and skill needed to diagnose and assess students in reading and writing by working with an at-risk learner. Apply word identification, comprehension, fluency, vocabulary and writing instructional strategies for supporting readers in an experiential learning environment.

CI5490 Content Area Reading For Adolescent Young Adult, Multi-Age, And Career And Technical Education Teach

[3 credit hours]

Study of the integration of reading comprehension, writing, oral language and word skill development in content reading. Attention will be given to instructional methods as well as assessment practices.

CI5510 Mathematics For The Young Child

[3 credit hours]

Development of mathematical understanding in young children, appropriate learning and assessment experiences and analysis of curriculum. Mathematics focus on place value, number sense, geometry, measurement, algebra, data analysis and probability.

CI5530 TEACHING AND LEARNING GEOMETRY AND MEASUREMENT

[3 credit hours]

Examination of the development of mathematics concepts and skills across the K-12 curriculum. Discussion of mathematics content, teaching methods, instructional materials, assessment techniques and applications to classroom practice.

CI5540 Teaching and Learning Algebra

[3 credit hours]

Examination of the development of algebraic concepts and skills across the K-12 curriculum. Emphasis on current research, theory, and innovative approaches for teaching and learning algebra

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CI5550 Teaching Problem Solving In Mathematics

[3 credit hours]

Focuses on the art of problem solving and methods and materials for classroom implementation. Consideration given to current trends and related resource regarding use of problem solving in mathematics teaching.

CI5560 ASSESSMENT IN MATHEMATICS EDUCATION

[3 credit hours]

Study of the role of assessment in the teaching and learning of mathematics. Examination of current research, assessment techniques, and trends and ways in which assessment can guide and inform mathematics instruction.

CI5580 TEACHING AND LEARNING NUMBER, DATA, AND PROBABILITY

[3 credit hours]

Examination of the development of concepts and skills associated with number, data, and probability across the K-12 curriculum. Emphasis on current research, theory, and innovative instructional approaches.

CI5590 Topics in Mathematics Education

[3 credit hours]

Examination and exploration of policy issues, research, and national trends that have implications for teachers, curriculum specialists, school districts, and others involved in mathematics education

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CI5640 Environmental Education

[3 credit hours]

An experiential course for those interested in developing their knowledge and expertise in Environmental Education. Participants will develop a personal response to current environmental issues and learn how to help others do the same. Participants include teachers, naturalists, environmental science professionals and anyone interested in environmental education. The course will take a practical approach to the NAEE standards for environmental and conservation education as well as the NGSS and relevant Common Core State Standards.

CI5650 Mentoring a Preservice Teacher

[3 credit hours]

Designed for practicing teachers, this course explores the role of a mentor teacher in guiding prospective teachers in learning to teach. Emphasis is on developing productive mentor-mentee relationships; guiding planning, teaching and assessment; providing useful feedback; and assessing preservice teacher learning.

CI5660 Technological Tools In Science Education

[3 credit hours]

Designed for science educators, this course explores the use of learning technologies for teaching and learning science. Students investigate theoretical frameworks for thinking about tools to support science learning and the role of technology in science education. This course explores technologies to extend students' capabilities at inquiry and enhance their thinking about science phenomena, how technologies can enhance learning within and beyond classrooms, and how technologies support and change science teachers' work with learners.

CI5690 Project-Based Science

[3 credit hours]

Advanced methods for teaching science to engage learners in extended inquiry as they investigate real-world questions. Emphasis on innovative instructional strategies, research and theoretical perspectives to promote deep understanding of fundamental concepts.

CI5810 Instructional Strategies

[3 credit hours]

This course examines the purposes and practices of effective teachers. Participants critically investigate different instructional models for teaching including mediated instruction, discussion, inquiry management, project-based instruction, cooperative learning and the use of technology. Many different teaching methodologies will be demonstrated, modeled and critically examined. Particpants will draft a personal philosophy of education. Focus is firmly placed on individual student learning outcomes in a climate of increasing diversity in the 21st century.

CI5870 Secondary School Curriculum

[3 credit hours]

A critical exploration of secondary school curricular issues, trends, and practices including the historical, political, social, psychological, and philosophical traditions. Participants examine how secondary curriculum is developed, implemented and institutionalized. Emphasis will be placed on topics including teacher leadership, collaboration, action research, and refelective decision making in curriculum work. This course is for teachers, administrators, and anyone interested in how curriculum has influenced educational reform and can influence future reform.

CI5980 Special Topics In Curriculum & Instruction

[1-5 credit hours]

A course developed around topics of interest and concern to educators.

CI5990 Graduate Independent Study In Curriculum And Instruction

[1-5 credit hours]

Individual study designed to provide a student the opportunity to work individually on professional problems under the direction of the faculty of the Department of Curriculum and Instruction.

CI6110 Language Arts Methods of Teaching

[3 credit hours]

An initial in-depth study of methods and materials for teaching and learning the English Language Arts in middle and secondary classrooms with emphasis on planning, content standards and instructional strategies that attend to students as learners; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

CI6120 Social Studies Methods of Teaching

[3 credit hours]

An initial in-depth study of methods and materials for teaching and learning Social Studies in middle and secondary classrooms with emphasis on planning, content standards and instructional strategies that attend to students as learners; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program.

CI6130 Mathematics Method of Teaching

[3 credit hours]

An initial in-depth study of methods and materials for teaching and learning Mathematics in middle and secondary classrooms with emphasis on planning, content standards and instructional strategies that attend to students as learners; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

CI6140 Science Methods of Teaching

[3 credit hours]

An initial in-depth study of methods and materials for teaching and learning Science in middle and secondary classrooms with emphasis on planning, content standards and instructional strategies that attend to students as learnners; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

CI6150 Advanced Methods of Teaching in Language Arts

[3 credit hours]

A continued in-depth study of methods and materials for teaching and learning the English Language Arts in middle and secondary classrooms with an emphasis on academic language and classroom level assessments; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6110 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6130 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6140 FOR LEVEL GR WITH MIN. GRADE OF C

CI6160 Social Studies Advanced Methods of Teaching

[3 credit hours]

A continued in-depth study of methods and materials for teaching and learning Social Studies in middle and secondary classrooms with an emphasis on academic language and classroom level assessments; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6110 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6130 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6140 FOR LEVEL GR WITH MIN. GRADE OF C

CI6170 Mathematics Advanced Methods of Teaching

[3 credit hours]

A continued in-depth study of methods and materials for teaching and learning Mathematics in middle and secondary classrooms with an emphasis on academic language and classroom level assessments; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6110 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6140 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6130 FOR LEVEL GR WITH MIN. GRADE OF C

CI6180 Science Advanced Methods of Teaching

[3 credit hours]

A continued in-depth study of methods and materials for teaching and learning Science in middle and secondary classrooms with an emphasis on academic language and classroom level assessments; for LAMP Middle Childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6130 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6140 FOR LEVEL GR WITH MIN. GRADE OF C

CI6210 Language Arts Practicum of Teaching

[3 credit hours]

Initial field experience for LAMP Middle Childhood and Adolescent to Young Adult licensure only; experiences include focused observations in classroom settings, co-teaching with mentor teacher and the design, planning and teaching of units that integrate the English Language Arts. Admission to SECE or MIDD LAMP program required.

CI6220 Social Studies Practicum

[3 credit hours]

Initial field experience for LAMP Middle Childhood and Adolescent to Young Adult licensure only; experiences include focused observations in classroom settings, co-teaching with mentor teacher and the design, planning and teaching of units that integrate Social Studies. Admission to SECE or MIDD LAMP program required.

CI6230 Mathematics Practicum

[3 credit hours]

Initial field experience for LAMP Middle Childhood and Adolescent to Young Adult licensure only, experiences include focused observations in classroom settings, co-teaching with mentor teacher and the design, planning and teaching of units that integrate Mathematics. Admission to SECE or MIDD LAMP program required.

CI6240 Science Practicum

[3 credit hours]

Initial field experience for LAMP Middle Childhood and Adolescent to Young Adult licensure only; experiences include focused observations in classroom settings, co-teaching with mentor teacher and the design, planning and teaching of units that integrate Science. Admission to SECE or MIDD LAMP program required.

CI6250 Language Arts Internship and Student Teaching

[3 credit hours]

Part 1 of full time, supervised classroom teaching; for LAMP middle childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6210 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6220 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6230 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6240 FOR LEVEL GR WITH MIN. GRADE OF C

CI6260 Social Studies Student Teaching and Internship

[3 credit hours]

Part 1 of full time, supervised classroom teaching; for LAMP middle childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6210 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6220 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6230 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6240 FOR LEVEL GR WITH MIN. GRADE OF C

CI6270 Mathematics Student Teaching and Internship

[3 credit hours]

Part 1 of full time, supervised classroom teaching; for LAMP middle childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6210 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6220 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6230 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6240 FOR LEVEL GR WITH MIN. GRADE OF C

CI6280 Science Student Teaching and Internship

[3 credit hours]

Part 1 of full time, supervised classroom teaching; for LAMP middle childhood and Adolescent to Young Adult licensure only. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6210 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6220 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6230 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6240 FOR LEVEL GR WITH MIN. GRADE OF C

CI6370 Fundamentals Of Grant Writing

[3 credit hours]

This seminar will teach participants about fundamentals of grant writing. Topics covered will include: locating sources of funding, writing grants, designing evaluation instruments and administering grants.

CI6400 Trends In Literacy Acquisition

[3 credit hours]

Study of the theories and foundational components of literacy instruction. Factors affecting literacy development including oral language, phonemic awareness, phonics, fluency, comprehension, vocabulary, reading-writing connections and motivation considered. Issues for learners from diverse backgrounds including English Language Learners examined.

CI6410 Content Area Literacy

[3 credit hours]

Study of the integration of reading and writing in the content areas. Attention to both content area literacy approaches and disciplinary literacy practices. Consideration of needs of diverse learners including English Language Learners.

CI6430 Diagnosis Of Reading Disability

[3 credit hours]

Teachers acquire the knowledge and skills needed to assess the reading and writing of students and to plan appropriate instruction. Emphasis on phonemic awareness, concepts of print, word recognition, fluency, comprehension, word study, and writing.

Prerequisites: CI 6400 FOR LEVEL GR WITH MIN. GRADE OF C

CI6440 Remediation Practicum

[3 credit hours]

In depth tutoring with learners ranging from preK to 12th grade. Data-driven instructional decision-making as well as considerations for individualizing instruction emphasized. Design and conduct of a professional development workshop for literacy educators based on tutoring cases is a culuminating aspect of the course.

Prerequisites: (CI 6400 FOR LEVEL GR WITH MIN. GRADE OF C AND CI 6430 FOR LEVEL GR WITH MIN. GRADE OF C)

CI6490 Theory And Research In Literacy

[3 credit hours]

Extensive examination of current research and theoretical considerations in language and literacy learning and instruction. Contemporary contextual factors such as policy and standards are explored. The reciprocal nature of research and practice is a central theme of the course. Individualized culminating projects focus on specific issues of interest related to language and literacy learning and instruction.

CI6590 Theory And Research In Mathematics Education

[3 credit hours]

Critical appraisal of current theory and research in mathematics education. Emphasis on issues related to teacher practice, student learning, and curriculum development.

CI6650 Teacher Learning and Education

[3 credit hours]

Designed for future teacher educators and teacher leaders, students investigate frameworks for teacher professional knowledge including pedagogical content knowledge, teacher learning, educative mentoring, and program design. Teacher educators' roles as leaders for teacher learning and improvement are examined.

CI6690 Theory And Research In Science Education

[3 credit hours]

Designed for individuals beginning their thesis, project, or seminar paper phase of their graduate program, this course explores both theory and research in science education. Based on an area of interest, students review and critically analyze the research literature in science education. Students also learn how to find primary sources, read and critique research, and organize and write a literature review.

CI6790 Theory And Research In Social Studies

[3 credit hours]

Intensive study of research and theoretical considerations related to the development and current status of learning and instruction in the social studies. Historical and contemporary contextual factors such as policy and standards are explored. The reciprocal nature of research and practice is a central theme of the course. Individualized culminating projects focus on issues related to learning and instruction in the social studies.

CI6800 Foundations Of Curriculum & Instruction

[3 credit hours]

The purpose of CI 6800/8800, Foundations of Curriculum, is to provide an introduction to the foundational areas that affect the design and development of curriculum. This includes the history, social forces, philosophy, and psychology behind many of the curriculum practices and issues that exist in schools today as well as the nature of the curriculum development process. As a result, the course is designed to increase the learner's awareness of the field of curriculum and to introduce specific skills in design and development.

CI6810 Curriculum Development: K-12

[3 credit hours]

The purpose of CI 6810/8810, Curriculum Development: K-12, is to provide appropriate background information and practice in curriculum and instructional design and direct experiences in approaching this process imaginatively. The course will focus on how to use both traditional and emerging models of curriculum design and development to create a working curriculum and to design instructional based on research-based theories of learning and models of teaching.

CI6830 Curriculum Trends And Issues

[3 credit hours]

Designed for educators, this course guides students in exploring core ideas to develop a framework for the study of teaching. Students investigate issues of what and how to teach in the content areas as well as explore the knowledge of expert content teachers. As a core graduate course in curriculum and instruction, students analyze and integrate ideas to form a theoretical framework and are guided in developing professional written work grounded in the professional literature.

CI6840 Curriculum For Educational Leaders

[3 credit hours]

The purpose of this course is to introduce educational leaders to research-based leadership theories and principles and how these apply to P-12 school settings. Building principals, teacher leaders, and instructional coaches will focus on creating learning environments throughout the school that increase teacher effectiveness, utilize alternative assessment strategies, and focus on connecting curriculum, instruction and assessment in all classrooms.

CI6890 Theory and Research in Learning and Teaching Content

[3 credit hours]

A critical analysis of the research literature in language arts, mathematics, science, or social studies education. Students examine educational research regarding ideas about learning and teaching that influence research, finding primary sources, reading and critiquing research, and organizing and writing a literature review.

CI6900 Masters Research Seminar In Curriculum And Instruction

[2-3 credit hours]

Graduate seminar designed as a culminating experience in the master's programs in Curriculum and Instruction. Participants critically examine the research and scholarhip in their specific field of interest. Emphasis is placed on professional academic collaboration, peer review, constructive criticism. The final product of this seminar is an academic manuscript of publishable quality that contributes to the academic discourse in a particular body of scholarship.

Prerequisites: CI 6490 FOR LEVEL GR WITH MIN. GRADE OF D- OR CI 6590 FOR LEVEL GR WITH MIN. GRADE OF D- OR CI 6690 FOR LEVEL GR WITH MIN. GRADE OF D- OR CI 6790 FOR LEVEL GR WITH MIN. GRADE OF D- OR CI 6890 FOR LEVEL GR WITH MIN. GRADE OF D-

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CI6920 Masters Research Project In Curriculum And Instruction

[1-3 credit hours]

Students will complete an individual research project under the direction of a committee of at least two faculty members in Curriculum and Instruction, ordinarily including the faculty adviser.

CI6950 Student Teaching and Internship: LAMP

[3 credit hours]

Part 2 of full time, supervised classroom teaching; for LAMP middle childhood and Adolescent to Young Adult licensure only; added emphasis on continual professional growth and development as educators. Admission to SECE or MIDD LAMP program required.

Prerequisites: CI 6250 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6260 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6270 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6280 FOR LEVEL GR WITH MIN. GRADE OF C AND CI 6150 FOR LEVEL GR WITH MIN. GRADE OF C OR CI 6160 FOR LE

CI6960 Masters Thesis In Curriculum And Instruction

[1-3 credit hours]

Students will complete a thesis under the direction of committee of at least two faculty members from Curriculum and Instruction, ordinarily including the faculty adviser.

CI7530 TEACHING AND LEARNING GEOMETRY AND MEASUREMENT

[3 credit hours]

Examination of the development of mathematics concepts and skills associated with geometry and measurement across the K-12 curriculum. Emphasis on current research, theory, and innovative instructional approaches to the teaching and learning of geometry and measurement.

CI7540 Teaching and Learning Algebra

[3 credit hours]

Examination of the development of algebraic concepts and skills across the K-12 curriculum. Emphasis on current research, theory, and innovative approaches for teaching and learning algebra.

CI7560 ASSESSMENT IN MATHEMATICS EDUCATION

[3 credit hours]

Study of the role of assessment in the teaching and learning of mathematics. Examination of current research, assessment techniques, and trends and ways in which assessment can guide and inform mathematics instruction

CI7580 TEACHING AND LEARNING NUMBER, DATA, AND PROBABILITY

[3 credit hours]

Examination of the development of concepts and skills associated with number, data, and probability across the K-12 curriculum. Emphasis on current research, theory, and innovative instructional approaches

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CI7590 Topics in Mathematics Education

[3 credit hours]

Examination and exploration of policy issues, research, and national trends that have implications for teachers, curriculum specialists, school districts, and others involved in mathematics education.

CI7650 Mentoring a Preservice Teacher

[3 credit hours]

Designed for practicing teachers, this course explores the role of a mentor teacher in guiding prospective teachers in learning to teach. Emphasis is on developing productive mentor-mentee relationships; guiding planning, teaching and assessment; providing useful feedback; and assessing preservice teacher learning.

CI7660 Technological Tools In Science Education

[3 credit hours]

Designed for science educators, this course explores the use of learning technologies for teaching and learning science. Students investigate theoretical frameworks for thinking about tools to support science learning and the role of technology in science education. This course explores technologies to extend students' capabilities at inquiry and enhance their thinking about science phenomena, how technologies can enhance learning within and beyond classrooms, and how technologies support and change science teachers' work with learners.

CI7690 Project-Based Science

[3 credit hours]

Advanced methods for teaching science to engage learners in extended inquiry as they investigate real-world questions. Emphasis on innovative instructional strategies, research and theoretical perspectives to promote deep understanding of fundamental concepts.

CI7810 Instructional Strategies

[3 credit hours]

This course examines the purposes and practices of effective teachers. Participants critically investigate different instructional models for teaching including mediated instruction, discussion, inquiry management, project-based instruction, cooperative learning and the use of technology. Many different teaching methodologies will be demonstrated, modeled and critically examined. Particpants will draft a personal philosophy of education. Focus is firmly placed on individual student learning outcomes in a climate of increasing diversity in the 21st century.

CI7870 Secondary School Curriculum

[3 credit hours]

A critical exploration of secondary school curricular issues, trends, and practices including the historical, political, social, psychological, and philosophical traditions. Participants examine how secondary curriculum is developed, implemented and institutionalized. Emphasis will be placed on topics including teacher leadership, collaboration, action research, and refelective decision making in curriculum work. This course is for teachers, administrators, and anyone interested in how curriculum has influenced educational reform and can influence future reform.

CI7940 Specialist Practicum In Curriculum And Instruction

[1-3 credit hours]

Observation and supervised experience in an appropriate setting. This experience may be in a school or other educational setting. Student will study under the supervision of appropriate mentors or advisors.

CI7980 Special Topics In Curriculum & Instruction

[1-5 credit hours]

A course developed around topics of interest and concern to educators.

CI8370 Fundamentals Of Grant Writing

[3 credit hours]

This seminar will teach participants about fundamentals of grant writing. Topics covered will include: locating sources of funding, writing grants, designing evaluation instruments and administering grants.

CI8400 Trends In Literacy Acquisition

[3 credit hours]

Study of the theories and foundational components of literacy instruction. Factors affecting literacy development including oral language, phonemic awareness, phonics, fluency, comprehension, vocabulary, reading-writing connections and motivation considered. Issues for learners from diverse backgrounds including English Language Learners examined.

CI8410 Content Area Literacy

[3 credit hours]

Study of the integration of reading and writing in the content areas. Attention to both content area literacy approaches and disciplinary literacy practices. Consideration of needs of diverse learners including English Language Learners.

CI8430 Diagnosis Of Reading Disability

[3 credit hours]

Teachers acquire the knowledge and skills needed to assess the reading and writing of students and to plan appropriate instruction. Emphasis on phonemic awareness, concepts of print, word recognition, fluency, comprehension, word study, and writing.

Prerequisites: CI 6400 FOR LEVEL GR WITH MIN. GRADE OF C

CI8440 Remediation Practicum

[3 credit hours]

In depth tutoring with learners ranging from preK to 12th grade. Data-driven instructional decision-making as well as considerations for individualizing instruction emphasized. Design and conduct of a professional development workshop for literacy educators based on tutoring cases is a culuminating aspect of the course.

Prerequisites: (CI 6400 FOR LEVEL GR WITH MIN. GRADE OF C AND CI 6430 FOR LEVEL GR WITH MIN. GRADE OF C)

CI8490 Theory And Research In Literacy

[3 credit hours]

Extensive examination of current research and theoretical considerations in language and literacy learning and instruction. Contemporary contextual factors such as policy and standards are explored. The reciprocal nature of research and practice is a central theme of the course. Individualized culminating projects focus on specific issues of interest related to language and literacy learning and instruction.

CI8590 Theory And Research In Mathematics Education

[3 credit hours]

Critical appraisal of current theory and research in mathematics education. Emphasis on issues related to teacher practice, student learning, and curriculum development.

CI8650 Teacher Learning and Education

[3 credit hours]

Designed for future teacher educators and teacher leaders, students investigate frameworks for teacher professional knowledge including pedagogical content knowledge, teacher learning, educative mentoring, and program design. Teacher educators' roles as leaders for teacher learning and improvement are examined.

CI8690 Theory And Research In Science Education

[3 credit hours]

Designed for individuals beginning their thesis, project, or seminar paper phase of their graduate program, this course explores both theory and research in science education. Based on an area of interest, students review and critically analyze the research literature in science education. Students also learn how to find primary sources, read and critique research, and organize and write a literature review.

CI8700 Doctoral Pro-Seminar I: Introduction to Scholarship in Curriculum and Instruction

[3 credit hours]

The doctoral research cycle begins by introducing students to issues in curriculum and instruction, establishing a research agenda, and building a community of scholars. Pre-requisite to Pro-Seminar II.

CI8710 Doctoral Pro-Seminar II: Themes in theory and research in Curriculum and Instruction

[3 credit hours]

The doctoral research cycle continues by examining the paradigmatic and theoretical bases of C&I research. Develop lines of inquiry grounded in theoretical knowledge and personal interests. Prerequisite: Pro-Seminar I.

Prerequisites: CI 8700 FOR LEVEL GR WITH MIN. GRADE OF D-

CI8720 Doctoral Pro-Seminar III: Themes in theory and research in curriculum and instruction.

[3 credit hours]

The doctoral research cycle is completed. A study is designed, conducted and disseminated within a research group under the guidance of a mentor. Prerequisite: CI 8700 + 8710.

Prerequisites: CI 8710 FOR LEVEL GR WITH MIN. GRADE OF D-

CI8790 Theory And Research In Social Studies

[3 credit hours]

Intensive study of research and theoretical considerations related to the development and current status of learning and instruction in the social studies. Historical and contemporary contextual factors such as policy and standards are explored. The reciprocal nature of research and practice is a central theme of the course. Individualized culminating projects focus on issues related to learning and instruction in the social studies.

CI8800 Foundations Of Curriculum & Instruction

[3 credit hours]

The purpose of CI 6800/8800, Foundations of Curriculum, is to provide an introduction to the foundational areas that affect the design and development of curriculum. This includes the history, social forces, philosophy, and psychology behind many of the curriculum practices and issues that exist in schools today as well as the nature of the curriculum development process. As a result, the course is designed to increase the learner's awareness of the field of curriculum and to introduce specific skills in design and development.

CI8810 Curriculum Development: K-12

[3 credit hours]

The purpose of CI 6810/8810, Curriculum Development: K-12, is to provide appropriate background information and practice in curriculum and instructional design and direct experiences in approaching this process imaginatively. The course will focus on how to use both traditional and emerging models of curriculum design and development to create a working curriculum and to design instructional based on research-based theories of learning and models of teaching.

CI8830 Curriculum Trends And Issues

[3 credit hours]

Designed for advanced students of education, this course guides students in exploring core ideas to develop a framework for the study of teaching. Students investigate issues of what and how to teach in the content areas as well as explore the knowledge of expert content teachers. As a core graduate course in curriculum and instruction, students analyze and integrate ideas to form a theoretical framework and are guided in developing professional written work grounded in the literature. Students explore questions and approaches for research on content teaching.

CI8840 Curriculum For Educational Leaders

[3 credit hours]

The purpose of this course is to introduce educational leaders to research-based leadership theories and principles and how these apply to P-12 school settings. Building principals, teacher leaders, and instructional coaches will focus on creating learning environments throughout the school that increase teacher effectiveness, utilize alternative assessment strategies, and focus on connecting curriculum, instruction and assessment in all classrooms.

CI8860 Advanced Curriculum Theory

[3 credit hours]

This course is designed to build on the foundational concepts and principles introduced in CI 6800/8800 and to explore, analyze and evaluate curriculum theory as it applies to curriculum studies as a discipline. This course will explore curriculum theory as a "complicated conversation" led by educators with the knowledge of contemporary social issues, history, philosophy and popular culture. The course will analyze and evaluate modernist and postmodern theories and practices and engage students with readings, discussions, and interactions with influential curriculum theorists.

CI8900 Doctoral Seminar In Curriculum And Instruction

[2-4 credit hours]

This seminar will consider problems and provide advanced study for doctoral students in Curriculum and Instruction.

CI8930 Independent Research In Curriculum And Instruction

[1-5 credit hours]

Individual study is designed to provide the doctoral student opportunity to work individually on professional problems under the direction of CI faculty.

CI8940 Doctoral Internship In Curriculum And Instruction

[1-3 credit hours]

Placement of doctoral students in appropriate school, school district, or other professional setting under direction of appropriate mentors or advisors.

CI8960 Dissertation In Curriculum And Instruction

[1-10 credit hours]

Original research in an area of curriculum and instruction.

CIEC3200 Early Childhood Education: Philosophy And Practice

[3 credit hours]

The course emphasizes the role, attitude and characteristics of the effective teacher of young children.

CIEC3250 Public Policy And Advocacy Issues In Early Childhood

[2 credit hours]

Designed to heighten an awareness about the effect of public policy on young children, their educational opportunities and their parents and sensitize students to advocacy and its many manifestations.

CIEC3310 Curriculum And Methods For Preschool Education

[4 credit hours]

In-depth study of curriculum development, designing learning environments and anti-bias procedures for preschool children. Students will plan and implement learning activities in field placement.

CIEC3320 Play And Learning

[3 credit hours]

A study of the young child's play and its relationship to learning. Students will design activities and a socio-dramatic play kit to facilitate play in assigned early childhood settings.

CIEC3350 Child, Family & Public Policy In Early Childhood

[3 credit hours]

This course is designed to establish awareness of public policy issues and advocacy techniques, knowledge of family systems, effective home/school communication and collaborative procedures.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CIEC3380 Field Experience: Socio-Cultural Dimensions Of Education

[3 credit hours]

This course is designed to explore the socio-cultural context of the school, family and community as important influences in learning. Students will be assigned to work with a family, gather data and information about their field sites and attend IEP and IFSP conferences.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CIEC3600 Creating Effective Learning Environments

[9 credit hours]

This 9 semester-hour course is required for the "Fast-Track" non-licensure program in ECE and explores foundational principles and research in curricula for children from infancy to age 5.

CIEC3610 Field: Creating Effective Learning Environments

[7 credit hours]

Students complete 280 clock hours of field experience in their ECE setting that focuses on their ability to design, manage and evaluate learning enviroments for young children. This field experience is part of the non-licensure "Fast-Track" ECE program.

CIEC3700 Early Literacy, Language, and Social Studies

[9 credit hours]

This 9 semester-hour course is required for the "Fast-Track" non-licensure program in Early Childhood Education and provides an integrated study of social studies and literacy development and instructional practices in early childhood education.

Prerequisites: CIEC 3600 FOR LEVEL UG WITH MIN. GRADE OF C AND CIEC 3610 FOR LEVEL UG WITH MIN. GRADE OF C

CIEC3710 Field Early Literacy, Language and Social Studies

[7 credit hours]

Students complete 280 clock hours of field experience in their ECE setting that focuses on their ability to design, manage and evaluate learning environments and activities related to the learning of the literacy and social studies for young children. This field experience is part of the non-licensure "Fast-Track" ECE program.

Prerequisites: CIEC 3600 FOR LEVEL UG WITH MIN. GRADE OF C AND CIEC 3610 FOR LEVEL UG WITH MIN. GRADE OF C

CIEC3900 Ece Linking Seminar III

[1 credit hour]

A culminating reading and discussion seminar that continues and intensifies the activities of earlier seminars (CIEC 1900 and 2900). Emphasis will be on transforming the content of the Humanities, Sciences and Social Sciences into appropriate Early Childhood curriculum.

CIEC4070 Effective Teaching Practices, Pre-K To 3rd Grade

[3 credit hours]

This course is designed to apply characteristics of best practice to curriculum development and implementation with adherence to the national and state curriculum standards as they apply to children, age 3 to 8, with diverse educational needs.

Prerequisites: UPDV FOR MIN. SCORE OF 1 AND CIEC 3200 FOR LEVEL UG WITH MIN. GRADE OF C AND CIEC 4340 FOR LEVEL UG WITH MIN. GRADE OF C

CIEC4150 Setting The Stage For Early Childhood Learning: Inspirations From Reggio Emilia

[3 credit hours]

This course will explore Reggio's philosophy of early childhood education and the numerous ways that children explore the "hundred languages." Reggio uses these languages (art, clay, wire, sculpture, light, shadow, etc.) as a way to help children represent their world and what they know about it.

CIEC4340 Infant/Toddler Curriculum

[3 credit hours]

Sequential development of the young child from birth to 3 years. Taken in conjunction with placement in early childhood setting, permitting opportunities to participate in the caregiving of infants/toddlers.

CIEC4460 Science Methods For Early Childhood Education

[3 credit hours]

This course is designed to help teachers of science in grades Pre-Kindergarten through third to understand the concepts, ideas and applications of science in the real world. Students will learn how scientific thinking involves collecting data, analyzing data, making decisions and taking action based on those decisions. Students will learn how to plan effective science experience for young children that cause them to explore environments and act upon their descoveries. Students will learn how to assess the scientific thinking of young children appropriately, using formal and infornal strategies.

Prerequisites: CIEC 4480 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

CIEC4480 Field Experience: Cohort I

[3 credit hours]

This course aligns with all Cohort I coursework in the undergraduate Early Childhood Teacher Licensure Program.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CIEC4550 Teaching Methods For Early Childhood Social Studies

[3 credit hours]

In depth study of methods and materials for teaching social studies from pre-school to third grade. Implementation of early childhood curriculum with the context of current technology and the development of critical thinking skills.

Prerequisites: (CIEC 3200 FOR LEVEL UG WITH MIN. GRADE OF C AND EDP 3210 FOR LEVEL UG WITH MIN. GRADE OF C)

CIEC4600 Supporting ECE Science and Mathematics

[9 credit hours]

This 9 semester-hour course is required for the "Fast-Track" non-licensure program in Early Childhood Education and explores the study of math and science teaaching practices in preschool education (ages birth to five).

Prerequisites: CIEC 3700 FOR LEVEL UG WITH MIN. GRADE OF C AND CIEC 3710 FOR LEVEL UG WITH MIN. GRADE OF C

CIEC4610 Field Supporting ECE Science and Mathematics

[7 credit hours]

Students complete 280 clock hours of field experience in their ECE setting that focuses on their ability to design, manage and evaluate learning environments and activities related to the learning of mathematics and science for young children (infants, toddlers, or preschoolers). This field experience is part of the non-licensure "Fast-Track" ECE program.

Prerequisites: CIEC 3700 FOR LEVEL UG WITH MIN. GRADE OF C AND CIEC 3710 FOR LEVEL UG WITH MIN. GRADE OF C

CIEC4750 Developmental Assessment In Early Childhood

[3 credit hours]

This course focuses on methods of assessment in early childhood classrooms. Issues covered include methods of observation, interpreting formal assessment results and using information gained from assessment to plan curriculum.

CIEC4770 Practicum: Primary Grades

[3 credit hours]

Practicum experience in primary grade settings (grades K-3) where students will observe, plan, implement and evaluate activities.

CIEC4900 Internship/Student Teaching Seminar

[3 credit hours]

A seminar designed to reflect on the student teaching experience and to enhance the student teacher's final preparation for employment. Professional issues, ethical behavior, resume and interview techniques and other processes and professional entry concerns. For early childhood student teachers.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CIEC4930 Internship/Student Teaching

[8-16 credit hours]

Planned experience in public school classrooms under direction of University supervisor. Observation of teaching of experienced teacher; gradual acceptance of full responsibility by student teacher for planning, instruction, evaluation and related duties.

Prerequisites: UPDV FOR MIN. SCORE OF 1

CIEC4950 Workshop I Early Childhood Education

[1-5 credit hours]

Workshop developed around topics of interest and concern for pre-service and in-service teachers and other education personnel. Practical application of workshop topics will be emphasized.

CIEC4980 Special Topics In Early Childhood Education

[1-5 credit hours]

Topics of interest and concern to preservice, inservice and non-degree teachers within districts and community agencies served by the Center for Educational Development. May be included in an undergraduate degree program.

CIEC4990 Undergraudate Independent Study In Early Childhood Education

[1-5 credit hours]

Individual study designed to provide a student the opportunity to work individually on professional problems under the direction of the Early Childhood faculty.

CIEC5000 Ece: Philosophy And Practice

[3 credit hours]

A comprehensive introduction to the profession of early childhood education by examining relevant issues as they relate to overall development of children ages birth to eight years.

CIEC5070 Effective Teaching Practices: Pre-K To 3rd Grade

[3 credit hours]

Applies characteristics of best practice to curriculum development and implementation with adherence to national and state curriculum standards as they apply to children, age 3 to 8, with diverse educational needs.

Prerequisites: (EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF C AND CIEC 5000 FOR LEVEL GR WITH MIN. GRADE OF C)

CIEC5150 Setting The Stage For Early Childhood Learning: Inspirations From Reggio Emilia

[3 credit hours]

This course will explore Reggio's philosophy of early childhood education and the numerous ways that children explore the "hundred languages." Reggio uses these languages (art, clay, wire, sculpture, light, shadow, etc.) as a way to help children represent their world and what they know about it.

CIEC5340 Infant/Toddler Curriculum

[3 credit hours]

Introduction to the sequential development of the young child from birth to 3 years. Students will engage in field hours in infant-toddler settings, design learning materials and critique research in topics related to infant/toddler curriculum.

CIEC5350 Public Policy And Advocacy In Early Childhood Education

[3 credit hours]

Students will understand the implications of social, political and economic policies on the emergence of services for young children in the 21st century.

Prerequisites: CIEC 5000 FOR LEVEL GR WITH MIN. GRADE OF C

CIEC5380 Field Experience Cohort I

[3 credit hours]

This course aligns with the graduate Cohort II coursework (CIEC 5070).

Prerequisites: EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF C

CIEC5460 Science Methods For Early Childhood Education

[3 credit hours]

This course is designed to help teachers of science in grades Pre-Kindergarten through third to understand the concepts, ideas and applications of science in the real world. Students will learn how scientific thinking involves collecting data, analyzing data, making decisions and taking action based on those decisions. Students will learn how to plan effective science experience for young children that cause them to explore environments and act upon their descoveries. Students will learn how to assess the scientific thinking of young children appropriately, using formal and infornal strategies.

CIEC5480 Field Experience Cohort II

[3 credit hours]

This course aligns with all graduate-level Cohort II coursework in the early childhood teacher education licensure program.

CIEC5520 Multisensory Experiences

[3 credit hours]

Development and sensory principles underlying the planning and implementation of developmentally appropriate learning activities for young children. Technical content will include the physical and neurological bases for learning.

CIEC5530 Affective Experiences

[3 credit hours]

This course focuses on teacher planning and activities that support the socio-emotional development of young children.

CIEC5540 Prekindergarten Programs

[3 credit hours]

Focuses on the successful operations of an early childhood program. Covers topics such as licensing and certification standards, staff development selection and purchase of equipment and proper food and health services.

CIEC5550 Teaching Methods For Early Childhood Social Studies

[3 credit hours]

In depth study of methods and materials for teaching social studies from pre-school to third grade. Implementation of early childhood curriculum within the context of current technology and the development of critical thinking skills.

Prerequisites: (CIEC 5000 FOR LEVEL GR WITH MIN. GRADE OF C AND EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF C)

CIEC5580 Practicum: Infant/Toddler

[1 credit hour]

Practicum experience in infant/toddler settings where students will observe, plan, implement and evaluate activities.

CIEC5590 Infant Toddler/Seminar

[2 credit hours]

Planning, research, teacher-made materials appropriate for environments for infants and toddlers will be covered.

CIEC5610 Seminar I: Orientation to Interprofessional Teaming

[1 credit hour]

Become familiar with requirements for the Certificate in Interprofessional Teaming. Focus on competencies needed to work collaboratively with professionals to meet the needs of individuals with disabilities and their families.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

CIEC5620 Seminar II: Working Effectively with Team Members

[1 credit hour]

Factors that support and threaten interprofessional collaboration. Become aware of policies affecting teaming. Engage in advocacy for teaming that will benefit individuals with disabilities.

Prerequisites: CIEC 5610 FOR LEVEL GR WITH MIN. GRADE OF D- AND CIEC 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

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CIEC5630 Seminar III: Evidence-Based Practice and Innovation in Teaming

[1 credit hour]

Issues related to principles of ethical practice, professional identity and advocacy. Ways in which technology can promote effective teaming practices with other professionals as well as with family members.

Prerequisites: CIEC 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

CIEC5640 Practicum in Interprofessional Teaming

[2 credit hours]

Students will work as part of an inter-professional team to develop, implement, and evaluate integrated intervention plans designed to support the development of children who have special needs.

Prerequisites: CIEC 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

CIEC5770 Practicum: Primary (k-3)

[3 credit hours]

This course aligns with all Cohort III coursework in the early childhood education program.

Prerequisites: (CIEC 5070 FOR LEVEL GR WITH MIN. GRADE OF C AND EDP 3210 FOR LEVEL UG WITH MIN. GRADE OF C) OR (CIEC 5070 FOR LEVEL GR WITH MIN. GRADE OF C AND EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF C) OR (CIEC 4070 FOR LEVEL UG WITH MIN. GRADE OF C AND

CIEC5800 Teacher/Parent Child Relations

[3 credit hours]

This course is designed to assist the classroom teacher in building positive relationships with the parents of students and to develop effective strategies for communicating with them.

CIEC5950 Workshop In Early Childhood Education

[1-5 credit hours]

Workshops developed around topics of interest and concern to inservice teachers. Practical application of workshop topics will be emphasized. Students may include several workshops in their master's or specialist degree programs.

CIEC5980 Special Topics In Early Childhood Education

[1-5 credit hours]

A course developed around topics of interest and concern to inservice teachers within districts served by the Center for Educational Research and Services. Stresses solution and resolution of educational problems occurring within the district.

CIEC5990 Graduate Independent Study In Early Childhood Education

[1-5 credit hours]

Individual study designed to provide a student the opportunity to work individually on professional problems under the direction of the faculty in Early Childhood Education.

CIEC6310 Pre-K/Primary Curriculum

[3 credit hours]

The study and design of early childhood curriculum from a best practice/developmental perspective including integrated curriculum, anti-bias approaches, authentic assessment, direct learning strategies. Student self assessment and change project required.

CIEC6320 Meaning And Development Of Play Behavior

[3 credit hours]

Theoretical bases of play behavior and its role in curriculum development/assessment. Students implement and evaluate a sociodramatic play kit and conduct library research on one aspect of play behavior.

CIEC6330 Language And Concept Development

[3 credit hours]

Study of the language and literacy development of the young child with emphasis upon the factors that influence and support this development. Students will do projects to implement their learning.

CIEC6750 Developmental And Classroom Assessment

[3 credit hours]

Focuses upon teaching and learning in a developmental learning environment. Emphases includes observing the developmental characteristics of young children and assessment for prescriptive teaching.

CIEC6900 Masters Research Seminar In Early Childhood Educaton

[2-3 credit hours]

Examination of research and current issues in early childhood education. Emphasis on theory and research and evaluation models.

Prerequisites: CIEC 6950 FOR LEVEL GR WITH MIN. GRADE OF C

CIEC6920 Masters Research Project In Early Childhood Education

[1-3 credit hours]

Student will complete an individual research project under the direction of a committee of at least two faculty members in Early Childhood ordinarily involving the faculty advisor.

CIEC6940 Internship In Early Childhood

[1-12 credit hours]

Placement of a Master's student in an appropriate PreK-Grade 3 school setting under the direction of a CIEC instructor. A maximum of 3 hours can be applied towards a masters degree.

CIEC6950 Theory And Research In Early Childhood

[3 credit hours]

Review and analysis of theory and research related to rationale and methods for program options for young children. Critique research and prepare a review of synthesis of research.

CIEC6960 Masters Thesis In Early Childhood Education

[1-3 credit hours]

Students who elect this option will complete a thesis under the direction of committee of at least two faculty members from Early Childhood Education, ordinarily including the faculty advisor.

CIEC7610 Seminar I: Orientation to Interprofessional Teaming

[1 credit hour]

Become familiar with requirements for the Certificate in Interprofessional Teaming. Focus on competencies needed to work collaboratively with professionals to meet the needs of individuals with disabilities and their families.

Prerequisites: SPED 7270 FOR LEVEL GR WITH MIN. GRADE OF D-

CIEC7620 Seminar II: Working Effectively with Team Members

[1 credit hour]

Factors that support and threaten interprofessional collaboration. Become aware of policies affecting teaming. Engage in advocacy for teaming that will benefit individuals with disabilities.

Prerequisites: CIEC 7610 FOR LEVEL GR WITH MIN. GRADE OF D- AND CIEC 7270 FOR LEVEL GR WITH MIN. GRADE OF D-

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CIEC7630 Seminar III: Evidence-Based Practice and Innovation in Teaming

[1 credit hour]

Issues related to principles of ethical practice, professional identity and advocacy. Ways in which technology can promote effective teaming practices with other professionals as well as with family members.

Prerequisites: CIEC 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

CIEC7640 Practicum in Interprofessional Teaming

[2 credit hours]

Students will work as part of an inter-professional team to develop, implement, and evaluate integrated intervention plans designed to support the development of children who have special needs.

Prerequisites: CIEC 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

CIEC7800 Teacher/Parent Child Relations

[3 credit hours]

This course is designed to assist the classroom teacher in building positive relationships with the parents of students and to develop effective strategies for communicating with them.

CIEC7940 Specialist Practicum In Early Childhood Education

[1-3 credit hours]

Observation and supervised experience in an appropriate setting. Students will be assigned to work as interns under the joint supervision of school and University personnel.

CIEC7980 Special Topics In Early Childhood Education

[1-5 credit hours]

A course developed around topics of interest and concern to inservice teachers within districts served by the Center for Educational Research and Services. Stresses solution and resolution of educational problems occurring within the district.

CIEC8310 Pre-K/Primary Curriculum

[3 credit hours]

The study and design of early childhood curriculum from a best practice/developmental perspective including integrated curriculum, anti-bias approaches, authentic assessment, direct learning strategies. Student self assessment and change project required.

CIEC8320 Meaning And Development Of Play Behavior

[3 credit hours]

Theoretical bases of play behavior and its role in curriculum development/assessment. Students implement and evaluate a sociodramatic play kit and conduct library research on one aspect of play behavior.

CIEC8330 Language And Concept Development

[3 credit hours]

Study of the language and literacy development of the young child with emphasis upon the factors that influence and support this development. Students will do projects to implement their learning.

CIEC8340 Curriculum Design For Infants And Toddlers

[3 credit hours]

Introduction to the sequential development of the young child from birth to 3 years. Students will engage in field hours in infant-toddler settings, design learning materials and critique research in topics related to infant/toddler curriculum.

CIEC8750 Developmental And Classroom Assessment

[3 credit hours]

Focuses upon teaching and learning in a developmental learning environment. Emphases includes observing the developmental characteristics of young children and assessment for prescriptive teaching.

CIEC8900 Doctoral Seminar In Early Childhood Education

[2-4 credit hours]

This seminar will consider problems and provide advanced study for doctoral students in Early Childhood Education.

CIEC8930 Independent Research In Early Childhood Education

[1-5 credit hours]

Individual study is designed to provide the doctoral student opportunity to work individually on professional problems under the direction of Early Childhood faculty.

CIEC8940 Doctoral Internship In Early Childhood

[1-3 credit hours]

Placement of doctoral students in an appropriate PreK-Grade 3 school, school district or other professional setting under the direction of joint placement personnel and CIEC faculty.

CIEC8950 Theory And Research In Early Childhood

[3 credit hours]

Review and analysis of theory and research related to rationale and methods for program options for young children. Critique research and prepare a review of synthesis of research.

CIEC8960 Dissertation In Early Childhood Education

[1-12 credit hours]

Original research in an area of early childhood education.

CIVE1000 Freshman Civil Engineering Experience

[0-1 credit hours]

Computer literacy, report writing, word processing, table creation, equation, equation writing, data manipulation, data graphical plotting. Introduction to various disciplines in Civil Engineering, Structural, Geotechnical, Transportation, Environmental. Practice in engineering problem solving process.

CIVE1100 Civil Engineering Measurements

[0-3 credit hours]

Study of graphical representations of engineering structures and systems and application by hand drawing and computer aided techniques. Instruments and methods for linear and angular measurements. Error theory and propagation. Familiarization with geographical information systems.

CIVE1110 Computer Aided Drafting for Civil Engineers

[1 credit hour]

Study of graphical representation of engineering structures and systems and application by hand-drawing and computer aided techniques.

CIVE1150 Engineering Mechanics: Statics

[3 credit hours]

Study of coplanar statics of particles, vector addition, resultant components, equilibrium, free body diagrams, equivalent force systems, vector products, scalar products, 2 & 3 dimensional equilibrium of rigid bodies, analysis of machines, pulleys, trusses. Centroids, moments of inertia, shear and bending moment diagrams.

Prerequisites: (MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2130 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2130 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE1160 Engineering Mechanics: Strength Of Materials

[3 credit hours]

Material properties. Axially loaded members, including eccentric loads and thin wall pressure vessels. Axial load applications: Stress-Strain relationships, Stress & Strain transformations. Torsion: solid sections, circular sections. Torsional load applications: Combined axial and torsion stress. Beams: shear and bending moment diagrams, bending stress, deflection. Beam load applications: Combined shear, torsion and bending stress. Buckling of long columns.

Prerequisites: CIVE 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE1170 Fluid Mechanics For Civil Engineers

[3 credit hours]

Fundamental concepts of fluid mechanics. Use of hydrostatics, continuity, momentum and energy equations to slove fluid problems applied to pipe flow, open channel flow and boundary layer flow. Introduction to turbo machinery.

Prerequisites: PHYS 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE2000 Professional Development

[1 credit hour]

Basic concepts of career planning, co-op performance expectations, necessary skills for maximizing learning from experiences and realities of the professional community.

Prerequisites: CIVE 1000 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE2110 Civil Engineering Materials With Laboratory

[0-3 credit hours]

Introduction to properties of aggregates, Portland cement, concrete, steel, glass and bituminous mixtures. Mix designs of cement and asphalt concrete and standard test procedures for strength, workability, serviceability and durability.

Prerequisites: CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE2550 Sustainability Problem Solving

[1 credit hour]

Teams of students work as part of an enterprise to address real-world engineering design projects or problems. Develops group problem-solving skills. Stresses interpersonal, project management, and action planning skills. Frames the problem from a systems and sustainability perspective including the technical, social, economic, and environmental dimensions and solutions of the problem. Students have the option to start a new enterprise or join an existing one from previous cohorts. This course may be repeated for credit.

CIVE2990 Individual Study In Civil Engineering

[1-3 credit hours]

An opportunity for qualified underclassmen to pursue a relevant area of Civil Engineering of particular personal interest under the supervision of a faculty member.

CIVE3120 Civil Engineering Systems Analysis

[3 credit hours]

Systems Approach, optimization by differential calculus techniques, linear programming, transportation and assignment problems, management of construction projects, critical path method, PERT and decision analysis.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-

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CIVE3210 Soil Mechanics

[0-3 credit hours]

A study of soil as an engineering material. Geologic origins, physical properties, movement of water through soil, soil stresses, consolidation, shear strength. Engineering properties testing of soils in laboratory.

Prerequisites: (CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIVE 1170 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE3220 Foundation Engineering

[3 credit hours]

Application of soil mechanics principles to design for problems encountered in excavations, embankments, foundations, retaining structures, abutments, slope stability. Evaluation of the ability of soil to function in various capacities.

Prerequisites: CIVE 3210 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE3310 Structural Analysis

[3 credit hours]

Analysis of statically determinate structures; analysis of simple and compound trusses, beams and frames; introduction to indeterminate structures; slope deflection and moment distribution. Introduction to computer applications.

Prerequisites: (CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE3410 Steel Design I

[3 credit hours]

An introduction to the principles underlying design of axial tension members, axial compression members, beams, columns and base plates. Also includes welded and bolted connections.

Prerequisites: CIVE 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE3420 Reinforced Concrete Design I

[3 credit hours]

Introduction to principles and underlying design of basic structural beams, columns, one-way slabs in reinforced concrete. Shear reinforcement.

Prerequisites: CIVE 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE3510 Transportation Engineering I

[3 credit hours]

To provide an overview of transportation systems and operating characteristics of various highway modes. Concept of land use/transportation interaction. Considerations of vehicle and human characteristics in design of highway elements. Introduction to highway capacity and traffic control devices. Transportation planning process leading to local area traffic management with introduction to transportation system management and intelligent transportation systems.

Prerequisites: (CIVE 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 2300 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE3520 Transportation Engineering II

[3 credit hours]

Survey of various modes of transport with emphasis on service provided by each and facilities required. Introduction to physical and practical aspects of design of transport facilities including drainage, pavements, railroads, ports and harbors, pipelines and transportation terminals.

Prerequisites: (CIVE 3510 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIVE 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIVE 2110 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE3610 Water Supply And Treatment

[0-3 credit hours]

This course includes lecture, laboratory exercises and a team-based design project. The topics covered will include water quality, water supply, design of the physical and chemical treatment processes, water distribution systems and contemporary issues related to drinking water.

Prerequisites: CIVE 1170 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE3620 Air Pollution Engineering I

[3 credit hours]

Introduction to sources of air pollution, basic meteorological processes, air quality modeling, technology for air pollution control, odor control and noise pollution. Introduction to health effects of air pollutants, risk assessment and global atmospheric change. The students are required to use the USEPA programs for stack design and computations for ground level concentrations.

Prerequisites: CIVE 1170 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE3630 Wastewater Engineering

[3 credit hours]

This course is focused on wastewater engineering processes. The class format may include lectures, laboratory and field exercises, problem sessions, and team-based design work. The topics covered will include wastewater characterization, collection, treatment process design, discharge, as well as stormwater management and modeling.

Prerequisites: CIVE 1170 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE3940 Co-Op Experience

[1 credit hour]

Approved co-op work experience. Course may be repeated.

Prerequisites: CIVE 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE3950 Co-op Experience

[1 credit hour]

Approved co-op work experience beyond third required co-op experience. Course may be repeated.

Prerequisites: CIVE 3940 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4210 Advanced Soil Mechanics

[3 credit hours]

A study of soil behavior including stress distributions, deformation, consolidation and shear strength. The course focuses upon the development and use of well accepted solutions and practical applications.

Prerequisites: CIVE 3210 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4240 Design With Geosynthetics

[3 credit hours]

Use of geosynthetic materials in engineering design for reinforcement, barrier, separation and/or drainage functions. Design applications for geotechnical, transportation and environmental uses.

Prerequisites: (CIVE 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIVE 3220 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE4300 Advanced Mechanics Of Materials

[3 credit hours]

Introduction to theory of elasticity, plane-stress and plane-strain problems, yield criteria and failure theories, bending of beams, energy methods, curved flexural members, unsymmetrical bending, torsion, shear center and axisymmetrically loaded members.

Prerequisites: CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D- AND (MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE4320 Matrix Analysis Of Structures

[3 credit hours]

Matrix analysis of continuous beams, trusses and frames by force method and displacement method. Methods of consistent deformation and slope deflection will be discussed to complement the matrix analysis. Computer applications.

Prerequisites: CIVE 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4340 Experimental Mechanics

[3 credit hours]

Application of experimental techniques to stress analysis. Comparison of experimental and analytical methods. Theory of electrical resistance strain gages. Methods of photoelasticity including photostress. Data acquisition systems and their use.

Prerequisites: CIVE 2110 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4430 Structural Steel Design II

[3 credit hours]

Study of local failure in beams, biaxial bending, plate girders, composite beams, semi-rigid composite connections and beam columns.

Prerequisites: CIVE 3410 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4440 Reinforced Concrete Design II

[3 credit hours]

Analysis and design of columns under axial compression and biaxial bending. Consideration of bar cut-off, development lengths. Design of two-way slabs and building frames in reinforced concrete. Deflection of beams. Shear design provisions for deep beams.

Prerequisites: CIVE 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4480 Reinforced Masonry Design

[3 credit hours]

Study of the design of reinforced and unreinforced masonry design, beams and walls and columns. Working stress design, strength design and empirical design are studied.

Prerequisites: CIVE 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4550 Traffic Control

[3 credit hours]

To provide a detailed understanding of the basic concepts of traffic engineering together with driver-roadway-vehicle system characteristics. Capacity analysis of freeways, rural highways, multilane and two lane highways. Traffic control devices and traffic signal design and capacity. Traffic studies and data collections; volume, speed and travel time, accident and parking studies. Introduction to other tools to mitigate traffic congestion.

Prerequisites: CIVE 3510 FOR LEVEL UG WITH MIN. GRADE OF D-

CIVE4610 Hydrology And Water Resources

[3 credit hours]

This course is directed to application of fluid mechanics, hydrology, and hydraulics to the discipline of water resources engineering. Topics covered include flow in closed conduits, flow in open channels, pump systems, surface water hydrology, and computational modeling for hydraulic systems. At the successful completion of this course, the student will learn to apply the fundamental principles to the practical solution of both analysis and design problems in closed and open conduit flows.

Prerequisites: (CIVE 3610 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 4000 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE4630 Indoor Air Quality

[3 credit hours]

Characterization of indoor air pollutants, predictions of indoor air quality levels and indoor air quality control. Four to five design problems involving indoor air quality will be discussed/solved in the class. Special emphasis on the indoor radon and asbestos problems in the United States. Use of USEPA program.

CIVE4680 Environmental Law

[3 credit hours]

An overview of the major federal environmental statutes: Clean Air Act, Clean Water Act, RCRA, CERCLA, etc. and legal perspective of why they were developed. Exposure to some basic legal principles which will be integrated into the overall study of environmental law. Provides a practical perspective on how the law can be applied to situations encountered by environmental engineers and scientists in the real world.

CIVE4690 Sustainability Engineering

[3 credit hours]

Course develops students' abilities to apply the principles of sustainability to engineered sysems. Course topics include sustainability definition and data, life cycle assessment based design, planetary boundaries, greenhouse gas emissions, green construction.

CIVE4710 Advanced Engineering Systems Modeling

[3 credit hours]

A systematic approach to the analysis of complicated engineering system involing uncertain and probabilistic phenomena. Decision-making with multiple objectives, monte carlo simulation, reliability based design, and Markov process are studied.

Prerequisites: (CIVE 3120 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 4000 FOR LEVEL UG WITH MIN. GRADE OF D-)

CIVE4750 Senior Design Projects

[0-3 credit hours]

To provide real world civil engineering design experience through a design problem as would be developed in an actual civil engineering consultant's office.

CIVE4900 Seminars In Civil Engineering

[1-3 credit hours]

An opportunity for qualified upperclassmen to pursue a relevant area of Civil Engineering of particular personal interest under the supervision of a faculty member.

CIVE4990 Special Topics - Independent Study

[1-3 credit hours]

An opportunity for a qualified upper class person to pursue a relevant area of Civil Engineering under the supervision of a faculty member.

CIVE5210 Advanced Soil Mechanics

[3 credit hours]

A study of soil behavior including stress distributions, deformation, consolidation and shear strength. The course focuses upon the development and use of well accepted solutions and practical applications.

CIVE5240 Design With Geosynthetics

[3 credit hours]

Use of geosynthetic materials in engineering design for reinforcement, barrier, separation and/or drainage functions. Design applications for geotechnical, transportation and environmental uses.

CIVE5300 Advanced Mechanics Of Materials

[3 credit hours]

Introduction to theory of elasticity, plane-stress and plane-strain problems, yield criteria and failure theories, bending of beams, energy methods, curved flexural members, unsymmetrical bending, torsion, shear center and axisymmetrically loaded members.

CIVE5320 Matrix Analysis Of Structures

[3 credit hours]

Matrix analysis of continuous beams, trusses and frames by force method and displacement method. Methods of consistent deformation and slope deflection will be discussed to complement the matrix analysis. Computer applications.

CIVE5340 Experimental Mechanics

[3 credit hours]

Application of experimental techniques to stress analysis. Comparison of experimental and analytical methods. Theory of electrical resistance strain gages. Methods of photoelasticity including photostress. Data acquisition systems and their use.

CIVE5430 Structural Steel Design II

[3 credit hours]

Study of local failure in beams, biaxial bending, plate girders, composite beams, semi-rigid composite connections and beam columns.

CIVE5440 Reinforced Concrete Design II

[3 credit hours]

Analysis and design of columns under axial compression and biaxial bending. Consideration of bar cutoff, development lengths. Design of two-way slabs and building frames in reinforced concrete. Deflection of beams. Shear design provisions for deep beams.

CIVE5450 Bridge Design I

[3 credit hours]

Design of the three most common types of short span bridges: concrete slabs, steel stringers and prestressed concrete. Additional topics are bearings, rehabilitation and retrofit and design to minimize maintenance.

CIVE5480 Reinforced Masonry Design

[3 credit hours]

Study of the design of reinforced and unreinforced masonry design, beams and walls and columns. Working stress design, strength design and empirical design are studied.

CIVE5550 Traffic Control

[3 credit hours]

To provide a detailed understanding of the basic concepts of traffic engineering together with driver-roadway-vehicle system characteristics. Capacity analysis of freeways, rural highways, multilane and two lane highways. Traffic control devices and traffic signal design and capacity. Traffic studies and data collections; volume, speed and travel time, accident and parking studies. Introduction to other tools to mitigate traffic congestion.

CIVE5610 Water Resources And Hydrology

[3 credit hours]

Aspects of Hydrology. Stream gauging. Common and rare event analysis. Hydraulic and hydrologic routing. Irrigation, navigation, flood control and urban drainage. Resource demand conflicts and multiple use planning.

CIVE5630 Indoor Air Quality

[3 credit hours]

Characterization of the indoor air pollutants, predictions of indoor air quality levels and indoor air quality control. Four to five design problems involving indoor air quality will be discussed/solved in the class. Special emphasis on indoor radon and asbestos problems in the United States. Use of USEPA program.

CIVE5650 Industrial Ventilation

[3 credit hours]

Industrial ventilation as related to need of industrial hygiene engineer, including principles of air flow, natural and power ventilation, supply and exhaust, characteristics and design of systems, fans, collectors, testing instruments. Construction guidelines for local exhaust systems.

CIVE5670 Solid Waste Management And Disposal

[3 credit hours]

A basic study of solid waste management concepts including origin, quantities, qualities, collection and disposal of solid waste materials. The course focuses upon municipal wastes and introduces the student to hazardous waste technologies. The primary course objective is to develop environmentally sound landfill design technologies and other ultimate disposal techniques.

CIVE5680 Environmental Law

[3 credit hours]

An overview of the major federal environmental statutes: Clean Air Act, Clean Water Act, RCRA, CERCLA, etc. and legal perspective of why they were developed. Exposure to some basic legal principles which will be integrated into the overall study of environmental law. Provides a practical perspective on how the law can be applied to situations encountered by environmental engineers and scientists in the real world.

CIVE5690 Sustainability Engineering

[3 credit hours]

Course develops students' abilities to apply the principles of sustainability to engineered sysems. Course topics include sustainability definition and data, life cycle assessment based design, planetary boundaries, greenhouse gas emissions, green construction.

CIVE5710 Advanced Engineering Systems Modeling

[3 credit hours]

A systematic approach to the analysis of complicated engineering system involing uncertain and probabilistic phenomena. Decision-making with multiple objectives, monte carlo simulation, reliability based design, and Markov process are studied.

CIVE5930 Graduate Seminar In Civil Engineering

[1-3 credit hours]

An opportunity for qualified graduate students to pursue a relevant area of Civil Engineering of particular personal interest under the supervision of a faculty member.

CIVE6280 Environmental and Energy Geotechnology

[3 credit hours]

This course is designed for engineering and geoscience students who want to explore a broad range of engineering challenges that emerge at the interface of materials, environment and energy. This course is aimed to provide advanced students with fundamental knowledge for understanding and modelling many complex phenomena involved in a variety of engineering applications. These include technologies of nuclear and hazardous waste disposal, unconventional petroleum and gas extraction, CO2 sequestration and geothermal energy.

CIVE6310 Finite Element Methods

[3 credit hours]

Study of direct stiffness method, introduction to the minimum potential energy method and the Galerkin method, formulation of truss, beam, triangular and rectangular elements, applications to the analyses of space trusses, building frames, folded plates, fluid flow and seepage problems. Applications of modern computer software.

CIVE6340 Mechanics Of Stability

[3 credit hours]

Differential equations. Buckling of centrally and eccentrically loaded compression members; variational methods of determining critical loads; lateral and torsional buckling of beams; introduction to dynamic stability; parametric excitations; nonconservative stability problems; buckling of plates.

CIVE6360 Dynamics Of Structures

[3 credit hours]

Evaluation of dynamic response of structures to arbitrary time-varying loadings; single degree-of-freedom, multi-degree-of-freedom and distributed-parameter systems; partial differential equation formulations of simple systems; mode superposition and wave propagation solutions; time history analysis and estimation of maximum response by spectral analysis; effects of nonlinearities on the structural response.

CIVE6460 Advanced Composite Materials In Infrastructure

[3 credit hours]

Introduction to fiber composites and their applications in repair and retrofit of infrastructure. Strengthening of bridges, buildings, pavements. Understanding of basic concepts involved in design of concrete members reinforced with fiber reinforced polymer.

CIVE6480 Prestressed Concrete Structures

[3 credit hours]

Structural behavior and failure modes of prestressed concrete structures; design in prestressed concrete, including long-span structures, bridges and precast systems.

Prerequisites: CIVE 5440 FOR LEVEL GR WITH MIN. GRADE OF D-

CIVE6490 Nonlinear Modeling of Reinforced Concrete

[3 credit hours]

Theories of elasticity and plasticity as applied to reinforced concrete, mechanical properties of concrete and reinforcing bars, linear and nonlinear elastic models, shear response, compression field and smeared crack models, their implementation and application into nonlinear finite element analysis, and performance assessment of plane frame structures.

Prerequisites: CIVE 3420 FOR LEVEL UG WITH MIN. GRADE OF C AND CIVE 6310 FOR LEVEL GR WITH MIN. GRADE OF C OR CIVE 8310 FOR LEVEL GR WITH MIN. GRADE OF C OR MIME 4280 FOR LEVEL UG WITH MIN. GRADE OF C OR MIME 5280 FOR LEVEL GR WITH MIN. GRADE OF C

CIVE6630 Dispersion And Risk Modeling

[3 credit hours]

Treatment of atmospheric dispersion problems, development of air quality models, components of a physical model, selection and evaluation of air pollution software, evaluation of models, risk modeling, EPA models and recent topics.

CIVE6670 Physicochemical Processes for Water Quality Control

[3 credit hours]

The course will discuss theories and designs for water treatment processes.

CIVE6690 Dispersion Modeling Laboratory

[1 credit hour]

Use of USEPA network, use of ten computer programs from the USEPA network, use of Internet and environmental BBS, search for environmental data bases using search engines.

Prerequisites: CIVE 6630 FOR LEVEL GR WITH MIN. GRADE OF D-

CIVE6900 Civil Engineering Problems

[3 credit hours]

Special assignment of civil engineering problems of various types at the graduate level.

CIVE6960 Graduate Research And Thesis - Masters

[1-9 credit hours]

MS student should register their adviser's section number.

CIVE6980 Graduate Research And Project - Masters

[1-6 credit hours]

MS student should register their adviser's section number.

CIVE7450 Bridge Design I

[3 credit hours]

Design of the three most common types of short span bridges: concrete slabs, steel stringers and prestressed concrete. Additional topics are bearings, rehabilitation and retrofit and design to minimize maintenance.

CIVE8280 Environmental and Energy Geotechnology

[3 credit hours]

This course is designed for engineering and geoscience students who want to explore a broad range of engineering challenges that emerge at the interface of materials, environment and energy. This course is aimed to provide advanced students with fundamental knowledge for understanding and modelling many complex phenomena involved in a variety of engineering applications. These include technologies of nuclear and hazardous waste disposal, unconventional petroleum and gas extraction, CO2 sequestration and geothermal energy.

CIVE8310 Finite Element Methods

[3 credit hours]

Study of direct stiffness method, introduction to the minimum potential energy method and the Galerkin method, formulation of truss, beam, triangular and rectangular elements, applications to the analyses of space trusses, building frames, folded plates, fluid flow and seepage problems. Applications of modern computer software.

CIVE8340 Mechanics Of Stability

[3 credit hours]

Differential equations. Buckling of centrally and eccentrically loaded compression members; variational methods of determining critical loads; lateral and torsional buckling of beams; introduction to dynamic stability; parametric excitations; nonconservative stability problems; buckling of plates.

CIVE8360 Dynamics Of Structures

[3 credit hours]

Evaluation of dynamic response of structures to arbitrary time-varying loadings; single degree-of-freedom, multi-degree-of-freedom and distributed-parameter systems; partial differential equation formulations of simple systems; mode superposition and wave propagation solutions; time history analysis and estimation of maximum response by spectral analysis; effects of nonlinearities on the structural response.

CIVE8460 Advanced Composite Materials In Infrastructure

[3 credit hours]

Introduction to fiber composites and their applications in repair and retrofit of infrastructure. Strengthening of bridges, buildings, pavements. Understanding of basic concepts involved in design of concrete members reinforced with fiber reinforced polymer.

CIVE8480 Prestressed Concrete Structures

[3 credit hours]

Structural behavior and failure modes of prestressed concrete structures; design in prestressed concrete, including long-span structures, bridges and precast systems.

Prerequisites: CIVE 7440 FOR LEVEL GR WITH MIN. GRADE OF D-

CIVE8490 Nonlinear Modeling of Reinforced Concrete

[3 credit hours]

Theories of elasticity and plasticity as applied to reinforced concrete, mechanical properties of concrete and reinforcing bars, linear and nonlinear elastic models, shear response, compression field and smeared crack models, their implementation and application into nonlinear finite element analysis, and performance assessment of plane frame structures.

Prerequisites: CIVE 3420 FOR LEVEL UG WITH MIN. GRADE OF C AND CIVE 6310 FOR LEVEL GR WITH MIN. GRADE OF C OR CIVE 8310 FOR LEVEL GR WITH MIN. GRADE OF C OR MIME 4280 FOR LEVEL UG WITH MIN. GRADE OF C OR MIME 5280 FOR LEVEL GR WITH MIN. GRADE OF C

CIVE8630 Dispersion And Risk Modeling

[3 credit hours]

Treatment of atmospheric dispersion problems, development of air quality models, components of a physical model, selection and evaluation of air pollution software, evaluation of models, risk modeling, EPA models and recent topics.

CIVE8670 Physicochemical Processes for Water Quality Control

[3 credit hours]

The course will discuss theories and designs for water treatment processes.

CIVE8690 Dispersion Modeling Laboratory

[1 credit hour]

Use of USEPA network, use of ten computer programs from the USEPA network, use of Internet and environmental BBS, search for environmental data bases using search engines.

Prerequisites: CIVE 8630 FOR LEVEL GR WITH MIN. GRADE OF D-

CIVE8900 Independent Problems

[1-6 credit hours]

Ph.D. student should register their adviser's section number.

CIVE8960 Doctoral Graduate Research & Dissertation

[1-16 credit hours]

Graduate research towards the completion of a Doctoral degree.

CLC1010 Classical Humanities

[3 credit hours]

An introduction to the civilization of the Greeks and Romans in which history, literature, mythology, art and philosophy are interrelated and interpreted. (not for major credit)

CLC2040 Ancient Near East

[3 credit hours]

A survey of the history and civilization of ancient Sumer, Babylonia, Assyria, Egypt, Palestine and Persia.

CLC2050 Ancient Greece

[3 credit hours]

A survey of the history and civilization of Hellenic and Hellenistic Greece.

CLC2060 Ancient Rome

[3 credit hours]

A survey of the history and civilization of Rome from its origin through the Empire.

CLC3100 Classical Mythology

[3 credit hours]

A survey of Greek and Roman mythology in classical literature, sculpture and art.

CLEP1000 College Level Exam Program

[1-18 credit hours]

Placeholder Course

CMPT1010 Computer Fundamentals

[1 credit hour]

Introduction to computers. Topics covered are hardware, software, computer operation, terminology and applications.

CMPT1020 Computer Concepts

[4 credit hours]

Introduction to computer software, hardware, and processes associated with contemporary computer systems. Topics include operating systems, user applications, e-mail, WWW, and search capabilities. Emphasis is placed on the Internet and networking.

CMPT1100 Microsoft Office Applications

[3 credit hours]

Concepts and techniques of the application of Microsoft Word, Excel, Access and PowerPoint in the workplace.

CMPT1110 Pc Operating Systems

[3 credit hours]

A+ certification aligned study of both command line and graphical user-based current PC operating systems. Topics include installation and upgrade, configuration, management, troubleshooting and network connectivity.

CMPT1120 Visual Basic Programming

[4 credit hours]

A currently popular programming language, such as Microsoft Visual Studio, will be used to create stand-alone applications. Topics such as object-oriented coding, logical procedures and proper documentation are stressed.

CMPT1320 Internet And The World Wide Web

[1 credit hour]

Topics include history of the Internet, IP addressing, World Wide Web, HTML, and CSS. Students will learn the history and functionality of the Internet and create a two-page website using HTML and CSS.

CMPT1400 Introduction to Web Page Development

[3 credit hours]

Students will learn the basics of creating web sites including how to plan and develop a successful Web site, organize page content, format Web sites using CSS styles, produce dynamic Web pages and add animation using rich media and reusable assets and forms.

CMPT1410 Microsoft Excel Spreadsheet Application

[2 credit hours]

Introduces the basic features of Microsoft Excel and spreadsheet concepts to design and create accurate professional worksheets for use in business and industry. Hands-on exercises Include entering data; creating formulas; professional formatting; creating charts; adding visual interest, creating, sorting, and filtering lists; creating and using templates; and working with functions. Focuses on proofing methods to ensure accuracy and critical thinking to determine what data to present and how to present it.

CMPT1420 Microsoft Access Database Applications

[2 credit hours]

Hands-on analysis of the use of Access in solving workplace problems with an emphasis on the entering, updating, manipulating, storing and retrieving of information.

CMPT1430 Microsoft Word

[2 credit hours]

Introduces the basic features of Microsoft Word and word processing concepts to create, edit, and print documents for use in business, industry, and to enhance professional documents. Hands-on exercises include creating and formatting letters, memos, and business documents; producing multi-page documents; creating headers and footers; becoming familiar with the writing/editing tools; enhancing documents with images; creating and formatting tables, and producing mail-merged letters, envelopes, and mailing labels.

CMPT1440 Microsoft Powepoint Presentation

[2 credit hours]

Introduces the basic features of Microsoft PowerPoint and electronic presentation concepts to create, edit, and deliver presentations for use in business, industry, and to enhance informational presentations. Emphasis includes planning, creating, and editing presentations for delivery on a projection system, personal computer, or to run automatically on a kiosk system. Exercises include designing using themes; applying animations, sound, and transitions; using and customizing templates; and adding tables, charts and graphics for improved comprehension and clarity.

CMPT1450 Microsoft Outlook

[1 credit hour]

Students will learn a popular messaging and personal information management program used to send and receive e-mail and manage messages, contacts, appointments and tasks.

CMPT1500 Flash Web Animation

[3 credit hours]

This course offers the opportunity to learn entry-level web animation that includes frame by frame animation, animated shapes, using masks, and motion tweens. In this course you will be learning how to create animated holiday e-cards, animated short movies, and much more.

CMPT1520 Beginning Adobe Illustrator

[3 credit hours]

Introduces the creation of professional vector images using Adobe Illustrator Creative Cloud. Hands-on exercises include creating logos, illustrations, brochures, and posters. Techniques studied include drawing basic shapes, creating vector paths, using the pen and pencil tools, brushes, and symbols, transforming artwork, creating patterns, gradients, blends, symbols, and creating compound paths. Additional topics covered are color theory, typography, 3D vector effects, drawing in perspective, creating illustration components for the web, and importing images.

CMPT1530 Beginning Adobe Photoshop

[3 credit hours]

Introduces the creation of professional raster photos using Adobe Photoshop Creative Cloud, Camera Raw, and Bridge. Hands-on exercises include photo retouching and repairing; color painting; applying masking, layer styles, and filters; advanced compositing; designing with type; vector drawing techniques; preparing files for the Web; and using Photoshop's automation features. Additional topics covered are image resolution; file formats; color theory; ethical and copyright issues involving photo editing; and using various tools and features.

CMPT1600 Internet Design And Publishing

[3 credit hours]

This course offers a broad overview and extensive practical experience in the design and production of Web pages. Students learn current Web design technology.

CMPT1700 Podcasting, Vodcasting, and Blogging

[3 credit hours]

This course offers a broad overview and extensive practical experience with blogging and social media. In this course, you will learn about designing a blog site and gain practical experience. You will also be learning about all the new social media available on the web.

CMPT2030 C Family Programming

[4 credit hours]

Students are introduced to the C family of programming languages. Students will write computer programs using the most up-to-date versions of this language family.

CMPT2410 Adobe InDesign Desktop Publishing

[3 credit hours]

Introduces the creation of professional desktop published documents using Adobe InDesign Creative Cloud, to design effective and engaging print publications, such as announcements, fliers, advertisements, and reports. Hands-on exercises include designing and modifying layouts, creating master pages and styles, importing, flowing, and editing text, importing graphics, and designing tables. Additional topics include typography and design basics, creating PDF forms, exploring the publishing cycle, printing and exporting basics, and creating ePubs.

CMPT2430 Advanced Microsoft Word

[2 credit hours]

Covers advanced features of Word through complex formatting techniques such as customizing paragraphs and pages; using bullets and multi-level numbering features; and formatting long documents with separate sections, headers, and footers. Hands-on exercises include proofing with spelling, grammar, and readability tools; using auto-entry and customization features; working with styles and macros; creating reference footnotes for academic papers; generating tables of content and indexes; working with, comparing, and tracking shared documents; and embedding, and linking objects.

Prerequisites: CMPT 1430 FOR LEVEL UG WITH MIN. GRADE OF D-

CMPT2460 Advanced Microsoft Excel Spreadsheet

[2 credit hours]

Covers advanced features of Excel to design and create accurate, professional worksheets using advanced functions and formulas. These include financial, logical, statistical, lookup, and database functions. Hands-on exercises include exploring the advanced features of data tables, creating complex graphs, using pivot tables; performing "what-if" data analysis, examining various scenario models, protecting and sharing workbooks, using 3-D cell references, automating with macros; and importing, exporting, and distributing data, and customizing the software to suit various needs.

Prerequisites: CMPT 1410 FOR LEVEL UG WITH MIN. GRADE OF D-

CMPT2530 Intermediate Adobe Photoshop

[3 credit hours]

Covers professional production techniques using advanced features of Adobe Photoshop Creative Cloud to achieve the most effective visual results. Hands-on exercises stress advanced layer techniques, advanced selection techniques, complex path creation with the Pen tool, and in-depth use of levels and curves for tonal enhancement. Additional topics include sharpening images, complex compositions, painterly effects, Photoshop's vector tools, creating images for web and application design, and exploring Photoshop's automation tools.

Prerequisites: CMPT 1530 FOR LEVEL UG WITH MIN. GRADE OF D-

CMPT2620 Web Site Maintenance

[3 credit hours]

This course develops skills for students who will function as Web developers or project managers responsible for increasing Web site traffic, updating Web content and designs. Students learn planning issues related to Web design and redesign.

CMPT2990 Independent Study

[1-4 credit hours]

Students will study a computer-related subject mutually agreed upon between the student and the instructor. The format may include lecture, computer lab and/or practical experience.

CNET2100 Microsoft Operating Systems

[3 credit hours]

In-depth study of a contemporary network operating system. Topics include operating system installation and upgrade, configuration, management and troubleshooting.

CNET2150 Computer Hardware

[3 credit hours]

Knowledge of computer hardware for the purpose of acquisition, installation and maintenance at the equipment level. The curriculum is aligned with the A+ certification standards.

CNET2200 Network Technologies

[4 credit hours]

Examines the network technologies utilized in today's networks. Emphasis is placed on understanding hardware and software concepts and protocols referred to in technical publications and advanced network studies.

CNET2300 Network Operating Systems II

[4 credit hours]

This course offers an in-depth study of a contemporary network operating system. Topics include operating system installation and upgrade, configuration, management and troubleshooting.

CNET2400 Network Operating System Support

[4 credit hours]

Examines the support aspects of a contemporary network operating system in a local area network environment. Topics include operating system installation, upgrade, configuration, management and troubleshooting.

CNET2410 Network Services and Infrastructures

[3 credit hours]

This course culminates the CNET server curriculum by focusing on vital network services and supporting network infrastructure. Topics include network budgeting, design, planning and implementation, as well as enterprise-wide internetworking.

Prerequisites: CNET 2400 FOR LEVEL UG WITH MIN. GRADE OF D-

COCA1000 Orientation

[1 credit hour]

Course will introduce new students to university and college requirements and regulations, provide information on campus resources, and help students develop academic skills. Required of all entering first year students.

COCA2000 Mindful Creativity

[3 credit hours]

Introduction to the principles, skills and practice of Mindfulness and their relationship to the development of creativity. Exploration of application to daily life including academic and professional situations.

COMM1010 Comm Principles And Practices

[3 credit hours]

An introductory course that provides instruction and practice in human communication including interpersonal communication, group discussion, public speaking and mass communication. (not for major credit)

COMM2000 Mass Communication And Society

[3 credit hours]

Overview of the media of mass communication, which considers social, economic and intellectual impact on American culture and democracy. Exploration of various mass media and their methods of shaping public perceptions.

COMM2100 News Writing for Media

[4 credit hours]

Theory and practice of news writing as journalistic discourse. Emphasis on news style and values, story structure, types of stories. Ethics, taste and rudiments of law integrated throughout.

COMM2120 Reporting

[3 credit hours]

Introduction to writing for publication in the student newspaper, developing skills in interviewing, listening, using primary sources, thinking critically, and mastering electronic data-collection methods.

Prerequisites: COMM 2100 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM2130 Media Writing 1

[3 credit hours]

Through various assigned readings, discussions, reporting and writing, students will become fully immersed in the media writing process. Students will develop story ideas, interview sources and write publication-ready news articles. Emphasis will be placed on journalistic ethics, credibility, accuracy and news judgment.

COMM2150 Digital Publishing

[3 credit hours]

Introduction to Writing, Editing, Design approach in editing newspapers, newsletters, electronic and similar publications. Fundamentals of desktop publishing, copy editing, headline writing, typography, layout, design, use of photos, illustrations.

COMM2160 Television Production I

[3 credit hours]

This is a laboratory/lecture course designed to introduce the student to the terminology and single camera production procedures used in field television production and serve as a foundation for story-telling through this medium.

COMM2180 Media Producing and Performance

[3 credit hours]

The class is designed to give students experience being in front of the camera through a variety of assignments that will give them practice at interview skills, reading off the Teleprompter, and adlibbing. Also, students will gain experience producing and coordinating productions.

COMM2210 Audio Production I

[3 credit hours]

The class is designed to introduce students to studio recording and editing sound. Students will produce commercials, public service announcements, and demos for announcing jobs. Audio Production I is also designed to be a pre-requisite class for Audio Production II.

COMM2220 Television Production II

[3 credit hours]

Students will work together to produce various types of live studio productions and will be introduced to the process of remote video acquisition and editing for use in living productions.

Prerequisites: COMM 2160 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM2300 Photojournalism

[3 credit hours]

An applied study of the conceptual, ethical, philosophical, historical and comercial aspects of photojournalism.

COMM2400 Information Analysis

[3 credit hours]

Introductory course for all Communication majors. Identification of primary sources that match information needs, gaining access to these sources, retrieving information and using it for responsible media decision making.

COMM2500 Social Media I

[3 credit hours]

This course covers the practice and use of social media in communicating across the fields of media and business and its effect on society. The topics of Social Media: marketing, advertising and networking will be discussed and students will produce projects using emerging/current social media technology.

COMM2600 Public Presentations

[3 credit hours]

Applies the principles of informative and persuasive communication in the construction, delivery, and critique of public presentations.

COMM2810 Nonverbal Communication

[3 credit hours]

Survey, analysis and application of research in nonverbal communication variables and phenomena.

COMM2820 Group Communication

[3 credit hours]

Theory and practice of group communication variables and processes with an emphasis on problem-solving approaches.

COMM2830 Organizational Communication

[3 credit hours]

This course examines the principles and theories of organizational communication. Particular attention will be devoted to how communication skills, culture, systems, ethics, new technology and power all affect, create and define organizations.

COMM2840 Interpersonal Communication

[3 credit hours]

Review and application of interpersonal communication theory and research in a variety of one-to-one social contexts.

COMM2870 Communication Theory

[3 credit hours]

An introduction to human communication theory and research directed toward understanding and applying theory and research in various communication contexts and for various communication outcomes.

COMM2890 Crisis & Conflict in Organizations

[3 credit hours]

An examination of communication variables that may reduce the potential for workplace conflict. Students survey theoretical models, conduct interviews with professionals and write analyses of case studies of successful conflict management.

COMM2990 Independent Study

[1-4 credit hours]

A freshman/sophomore seminar in which the student pursues a problem of special interest in communication. A prospectus must be submitted to the faculty member with whom the student will work.

COMM3120 Media Writing II

[3 credit hours]

This course will focus on identifying, developing and writing online articles about community and business issues. Students also will become versed in major state, local and national news.

Prerequisites: COMM 2100 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

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COMM3150 Feature Writing

[3 credit hours]

Theory and practice in writing in various kinds of discourse for newspapers, magazines and electronic publications and writing for specialized audiences. Developing context, analysis, background and appropriate standards of evidence for publication.

Prerequisites: COMM 2100 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

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COMM3180 Mass Communication Law

[3 credit hours]

Case studies and readings in libel, privacy, access and other legal issues arising from constitutional, judicial and administrative laws that affect mass communication.

Prerequisites: COMM 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM3210 Audio Production 2

[3 credit hours]

This advanced course is designed to further enhance students' proficiency of audio and program production skills through project based learning.

Prerequisites: COMM 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM3260 Event Web Streaming

[3 credit hours]

This is a laboratory/cooperative course in collaboration with other university departments and clients with the result of producing ¿live¿ video content for display on various venues such as the Glass Bowl, Savage Arena scoreboards and online.

Prerequisites: COMM 2160 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM3270 Multimedia Newswriting

[3 credit hours]

Training in the skills required in the preparation, writing and editing of both radio and television news.

Prerequisites: COMM 2100 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

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COMM3290 Content Management

[3 credit hours]

The student will be able to proficiently utilize new media and critically analyze design and content issues in mediated communication. The goal of this course is media design and content literacy.

Prerequisites: COMM 2000 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2500 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2500 FOR LEVEL UG WITH MIN. GRADE OF D-

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COMM3340 Visual Communication I

[3 credit hours]

Application of the principles of visual communication to informing, persuading, and entertaining the public through digital photography, layout & design in print, Web design, and a multimedia presentation.

COMM3350 Graphic Communication 1

[3 credit hours]

To develop the ability to create successful mediated messages through the use of new technologies and software from concept to the end product. The student will be able to proficiently utilize the Internet, and critically analyze design issues in mediated communication. The students will also develop a foundation for using tools to produce graphics for television and online. This course is the prerequisite for Graphic Communication 2.

COMM3500 Social Media II

[3 credit hours]

This advanced course covers the practice and use of social media in communicating across the fields of media and business and its effect on society. The student will develop a relationship with a client and develop a brand that will be marketed through social and digital media. Social Media 1 is a prerequisite for this course.

Prerequisites: COMM 2500 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM3610 Speech Writing

[3 credit hours]

Applies principles of effective public relations communication to the practice of developing speeches for others and composing publicity materials.

COMM3720 Public Relations Theory

[3 credit hours]

Public relations principles, planning and methods in business, government, educational institutions and other organizations. Examination of law, ethics, professionalism, history, theory, strategies and practices of the profession.

Prerequisites: COMM 2100 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2130 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

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COMM3820 Persuasion Theory

[3 credit hours]

Examination of the theory and practices used in persuasive communication in public presentations, advertising, sales and political campaigns.

COMM3830 Basic Principles Of Debate And Forensics

[3 credit hours]

Theory and practice in reasoned discourse; analysis, evidence, logical forms and fallacies. Problems and procedures in administering a forensic program, teaching and directing debate and individual speaking events.

COMM3850 Research Methods

[3 credit hours]

Introduction to qualitative and quantitative methods in communication research. Focus on evaluating and interpreting reports in various forms of communication.

Prerequisites: COMM 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM3870 Communication Theory

[3 credit hours]

A review of human communication theory and research directed toward understanding and applying theory and research in various communication contexts and for various communication outcomes.

COMM3880 Professional Business Communication

[3 credit hours]

Developing oral and written business communication skills through practice in public speaking, interviewing, resume writing, and communication in various formats.

COMM4090 Mass Communication Ethics

[3 credit hours]

Investigation of problems and practical application of classical theories as well as current strategies to confront ethical crises in mass-media settings.

Prerequisites: COMM 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4100 Multimedia Journalism

[4 credit hours]

Developing a thorough understanding of researching, writing, and presenting television/online news. Includes studio and remote productions.

Prerequisites: COMM 2220 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2160 FOR LEVEL UG WITH MIN. GRADE OF D-

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COMM4110 High School Publications

[3 credit hours]

Problems involved in the production of high school newspapers and yearbooks including approaches to design, advertising, content, news, editorials, administration and business management.

COMM4220 Television Production III

[4 credit hours]

Advanced principles and aesthetic considerations in the production of various television programs. Includes working with remote equipment and digital editing.

Prerequisites: COMM 2220 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2160 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4250 Mass Communication History

[3 credit hours]

Historical consideration of the media from colonial era to the present, with special emphasis on learning through problem-solving and critical thinking about the role of mass communication as a force in shaping national identity.

Prerequisites: COMM 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4330 Integrated Media

[3 credit hours]

The goal of this course is media design literacy. Students will develop the ability to create successful mediate messages through various mediums and new technologies.

Prerequisites: COMM 2630 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 3340 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4340 Visual Communication II

[3 credit hours]

Advanced theory, application, and interpretation of visual communication and rhetoric to inform, persuade and entertain the public through digital photography, layout and design in print, Web design, and digital multimedia.

Prerequisites: COMM 2630 FOR LEVEL UG WITH MIN. GRADE OF D- OR COMM 3340 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4630 Public Relations Practices

[3 credit hours]

Examination of practices, techniques, tools and strategies used in public relations. Research theory and techniques; strategic planning and management of public relations programs. In-depth study of one detailed project.

Prerequisites: COMM 3720 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4640 Public Relations Case Studies

[3 credit hours]

Analysis of successful and unsuccessful public relations efforts and programs. Emphasis on the theoretical and ethical foundations of successful public relations programming.

Prerequisites: COMM 3720 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4820 Family Communication

[3 credit hours]

Explores variables and processes of family communication emphasizing theory, definitions of family, roles & rules, conflict, intimacy, societal influences, and effects on the individual and the family as a whole.

COMM4830 Gender, Culture & Communication

[3 credit hours]

Cross-listed as WGST-4350. Explores how gender and culture simultaneously shape and are shaped by communication through relationships, institutions, and society. WAC class.

COMM4900 Communication Seminar

[3-4 credit hours]

An in-depth examination of a communication topic, problem or media event. May be writing intensive.

COMM4910 Professional Portfolio

[1 credit hour]

Students develop a portfolio for post graduate work that includes an assessment of work from five Communication classes including two from both Applied and Conceptual Communication, cover letter, resume, etc. Course offered P/NC.

Prerequisites: COMM 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

COMM4940 Communication Internship

[1-3 credit hours]

Professional training in communication relating to newspaper work, public relations, broadcasting etc. Arrangements with the appropriate communication organization must be made in consultation with the internship director prior to enrollment. Course offered P/NC.

COMM4990 Independent Study

[1-4 credit hours]

A seminar in which the student pursues a problem of special interest in communication. A prospectus must be submitted prior to registration to the participating faculty member.

COMM6200 Communication Research Methods

[3 credit hours]

Research methods, design and conventions in social scientific communication research including measurement, operationalizations, experimental and quasi-experimental design, analysis interpretation and reporting of findings, including quantitative and qualitative approaches.

COMM6210 Principles And Practices Of Visual Communication

[3 credit hours]

This course explores the influence of factors like color and design on human visual communication, the role of Gestalt principles, and the impact of various forms of visual communication.

COMM6220 Communication, Technology, And Society

[3 credit hours]

This course covers issues in communication technology including media, policy and strategic planning. Particular emphasis is given to the information revolution, communication industry development, and the marketplace for communication products.

COMM6230 Communication, Propaganda And Persuasion

[3 credit hours]

This seminar examines techniques of persuasion in social science research and applications and how this knowledge is used for the engineering of perception, mobilization and consent in organizations and society.

COMM6240 Communication, Ethics And The Workplace

[3 credit hours]

This course evaluates the impact of ethics on job performance, public perception of companies or agencies, and the ramifications of personal decision-making on the worker's job satisfaction and long-range goals.

COMM6260 Business, Communication And Technology

[3 credit hours]

The course examines how organizations use media and communication strategies. Effective tools of communication to be studied include face-to-face interaction, dessemination of information through mass media, and communication through technologies.

COMM6980 Special Topics In Communication Studies

[3 credit hours]

Examination of emerging issues and topics in the field of communication. May be repeated for credit in different specialized topics.

COMP702 Mastering the Biomedical Literature: Skill Sets for the Virtual Environment

[3 credit hours]

Because of the increasing volume of available information and increasingly busy schedules, practitioners requires a high degree of skill in identifying and obtaining relevant information for clinical practice, research, and life-long learning. This elective is designed to equip students with core information management skills in support of clinical decision-making and evidence-based health care. The elective meets for two weeks, Monday through Friday, with approximately two hours per day spent in contact with instructors. Students are expected (1) to participate fully in in-class activities; (2) to raise questions about issues which are confusing to them; (3) take advantage of opportunities for formative feedback, including presentation of search strategies for feedback; (4) to make use of time outside of class to practice the skills learned in class; and (5) to demonstrate knowledge and skills through the completion of a search analysis project.

COU6640 Crisis Counseling

[3 credit hours]

Introduction to theory and techniques of crisis counseling. A crisis model will be presented applicable to numerous settings for assessing clients exhibiting lack of coping skill due to loss, death, divorce, physical and sexual abuse, rape, battering, and suicide. Mental stability and hospitalization and treatment planning will be an integral part of the course. Offered in conjunction with Bowling Green State University as part of the Northwest Ohio Consortium for Public Health.

COUN1110 Fundamentals Of Human Mental Health

[4 credit hours]

An introduction to the field of human services, especially mental health, history and current trends in treatment and prevention of disease and the basic skills common to the field. Students will learn skills at the demonstrable level as they will later be used in the field.

COUN1210 Mental Health Skills

[4 credit hours]

This course is designed to enable students to master the therapeutic interpersonal skills required of mental health professionals. Successful completion of this course is a requirement for continuation into advanced courses.

Prerequisites: (COUN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (CMHS 1110 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-)

COUN1220 Theories In Mental Health

[3 credit hours]

An overview of current approaches of psychological theory. This course includes an examination of the basic issues in mental health, including ethical issues and personal implications for the mental health professional.

Prerequisites: (COUN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (CMHS 1110 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-)

COUN1230 Pathology In Mental Health

[3 credit hours]

This course deals with an introduction to the concepts of abnormal psychology with emphasis on understanding the cultural and historical bases for defining abnormality as well as modern classification systems, the biological model, treatment modalities and theoretical perspectives.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

COUN1240 Substance Abuse Issues In Mental Health

[3 credit hours]

An overview and survey of addictive disorders, use and abuse, and the personal and cultural effects of chemical dependency.

COUN2060 Career Exploration

[3 credit hours]

Designed for the university student undecided about a career. The student is assisted in self-assessment, exploration of occupations and in career decision-making skills.

COUN2120 Group And Therapeutic Approaches

[4 credit hours]

A study of various types of groups and activity skills used in mental health environments both inpatient and community based. Focus on design, principles, procedures and applications of various techniques.

COUN2130 Assessment And Intervention In Mental Health

[4 credit hours]

The various techniques and requirements of assessment and interventions used in the most important mental health environments will be explored and practiced. Special emphasis is placed on interview assessment and crisis intervention; implications for record keeping in the variety of settings are also examined.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

COUN2220 Family Theories And Cultural Influences In Mental Health

[3 credit hours]

Study of basic family systems and structures and the influences of cultural patterns as they interact and impact the mental health and therapeutic needs of individual family members.

COUN2940 Mental Health Internship

[4 credit hours]

Students are placed in community agencies relevant to mental health and work in a role related to the function of a mental health technician under the guidance of a supervisor.

Prerequisites: COUN 1210 FOR LEVEL UG WITH MIN. GRADE OF B OR CMHS 1210 FOR LEVEL UG WITH MIN. GRADE OF B

COUN2980 Special Topics In Counselor Education

[1-3 credit hours]

This course is open to an undergraduate student pursuing a degree program and may be a requirement of that program.

COUN2990 Independent Study

[1-3 credit hours]

A course designed to provide educational opportunities in a specialized academic area under the direct supervision of a faculty member.

COUN3070 Family Counseling

[3 credit hours]

Overview of aspects of counseling with families. Major focus is on family as a system and a variety of interventions. Ethnic, gender and socioeconomic considerations of family systems will be stressed.

COUN3110 Case Management In Mental Health

[3 credit hours]

The study of and practice of using case management models and skills with clients within the mental health environment. Models appropriate for different agency types will be explored and the various modalities available will be introduced.

COUN3120 Mental Retardation And Mental Health

[3 credit hours]

The relationship between retardation and mental health with emphasis on the characteristics making this a population of special concern within the treatment protocols of the mental health profession.

Prerequisites: COUN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMHS 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

COUN3130 Advanced Interventions: Crisis And Employee Assistance Programs

[3 credit hours]

Advanced intervention issues including crisis management, disaster survival, rescue and emergency personnel debriefing and Employee Assistance Programs.

Prerequisites: COUN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMHS 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

COUN3140 Substance Abuse Prevention And Community Programming

[3 credit hours]

An evaluation of prevention programs and community resources available in the prevention and treatment of substance abuse.

COUN3150 Models Of Treatment For Substance Abuse

[3 credit hours]

A review of the various components of substance abuse and philosophies of treatment. Theories of etiology and maintenance are also addressed.

COUN3160 Charting And Reporting In The Mental Health Professions

[3 credit hours]

The importance of coding, charting and record keeping in various fields of mental health professions is examined. Various types of report writing formats and requirements will be learned.

Prerequisites: COUN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMHS 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

COUN3220 Theories in Mental Health

[3 credit hours]

Overview of current approaches of psychological theory. This course includes an examination of the basic issues in mental health, including ethical issues and personal implications for the mental health professional.

COUN3230 Pathology in Mental Health

[3 credit hours]

Introduction to the concepts of psychopathology with emphasis on understanding the cultural and historical bases for defining abnormality, modern classification systems, the biological model, treatment modalities and theoretical perspectives.

COUN3380 College Student Leadership Development I

[1-3 credit hours]

First semester in development of skills for student leaders through didactic experience, simulation exercises and practicum experiences. Especially designed for student government leaders and peer counselor/advisers.

COUN3390 College Student Leadership Development II

[1-3 credit hours]

Second semester in student leadership training. The development of skills for student leaders through didactic experience, simulation exercises and practicum experiences. Especially designed for student government leaders and peer counselor/advisers.

Prerequisites: COUN 3380 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMHS 3380 FOR LEVEL UG WITH MIN. GRADE OF D-

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COUN3940 Substance Abuse Internship

[4 credit hours]

Students are placed in community agencies working in the area of substance abuse under the guidance of a supervisor.

Prerequisites: (COUN 2940 AND COUN 4240 AND COUN 4940) OR (CMHS 2940 AND CMHS 4240 AND CMHS 4940)

COUN4080 Essentials Of Helping Relationships

[3 credit hours]

Emphasis upon skills, concepts and practices in the helping professions. Multicultural and ethical issues along with dealing with crisis situations will be covered.

COUN4090 Therapeutic Environments For The Aged

[3 credit hours]

This course focuses on therapeutic care giving for the aged in institutional settings, addressing techniques for developing activities and responding to sensory changes and social needs of individuals.

COUN4110 Consultation And Supervision In Mental Health Services

[3 credit hours]

Explores the roles and techniques of consultation and supervision within the mental health professions, including individual and group skills, models, strategies and legal and ethical issues.

Prerequisites: COUN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMHS 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

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COUN4120 Dual Diagnosis: Substance Abuse And Mental Illness

[3 credit hours]

Issues involving clients with a dual diagnosis are explored. Specific treatment strategies for clients dually-diagnosed with substance abuse and mental illness will be learned.

Prerequisites: COUN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMHS 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

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COUN4240 Substance Abuse Treatment Techniques

[3 credit hours]

An examination of ethical and legal issues in substance abuse, as well as examination of the specific skills needed by workers in substance abuse programs.

COUN4580 Teacher As Advisor

[3 credit hours]

Introduction to group process, interpersonal and communication skills for teachers in the middle school. Introduction to consultation and collaboration skills for working with counselors, teachers, parents and other resource personnel.

Prerequisites: UPDV FOR MIN. SCORE OF 1

COUN4940 Advanced Internship

[4 credit hours]

Students are placed in community agencies relevant to mental health and work in a role related to the function of an advanced level mental health technician under the guidance of a supervisor.

Prerequisites: (COUN 2940 AND COUN 3110) OR (CMHS 2940 AND CMHS 3110)

COUN4980 Special Topics In Counselor Education

[1-3 credit hours]

This course is open to an undergraduate student pursuing a degree program and may be a requirement of that program.

COUN4990 Independent Study

[1-3 credit hours]

Individual study is designed to provide the student to work independently on professional problems under the direction of a faculty member in the department of counseling and mental health services.

COUN5010 Professional Orientation To School Counseling

[4 credit hours]

This course is an introduction to the profession of school counseling including the historical foundations, roles and responsibilities, legal and ethical issues, implications of sociocultural diversity, organization and administration, and future trends within the context of the school community.

COUN5020 Professional Orientation to Clinical Mental Health Counseling

[4 credit hours]

An orientation to the counseling profession; ethical and legal issues, counseling process, skills and theories; counselor roles, functions and work settings; and historical foundations of counseling.

COUN5110 Career Counseling And Development

[3 credit hours]

Theories, resources and practices of career counseling and development are presented. Knowledge and skills for promoting career growth among a broad range of individuals across the life span is emphasized.

COUN5120 Individual And Group Assessment

[3 credit hours]

This course provides an in-depth understanding of psychological testing through (1) an overview of basic testing concepts, (2) an understanding of test construction, (3) familiarity with instruments and (4) an overview of using test results. History and rationale of testing are included.

COUN5130 Group Counseling

[4 credit hours]

This course provides training and experience in group development, dynamics, theories, methods and skills of group counseling, group leadership, research and evaluation, ethical issues, and other group work approaches. Multicultural issues, advocacy, and wellness will be explored throughout the course.

COUN5140 Counseling Theories And Techniques

[4 credit hours]

Includes a study of basic counseling and consultation theories and helping relationships from individual, group, and systemic perspectives. Explores helper and helpee characteristics, sociocultural factors, and legal and ethical considerations. Includes supervised training in counseling and consulting skills and application of theories into counseling practices.

COUN5150 Counseling Across The Life Span

[3 credit hours]

This course provides training in the theoretical understanding and processes of human development (e.g., social, affective, familial, cognitive, physical) from prenatal stages through older adulthood. Counseling approaches relevant to theoretical principles will be presented. Multicultural issues, advocacy, wellness, and ethical issues will be explored throughout the course. Theories of individual and family development across the lifespan are examined. Developmental processes of individuals and families and implications for counseling are presented from a multi-generational family perspective.

COUN5160 Cultural Diversity For Counselors And School Psychologists

[3 credit hours]

This course addresses sociocultural diversity, multicultural, and social justice concepts related to self and others. Throughout the course the tripartite model of multicultural attitudes, knowledge, and skills will be explored using an inclusive definition of multiculturalism. We will examine multiculturalism and social justice on individual, community, and systemic levels. Wellness, prevention, and advocacy will also be infused throughout the course. Addresses the cross cultural theories, knowledge, beliefs and techniques required for providing effective services to culturally diverse populations. Examines assumptions about cultural differences, which underlie counseling theories and therapies.

COUN5190 Counseling Practicum

[4 credit hours]

Students receive supervised, practical experiences in providing counseling services to clients. Performance of counseling skills; relationship skills; intervention techniques; documentation skills; and professional, ethical and legal conduct is expected.

COUN5250 Creating Therapeutic Environments For The Aged

[3 credit hours]

Explores the various aspects necessary for creating therapeutic physical and social psychological settings for older institutionalized adults. Models of care giving and programmatic skills are examined.

COUN5980 Special Topics In Counseling, Mental Health, And School Psychology

[1-8 credit hours]

This course is open to a graduate student pursuing a master's, specialist or doctoral degree program and may be a requirement of that program.

COUN6210 Psychopathology

[4 credit hours]

The study of various paradigms for conceptualizing psychopathology related to children, adolescents and adults. Includes study of specific personality theories and their application to clinical counseling.

COUN6220 Child, Adolescent, Family Therapy

[3 credit hours]

Specialized study of therapeutic techniques commonly emphasized in working with children, adolescents and their families. Approaches to family therapy in a multicultural context, family assessment and ethical issues will be emphasized.

Prerequisites: COUN 5140 FOR LEVEL GR WITH MIN. GRADE OF D-

COUN6230 Crisis Intervention Counseling

[3 credit hours]

Instruction in the theories, skills and techniques necessary to intervene into a variety of crisis situations such as suicide, violence, domestic violence, drug and alcohol abuse and family dysfunction.

Prerequisites: COUN 5140 FOR LEVEL GR WITH MIN. GRADE OF D-

COUN6240 Diagnosis And Mental Health

[4 credit hours]

Study of the signs, symptoms, etiology and psychodynamics of various mental and emotional disorders based on the most current edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM).

COUN6470 Drugs And Mental Health Counseling

[4 credit hours]

This course includes instruction on the neuroanatomy of the nervous system, the physiology of the neuron, and the processes involved in synaptic transmission. The psychobiological and psychophysiological effects of various psychotropic medications typically used in the treatment of mental disorder will be investigated. Integration of pharmacotherapy and psychotherapy in the treatment of mental, emotional, and substance use disorders will also be considered.

COUN6500 Advanced Theory And Practice Of Career Counseling

[3 credit hours]

Advanced study in theories pertaining to the principles and practice of career counseling. Special emphasis on research, legal and ethical issues, and the role of culture in career choice and development.

COUN6720 Advocacy for the Survivor of Child Neglect and Abuse

[3 credit hours]

This course prepares students to recognize the long term cognitive, social, and emotional effects of child maltreatment. Evidenced-based approaches for effective advocacy and for treatment of the survivor are examined.

Prerequisites: SOCW 6700 FOR LEVEL GR WITH MIN. GRADE OF D- AND CRIM 6710 FOR LEVEL GR WITH MIN. GRADE OF D-

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COUN6920 Master's Research Project

[1-3 credit hours]

In this capstone experience, master's students review the literature, report implications and produce a project which can be applied in counseling-related settings. This can substitute for CMHS 6930.

COUN6930 Master's Research Seminar

[2-3 credit hours]

In this capstone experience, master's students review and critique the literature and report implications for research, theory and practice on counseling-related topic of interest, approved by the instructor.

COUN6940 Counseling Internship

[1-8 credit hours]

The course is intended to provide counseling students with practical experience in settings where counseling services are offered. It allows students to relate academic and theoretical learning to settings outside the classroom. Field placement also allows student to receive evaluative feedback on their knowledge, attitudes, and skills with clients in the school setting. Since students already have received advanced training in counseling, the staff and the clientele at the placement site should benefit from the services that are provided by students during the placement. Students are expected to assume a broad spectrum of counseling roles and functions. Students are asked to experience as many responsibilities as feasible in the school setting that are similar to the responsibilities of a professional counselor.

Prerequisites: COUN 5190 FOR LEVEL GR WITH MIN. GRADE OF B OR CMHS 5190 FOR LEVEL GR WITH MIN. GRADE OF B

COUN6950 Workshop In Counseling, Mental Health, And School Psychology

[1-6 credit hours]

Workshops developed around topics of interest and concern to counselors, school psychologists or other mental health care professionals. Practical application of topics will be stressed.

COUN6960 Master's Research Thesis

[1-3 credit hours]

In this capstone experience, master's students complete an original piece of research, including literature review, methods, analysis and discussion. This can substitute for CMHS 6930.

COUN6990 Master's Independent Study

[1-4 credit hours]

Provides students the opportunity to work independently on professional problems under the direction of a faculty member in the Department of Counseling and Mental Health Services.

COUN7010 Professional Orientation To School Counseling

[4 credit hours]

This course is an introduction to the profession of school counseling including the historical foundations, roles and responsibilities, legal and ethical issues, implications of sociocultural diversity, organization and administration, and future trends within the context of the school community.

COUN7130 Group Counseling

[4 credit hours]

This course provides training and experience in group development, dynamics, theories, methods and skills of group counseling, group leadership, research and evaluation, ethical issues, and other group work approaches. Multicultural issues, advocacy, and wellness will be explored throughout the course.

COUN7140 Counseling Theories And Techniques

[4 credit hours]

Includes a study of basic counseling and consultation theories and helping relationships from individual, group, and systemic perspectives. Explores helper and helpee characteristics, sociocultural factors, and legal and ethical considerations. Includes supervised training in counseling and consulting skills and application of theories into counseling practices.

COUN7150 Counseling Across The Life Span

[3 credit hours]

This course provides training in the theoretical understanding and processes of human development (e.g., social, affective, familial, cognitive, physical) from prenatal stages through older adulthood. Counseling approaches relevant to theoretical principles will be presented. Multicultural issues, advocacy, wellness, and ethical issues will be explored throughout the course. Theories of individual and family development across the lifespan are examined. Developmental processes of individuals and families and implications for counseling are presented from a multi-generational family perspective.

COUN7160 Cultural Diversity For Counselors And School Psychologists

[3 credit hours]

This course addresses sociocultural diversity, multicultural, and social justice concepts related to self and others. Throughout the course the tripartite model of multicultural attitudes, knowledge, and skills will be explored using an inclusive definition of multiculturalism. We will examine multiculturalism and social justice on individual, community, and systemic levels. Wellness, prevention, and advocacy will also be infused throughout the course. Addresses the cross cultural theories, knowledge, beliefs and techniques required for providing effective services to culturally diverse populations. Examines assumptions about cultural differences, which underlie counseling theories and therapies.

COUN7210 Psychopathology

[4 credit hours]

This course is designed as an exploration into various conceptualizations of psychopathology and their implications for assessment, diagnosis, and treatment planning in counseling. The study of various paradigms for conceptualizing psychopathology related to children, adolescents and adults. Includes study of specific personality theories and their application to clinical counseling

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COUN7220 Child, Adolescent, Family Therapy

[3 credit hours]

Specialized study of therapeutic techniques commonly emphasized in working with children, adolescents and their families. Approaches to family therapy in a multicultural context, family assessment and ethical issues will be emphasized.

Prerequisites: COUN 5140 FOR LEVEL GR WITH MIN. GRADE OF D-

COUN7230 Crisis Intervention Counseling

[3 credit hours]

The Crisis Intervention Counseling course (COUN 6230) is designed to develop knowledge and skills in crisis intervention counseling associated with a variety of crisis situations. The course contributes to meeting the Council on Accreditation of Counseling and Related Educational Programs (CACREP) accreditation general

Prerequisites: COUN 5140 FOR LEVEL GR WITH MIN. GRADE OF D-

COUN7240 Diagnosis And Mental Health

[4 credit hours]

Study of the signs, symptoms, etiology and psychodynamics of various mental and emotional disorders based on the most current edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM).

COUN7510 Supervision In Counseling And School Psychology

[4 credit hours]

Training in supervision models, methods, roles, ethical issues, research and evaluation. Advanced training in consultation.

COUN7520 Education And Leadership In Mental Health Professions

[4 credit hours]

Orient students to the roles and tasks of educators and leaders in mental health professions, curricular issues of programs, professional and ethical issues and current status and future trends in higher education among mental health professions.

COUN7530 Advanced Theories Of Counseling And Consultation

[4 credit hours]

This course is designed to provide advanced preparation in theory pertaining to the principles and practice of individual counseling, group work and consultation.

COUN7540 Advanced Personality Assessment

[4 credit hours]

This course will focus on the administration, scoring, and interpretation of selected advanced personality assessment instruments. Special emphasis will be given to the MMPI-2, NEO-PI-3, MCMI-III, SASSI-3, and report writing.

Prerequisites: COUN 5120 FOR LEVEL GR WITH MIN. GRADE OF D-

COUN7930 Doctoral Research Seminar

[4 credit hours]

Advanced preparation in research problems, design and implementation of quantitative and qualitative research and methodology in the fields of counseling and supervision.

COUN8410 Advanced Practicum In Individual And Group Therapy

[4 credit hours]

Students receive supervised, practical experiences in providing counseling in individual and group modes of services. Advanced therapy skills will be emphasized.

COUN8420 Advanced Practicum In Family Therapy

[4 credit hours]

This course is designed to provide specialized opportunity under live supervision to develop specialized skills in family therapy. The student will work in co-therapy with a family experiencing difficulties.

COUN8440 Advanced Theory And Practice Of Group Counseling

[3 credit hours]

Advanced training and experience in development, dynamics, theories, methods and skills of group counseling and therapy, leadership, research and evaluation and ethical issues as applicable to normal and abnormal populations.

COUN8450 Couples And Family Therapy

[3 credit hours]

Theories and practice of couples and family counseling are explored. Foundations of systems theories and their application to couples and family therapy are presented.

Prerequisites: (COUN 5140 FOR LEVEL GR WITH MIN. GRADE OF D- AND COUN 5150 FOR LEVEL GR WITH MIN. GRADE OF D-)

COUN8460 Substance Abuse Counseling

[4 credit hours]

Review of treatment approaches, techniques and programs for counseling individuals and families experiencing substance-related problems.

COUN8470 Drugs And Mental Health Counseling

[4 credit hours]

This course includes instruction on the neuroanatomy of the nervous system, the physiology of the neuron, and the processes involved in synaptic transmission. The psychobiological and psychophysiological effects of various psychotropic medications typically used in the treatment of mental disorder will be investigated. Integration of pharmacotherapy and psychotherapy in the treatment of mental, emotional, and substance use disorders will also be considered.

COUN8480 Advanced Training In Professional, Legal, And Ethical Issues

[4 credit hours]

The content of this course will consider advanced training in contemporary professional, legal, and ethical issues that influence, regulate, or affect the work of counselors, psychologists, and other mental health professionals.

COUN8490 Gender Issues In Counseling And Mental Health Services

[3 credit hours]

Examines the effect of gender role and related dynamics upon the psychological functioning of men and women and considers how these issues can be explored in counseling based upon an interactive model of gender roles emphasizing the learned nature of these characteristics.

COUN8500 Advanced Theory And Practice Of Career Counseling

[3 credit hours]

Advanced study in theories pertaining to the principles and practice of career counseling. Special emphasis on research, legal and ethical issues, and the role of culture in career choice and development.

COUN8930 Advanced Doctoral Seminar

[3 credit hours]

This seminar will consider problems and provide advanced study. Open only to advanced graduate students.

COUN8940 Counseling Internship

[1-8 credit hours]

The course is intended to provide counselor education doctoral students with student-directed, practical experiences in which they can develop advanced skills in various facets of counselor education (e.g., clinical counseling, advocacy, instruction, research, leadership, clinical supervision). Multicultural issues, ethics, professional issues, and wellness will be explored throughout the course. Supervised practical experiences in various settings while assuming a spectrum of counseling roles and functions. Emphasis is placed upon integrating ethical practice, theory, and research in work settings.

Prerequisites: COUN 5190 FOR LEVEL GR WITH MIN. GRADE OF B OR CMHS 5190 FOR LEVEL GR WITH MIN. GRADE OF B

COUN8950 Workshop In Counseling, Mental Health, And School Psychology

[1-6 credit hours]

Workshops developed around topics of interest and concern to counselors, school psychologists, or other mental health care professionals. Practical application of topics will be stressed.

COUN8960 Doctoral Research Dissertation

[1-12 credit hours]

Dissertation credit may not total less than 10 semester hours and no greater than 32 hours. A doctoral student may register for such credit in more than one semester.

COUN8980 Special Topics In Counseling, Mental Health, And School Psychology

[1-3 credit hours]

This course is open to a graduate student pursuing a master's, specialist or doctoral degree program and may be a requirement of that program.

COUN8990 Doctoral Independent Study

[1-4 credit hours]

Provides students the opportunity to work independently on professional problems under the direction of a faculty member in the Department of Counseling and Mental Health Services.

CRIM1010 Criminal Justice

[3 credit hours]

The overall history, philosophy and functioning of the criminal justice system in the U.S. The integrated roles of law enforcement, the courts and corrections will be analyzed and discussed.

CRIM1040 HUMAN RELATIONS AND DIVERSITY IN CRIMINAL JUSTICE

[3 credit hours]

This class will focus on human relations and cultural diversity faced by the criminal justice system, including the police, courts, corrections, and community organizations, and the course will explore general principles in effective human relations, the importance of diversity, and their application in the field of criminal justice.

CRIM1110 Penology

[3 credit hours]

The study of jails, prisons and other types of specialized correctional institutions. The philosophy of incarceration along with the administration, staffing and operations of these facilities will be reviewed.

CRIM1240 Policing

[3 credit hours]

Introduction to law enforcement practices and agencies in the United States, including the history, philosophy and operation of federal, state and local enforcement agencies.

CRIM2050 Applied Criminology

[3 credit hours]

This course examines the theoretical causes of crime in relation to the duties and responsibilities of polices and corrections personnel, and the development of criminal justice polices.

CRIM2200 Criminal Law

[3 credit hours]

The statutes of Ohio relating to crime and the elements necessary for establishing and providing proof of crimes are studied.

Prerequisites: CRIM 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

CRIM2210 Criminal Investigation I

[3 credit hours]

Introduction to the processes, theories and principles of criminal investigation. Methods of gathering information, report writing, interview/interrogation strategies, surveillance, search warrant information, affidavit preparation and execution are studied.

Prerequisites: CRIM 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

CRIM2220 Laws Of Evidence

[3 credit hours]

A thorough study of the evidence rules with specific emphasis on the application of these rules in preparing and presenting evidence.

Prerequisites: CRIM 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

CRIM2230 Criminal Procedure

[3 credit hours]

An examination of the Bill of Rights of the U.S. Constitution as it appears to arrest, search, seizure, detention, interviews, and interrogations.

CRIM2250 Juvenile Justice

[3 credit hours]

To analyze the causes of juvenile delinquency and the extent of the problem in the U.S. Also, to discuss the inter-workings of the juvenile justice system in response to the delinquency problem, in conjunction with delinquency prevention programs.

CRIM2990 Independent Study

[1-6 credit hours]

Supervised independent study.

CRIM3000 Police Academy

[1-15 credit hours]

This course provides students with an experiential learning opportunity in the field of policing.

CRIM3110 Hate Crimes

[3 credit hours]

The course examines the genesis, development, theory and practice of hate crimes and how society has and can respond to hate crimes.

CRIM3210 Applied Psychology for Criminal Justice Personnel

[3 credit hours]

This course overviews mental disorders and substance abuse problems common to persons entering the criminal justice system. Related social policies and criminal justice practices are critically examined.

CRIM3220 Crime Mapping And Criminal Profiling

[3 credit hours]

The course content develops an understanding of the uses of information technologies and psychological profiling in defining criminal behavior as well as the geographic consideration.

CRIM3230 White Collar Crime

[3 credit hours]

A historical overview of the evolution of white-collar crime in American Society as well as an understanding of the nature, causes and consequences of different forms of white-collar crime.

CRIM3240 Victimology

[3 credit hours]

This course examines the history of victimology and includes topics such as the characteristics of crime victims and specific types of victimization such as hate crimes and sexual assault.

Prerequisites: CRIM 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

CRIM3250 Women and Crime

[3 credit hours]

This course will explore the causes and social consequences of crimes by and against women. The course will expose students to feminist theory and examine the interlocking effects of gender, race and class.

CRIM3290 Criminal Investigation II

[3 credit hours]

An introduction to the crime scene, including methods of searching, photography, sketching and gathering of physical evidence. Fingerprint analysis. Methods utilized in drug investigations and development of information sources are studied.

Prerequisites: CRIM 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

CRIM3300 Sex Crimes

[3 credit hours]

Overview of a variety of sex crimes, characteristics of sexual predators, theories to explain sex crimes, and current legislation and treatment efforts utilized today to combat sex crimes.

CRIM4000 Narcotics Policy and Enforcement

[3 credit hours]

This course will explore the “War on Drugs” from a historical, pharmacological , economic, political, and practical perspective.

CRIM4010 Probation and Parole

[3 credit hours]

An introduction to the history and dynamics of probation and parole, how they interact within the criminal justice system, and the effective treatment of offender clients.

CRIM4100 Criminal Justice Research Methods

[3 credit hours]

This course provides students with an understanding of criminal justice research, the concepts and logic of research designs and widely used statistical procedures.

CRIM4200 Ethics In Criminal Justice

[3 credit hours]

This course is designed to provide students with an opportunity to integrate ethics in their understanding of criminal justice.

CRIM4300 Theories Of Criminal Justice

[3 credit hours]

A critical study and appreciation of the theories of criminal justice, including micro and macro theories.

CRIM4410 Criminal Forensic and Trial Practice

[3 credit hours]

This cross-listed capstone course will allow students to step out of the traditional classroom setting and participate in an applied skills course that will benefit them in the real world of Criminal Justice. Students will be presented with a case and will be responsible for the various stages of the investigative process as well as the trial process.

Prerequisites: CRIM 2210 FOR LEVEL UG WITH MIN. GRADE OF D- AND CRIM 3290 FOR LEVEL UG WITH MIN. GRADE OF D-

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CRIM4450 Administration Of Police Services

[3 credit hours]

The application of management principles to municipal police departments, emphasizing the resources, constraints and strategies of police managers.

CRIM4490 Criminal Forensic and Trial Practice

[3 credit hours]

This cross-listed capstone course will allow students to step out of the traditional classroom setting and participate in an applied skills course that will benefit them in the real world of Criminal Justice. Students will be presented with a case and will be responsibile for the various stages of the investgative process as well as the trial process.

CRIM4520 Police And Society

[3 credit hours]

An examination of the role of the police in contemporary America, emphasizing the ambivalence of the self-image of the police and the social and political forces that compete to redefine police function.

CRIM4590 Administration Of Criminal Justice

[3 credit hours]

General systems approach to criminal justice from an organizational and legal perspective with emphasis on the interaction of the major components-police, prosecutors, courts and corrections.

CRIM4940 Criminal Justice Internships

[3-12 credit hours]

Field placement experience within a criminal justice agency to enhance the student's practical knowledge of the field in conjunction with career planning opportunities.

CRIM4990 Independent Study In Criminal Justice

[1-3 credit hours]

Individual course of study in a selected topic pertaining to Criminal Justice chosen by the student, with the consent of the instructor.

CRIM6000 Advanced Theories: Criminal Justice

[3 credit hours]

This course critically examines contributions made b a variety of theorists to an understanding of crime/deviance and reactions to it.

CRIM6200 Data Analysis In Criminal Justice

[3 credit hours]

This course provides students with a basic understanding of fundamental data analysis techniques utilized in criminal justice research.

CRIM6300 Advanced Studies In Ethics And Criminal Justice

[3 credit hours]

This course is designed to provide students with the opportunity to integrate ethics in an understanding of criminal justice.

CRIM6310 Juvenile Justice In The Metropolitan Community

[3 credit hours]

Criminal justice theories of delinquency are studied and compared with a paradigmatic foundation of current criminal justice processes.

CRIM6320 Women, Crime And Criminal Justice

[3 credit hours]

This course explores women as offenders, victims and professionals in criminal justice.

CRIM6400 Graduate Criminal Justice Research Methodology

[3 credit hours]

This course is designed to provide students with an understanding of criminal justice research.

CRIM6590 Administration Of Criminal Justice

[3 credit hours]

A research-oriented course into the relationship of the major structures of criminal justice-police, prosecutor, courts and corrections with emphasis on the development of performance evaluation criteria.

CRIM6620 Police And Society

[3 credit hours]

An examination of the role of the police in contemporary America, emphasizing the ambivalence of the self-image of the police and the social and political forces that compete to redefine the police function.

CRIM6940 Criminal Justice Graduate Internship

[1-3 credit hours]

Field placement experience in an approved criminal justice agency to enhance the knowledge of the student.

CRIM6960 Thesis

[1-6 credit hours]

This course involves research leading to a written thesis. Both the topic of the research and the final thesis must be defended and approved by the student's thesis committee.

CRIM6980 Special Topics In Criminal Justice

[3 credit hours]

Content will vary as instructors present a single concentration on developments, problems and controversies in criminal justice.

CRIM6990 Independent Study In Criminal Justice

[1-3 credit hours]

Directed study in criminal justice under the supervision of a criminal justice faculty member.

CRXM1000 Credit By Exam

[0-30 credit hours]

Placeholder Course

CSET1100 Introduction to Computer Science and Engineering Technology

[0-4 credit hours]

This course is the first course in computer hardware and software for CSET majors. Introduction to Single and multi-user operating systems, command-line processing and some internet tools are covered. Most of the course focuses on introduction to programming and software development.

CSET1200 Object Oriented Programming and Data Structures

[3 credit hours]

This course teaches object oriented program design, analysis, and verification with an introduction to data structures including but not limited to list, queue, stack and tree. The course emphasizes Programming Methodology and its impact on programs and the use of Data Abstractions and the implementation of Data Abstractions using classes.

Prerequisites: CSET 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

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CSET2200 Pc And Industrial Networks

[0-4 credit hours]

Current concepts and technologies used with personal computers and PLCs in both industrial (factory-floor) and commercial data networks. Topics include PC networking hardware and software, PLC hardware and programming and PLC networking alternatives.

Prerequisites: CSET 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND EET 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET2230 Assembly Language and Computer Architecture

[4 credit hours]

This course focuses on the analysis, design, and programming of computer microprocessor architectures. Topics include performance metrics, the design of a machine's instruction set architecture (ISA). This course examines the bride between low-level hardware and executable software, and includes programming in assembly language (representing software programs).

Prerequisites: CSET 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND EET 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET3100 Advanced Web Site Design

[3 credit hours]

HTML forms, creation of static and animated web graphics, Dynamic Fonts, SMIL (Synchronized Multimedia Integration Language) as it relates to G2, Realtext, Realpix and XML. The course also covers Frames, META Tags, Optimizing Speed, Cookies, Imagemapping (from both sides), HTML, tables and Shockwave.

Prerequisites: CSET 1100 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET3150 Introduction to Algorithms

[4 credit hours]

The course covers topics in basic algorithm design and analysis of traditional algorithms such as sorting algorithms, selection algorithms and graph algorithms, with the focus on building correct and efficient algorithms based on the known algorithms. Besides, advanced data structures such as hash tables, binary search trees are covered in the course.

Prerequisites: CSET 2230 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET3200 Client/Server Computing

[3 credit hours]

Covers client/server architecture and programming techniques. Major topics include two-tier and three-tier client server architectures, programming considerations, cleanlayering, advanced graphical user interface controls, database processing, transaction processing and monitoring.

CSET3250 Client-Side Scripting

[3 credit hours]

Introduction to the Document Object Model (DOM), JavaScript and VBScript scripting languages, cascading style sheets, browser recognition, browser-specific content, data validation and layers.

Prerequisites: CSET 3100 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET3300 Database-Driven Web Sites

[4 credit hours]

Creation of dynamic Web applications that interact with a database using client-side scripts, server-side scripts and compiled server programs. Includes database fundamentals, scripting language fundamentals and server considerations.

CSET3400 Unix System Administration

[3 credit hours]

Commands and methods to install and manage a UNIX system. System administration topics include configuration, user and file management, backup procedures, peripheral devices, performance tuning and troubleshooting.

CSET3600 Software Engineering and Human Interfacing

[4 credit hours]

An introduction to software engineering processes for technology students. Includes: user requirements, software specification, design approaches, human-computer interfacing, software tools, validation, modification, maintenance, documentation, lifecycle models, and intellectual property considerations.

CSET4100 SERVER-SIDE PROGRAMMING

[3 credit hours]

Covers Common Gateway Interface (CGI) programming on the Internet using the most popular scripting languages. Topics include client-side programs, server-side programs, distributed database creation and searching.

CSET4150 Web Server Administration

[3 credit hours]

Installation and configuration of the web server operating systems (e.g., UNIX, Windows NT), installation and administration of web daemon (e.g., Apache, Microsoft IIS). Site management, including file and directory hierarchy, web log analysis, installation and configuration of various utilities for gopher, ftp, text ending and email.

Prerequisites: CSET 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET4200 Vlsi Technology

[4 credit hours]

Introduction to CMOS technology and circuits, MOS transistor switches and CMOS logic. Practical aspects of silicon manufacturing technology including wafer processing, layout design rules and process parameterization. Electrical and physical design of logic gates, clocking schemes, I/O structures and structures design strategies.

CSET4250 Applied Programming Languages

[3 credit hours]

How to select the most appropriate language for a specific engineering technology application. Topics include comparison of programming languages by evolution, formal specifications, structures, features, application domains, programming paradigms, implementation of syntax, semantics and program run-time behavior.

CSET4350 Operating Systems

[3 credit hours]

This course teaches the fundamentals of operating systems concepts. It discusses the following topics: process scheduling, memory management, kernel and user mode, system calls, context switches, inter-process communication, I/O and file systems.

Prerequisites: CSET 2230 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET4450 Video Game Design And Programming

[4 credit hours]

This is a project-oriented course on Game Design and Programming. Students work in teams to design, implement and test games with interactivity, animation, sound, constraints, and networking capabilities.

Prerequisites: CSET 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET4750 Computer Networks And Data Communication

[4 credit hours]

Computer network architectures and their application to industry needs. Major topics include vocabulary, hardware, design concepts, current issues, trends, hardware, multi-user operating systems, network protocols, local and wide area networks, intranet and internet communications, analog and digital data transmissions.

Prerequisites: CSET 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

CSET4850 Computer and Network Security

[4 credit hours]

This course provides an introduction to the concepts of computer security, topics include, but not limited to basic cryptography, security policies, network security, program security and systems security. Hands-on lab projects are provided for important topics.

Prerequisites: CSET 4750 FOR LEVEL UG WITH MIN. GRADE OF D-

CTE4010 Teaching Occupational Skills

[3 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. This course addresses multiple topics critical to workforce education as they apply to the laboratory environment. Students are provided classroom and clinical experiences designed to assist the beginning teacher with basic laboratory instructional techniques and management strategies that integrate academic, occupational and employability skills in a contextual framework.

CTE4020 Occupational Safety & Liability

[3 credit hours]

This course is required for the Adult Education, Career Based Intervention, and Work-Site Teacher/Coordinator endorsements. Occupational health and safety hazards applicable to school, business, and industry, will be examined. Utilizing clinical and classroom experiences students will investigate: the rationale for safety training; strategies to minimize exposure and prevent injuries; specific topics, such as ergonomics, blood borne pathogens, air quality, sound, hazardous materials, back safety, substance abuse, violence in the workplace, etc.

CTE4030 Teaching Occupational Knowledge

[3 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. Designed as a co-requisite in the professional education series, this course addresses multiple topics critical to workforce education as they apply to the classroom environment. Students are provided classroom and clinical experiences designed to assist the beginning teacher with basic classroom instructional techniques and management strategies that integrate academic, occupational and employability skills in a contextual framework.

CTE4050 Methods Of Teaching Career And Technical Education I

[2 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career- Technical Licenses. The pedagogical and management skills introduced in CTE 4010 are integrated in a contextual framework utilizing an actual laboratory situation. Learning styles; laboratory planning, instruction, technology, and management; integrated academics; performance assessment; safety and liability issues; employability and SCANS skills; community partnerships; school-based and work-site learning; etc. are the basis for student research, reflection, and inquiry

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CTE4070 Methods Of Teaching Career And Technical Education II

[2 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. The pedagogical and management skills introduced in CTE 4030 are integrated in a contextual framework utilizing an actual classroom setting. Organizing curriculum; instructional planning, management, delivery and technology; learning theory; behavior management; motivation; integrated academics; authentic assessment; career-technical student organizations; etc. are the basis for student research, reflection, and inquiry.

CTE4110 Seminar for CTE Teachers

[3 credit hours]

The career-technical education teacher is an occupational professional who possesses the pedagogical knowledge and reflective decision making skills necessary to enter the teaching profession at multiple levels. In order to prepare individuals as career-technical instructors, components of the licensure program were developed and approved by the State Board of Education, to promote high professional standards to provide quality classroom teachers. The components are: a clear mission; operational goals; specific competencies of an assessment system.

CTE4140 Cooperative Education

[2 credit hours]

This course is required for the Career Based Intervention. The course is designed to present the basic fundamentals of establishing and operating a cooperative occupational program. Students investigate and develop operational procedures to address: student selection; assessing the quality of potential training stations; student placement; school-based learning; critical issues related to work-based learning; critical issues related to work-based learning; minor labor laws; partnering with parents, business, and labor; connecting activities; record keeping; evaluation techniques; etc.

CTE4160 Curriculum Development & Teaching Co-Operative Education

[3 credit hours]

This course is required for the Career Based Intervention. Designed as a study of cooperative education curriculum and instructional methods, the course includes the coordination of school-based instruction with on-the-job work-based experience. Learning styles of diverse students; instructional planning and delivery; classroom management; integrated academics; authentic assessment; safety and liability issues; employability and SCANS skills; community partnerships; school-based and work-site learning; etc. are the basis for student research, reflection, and inquiry.

CTE4900 Curriculum Construction

[3 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. A planned field experience will be completed in public school classrooms under the direction of university facilitated induction teams. The university faculty member, on-site teacher mentor, and local administrator will collaborate to assure the novice teacher maximizes his/her potential as an individual and member of an educational team. Students are provided a contextual framework to integrate theory and practice.

CTE4930 Supervised Teaching

[3-8 credit hours]

his course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. A planned field experience will be completed in public school classrooms under the direction of university facilitated induction teams. The university faculty member, on-site teacher mentor, and local administrator will collaborate to assure the novice teacher maximizes his/her potential as an individual and member of an educational team. Students are provided a contextual framework to integrate theory and practice.

CTE4980 Problems In Career And Technical Education

[1-5 credit hours]

A course developed around topics of interest and concern to inservice teachers. Stresses solution and resolution of educational problems occurring within selected districts.

CTE4990 Individual Study In Career And Technical Education For Undergraduate Students

[1-3 credit hours]

Individual study is designed to provide the opportunity to work individually on professional problems under the direction of the faculty in career and technical education.

CTE5010 Teaching Occupational Skills

[3 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. This course addresses multiple topics critical to workforce education as they apply to the laboratory environment. Students are provided classroom and clinical experiences designed to assist the beginning teacher with basic laboratory instructional techniques and management strategies that integrate academic, occupational and employability skills in a contextual framework.

CTE5020 Occupational Safety And Liability

[3 credit hours]

This course is required for the Adult Education, Career Based Intervention, and Work-Site Teacher/Coordinator endorsements. Occupational health and safety hazards applicable to school, business, and industry, will be examined. Utilizing clinical and classroom experiences students will investigate: the rationale for safety training; strategies to minimize exposure and prevent injuries; specific topics, such as ergonomics, blood borne pathogens, air quality, sound, hazardous materials, back safety, substance abuse, violence in the workplace, etc.

CTE5030 Teaching Occupational Knowledge

[3 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. Designed as a co-requisite in the professional education series, this course addresses multiple topics critical to workforce education as they apply to the classroom environment. Students are provided classroom and clinical experiences designed to assist the beginning teacher with basic classroom instructional techniques and management strategies that integrate academic, occupational and employability skills in a contextual framework.

CTE5040 Laboratory Organization And Management

[3 credit hours]

Designed for laboratory instructors to increase their operating efficiency and effectiveness. Focus is on arranging the facility and controlling materials, supplies, learning activities and maintenance through various system approaches.

CTE5050 Methods for Teaching CTE Methods I

[2 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career- Technical Licenses. The pedagogical and management skills introduced in CTE 4010 are integrated in a contextual framework utilizing an actual laboratory situation. Learning styles; laboratory planning, instruction, technology, and management; integrated academics; performance assessment; safety and liability issues; employability and SCANS skills; community partnerships; school-based and work-site learning; etc. are the basis for student research, reflection, and inquiry

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CTE5060 Foundations Of Career And Technical Education

[3 credit hours]

A study of social issues, historical events and philosophies that provide a basis for the development of career and technical education. Principles and their implications are also reviewed.

CTE5070 CTE Methods II

[2 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. The pedagogical and management skills introduced in CTE 4030 are integrated in a contextual framework utilizing an actual classroom setting. Organizing curriculum; instructional planning, management, delivery and technology; learning theory; behavior management; motivation; integrated academics; authentic assessment; career-technical student organizations; etc. are the basis for student research, reflection, and inquiry.

CTE5080 Principles Of School-To-work Transition

[3 credit hours]

Design for educators and employers to increase their knowledge and skill to build partnerships between schools and business, industry and labor. Examines transition concepts, components, implementation strategies and models.

CTE5100 Organization, Administration & Regulations Of Career And Technical Education

[3 credit hours]

Study of the organization and administration of career and technical education at the national, state and local levels, noting relationships existing between the agencies.

CTE5110 Seminar for CTE Teachers

[3 credit hours]

The career-technical education teacher is an occupational professional who possesses the pedagogical knowledge and reflective decision making skills necessary to enter the teaching profession at multiple levels. In order to prepare individuals as career-technical instructors, components of the licensure program were developed and approved by the State Board of Education, to promote high professional standards to provide quality classroom teachers. The components are: a clear mission; operational goals; specific competencies of an assessment system.

CTE5120 Supervision Of Career And Technical Education

[3 credit hours]

Development of supervisory skills in career and technical education. Stresses human relations, team building, basic management and leadership skills in program inauguration and operations.

CTE5140 Cooperative Education

[2 credit hours]

This course is required for the Career Based Intervention. The course is designed to present the basic fundamentals of establishing and operating a cooperative occupational program. Students investigate and develop operational procedures to address: student selection; assessing the quality of potential training stations; student placement; school-based learning; critical issues related to work-based learning; critical issues related to work-based learning; minor labor laws; partnering with parents, business, and labor; connecting activities; record keeping; evaluation techniques; etc.

CTE5160 Curriculum Development & Teaching

[3 credit hours]

This course is required for the Career Based Intervention. Designed as a study of cooperative education curriculum and instructional methods, the course includes the coordination of school-based instruction with on-the-job work-based experience. Learning styles of diverse students; instructional planning and delivery; classroom management; integrated academics; authentic assessment; safety and liability issues; employability and SCANS skills; community partnerships; school-based and work-site learning; etc. are the basis for student research, reflection, and inquiry.

CTE5180 Promotion, Recruitment & Retention

[3 credit hours]

A study of career and technical education in the community, and promotion, recruitment and retention strategies, including school publics, theories of community power structure and the career and technical school in a democratic society.

CTE5220 Adviser Training For Youth Leaders

[3 credit hours]

Designed for teachers and supervisors to increase their skills and knowledge of youth leadership development. Focus is on advising a student career and technical organization and includes both establishing and maintaining functions.

CTE5570 Teaching Adult Learners

[3 credit hours]

A study of the unique learning and teaching characteristics associated with adult learners, adult learning theory, learner characteristics, physical effects of aging and strategies consistent with adult learning styles.

CTE5810 Staff Evaluation And Development

[3 credit hours]

An analysis of the processes and current instruments available for evaluation of programs and personnel, and an appraisal of the professional development needs of individuals in educational settings.

CTE5830 Curriculum Principles And Models

[3 credit hours]

Curriculum principles and models are examined. The characteristics of curricula are established and inferences are drawn for the planning, implementation and evaluation phases of curriculum development.

CTE5930 CTE Supervised Teaching

[4 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. A planned field experience will be completed in public school classrooms under the direction of university facilitated induction teams. The university faculty member, on-site teacher mentor, and local administrator will collaborate to assure the novice teacher maximizes his/her potential as an individual and member of an educational team. Students are provided a contextual framework to integrate theory and practice.

CTE5940 Practicum-Internship In Career And Technical Education

[1-3 credit hours]

Observation and supervised experiences will be offered in a variety of appropriate settings, or students will be assigned to work as interns in a school setting under the joint supervision of school and university personnel.

CTE5950 Workshop In Career And Technical Education

[1-5 credit hours]

Workshops developed around topics of interest and concern for preservice and inservice teachers and other education personnel. Practical applications of workshop topics will be emphasized.

CTE5980 Problems In Career And Technical Education

[1-5 credit hours]

A course developed around topics of interest and concern to inservice teachers and administrators. Stresses solution and resolution of educational problems occurring within selected districts.

CTE5990 Individual Study In Career And Technical Education

[1-3 credit hours]

Individual study is designed to provide the opportunity to work individually on professional problems under the direction of the faculty in career and technical education.

CTE6900 Research In Career And Technical Education

[1-3 credit hours]

This course is required for the Health Careers, Career-Technical Education and the six Career-Technical Licenses. The course provides the knowledge and skill in competency-based education. It includes occupational analysis; selection of course content; course of study and instructional guide development; and, credentialing students. Utilizing the Career Field Content Standards the teacher is prepared to draw from their content expertise and experiences to plan and develop instruction that addresses curriculum goals of diverse and special populations.

CTE6920 Master's Research Project In Career And Technical Education

[1-3 credit hours]

Open to a graduate student who elects the completion of a research project in fulfilling the research requirement of the master's degree.

CTE6960 Master's Thesis In Career And Technical Education

[1-3 credit hours]

Open to a graduate student who elects the completion of a master's thesis in fulfilling the research requirement of the master's degree.

CTE7810 Staff Evaluation And Development

[3 credit hours]

An analysis of the processes and current instruments available for evaluation of programs and personnel, and an appraisal of the professional development needs of individuals in educational settings.

CTE7830 Curriculum Principles And Models

[3 credit hours]

Curriculum principles and models are examined. The characteristics of curricula are established and inferences are drawn for the planning, implementation and evaluation phases of curriculum development.

CTE7940 Practicum-Internship In Career And Technical Education

[1-3 credit hours]

Observation and supervised experiences will be offered in a variety of appropriate settings, or students will be assigned to work as interns in a school setting under the joint supervision of school and university personnel.

CTE7950 Workshop In Career And Technical Education

[1-5 credit hours]

Workshops developed around topics of interest and concern for preservice and inservice teachers and other education personnel. Practical applications of workshop topics will be emphasized.

CTE7980 Problems In Career And Technical Education

[1-5 credit hours]

A course developed around topics of interest and concern to inservice teachers and administrators. Stresses solution and resolution of educational problems occurring within selected districts.

CTE7990 Individual Study In Career And Technical Education

[1-3 credit hours]

Individual study is designed to provide the opportunity to work individually on professional problems under the direction of the faculty in career and technical education.

DENT6010 Growth and Development

[.5- credit hours]

Presentation and discussion of key growth and development concepts related to orthodontic/orthopedic diagnosis and treatment in pediatric dentistry including: Orthodontic Records, Growth and Development of the Face and Dental Arches, Cephalometrics and Facial Esthetics, Orthodontic Diagnosis and Treatment in the Mixed Dentition, Management of the Developing Occlusion, Case Selection.

DENT6020 Pharmacology 1

[.5- credit hours]

Advanced pharmacologic principles in decision making for dental pharmacotherapy. Emphasis is on physiological responses to drugs, efxpected outcomes, adverse reactions, and potential drug interactions.

DENT6040 Consious Sedation I

[2 credit hours]

In depth discussion of the principles and objectives of conscious sedation, deep sedation and general anesthesia as behavior management techniques, including indications and contraindications for their use.

DENT6050 Clinical Pediatric Dentistry

[.5-1 credit hours]

In depth analysis of the scientific principles underlying the contemporary practice of pediatric dentistry, including the prevention of disease, dental anomalies, habits and other problems in occlusal development, and CAN.

DENT6060 Principles of Behav/Comm Mgmt

[2 credit hours]

Critical analysis of historical behavior management and communication techniques and currently accepted behavior management techniques and utilization of techniques based upon patient age, cognitive development, behavior, medical history, parental concerns, and patient response to management techniques.

DENT6070 Pediatric Dentistry Literature

[.5- credit hours]

Presentation and discussion of selected articles related to the field of pediatric dentistry and other health related topics.

DENT6080 Anatomy & Embryology Head/Neck

[1 credit hour]

Lecture and discussion of select topics in gross anatomy and embryology.

DENT6100 Pediatric Medicine Lecture

[2 credit hours]

Advanced pharmacologic principles in decision making for dental pharmacotherapy. Emphasis is on physiological responses to drugs, efxpected outcomes, adverse reactions, and potential drug interactions.

DENT6120 Pharmacology II

[.5- credit hours]

Advanced pharmacologic principles in decision making for dental pharmacotherapy. Emphasis is on physiological responses to drugs, efxpected outcomes, adverse reactions, and potential drug interactions.

DENT6140 Conscious Sedation

[2 credit hours]

In depth discussion of the principles and objectives of conscious sedation, deep sedation and general anesthesia as behavior management techniques, including indications and contraindications for their use.

DENT6160 Special Care Dentistry

[1 credit hour]

In depth discussion of medical and handicapping conditions that require modifications in the delivery of dental services to infants, children and adolescents. Topics to be covered include, but are not limited to: bleeding disorders, cardiovascular disease, complications of chemotherapy and radiation therapy, diabetes, developmental disabilities, hemaglobinopathies, hematopoetic cell transplantation, hematologic malignancies, infectious diseases, neurologic disorders, organ transplantation, respiratory diseases, sensory impairments, solid tumors, common pediatric syndromes.

DENT6170 Clinical Pediatric Dent Clinic

[1-10 credit hours]

Observation and participation in the care of patients with preventive, restorative, surgical, orthodontic and prosthetic care within the Dentistry Clinic.

DENT6200 Oral Pathology

[1 credit hour]

In depth discussion of the epidemiology, pathogenesis, clinical characteristics, diagnostic methods, formulation of differential diagnoses, and management of oral and perioral lesions and anomalies with emphasis on the infant child and

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DENT701 Dentistry

[0-3 credit hours]

Student will receive an overview of hospital dentistry and develop an interdisciplinary approach to the study of oral and dental diseases.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

DERM706 Dermatology

[6 credit hours]

Students will see outpatients. Additional responsibilities include taking histories & physicals, assisting in minor surgeries, as well as consultation rounds. Reading of selected dermatologic textbooks during the clerkship is also expected.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

DERM710 Dermatologic Surgery

[6 credit hours]

Students will see outpatients in Ambulatory Private Patient Care at Dermatology Associates Inc. Students are expected to observe skin surgeries, cosmetic procedures, general dermatology, and Dermatopathology. The following objectives should be achieved by the end of the rotation: (1) expand knowledge in local anesthesia, (2) broaden knowledge in suture material and suture techniques used in skin surgeries, (3) master the pre-operative assessment and patient safety during skin surgery, (4) recognize the indications for Mohs micrographic surgery, (5) widen knowledge in Botulinum toxin, soft tissue filler materials, sclerotherapy, and laser-skin interaction, (6) reading of selected dermatologic textbooks during the clerkship is also expected. Students will be encouraged to participate in the writing of case reports, review articles, or original manuscripts.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 740 FOR LEVEL MD WITH MIN. GRADE OF P

DERM730 Dermatology

[3 credit hours]

Elective is a one-to-one basis with a dermatologist. Additional responsibilities may include taking a history and performing a physical, as well as assisting in minor surgeries. Reading about dermatologic disorders seen in the office is expected.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

DERM760 Dermatology Elective

[6 credit hours]

Students will see outpatients in Ambulatory Private Patient Care at UTMC. Additional responsibilities include taking histories & physicals, assisting in minor surgeries, as well as consultation rounds. Reading of selected dermatologic textbooks during the clerkship is also expected.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 740 FOR LEVEL MD WITH MIN. GRADE OF P

DST2020 Introduction to Disability Studies

[3 credit hours]

An overview of the emergence of disability rights in the U.S. with an emphasis on the independent living movement, disability history, culture and representation in mass media. (Not for credit in the minor).

DST2410 Introduction to Deaf Studies

[3 credit hours]

Introduces students to Deaf culture and history, varieties within deaf experiences, and contemporary issues shaping the lives of those with hearing impairments. Recommended: DST 2020.

DST2980 SPECIAL TOPICS IN DISABILITY STUDIES

[3 credit hours]

Special topics in Disability Studies. Topics vary by instructor; may be repeated for credit.

DST3030 Disability Culture

[3 credit hours]

An interdisciplinary exploration of the history and culture of disability, including the issues of stigmatizing and stereotyping, communication barriers and breakthroughs, educational segregation and mainstreaming and the experience of "passing."

Prerequisites: ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

DST3060 U.S. Disability History

[3 credit hours]

This course provides a historical overview of the lived experiences of people defined as disabled and changing historical definitions of disability in the region that became the United States of America. We will consider how major historical forces such as capitalism, industrialization, colonialism, and democratic ideals have impacted and been shaped by people with disabilities.

DST3090 Disability in American Literature

[3 credit hours]

Disability In American Literature addresses a wide range of contemporary literary productions, including novels, graphic novels, plays, short stories, poetry, memoir, and personal essays, connecting these productions to an American literary genealogy and recognizing the deployment and resistance to ableism in American Literature. At the course's conclusion, students will be able to understand how literature interacts with cultural stereotypes, ultimately understanding how literature can be utilized for disability justice and social change.

DST3250 Disability and Life Narratives

[3 credit hours]

This course will examine a diverse selection of disability life narratives and consider what they reveal about disability and the dominant culture.

DST3980 Special Topics in Disability Studies

[3 credit hours]

Special topics in Disability Studies. Topics vary by instructor, may be repeated for credit.

DST4200 Crip Arts, Crip Culture

[3 credit hours]

This course explores disability art across media and considers its relationships both with disability culture and with the culture-at-large.

DST4400 Gender and Disability

[3 credit hours]

This course examines gender and disability from both theoretical and lived perspectives, particularly as intersecting with other structures of power such as race, nationality, sexuality, and rights. Recommended: DST 2020, DST 3020.

DST4500 Asylums, Prisons and Total Institutions

[3 credit hours]

This course is an important additional to our curriculum that builds on the research focuses of both Dr. Ben-Moshe and other campus scholars. Institutionalization has been a major factor in the daily experiences and understandings of disability in U.S. culture.

DST4640 Disability Law and Human Right

[3 credit hours]

Explores the intersections between disability rights and human rights by examining the development, the ideological framework, and the legal contexts of disability law in the U.S. and global contexts. Recommended: DST 2020, 3020, 3030, or 3060.

DST4800 Autism and Culture

[3 credit hours]

This course examines the ongoing construction of autism and the autism spectrum, exploring the many controversies around this remarkable range of human conditions.

DST4890 Disability Studies Research And Methodologies

[3 credit hours]

An interdisciplinary exploration and review of research issues and methodologies suited to the study of disability.

Prerequisites: DST 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

DST4940 Internship In Disability Studies

[3 credit hours]

This course is a service learning model internship with on-campus and/or community agencies addressing disability studies issues. Sites must be approved by the instructor.

Prerequisites: DST 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

DST4980 Special Topics in Disability Studies

[3 credit hours]

This course allows Disability Studies minors to take disability studies-related courses for DST credit.

DST4990 Capstone in Disability Studies

[3 credit hours]

Provides students with an opportunity to engage with professionals and professors in a seminar format for the intensive study of a topic related to Disability Studies. The focus of the seminar will change from year to year.

Prerequisites: DST 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

EBUS3090 Doing Business Digitally

[3 credit hours]

This course is an introduction to the networked economy, e-commerce and business transformation. It covers the technological trends, business opportunities, competitive threats, marketing responses and public policy issues concerning e-commerce.

EBUS3180 Web Design and Data Analytics

[3 credit hours]

A study of Web site design and management process for effective business communication, including authoring software, graphic tools, scripting techniques, java applets and related technical, legal ethical and managerial issues.

EBUS4040 Digital Business Intelligence

[3 credit hours]

A study of business intelligence management in an e-commerce environment, including the use of data mining and inbound marketing analytics tools for market analysis and business decision supports.

Prerequisites: EBUS 3090 FOR LEVEL UG WITH MIN. GRADE OF D-

EBUS4150 Social Media Marketing

[3 credit hours]

A hands-on course involving case studies of successful e-commerce business models and a team-based project to develop e-commerce plan for established and start-up businesses.

Prerequisites: EBUS 3090 FOR LEVEL UG WITH MIN. GRADE OF D-

EBUS4940 Internship

[3 credit hours]

Course description: Gain practical, hands –on professional experience while working in an organization.

ECON1010 Introduction To Economic Issues

[3 credit hours]

Basic concepts and theory applications to major economic problems and controversies. Designed primarily to meet requirements of students not planning to take upper level economics courses. (not for major credit)

ECON1150 Principles Of Macroeconomics

[3 credit hours]

Explaining the level and the growth of economic activity, its fluctuations and ways of achieving greater stability, including the roles of money, banking and international finance.

ECON1200 Principles Of Microeconomics

[3 credit hours]

Theories of consumer behavior; determination of input and output; prices and quantities in factor and product markets; analysis of international trade and policy; applications include labor markets and income distribution.

ECON2400 The American Economy In The Twentieth Century

[3 credit hours]

American economic growth in the recent past. Evolution of governmental roles, development of labor markets with respect to race and sex, effects of wars and depressions. Status of American competitiveness.

ECON2810 Introduction to Econometrics

[3 credit hours]

Introduction to econometrics with an emphasis on the intuitive understanding and practical applications of the basic tools of regression analysis. Course covers hypothesis testing, single and multiple regression equations,and the problems and possible solutions to data that are associated with multicollinearity, autocorrelation and heteroskedasticity

Prerequisites: MATH 2600 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3610 FOR LEVEL UG WITH MIN. GRADE OF D- OR BUAD 2060 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3030 Consumer Economics

[3 credit hours]

Economic role of the consumer, theory of choice-making - rational purchasing of food, housing, health care, transportation, insurance, credit, budgeting, investing and tax returns.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3050 Economics Of Gender

[3 credit hours]

Analysis of labor market outcomes and income distribution characteristics resulting from gender differences; gender-related economic outcomes: the "feminization of poverty," persistent male-female wage differential, expanding proportions of female-headed and same sex households.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3070 Economics And Law

[3 credit hours]

Methodologies of Law and Economics; Legal institutions; Economic Theory of Property; Property Rights; Contract Theory; Economic Theory of Torts and Tort Law, Common Law Process; Economics of Crime and Punishment.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3080 Economics Of Crime

[3 credit hours]

Study of crime as an economic activity; costs of crime to the community; economic approach to crime reduction.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3120 Topics In Monetary And Financial Economics

[3 credit hours]

Current issues in money, banking and finance; interest rate theory; international money and banking; monetary policy and modeling monetary economies.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON3150 Intermediate Macroeconomic Theory

[3 credit hours]

National income accounting; theory of income determination; causal relationships; analysis of consumption, investment, government and foreign demand functions; integration of theories of income, output, money and interest.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON3200 Intermediate Micro-Economic Theory

[3 credit hours]

Consumer theory, utility and indifference curve analysis, theory of the firm, industry pricing in perfect and imperfect competition and distribution theory.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON3240 Environmental Economics

[3 credit hours]

Economic analysis of the causes of enironmental problems; Examination of various economic policies for addressing current environmental issues such as pollution control policies and optimal use of resources.

ECON3250 Economics Of Sports

[3 credit hours]

This course will survey the theoretic and applied economic issues within the world of professional and amateur sports, focusing on industrial organization, labor economics and public finance.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3270 Natural Resource Economics

[3 credit hours]

Economic analysis of natural resource conservation and use, considering the objectives of efficiency and sustainability. Topics include energy, minerals, marine resources, land and agriculture, outdoor recreation, biodiversity and wildlife management.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 3240 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3300 BENEFIT-COST ANALYSIS

[3 credit hours]

The study of the evaluation of competing public policy alternatives and projects to more efficiently allocate society's resources. Applications include transportation, public health, criminal justice, education, and the environment.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 3240 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 3270 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3410 World Economic History

[3 credit hours]

Study of economic growth throughout the world, particularly in Europe, Asia, Africa and Latin America. Analysis of economic institutions, technological change, industrialization and living standards.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3500 Comparative Economic Systems

[3 credit hours]

Theory and ideology of market, socialist and mixed economic systems. Case study of the economies of U.S., Russia, China and India.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3600 Urban Economics

[3 credit hours]

Analysis bearing on intermetropolitan and intrametropolitan growth processes.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON3810 Applied Econometrics

[3 credit hours]

Topics emphasize applications of a wide range of statistical approaches to time-series, cross-sectional, panel, and other types of data. Included are mirco-econometric topics such as panel data models, qualitative choice models, hazard models and others. The time series macro-economic topics include model solidarity, cointegration, error correction mechanisms, ARCH and GARCH models, economic forcasting, and others.

Prerequisites: ECON 2810 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON3900 Undergraduate Seminar

[1-4 credit hours]

Small group study of special topics initiated either by student or a faculty member.

ECON3910 Honors Research

[1-4 credit hours]

Study of special topics initiated either by student or a faculty member.

ECON3920 Honors Reading

[1-4 credit hours]

Study of special topics initiated either by student or a faculty member.

ECON3980 Current Economic Issues

[3 credit hours]

Course content varies as changes in the interaction between economic topics and writing assignments occur.

ECON4050 Population Economics

[3 credit hours]

Interaction of economic changes and demographic variables; topics include birth rates, women's employment, marriage and divorce, aging and mortality, migration and overpopulation.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON4120 Monetary Theory

[3 credit hours]

Modern theories of financial markets, money and the theory of interest rates, money's role in general equilibrium and growth models and money's ability to cause inflation.

Prerequisites: ECON 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4130 Monetary And Fiscal Policy

[3 credit hours]

Changes in the quantity of money and alternative government spending, taxation and debt policies, interrelations of fiscal and monetary policies in stabilization programs.

Prerequisites: ECON 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4150 Advanced Macroeconomic Theory

[3 credit hours]

Theories of consumption and investment. Empirical estimates. Cycle and growth theory, multiplier-accelerator analysis and growth models. The theory and instruments of macroeconomic policy. Dynamic Macroeconomic Theory.

Prerequisites: ECON 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4200 Advanced Microeconomic Theory

[3 credit hours]

Advanced topics in microeconomic theory, consumer behavior, the firm and market structure, distribution theory, equilibrium conditions, welfare economics.

Prerequisites: ECON 3200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4230 Poverty And Income Distribution

[3 credit hours]

Causes and consequences of current trends in poverty and income distribution in the U.S.; analysis of policies dealing with problems in these areas.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON4240 Applied Environmental Economics

[3 credit hours]

The economics of the environment and natural resources using applied welfare theory, benefit-cost analyses, and nonmarket valuation. Examination of economic instruments, such as marketable permits, for solving environmental problems.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 3240 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 3270 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON4250 Labor Economics

[3 credit hours]

The labor market is studied. Topics include labor force characteristics, wage determination, hours and condition of work, human capital models, unemployment, labor union structure and growth, and modern labor legislation.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4300 Mathematical Economics

[3 credit hours]

Development and applications of the mathematical tools used by economists. Differential and integral calculus, linear algebra, transcendental functions and series.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON4410 American Economic History

[3 credit hours]

Exploration of economic growth in America from pre-Columbian times to the present day. Analysis of economic institutions, technological change, industrialization and standards of living.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON4510 International Economics I

[3 credit hours]

Theory of international trade; commercial policy; costs and benefits, economic integration; trade and economic growth and balance of payments problems.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4550 Economic Development

[3 credit hours]

Economic problems and policies in less-developed countries, including such topics as schooling, population growth, urbanization, landholding, income distribution, capital formation and development strategies.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON4620 Regional Economics

[3 credit hours]

Examination of regional income estimates and social accounts, regional multipliers, diverse location theories, supplemented with techniques of regional analysis.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4660 Public Finance Economics

[3 credit hours]

An analysis of the government sector in the economy, government expenditures, taxation and borrowing and their effects on employment, price levels and growth.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4750 Health Economics

[3 credit hours]

Economic analysis of health and health services. Topics currently include medical and allied manpower, hospitals, drugs and cost-benefit analysis of selected health programs.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4810 Econometrics Models And Methods I

[3 credit hours]

An introduction to econometric methods and their use in quantitative analysis of economic theories. Diagnostics for problems typically encountered are detailed along with techniques for correcting these problems.

Prerequisites: (ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2600 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF

ECON4820 Econometrics Models And Methods II

[3 credit hours]

An introduction to forecasting methods for economic time-series including Bayesian methods. Both theory and application of forecasting models and methods are covered.

Prerequisites: ECON 4810 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON4830 Econometrics Models And Methods III

[3 credit hours]

Econometric methods that apply to survey, spatial and cross-sectional/time-series data along with other specialized modeling techniques are covered.

Prerequisites: ECON 4810 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON5050 Population Economics

[3 credit hours]

Interaction of economic changes and demographic variables; topics include birth rates, women's employment, marriage and divorce, aging and mortality, migration and overpopulation.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON5120 Monetary Theory

[4 credit hours]

Modern theories of financial markets, money and the theory of interest rates, money's role in general equilibrium and growth models and money's ability to cause inflation.

Prerequisites: ECON 2120 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 3120 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON5130 Monetary And Fiscal Policy

[3 credit hours]

Changes in the quantity of money and alternative government spending, taxation and debt policies, interrelations of fiscal and monetary policies in stabilization programs.

Prerequisites: ECON 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 4120 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON5150 Advanced Macroeconomic Theory

[4 credit hours]

Theories of consumption and investment. Empirical estimates. Cycle and growth theory, multiplier-accelerator analysis and growth models. The theory and instruments of macroeconomic policy. Dynamic Macroeconomic Theory.

Prerequisites: ECON 3150 FOR LEVEL GR WITH MIN. GRADE OF D-

ECON5200 Advanced Microeconomic Theory

[4 credit hours]

Advanced topics in microeconomic theory, consumer behavior, the firm and market structure, distribution theory, equilibrium conditions, welfare economics.

Prerequisites: ECON 3200 FOR LEVEL GR WITH MIN. GRADE OF D-

ECON5240 Applied Environmental Economics

[4 credit hours]

The economics of the environment and natural resources. Examination of economic instruments for solving environmental problems. Analyzed policies include direct regulation, user charges, taxes on polluting products and marketable permits.

Prerequisites: ECON 3200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON5250 Labor Economics

[4 credit hours]

Labor force characteristics, wage determination, hours and condition of work, unemployment, labor union structure and growth, collective bargaining and modern labor legislation.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON5300 Mathematical Economics

[3 credit hours]

Development and applications of the mathematical tools used by economists. Differential and integral calculus, linear algebra, transcendental functions and series.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON5410 American Economic History

[3 credit hours]

Exploration of economic growth in America from pre-Columbian times to the present day. Analysis of economic institutions, technological change, industrialization and standards of living.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1880 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON5510 International Economics I

[4 credit hours]

Theory of international trade; commercial policy; costs and benefits, economic integration; trade and economic growth and balance of payments problems.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON5550 Economic Development

[3 credit hours]

Economic problems and policies in less-developed countries, including such topics as schooling, population growth, urbanization, landholding, income distribution, capital formation and development strategies.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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ECON5620 Regional Economics

[3 credit hours]

Examination of regional income estimates and social accounts, regional multipliers, diverse location theories, supplemented with techniques of regional analysis.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON5660 Public Finance Economics

[4 credit hours]

An analysis of the government sector in the economy, government expenditures, taxation and borrowing and their effects on employment, price levels and growth.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON5750 Health Economics

[3 credit hours]

Economic analysis of health and health services. Topics currently include medical and allied manpower, hospitals, drugs and cost-benefit analysis of selected health programs.

Prerequisites: ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

ECON5810 Econometrics Models And Methods I

[4 credit hours]

An introduction to econometric methods and their use in quantitative analysis of economic theories. Diagnostics for problems typically encountered are detailed along with techniques for correcting these problems.

Prerequisites: (ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2630 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF

ECON5820 Econometrics Models And Methods II

[4 credit hours]

An introduction to forecasting methods for economic time-series including Bayesian methods. Both theory and application of forecasting models and methods are covered.

Prerequisites: ECON 5810 FOR LEVEL GR WITH MIN. GRADE OF D-

ECON5830 Econometrics Models And Methods III

[3 credit hours]

Econometric methods that apply to survey, spatial and cross-sectional/time-series data along with other specialized modeling techniques are covered.

Prerequisites: ECON 5810 FOR LEVEL GR WITH MIN. GRADE OF D-

ECON5980 Current Economic Problems

[3 credit hours]

Course content changes from time to time as important economic problems arise.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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EDAS4100 Supervisory Skill Development

[3 credit hours]

A study of supervisory skills for education and allied professions. The focus is on the supervisor and how she engages in activities to develop personal growth and development of staff members.

EDAS4260 Leadership For Supervisors

[3 credit hours]

An examination of different leadership styles within the organization is the focal point of this course. Participants will conduct research related to directive and non-directive supervisory skills.

EDAS4280 Organizational Development

[3 credit hours]

The course explores the concepts of organizations and people who work in organizations. Participants will be involved in exercises and procedures of organizational diagnosis, evaluation and development.

EDAS4290 Labor Relations

[3 credit hours]

The course examines methods and procedures for improving labor relations in organizations. Participants will analyze a variety of models and issues that confront labor relations in education and allied professions.

EDAS4940 Administrative Field Experience

[3-6 credit hours]

Working in a guided reflective practice environment, the student will apply knowledge gained in previous coursework to working situations in positions in the private sector.

EDAS5950 Workshop In Educational Administration

[3 credit hours]

Topical workshops, based on practical application of skills and knowledge, are intended for in-service educational professionals. Credit may be applied to doctoral degrees upon approval of the committee.

EDAS5980 Special Topics In Educational Administration

[3 credit hours]

Courses, based on issues, topics and concerns of educational administrators for the real world. Credit may be applied to degree programs upon approval of the adviser or committee.

EDAS6000 The Individual In Organizations

[3 credit hours]

An overview of the individual in educational administration, i.e., as visionary leader, organizational leader, instructional leader and policy/community leader. Opportunities for personal assessment are provided as students explore critical educational issues in schools.

EDAS6010 Supervision For Improved Instruction

[3 credit hours]

An in-depth analysis of curriculum leadership to improve teacher classroom performance and to ensure that the district curriculum and instructional programs are aligned and operationalized to provide full access and opportunity to all students and student groups to meet district goals.

EDAS6020 Instructional Leadership

[3 credit hours]

An in-depth analysis of instructional leadership and principles of supervision which promote improved instruction. Emphasis is on teacher performance evaluation, curriculum management and strategies for creating a philosophical shift from a special education/regular education dichotomy to a universal education paradigm.

EDAS6030 Developing Effective Learning Environments

[3 credit hours]

An exploration of group dynamics/processes and the intrapersonal and principles of high performing teams and being an effective leader. Development of effective action plans to improve school climate/culture and the learning environment is explored using problem-based learning.

EDAS6110 Legal Aspects Of School Administration

[3 credit hours]

This course provides students an opportunity to analyze legal frameworks affecting the organization and administration of public schools, including special education law, church-state issues, pupil rights, staff-student relationships, conditions of employment, teacher organizations, tort liability, school finance, and desegregation. Participants will examine the basic legal structure for education, case and statutory law, legal principles, and provisions relevant to administration.

EDAS6150 The Administrative Experience

[3 credit hours]

Emphasis is on blending current theory and practice by examining the use of data to guide school improvement for students. The collection of meaningful data for focused goal setting to be employed at the district, building and classroom levels is operationalized.

EDAS6190 Integrated Experiences: Prac i

[3 credit hours]

Working in a guided reflective practice environment, the student will apply knowledge gained in previous coursework to working in school building operations, and to developing a professional portofolio.

EDAS6200 Continuous Improvement Of Schools

[3 credit hours]

Course addresses current Pre K-16 national and regional reform agendas, relating them to systemic changes in policies, governance and articulation of learner outcomes in local settings.

EDAS6210 Leadership In Diverse Settings

[3 credit hours]

Issues of multicultural, cross-cultural, race, gender, and ethnicity in school settings are examined in diverse settings in order to develop leaders who can apply theoretical frameworks and analytical skills to improve educational performance in local, urban, suburban, rural and global setting.

EDAS6220 Administration Of Special Programs

[3 credit hours]

This course examines the administration of special programs that operate at the district and school level with particular focus on Special Education leadership issues. Title I, ESL, vocational education, guidance, and athletic programs are also explored.

EDAS6230 Community And Schools

[3 credit hours]

This course explores the unique relationship between communities and schools. The democratic social structure is examined through a theoretical critique of strategies that increase citizen involvement in and build support for schools.

EDAS6240 Developing Learning Organizations In Educational Settings

[3 credit hours]

Course introduces the theories, techniques and practices of planned organizational learning. Students examine the philosophical, theoretical and practical differences of organizational development as interventionist, consultative and collaborative processes in charter schools.

EDAS6320 School Business Management

[3 credit hours]

The purpose of the course is to involve students in an analysis of the role and functions of school business management. Participants will analyze data in each topical area of school business management.

EDAS6330 Collective Bargaining And Dispute Resolution

[3 credit hours]

The purpose of the course is to examine the issues that arise before, during and after the collective bargaining process in the public sector, including resolving labor disputes and grievances.

EDAS6350 Computers In Educational Administration Decision Making

[3 credit hours]

This course allows the development for increased decision making based on local, state and national retrievable data concerning learning, achievement, efficiency and effectiveness of resource allocations.

EDAS6360 Personnel Management And Contract Administration In Education

[3 credit hours]

Course provides insight into the purposes, policies and processes of personnel administration and contract administration in public education, including recruitment, hiring, induction, evaluation, compensation and development.

EDAS6380 Planning Educational Facilities For Learning

[3 credit hours]

This course examines the issues surrounding planning, building and maintaining educational facilities appropriate for maximizing learning. Included is an examination of legal, health and safety requirements.

EDAS6420 Micropolitics Of School Communities

[3 credit hours]

Course focus is on the day to day politics of school work that increase the complexities of educating. Using case studies and problem-based learning, students will practice skills that support democratic practices in school communities.

EDAS6430 Legal Aspects Of Educational Administration

[3 credit hours]

This course provides students a background in legislation and court decisions that affect the administration of public schools. Students will investigate legal problem areas in schools.

EDAS6440 Equity Issues In Educational Finance And Economics

[3 credit hours]

Analysis of educational finance and economic issues pertinent to school districts. Analysis of various funding models at the local, state and national level are studied employing various measures of equity. Building/District level school finance and resource management strategies are examined.

EDAS6900 Master's Seminar In Educational Administration And Supervision

[3 credit hours]

Examiniation and reflection on the practice of research in Educational Leadership.

EDAS6920 Master's Project In Educational Administration

[1-3 credit hours]

Open to graduate students who elect the completion of a research project in fulfilling the research requirements of the master's program.

EDAS6960 Master's Thesis In Educational Administration

[1-3 credit hours]

Open to graduate students who elect the completion of a research thesis in fulfilling the research requirements of the master's program.

EDAS6990 Individual Study In Educational Administration - Master's

[1-3 credit hours]

Open to graduate students who wish to pursue individual study on professional problems in EDAS under the direction of an EDAS faculty member.

EDAS7920 Specialist Project In Educational Administration

[1-3 credit hours]

Open to graduate students to fulfill the completion of a research project in fulfilling the research requirements of the specialist program.

EDAS7950 Workshop In Educational Administration

[3 credit hours]

Topical workshops, based on practical application of skills and knowledge, are intended for in-service educational professionals. Credit may be applied to doctoral degrees upon approval of the committee.

EDAS7980 Special Topics In Educational Administration

[3 credit hours]

Courses, based on issues, topics and concerns of educational administrators for the real world. Credit may be applied to degree programs upon approval of the adviser or committee.

EDAS7990 Independent Study In Education Administration

[1-3 credit hours]

Individual study on professional problems in EDAS under the direction of a EDAS faculty member.

EDAS8000 The Individual In Organizations

[3 credit hours]

An overview of the individual in educational administration, i.e., as visionary leader, organizational leader, instructional leader and policy/community leader. Opportunities for personal assessment are provided as students explore critical educational issues in schools.

EDAS8010 Supervision For Improved Instruction

[3 credit hours]

An examination of those principles of supervision which promote improved instruction. Emphasis is on teacher performance evaluation, curriculum management and strategies for staff development to improve staff performance.

EDAS8020 Instructional Leadership

[3 credit hours]

An in-depth analysis of instructional leadership and principles of supervision which promote improved instruction. Emphasis is on teacher performance evaluation, curriculum management and strategies for creating a philosophical shift from a special education/regular education dichotomy to a universal education paradigm.

EDAS8030 Developing Effective Learning Environments

[3 credit hours]

An exploration of group dynamics/processes and the intrapersonal and principles of high performing teams and being an effective leader. Development of effective action plans to improve school climate/culture and the learning environment is explored using problem-based learning.

EDAS8110 Legal Aspects Of School Administration

[3 credit hours]

This course provides students an opportunity to analyze legal frameworks affecting the organization and administration of public schools, including special education law, church-state issues, pupil rights, staff-student relationships, conditions of employment, teacher organizations, tort liability, school finance, and desegregation. Participants will examine the basic legal structure for education, case and statutory law, legal principles, and provisions relevant to administration.

EDAS8150 The Administrative Experience

[3 credit hours]

Emphasis is on blending current theory and practice by examining the use of data to guide school improvement for students. The collection of meaningful data for focused goal setting to be employed at the district, building and classroom levels is operationalized.

EDAS8190 Integrated Experiences In Education Administration

[3 credit hours]

Working in a guided reflective practice environment, the student will apply knowledge gained in previous coursework to working in school building operations.

EDAS8200 Continuous Improvement Of Schools

[3 credit hours]

Course addresses current Pre K-16 national and regional reform agendas for charter schools, relating them to systemic changes in policies, governance and articulation of learner outcomes in local settings.

EDAS8210 Leadership In Diverse Settings

[3 credit hours]

Issues of multicultural, cross-cultural, race, gender, and ethnicity in school settings are examined in diverse settings in order to develop leaders who can apply theoretical frameworks and analytical skills to improve educational performance in local, urban, suburban, rural and global setting

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EDAS8220 Administration Of Special Programs

[3 credit hours]

This course examines the administration of special programs that operate at the district and school level with particular focus on Special Education leadership issues. Title I, ESL, vocational education, guidance, and athletic programs are also explored.

EDAS8230 Community And Schools

[3 credit hours]

This course explores the unique relationship between communities and schools. The democratic social structure is examined through a theoretical critique of strategies that increase citizen involvement in and build support for schools.

EDAS8240 Developing Learning Organizations In Educational Settings

[3 credit hours]

Course introduces the theories, techniques and practices of planned organizational learning. Students examine the philosophical, theoretical and practical differences of organizational development as interventionist, consultative and collaborative processes in charter schools.

EDAS8300 Integrate Experiences: Policies In Action

[3 credit hours]

This course analyses policies employed by schools and school districts in providing for education of students and services to the school community. On-site fieldwork is required.

EDAS8310 School District Leadership

[3 credit hours]

Analysis of duties, roles and responsibilities of local school district leadership. Specific competencies of building school support, planning, curriculum development, personnel, legal, financial and planning are covered.

EDAS8320 School Business Management

[3 credit hours]

The purpose of the course is to involve students in an analysis of the role and functions of school business management. Participants will analyze data in each topical area of school business management.

EDAS8330 Collective Bargaining And Dispute Resolution

[3 credit hours]

The purpose of the course is to examine the issues that arise before, during and after the collective bargaining process in the public sector, including resolving labor disputes and grievances.

EDAS8350 Computers In Educational Administration Decision Making

[3 credit hours]

This course allows the development for increased decision making based on local, state and national retrievable data concerning learning, achievement, efficiency and effectiveness of resource allocations.

EDAS8360 Personnel Management And Contract Administration In Education

[3 credit hours]

Course provides insight into the purposes, policies and processes of personnel administration and contract administration in public education, including recruitment, hiring, induction, evaluation, compensation and development.

EDAS8380 Planning Educational Facilities For Learning

[3 credit hours]

This course examines the issues surrounding planning, building and maintaining educational facilities appropriate for maximizing learning. Included is an examination of legal, health and safety requirements.

EDAS8420 Micropolitics Of School Communities

[3 credit hours]

Course focus is on the day to day politics of school work that increase the complexities of educating. Using case studies and problem-based learning, students will practice skills that support democratic practices in school communities.

EDAS8430 Legal Aspects Of Educational Administration

[3 credit hours]

This course provides students a background in legislation and court decisions that affect the administration of public schools. Students will investigate legal problem areas in schools.

EDAS8440 Equity Issues In Educational Finance And Economics

[3 credit hours]

Analysis of educational finance and economic issues pertinent to school districts. Analysis of various funding models at the local, state and national level are studied employing various measures of equity. Building/District level school finance and resource management strategies are examined.

EDAS8600 Leadership And Organizational Theory

[3 credit hours]

An analysis of leadership and organizational theory as influences on current thinking about and approaches to educational administration. Emphasis is on understanding dominant themes that impact administrative theory.

EDAS8610 Organizational Behavior

[3 credit hours]

This course integrates the educational and management theories and knowledge bases on leadership, power, motivation and change to understand the internal and external dynamics of people in educational organizations.

EDAS8620 Politics And Policy Analysis And Development

[3 credit hours]

This course examines the issues involved in policy formation and analysis along with the political process of public education. Local, intermediate, state and federal levels are considered.

EDAS8640 Leading Systems Change

[3 credit hours]

Course explores processes and practices used by educators to redesign preK-12 educational systems to improve outcomes for students. Content examines processes of moving espoused organizational values to actionable knowledge. Organizational Development recommended.

EDAS8650 Interdisciplinary Perspectives In Educational Administration

[3 credit hours]

Seminar focused on interdisciplinary examination of critical issues in educational administration. Multiple theoretical lenses from sociology, political science, economics and science are used to address educational issues.

EDAS8660 Critical Analysis Of Inquiry In Schools

[3 credit hours]

Concepts in understanding and evaluating contemporary educational research, addressing both quantitative and qualitative research methods. The focus is on the knowledge base school leaders must have to evaluate, use and initiate educational research in school settings.

EDAS8930 Doctoral Seminar In Educational Administration And Supervision

[3 credit hours]

The course examines research findings and research methodology in Educational Administration and Supervision as they are pertinent to development of dissertation proposals. Dissertation proposal development is encouraged.

EDAS8940 Educational Administration Internship

[3 credit hours]

An advanced field/seminar experience for doctoral students with fieldwork at the school system level. Fieldwork employs application of graduate coursework under supervision by the school system and the university.

EDAS8960 Doctoral Dissertation In Educational Administration And Supervision

[1-12 credit hours]

Production of an original, scholarly product in the area Educational Administration and Supervision. Dissertation credit may total not less than 12 semester hours.

EDP1500 Thinking, Knowing and Learning: From Self Determination to the Collective Good

[3 credit hours]

This course will help students acquire knowledge, skills, and dispositions about their own learning and thinking and how to apply these competencies in their personal and professional lives in a global society.

EDP1550 Adaptive Learning In College

[3 credit hours]

Examines a variety of cognitive, affective and social factors associated with academic performance in college. Major emphasis is placed on applications to learning and college success.

EDP3110 Learning And Individual Differences

[3 credit hours]

Focuses on selected research findings and theoretical principles on learning and individual differences. Considers relationships of this body of information to learning and performance in a variety of contexts.

EDP3120 Psychology Of Coping And Adaptation

[3 credit hours]

Reviews and analyzes principles, research findings, coping models, as well as personal and situational factors associated with coping and adaptational processes in a variety of life circumstances.

EDP3200 Applied Psychology For Teachers

[3 credit hours]

Examination of the ways in which psychological principles can be applied to the planning and implementation of meaningful instruction in elementary and secondary classrooms.

EDP3210 Child Development For Early Childhood Educators

[3 credit hours]

Students in early childhood education will be introduced to emotional, social and cognitive factors in child development (birth to age eight) and examine how teachers can create optimal environments for students.

EDP3230 Human Development For P-12 Educators

[3 credit hours]

This course will examine concepts in the physical, cognitive, social, emotional and personality development of children and adolescents. It will provide a necessary background for future teachers to deal effectively with children and youth and to better understand the issues and problems they face. Integrated filed and clinical experiences will provide contexts for these concepts as they are exemplified in the lives of young people.

Prerequisites: EDP 3200 FOR LEVEL UG WITH MIN. GRADE OF D-

EDP3240 Child And Adolescent Development For Middle Grades Educators

[3 credit hours]

Students will consider the ways in which an understanding of development can be used to guide teacher behavior. Biological, social and psychological factors will be considered.

Prerequisites: UPDV FOR MIN. SCORE OF 1

EDP3250 Adolescent Development And Learning

[3 credit hours]

The purpose of this course is to provide pre-service teachers with an understanding of the psychological principles of adolescent development and learning as well as the application of these principles to classroom instruction, assessment, and management. Students develop ways of thinking about teaching and learning in order to make informed decisions concerning various aspects of student learning and instruction. The course focuses on learning theories, cognitive development, personal and social development, achievement motivation, and diversity and their application.

Prerequisites: UPDV FOR MIN. SCORE OF 1

EDP3280 Foundations Of Teaching And Learning

[3 credit hours]

This course will focus on major conceptions of learning as applied to education, including basic principles of conditioning, information processing and social learning. Concepts such as designing instructional events, classroom management, student assessment and evaluation will be explored.

EDP3290 Life Span Development

[3 credit hours]

This course will examine concepts delineating the physical (including genetic influences), cognitive, social and personality development across the life span. The course is designed to provide a necessary background in the concepts of development as they pertain to a life span orientation for students in special education. An emphasis will be placed on the application of developmental data issues and problems extant in working with special populations.

EDP4120 Alternative Approaches To Discipline

[3 credit hours]

Reviews a variety of models, constructs and methodologies for addressing behavior and discipline problems, especially within school and family settings. Emphases are placed on individual and group approaches to discipline.

EDP4210 Child Behavior And Development

[3 credit hours]

Examines the physical, cognitive, social, emotional and personality development of children. Provides helping professionals with background to identify and solve problems related to child growth and development.

EDP4220 Adolescent Behavior And Development

[3 credit hours]

Examines the physical, cognitive, social, emotional and personality development of adolescents. Provides helping professionals with background to identify and solve problems related to adolescent growth and development.

EDP4230 Adult Development

[3 credit hours]

An overview of life-span development analyzing cognitive, physical, personality and social development from early adulthood through the later years.

EDP4330 Behavior Management

[3 credit hours]

Theoretical and practical study of behavioral and cognitive approaches to behavior management. Students will design, develop, implement and evaluate management plans for themselves and others.

EDP4990 Independent Study In Educational Psychology

[1-3 credit hours]

]Directed study of a current topic in educational psychology. The student meets with the instructor at arranged intervals without formal classes.

EDP5110 Basic Educational Psychology

[3 credit hours]

A graduate level introduction to the field of educational psychology. Instruction will cover fundamentals of learning, motivation, cognition, individual differences and instructional applications as well as a research-oriented approach to answering scientific questions.

EDP5120 Alternative Approaches To Discipline

[3 credit hours]

Reviews a variety of models, constructs and methodologies for addressing behavior and discipline problems, especially within school and family settings. Emphases are placed on individual and group approaches to discipline.

EDP5210 Child Behavior And Development

[3 credit hours]

Current theory and research on physical, cognitive, social, emotional and personality development are examined and used as the basis for identifying and solving problems related to child growth and development.

EDP5220 Adolescent Behavior And Development

[3 credit hours]

Current theory and research on physical, cognitive, social, emotional and personality development are examined and used as the basis for identifying and solving problems related to adolescent growth and development.

EDP5230 Adult Development

[3 credit hours]

Emphasizes classical and modern theories of adulthood from a critical perspective, as well as applications of research on cognitive, physical, personality and social development from early adulthood through old age.

EDP5240 Applied Child and Adolescent Development

[3 credit hours]

The course will address issues that impact school and mental health professionals. For example K12 teachers, school psychologists, clinical psychologists, social workers, school counselors, nurses, SROs. Theory and research on physical, cognitive, social, and emotional development are examined and used as the bases for understanding child and adolescent development. Special attention will be focused on practical application.

EDP5310 Issues And Innovations In Learning And Instruction

[3 credit hours]

Reviews emergent theory, principles and research findings on cognition and learning and applies these concepts to developing instructional experiences and conditions for optimizing classroom learning and performance.

EDP5320 Instructional Psychology

[3 credit hours]

Theory and research in psychology that contributes to effective instruction. Topics include varieties and conditions of learning, information processing, learning analysis, constructivism, mastery learning, cooperative learning, norm & criterion-referenced measurement.

EDP5330 Behavior Management

[3 credit hours]

Theory and research related to behavioral and cognitive approaches to behavior management. Students will carry out research-based behavior management projects requiring behavioral analyses, observation, program design, development and evaluation.

EDP5950 Workshop In Educational Psychology

[3 credit hours]

Each workshop is developed around a topic of interest and concern to in-service teachers and other educational personnel. Practical application of workshop topics will be emphasized.

EDP6120 School Violence Theory, Prevention, and Intervention

[3 credit hours]

The seminar focuses on the assessment, management, and prevention of school violence. The role of nature and nurture will be explored, as will society's role (e.g., teachers, school administrators) in assessment, prevention and intervention. The forms of violence to be addressed are child abuse, gang activity, bullying, harassment, and targeted violence.

EDP6130 Human Coping In Adulthood

[3 credit hours]

Considers models, research methodologies and constructs on coping in relation to a range of circumstances during the adult years. Emphasis is placed on coping behavior within an ecological context.

EDP6140 Motivation Theory And Application

[3 credit hours]

Graduate-level study of conceptions of motivation in various settings. Emphasis is on understanding major concepts and principles, as well on application to such settings as classroom, counseling and industry.

Prerequisites: EDP 5110 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5230 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 7110 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 7

EDP6150 CULTURAL PERSPECTIVES IN LEARNING AND DEVELOPMENT

[3 credit hours]

This course aims to develop a broader understanding of the role of culture in psychological processes and the implications of such psychological understanding for a culturally diverse society.

EDP6160 Self and Identity

[3 credit hours]

The Self and Identity course examines the content, structure, organization of self, self-processes, both implicit and explicit, involving cognition, evaluation, motivation, and emotional dimensions of the development of selfhood. The course also examines the meaning of personal and interpersonal identities including cultural, ethnic, and gender identity and the role of context in shaping these multiple identities. The implications of the readings for educators.

Prerequisites: EDP 5110 FOR LEVEL GR WITH MIN. GRADE OF C OR EDP 5120 FOR LEVEL GR WITH MIN. GRADE OF C OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF C OR EDP 5230 FOR LEVEL GR WITH MIN. GRADE OF C OR PSY 4500 FOR LEVEL GR WITH MIN. GRADE OF C OR PSY 4700 F

EDP6190 Seminar In Educational Psychology

[3 credit hours]

The collaborative study of a specific topic in educational psychology by a group of advanced students under the direction of one or more professors.

EDP6240 Theories Of Development

[3 credit hours]

Analysis and evaluation of theories of development with emphasis on the philosophical and psychological evolutionary history of the theories and their usefulness for individuals in the helping professions.

Prerequisites: EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D-

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EDP6250 Social Development

[3 credit hours]

Critical examination of theory and research on social behaviors such as attachment, aggression and prosocial behavior, including their causes, how they affect the person and how they change with age.

Prerequisites: EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D-

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EDP6260 Research Methods In Child And Adolescent Development

[3 credit hours]

Builds upon basic understanding of development through direct experiences in child study. This course provides individual/small group experiences in the design, implementation and written/oral presentation of original research.

Prerequisites: EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D-

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EDP6270 Parenting: Theory And Research

[3 credit hours]

Analysis and evaluation of the research on parenting across a variety of sociocultural contexts.

Prerequisites: EDP 5320 FOR LEVEL GR WITH MIN. GRADE OF D-

EDP6340 Theories Of Learning

[3 credit hours]

Intensive inquiry into the study of learning with particular emphasis on more recent theories. Theory application in a wide variety of settings will also be stressed.

EDP6350 Advanced Topics In Cognition And Instruction

[3 credit hours]

Theory and research on cognition related to learning/instruction, to include study of expertise, knowledge learned from experience, analysis of ill-structured domains, tacit knowledge, and knowledge representation.

Prerequisites: (EDP 5110 FOR LEVEL GR WITH MIN. GRADE OF D- AND EDP 5320 FOR LEVEL GR WITH MIN. GRADE OF D-) OR (EDP 7110 FOR LEVEL GR WITH MIN. GRADE OF D- AND EDP 7320 FOR LEVEL GR WITH MIN. GRADE OF D-)

EDP6360 Thinking And Reasoning In School Contexts

[3 credit hours]

Analysis of theory, research policy, and practice about thinking and reasoning in school subjects and school learning in democratic societies.

EDP6370 News Media Literacy, Society, and the Mind

[3 credit hours]

The course provides students with a theoretical and empirical foundation on psychological concepts and processes (e.g., critical thinking, personal epistemology, and belief systems), to understand the role of the news media (e.g., news print/broadcast, social media, and media technology) for the public sphere, citizenship, democracy, and peace. In their area of studies, students will learn how to develop a competency based news media literacy model that enables citizens to be/come critical and effective news media consumers.

EDP6960 Master's Thesis In Educational Psychology

[1-3 credit hours]

A formal, independent study culminating in a written discourse that advances our understanding of educational psychology.

EDP6980 Master's Project In Educational Psychology

[1-3 credit hours]

A formal, independent project applying principles of educational psychology to solve a particular problem and culminating in a written discourse.

EDP6990 Independent Study In Educational Psychology

[1-3 credit hours]

Directed study of a current topic in educational psychology. The student meets with the instructor at arranged intervals without formal classes.

EDP7110 Basic Educational Psychology

[3 credit hours]

A graduate level introduction to the field of educational psychology. Instruction will cover fundamentals of learning, motivation, cognition, individual differences and instructional applications as well as a research-oriented approach to answering scientific questions.

EDP7230 Adult Development

[3 credit hours]

Emphasizes classical and modern theories of adulthood from a critical perspective, as well as applications of research on cognitive, physical, personality and social development from early adulthood through old age.

EDP7240 Applied Child and Adolescent Development

[3 credit hours]

The course will address issues that impact school and mental health professionals, for example K12 teachers, school psychologists, clinical psychologists, social workers, school counselors, nurses, and SROs. Theory and research on physical, cognitive, social, and emotional development are examined and used as the basis for understanding child and adolescent development. Special attention will be focused on practical application.

EDP7310 Issues And Innovations In Learning And Instruction

[3 credit hours]

Reviews emergent theory, principles and research findings on cognition and learning and applies these concepts to developing instructional experiences and conditions for optimizing classroom learning and performance.

EDP7320 Instructional Psychology

[3 credit hours]

Theory and research in psychology that contributes to effective instruction. Topics include varieties and conditions of learning, information processing, learning analysis, constructivism, mastery learning, cooperative learning, norm & criterion-referenced measurement.

EDP7330 Behavior Management

[3 credit hours]

Theory and research related to behavioral and cognitive approaches to behavior management. Students will carry out research-based behavior management projects requiring behavioral analyses, observation, program design, development and evaluation.

EDP7950 Workshop In Educational Psychology

[3 credit hours]

Each workshop is developed around a topic of interest and concern to in-service teachers and other educational personnel. Practical application of workshop topics will be emphasized.

EDP8120 School Violence Theory, Prevention, and Intervention

[3 credit hours]

The seminar focuses on the assessment, management, and prevention of school violence. The role of nature and nurture will be explored, as will society's role (e.g., teachers, school administrators) in assessment, prevention and intervention. The forms of violence to be addressed are child abuse, gang activity, bullying, harassment, and targeted violence.

EDP8130 Human Coping In Adulthood

[3 credit hours]

Considers models, research methodologies and constructs on coping in relation to a range of circumstances during the adult years. Emphasis is placed on coping behavior within an ecological context.

EDP8140 Motivation Theory And Application

[3 credit hours]

Graduate-level study of conceptions of motivation in various settings. Emphasis is on understanding major concepts and principles, as well on application to such settings as classroom, counseling and industry.

Prerequisites: EDP 5110 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5230 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 7110 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 7

EDP8150 CULTURAL PERSPECTIVES IN LEARNING AND DEVELOPMENT

[3 credit hours]

This course aims to develop a broader understanding of the role of culture in psychological processes and the implications of such psychological understanding for a culturally diverse society.

EDP8160 Self and Identity

[3 credit hours]

The Self and Identity course examines the content, structure, organization of self, self-processes, both implicit and explicit, involving cognition, evaluation, motivation, and emotional dimensions of the development of selfhood. The course also examines the meaning of personal and interpersonal identities including cultural, ethnic, and gender identity and the role of context in shaping these multiple identities. The implications of the readings for educators.

Prerequisites: EDP 5110 FOR LEVEL GR WITH MIN. GRADE OF C OR EDP 5120 FOR LEVEL GR WITH MIN. GRADE OF C OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF C OR EDP 5230 FOR LEVEL GR WITH MIN. GRADE OF C OR PSY 4500 FOR LEVEL UG WITH MIN. GRADE OF C OR PSY 4700 F

EDP8180 Interdisciplinary Seminar In Foundations Of Education

[1 credit hour]

The proseminar will enable doctoral students to improve their understanding of the research process. Students will learn to ask research questions, choose alternative methodologies and interpret the validity of conclusions.

EDP8190 Seminar In Educational Psychology

[3 credit hours]

The collaborative study of a specific topic in educational psychology by a group of advanced students under the direction of one or more professors.

EDP8240 Theories Of Development

[3 credit hours]

Analysis and evaluation of theories of development with emphasis on the philosophical and psychological evolutionary history of the theories and their usefulness for individuals in the helping professions.

Prerequisites: EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D-

EDP8250 Social Development

[3 credit hours]

Critical examination of theory and research on social behaviors such as attachment, aggression and prosocial behavior, including their causes, how they affect the person and how they change with age.

Prerequisites: EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D-

EDP8260 Research Methods In Child And Adolescent Development

[3 credit hours]

Builds upon basic understanding of development through direct experiences in child study. This course provides individual/small group experiences in the design, implementation and written/oral presentation of original research.

Prerequisites: EDP 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR EDP 5220 FOR LEVEL GR WITH MIN. GRADE OF D-

EDP8270 Parenting: Theory And Research

[3 credit hours]

Analysis and evaluation of the research on parenting across a variety of sociocultural contexts.

EDP8340 Theories Of Learning

[3 credit hours]

Intensive inquiry into the study of learning with particular emphasis on more recent theories. Theory application in a wide variety of settings will also be stressed.

EDP8350 Advanced Topics In Cognition And Instruction

[3 credit hours]

Theory and research on cognition related to learning/instruction, to include study of expertise, knowledge learned from experience, analysis of ill-structured domains, tacit knowledge, and knowledge representation.

Prerequisites: (EDP 5110 FOR LEVEL GR WITH MIN. GRADE OF D- AND EDP 5320 FOR LEVEL GR WITH MIN. GRADE OF D-) OR (EDP 7110 FOR LEVEL GR WITH MIN. GRADE OF D- AND EDP 7320 FOR LEVEL GR WITH MIN. GRADE OF D-)

EDP8360 Thinking And Reasoning In School Contexts

[3 credit hours]

Analysis of theory, research policy, and practice about thinking and reasoning in school subjects and school learning in democratic societies.

EDP8370 News Media Literacy, Society, and the Mind

[3 credit hours]

The course provides students with a theoretical and empirical foundation on psychological concepts and processes (e.g., critical thinking, personal epistemology, and belief systems), to understand the role of the news media (e.g., news print/broadcast, social media, and media technology) for the public sphere, citizenship, democracy, and peace. In their area of studies, students will learn how to develop a competency based news media literacy model that enables citizens to be/come critical and effective news media consumers.

EDP8960 Dissertation Research In Educational Psychology

[1-12 credit hours]

A formal, independent study culminating in a written discourse that advances our understanding of educational psychology.

EDP8990 Independent Study In Educational Psychology

[1-6 credit hours]

Directed study of a current topic in educational psychology. The student meets with the instructor at arranged intervals without formal classes.

EDU1000 Orientation To Education

[1 credit hour]

Academic and student development course offering an introduction to College and University community. Offers strategies for successful transition to University environment by examining University resources, procedures, academic programs and advising.

EDU1700 Introduction to Education

[3 credit hours]

Exploration of purposes of schools in society, focusing on professionalism, standards & accountability, education for democracy, legal & organizational issues, diversity, and curriculum & instruction, as well as knowledge and dispositions required to be an effective teacher.

EECS1000 EECS First Year Design

[0-3 credit hours]

Orientation to the University, college and departmental facilities, procedures and methodologies available to the student for the academic journey. Introduction to engineering design to EECS freshmen with emphasis on a semester long team-based design project.

EECS1100 Digital Logic Design

[0-4 credit hours]

Number representation and Boolean Algebra. Combinational circuit analysis and design. K-map and tabulation methods. Multiplexers, decoders, adders/subtracters and PLD devices. Sequential circuit analysis and design. Registers, counters and recognizers.

EECS1500 Introduction to Programming

[0-3 credit hours]

Covers the concept and properties of an algorithm, analysis and decomposition of computational problems, use of modern programming practices. Introduction to arrays and classes. Uses the C++ language.

EECS1510 Introduction To Object Oriented Programming

[0-3 credit hours]

Introduces the basics of programming using the Java language. Covers number types, objects, methods, control structures, vectors, files, and inheritance. Utilizes the Java platform to develop GUI interfaces.

EECS2000 Eecs Professional Development

[1 credit hour]

Preparation for entry to the professions of Electrical Engineering and Computer Science and Engineering, including ethics and social responsibilities, employment practices, continuing education and professional registration.

EECS2110 Computer Architecture and Organization

[3 credit hours]

Fundamentals of computer architecture, computer arithmetic, memory systems, interfacing and communication, device subsystems, processor design, cpu organization, assembly programming, performance, distributed models and multiprocessing.

Prerequisites: EECS 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 1500 FOR LEVEL UG WITH MIN. GRADE OF D- OR EECS 1510 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS2300 Electric Circuits

[0-4 credit hours]

An introduction to electrical circuit components and laws, including ideal op-amps, DC circuit analysis, AC circuit analysis, transient analysis of RL and RC circuits and computer-aided circuit analysis.

Prerequisites: PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

EECS2340 Electric Circuits For Nonmajors

[3 credit hours]

For students not majoring in EECS. An introduction to electrical circuit components and laws, resistive circuit analysis, AC circuit analysis, phasers, three-phase circuits and computer-aided circuit analysis.

Prerequisites: PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS2500 Linear Data Structures

[3 credit hours]

This course looks at stacks, queues, and lists as well as the order of algorithms used to access and modify these structures. In addition recursion, hashing, sorting, and set representation are examined in depth.

Prerequisites: EECS 1510 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS2510 Non-Linear Data Structures

[3 credit hours]

The data structures introduced in EECS 1570 are extended to include trees (binary, balanced, and n-ary), graphs, and advanced sorting techniques. In addition, the C++ language is used as the main vehicle and is introduced in the couse. Students are expected to have a strong background in Java prior to this course.

Prerequisites: EECS 2500 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 2520 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS2520 Discrete Structures

[3 credit hours]

An introduction to the discrete structures used in computer science to develop software including proof techniques, Boolean logic, graphs, trees, recurrence relations and functions.

Prerequisites: PHIL 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3100 Embedded Systems

[0-4 credit hours]

Microcontroller interfacing, assembly and C language programming for embedded systems, timer, input/output synchronization; analog to digital conversion, digital to analog conversion, interrupts, and embedded system debugging techniques.

Prerequisites: EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS3150 Data Communications

[3 credit hours]

Analog and digital data transmission, transmission media, Modulation techniques. Data encoding, asynchronous and synchronous transmissions, USART, RS232-C, RS-449 standards. Data link configuration and control, error control, multiplexing and demultiplexing.

Prerequisites: (EECS 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS3210 Signals and Systems

[3 credit hours]

Signal and system representation. Convolution and impulse response. Fourier series, Fourier transform and Laplace transform. Discrete-time systems and Z-transforms. Computer simulation using MATLAB.

Prerequisites: EECS 2300 FOR LEVEL UG WITH MIN. GRADE OF D- AND (EECS 1500 FOR LEVEL UG WITH MIN. GRADE OF D- OR EECS 1510 FOR LEVEL UG WITH MIN. GRADE OF D-) AND MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF D- AND (MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF

EECS3220 Electric Circuits II

[3 credit hours]

Advanced topics including three-phase systems, magnetically-coupled systems, resonance and second-order systems, Laplace transform circuit analysis, Fourier series for periodic waveforms and applications to electric circuits, ideal filters, system modeling and two-port networks.

Prerequisites: EECS 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3300 Probabilistic Methods In Engineering

[3 credit hours]

Techniques for modeling and analysis of random phenomena in EECS, including communication, control and computer systems. Distribution, density and characteristic functions. Computer generation. Functions of random variables.

Prerequisites: EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3400 Electronics I

[0-4 credit hours]

Large-signal and incremental characteristics of the pn diode, BJT, MOSFET and JFET. Large- signal analysis and computer simulation of devices and digital circuits. Logic gate implementation. Laboratory experiments and projects.

Prerequisites: EECS 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3420 Electronics II

[3 credit hours]

Analog transistor, diode and integrated circuit analysis and design. Incremental analysis techniques, frequency response and feedback techniques.

Prerequisites: (EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3400 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS3440 Electronics Laboratory

[1 credit hour]

Laboratory experiments and projects in the testing and design of analog and mixed-signal electronic circuits.

Prerequisites: EECS 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3460 Electrical Energy Conversion

[3 credit hours]

Traditional and renewable electrical energy sources, principles of electromechanical energy conversion, magnetic circuits and transformers, steady state performance of synchronous machines, dc machines, single phase and three phase induction motors.

Prerequisites: EECS 3710 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

EECS3480 Energy Conversion Laboratory

[1 credit hour]

Laboratory studies of power transformers, synchronous machines, DC machines, single and three phase induction motors.

Prerequisites: EECS 3460 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3540 Systems And Systems Programming

[3 credit hours]

Examines the external and internal characteristics of computer operating systems and related software. Details of at least one operating system and comparison with other operating systems. An introduction to systems level programming.

Prerequisites: EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS3550 Software Engineering

[3 credit hours]

An introduction to the Software Engineering process. Includes: the software lifecycle, user requirements, human-computer interaction, functional specification, software design, software tools, testing and modification. A major term project is assigned.

Prerequisites: EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D- AND (ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1020 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS3710 Electromagnetics I

[3 credit hours]

The nature of electromagnetism, Complex numbers, Transmission lines, Smith chart, Impedance matching, Vector analysis, Coordinate transformations, Electrostatics, Electrical propeties of materials, Boundary conditions, Magnetostatics, Magnetic properties of materials, Boundary conditions.

Prerequisites: EECS 2300 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS3720 Electromagnetics II

[3 credit hours]

Maxwell's equations, Boundary conditions for electromagnetics, Plane-wave propagation in lossless and lossy media, Reflection, Transmision, Waveguides, Cavity resonators, Radiation, Antenna radiation characteristics, Antennas, Satellite communication systems, Introduction to CAD tools.

Prerequisites: EECS 3710 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3940 Co-Op Experience

[1 credit hour]

Approved co-op work experience. Course may be repeated.

Prerequisites: EECS 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS3950 Co-Op Experience

[1 credit hour]

Approved co-op work experience beyond third required co-op experience. Course may be repeated.

Prerequisites: EECS 3940 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4000 Senior Design Project

[4 credit hours]

Student teams select and research a design project and propose a design which is implemented, tested and evaluated. Progress reports, a written final report and an oral presentation are required.

Prerequisites: EECS 3100 FOR LEVEL UG WITH MIN. GRADE OF D- OR EECS 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS4010 Senior Design Project I

[1 credit hour]

Student teams select and research a design project and propose a design. Topics covered include entrepreneurship, business plan, technical communications, design process, design teams, standards, ethics, safety and environment, and intellectual property. A fully developed senior design project proposal is required.

Prerequisites: EECS 3100 FOR LEVEL UG WITH MIN. GRADE OF D- OR EECS 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS4020 Senior Design Project II

[3 credit hours]

Student teams implement, test and evaluate a design previously proposed in EECS 4010. Written reports on progress and final project are required. Preliminary design and critical design reviews may be performed. Oral presentation and senior design exposition participation are needed.

Prerequisites: EECS 4010 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4100 Theory of Computation

[3 credit hours]

Examines formal models of automata and languages. Finite-state automata, regular languages, pushdown automata, context-free languages, Turing machines, decidability, reducibility, and P vs NP complexity classes.

Prerequisites: EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 2520 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS4120 Introduction to Fuzzy Systems and Applications

[3 credit hours]

[3 hours] Introduction to Fuzzy Rule Based Intelligent Systems. Basic Concepts of Fuzzy logic, Fuzzy Sets, Fuzzy Arithmetic, Fuzzy Relations, Fuzzy Graphs, Approximate Reasoning and Fuzzy Implications. Applications in Real World Domains. Prerequisite: EECS 2110.

Prerequisites: EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4130 Digital Design

[4 credit hours]

The design of digital systems, design methodologies, hardware description language such as VHDL: behavioral-, data flow- and structural-level description of digital systems. Implementation technologies including PLDs and FPGAs.

Prerequisites: EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4170 Real-Time Embedded Systems Design

[3 credit hours]

Programming applications in a real-time environment. C language is used to program various microcontroller functions, including timers, A/D and D/A converters, RS-232 communication and CAN networking.

Prerequisites: EECS 3100 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4200 Feedback Control Systems

[3 credit hours]

Feedback methods for the control of dynamic systems. Topics include characteristics and performance of feedback systems, state variable analysis, stability, root locus and frequency response methods and computer simulation.

Prerequisites: EECS 3220 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4220 Programmable Logic Controllers

[3 credit hours]

An introduction to programmable logic controllers (PLCs), process control algorithms, interfacing of sensors and other I/O devices, simulation and networking.

Prerequisites: (EECS 1100 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS4240 Power Systems Operation

[3 credit hours]

Single line diagrams and per unit calculations, network matrices and Y-bus, load flow techniques, large system loss formula, real and reactive power dispatch, power system relays and protection.

Prerequisites: EECS 3460 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4260 Control Systems Design

[3 credit hours]

A general study of computer-aided design of control systems. Topics include: stability, compensation, pole placement, nonlinear systems and digital systems.

Prerequisites: EECS 4200 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4330 Image Analysis And Computer Vision

[3 credit hours]

Imaging geometry, image filtering, segmentation techniques, image representation and description, stereo vision and depth measurements, texture analysis, dynamic vision and motion analysis, matching and recognition.

Prerequisites: EECS 3300 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4360 Communication Systems

[3 credit hours]

Fourier transform applications in signal analysis and communication. Signals spectra, filtering, AM and FM modulation, noise and optimum receiver, sampling theorem, multiplexing, PCM, introduction to digital modulators and demodulators.

Prerequisites: EECS 3300 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4370 Information Theory And Coding

[3 credit hours]

Coding concepts, Huffman code, entropy analysis, channel and mutual information, channel capacity and Shannon's theorem, algebraic coding theory and application to blockcode and cyclic code, introduction to convolutional code.

Prerequisites: EECS 3300 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4380 Digital Signal Processing

[3 credit hours]

Discrete Fourier Transform (DFT), discrete convolution and correlation, Fast Fourier Transform (FFT) and its applications, design of IIR and FIR digital filters, multirate/channel digital systems, decimation and interpolation.

Prerequisites: EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4390 Wireless And Mobile Networks

[3 credit hours]

Mobile radio propagation; the cellular concept; multiple radio access; multiple division techniques; channel allocation; mobile communication systems; existing wireless systems; network protocols; AD HOC and sensor networks; wireless LANS and PANS; recent advances.

Prerequisites: (EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3300 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 4000 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS4400 Solid State Electronics

[3 credit hours]

A comprehensive treatment of the theory and operation of physical electronic devices emphasizing electrical transport in metals and semiconductors and various models of BJT's and FET's.

Prerequisites: (EECS 3400 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 3070 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS4410 Electro-Optics

[3 credit hours]

Introduction to laser physics, optics, optical waveguides, optical communication systems and electro-optics. Design of light processing and communication systems will be considered with emphasis on optics and optical communication.

Prerequisites: EECS 3710 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4460 Power System Analysis

[3 credit hours]

Power system symmetrical components, fault analysis, transient stability analysis, transmission system modeling, distribution networks.

Prerequisites: EECS 3460 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4470 Electronic Design

[3 credit hours]

Principles and techniques of analog active circuit design. Selected design problems are given and circuits using standard parts are designed and laboratory tested. A design notebook is kept.

Prerequisites: EECS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS4480 Power Electronics

[3 credit hours]

Electronic power switching circuits. Half-wave and full-wave rectification. Characteristics of wide bandgap semiconductors. Analysis and design of inverters (dc-ac converters). Isolated and non-isolated dc-dc converters.

Prerequisites: EECS 3420 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4490 Electronic Energy Processing II

[3 credit hours]

Resonant dc-dc converters. DC-AC inverters and harmonic analysis. Variable-speed motor drives. Laboratory design and analysis of various electronic energy processing circuits.

Prerequisites: EECS 4480 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4500 Programming for the World Wide Web

[3 credit hours]

Fundamental concepts and programming languages for constructing contempoary websites. Differences and similarities between procedural, object-oriented, and scripting languages. Topics include HTML, Javascript, CSS, XML, Ajax, PHP, ASP.net, Three.js, and related technologies, as well as their impact on the programming process.

Prerequisites: EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 4100 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4520 Advanced Systems Programming

[4 credit hours]

Pertinent concepts of systems programming. Topics covered include: synchronization, distributed programming models, kernel design, peripheral handling, file systems and security history and methods.

Prerequisites: EECS 3540 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4530 Computer Graphics I

[4 credit hours]

An introduction to typical computer graphics systems and their operation. Interactive techniques will be introduced as well as representations and projections of three-dimensional images. Exercises using graphics equipment are assigned.

Prerequisites: EECS 1500 FOR LEVEL UG WITH MIN. GRADE OF D- OR EECS 1510 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4540 Computer Graphics II

[4 credit hours]

Examines current topics related to realistic and representative 3D computer graphics. Topics include curve and surface geometry, solid modeling, ray tracing, radiosity and real-time computer graphics.

Prerequisites: EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 4530 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4560 Database Systems I

[3 credit hours]

The following topics are covered: relational database modeling, query languages, design issues and implementation issues of databases. An appropriate database language is introduced and used to demonstrate principles.

Prerequisites: EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4580 Human Computer Interface Design

[3 credit hours]

[3 hours] The design of human-computer interfaces and their importance to human-computer interaction. Human engineering, implementation techniques, prototyping, and current and future research areas. Prerequisite: EECS 3550

Prerequisites: EECS 3350 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4590 Algorithms

[3 credit hours]

Techniques for devising efficient computer algorithms. Topics include: divide-and-conquer techniques, dynamic programming, linear programming, graph algorithms, greedy algorithms, NP and P complexity classes, and approximation algorithms for NP complete problems.

Prerequisites: EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D AND EECS 4100 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS4600 Solid State Devices

[0-4 credit hours]

Theory and operation of physical electronic devices. Electrical transport in metals, semiconductors and models of BJT's and FET's. Optoelectronic devices and integrated circuits. Laboratory includes hands-on experimentation with basic semiconductor fabrication processes.

Prerequisites: EECS 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4730 Open Source Software

[3 credit hours]

History and description of the open source movement, who participates, how it works, and why it works. Evolution patterns of open source development, the code itself, and the open source community as a whole. Open source licenses, legal issues, and commercial markets. Survey of real-world implementations.

Prerequisites: EECS 3550 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4740 Artificial Intelligence

[3 credit hours]

This course explores the topic of intelligent software agents with a emphasis on hands-on design of adaptive problem-solving agents for environments of increasing complexity ranging from single-agent computer games to complex real-world mult-agent environments.

Prerequisites: EECS 2510 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4750 Machine Learning

[3 credit hours]

This course emphasizes learning algorithms and theory including concept, decision tree, neural network, comprtational, Bayesian, evolutionary, and reinforcement learning.

Prerequisites: (MIME 4000 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS4760 Computer Security

[3 credit hours]

Survey of computer security concepts: ethics and responsibility, OS, vulnerabilities and intrusion detection, viruses and worms, defensive strategies including secret/public key cryptosystems, firewalls and decoys.

Prerequisites: EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 3450 FOR LEVEL UG WITH MIN. GRADE OF D-

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EECS4770 Computer Hacking and forensic Analysis

[3 credit hours]

Hacking ethics, beneficial vs. malicious hacking, unconventional (extreme) programming techniques, casing networks and operating systems, exposing system vulnerabilities through penetration, collecting and analyzing digital evidence, forensic tools, case studies.

Prerequisites: EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D-

EECS4980 Special Topics In EECS

[1-4 credit hours]

Pilot offerings of new courses involving emerging topics of interest are introduced using this number. One credit per lecture/recitation hour and/or 2.5 lab hours per week.

EECS4990 Independent Study In Eecs

[1-4 credit hours]

Selected topics in electrical engineering or computer science and engineering. The instructor will specify the scope of the investigation and will meet regularly with the student(s). The study is expected to require an average of 3 hours student effort per week per credit.

EECS5130 Digital Design

[4 credit hours]

The design of digital systems, design methodologies, hardware description language such as VHDL, behavioral-, dataflow- and structural-level description of digital systems. Implementation technologies including PLDs and FPGAs.

EECS5170 Real-Time Embedded Systems Design

[3 credit hours]

Programming applications in a real-time environment. Applications programs in a multitasking environment. Examples from process control, robotics, signal analysis and multiwindow software.

EECS5220 Programmable Logic Controllers

[3 credit hours]

Programmable Logic Controllers (PLCs), programming, sensors, process control algorithms, interfacing of sensors and other I/O devices, simulation and networking.

EECS5240 Power Systems Operation

[3 credit hours]

Single Line Diagrams & Per Unit calculations, Network Matrices & Ybus for systems with uncoupled lines, Load Flow Techniques, Large system Loss Formula using Zbus, Real and Reactive Power Dispatch programming, Power systems relays & protection schemes.

EECS5260 Control Systems Design

[3 credit hours]

A general study of computer-aided design of control systems. Topics include: stability, compensation, pole placement, nonlinear systems and digital systems.

EECS5330 Image Analysis And Computer Vision

[3 credit hours]

Imaging geometry, image filtering, segmentation techniques, image representation and description, stereovision and depth measurements, texture analysis, dynamic vision and motion analysis, matching and recognition.

EECS5360 Communication Systems

[3 credit hours]

Fourier transform applications in signal analysis and communication. Signals spectra, Filtering, AM and FM modulations, Noise and optimum receiver, Sampling theorem, Multiplexing, PCM Introduction to digital modulators and demodulators.

EECS5370 Information Theory And Coding

[3 credit hours]

Coding concepts, Huffman code, Entropy analysis, Channel and mutual information, Channel capacity and Shannon's theorems, Algebraic coding theory and application to block code and cyclic code, Introduction to convolutional code.

EECS5380 Digital Signal Processing

[3 credit hours]

Discrete Fourier Transform (DFT), Discrete convolution and correlation, Fast Fourier Transform (FFT) and its applications. Design of IIR and FIR digital filters, Multi-rate/channel digital systems, Decimation and Interpolation.

EECS5390 Wireless And Mobile Networks

[3 credit hours]

Mobile radio propagation; traffic engineering; cellular concept; multiple radio access; multiple division techniques; channel allocation; mobile communication systems; existing wireless systems; network protocols; Ad Hoc and sensor networks; wireless LANS and PANS; recent advances.

EECS5400 Solid State Electronics

[3 credit hours]

A comprehensive treatment of the theory and operation of physical electronic devices emphasizing electrical transport in metals and semiconductors and various models of BJT's and FET's.

EECS5410 Electro-Optics

[3 credit hours]

Laser physics, optics, optical waveguides, optical communication systems and electro-optics. Design of light processing and communication systems will be considered with emphasis on optics and optical communication.

EECS5460 Power Systems Analysis

[3 credit hours]

Fault analysis, Transient Stability Analysis, Transmission System modeling, Distribution Networks.

EECS5470 Electronic Design

[3 credit hours]

Principles and techniques of analog active circuit design. Selected design problems are given; working circuits using standard parts are designed and laboratory tested. A design notebook is kept.

EECS5480 Electronic Energy Processing I

[3 credit hours]

Basic electronic power switching circuits. Half-wave and full-wave rectification. Characteristics of power semiconductors. Phase-controlled rectifiers and inverters. Isolated and non-isolated dc-dc converters.

EECS5490 Electronic Energy Processing II

[3 credit hours]

Resonant dc-dc converters. DC-AC inverters and harmonic analysis. Variable-speed motor drives. Laboratory design and analysis of various electronic energy processing circuits.

Prerequisites: EECS 5480 FOR LEVEL GR WITH MIN. GRADE OF C

EECS5500 Programming for the World Wide Web

[3 credit hours]

Fundamental concepts and programming languages for constructing contempoary websites. Differences and similarities between procedural, object-oriented, and scripting languages. Topics include HTML, Javascript, CSS, XML, Ajax, PHP, ASP.net, Three.js, and related technologies, as well as their impact on the programming process.

EECS5520 Advanced Systems Programming

[4 credit hours]

This course examines pertinent concepts of systems programming. Topics covered include: synchronization, distributed programming models, kernel design, peripheral handling, file systems and security history and methods.

EECS5530 Computer Graphics I

[4 credit hours]

An introduction to typical computer graphics systems and their operation. Interactive techniques will be introduced as well as representations and projections of three-dimensional images. Exercises using graphics equipment are assigned.

EECS5540 Computer Graphics II

[4 credit hours]

Examines current topics related to realistic and representative 3D computer graphics. Topics include curve and surface geometry, solid modeling, raytracing, radiosity and real-time computer graphics.

EECS5560 Database Systems I

[3 credit hours]

The following topics are covered: relational database modeling, query languages, design issues and implementation issued of databases. An appropriate database language is introduced and used to demonstrate principles.

EECS5740 Artificial Intelligence

[3 credit hours]

This course explores the topic of intelligent software agents with a emphasis on hands-on design of adaptive problem-solving agents for environments of increasing complexity ranging from single-agent computer games to complex real-world mult-agent environments.

EECS5750 Machine Learning

[3 credit hours]

This course emphasizes learning algorithms and theory including concept, decision tree, neural network, comprtational, Bayesian, evolutionary, and reinforcement learning.

Prerequisites: (MIME 4000 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF D-)

EECS5760 Computer Security

[3 credit hours]

Survey of computer security concepts: ethics and responsibility, OS vulnerabilities and intrusion detection, viruses and worms, defensive strategies including secret/public key cryptosystems, firewalls and decoys.

Prerequisites: EECS 2110 FOR LEVEL UG WITH MIN. GRADE OF C- AND EECS 3540 FOR LEVEL UG WITH MIN. GRADE OF C-

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EECS5920 Projects

[1-6 credit hours]

Independent research project with intensive investigation into an area of practical interest to the student and the instructor.

EECS5930 Electrical Engineering & Computer Science Seminar

[1 credit hour]

All graduate students are expected to attend the seminars and to prepare a report summarizing their experiences, questions and the impact of the seminar series. Students will also present their thesis and dissertation results.

EECS5980 Special Topics in EECS

[1-4 credit hours]

Pilot offerings of new courses involving emerging topics of interest are introduced using this number. One credit per lecture hour or 2.5 lab hours per week.

EECS6110 Advanced Computer Architecture

[3 credit hours]

Architectural development in computer systems and scability. Processors and arithmetic algorithms. Memory hierarchy, shared memory and cache architecture. Pipeline, superscaler and vector organization.

EECS6300 Random Signals And Optimal Filters

[3 credit hours]

Description and properties of random signals and their processing by optimal filters. Correlation and power spectra. GRP. Narrowband noise. Signal detection (matched filter) and estimation (Wiener and Kalman filters).

EECS6320 Data Compression For Multimedia Communication

[3 credit hours]

Multimedia information representation, Huffman, run length and arithmetic coding, predictive, transform, pyramid coding; vector quantization and subband coding; wavelet-based coding, data packetization, error resilience coding, mutimedia compression standards, JPEG, MPEG coding.

EECS6340 Modern Communications Engineering I

[3 credit hours]

Introduction to detection and estimation and applications to the bandpass signals, Bibary and M-ary digital modulation techniques, Error-control convolutional coding, Trellis Coded Modulation (TCM), Spread Spectrum (SS) communication techniques.

EECS6350 Modern Communications Engineering II

[3 credit hours]

Digital transmission over Gaussian/non-Faussian channels, Satellite systems (GEO and LEO) and multiple accesses, Cellular and satellite communication network, Mobile/wireless Personal communication services (PCS) and its networking.

Prerequisites: EECS 6340 FOR LEVEL GR WITH MIN. GRADE OF C

EECS6390 Modeling And Performance Evaluation Of Communication Networks

[3 credit hours]

Communication network model-based performance evaluation methodology. Principles of stochastic processes in communication networks. Modeling and analysis of LANs, MANs, and WANs. Single class networks and Jackson networks. Multimedia network analysis.

EECS6550 Software Specification And Design

[3 credit hours]

This course covers the software development steps of specification, requirements analysis and design in depth. Computer-human interfaces are also discussed.

EECS6660 Field Programmable Gate Arrays

[3 credit hours]

Introduction to FPGA's. Programming technology. Logic block architectures. Routing architectures. FPGA based VLSI design. Design tools.

EECS6900 Independent Research

[1-6 credit hours]

Selected topics from current EE and CSE research with intensive investigation into recent literature in an area of mutual interest to the student and the instructor.

EECS6960 Master's Graduate Research And Thesis

[1-9 credit hours]

Graduate research towards the completion of a Master's degree.

EECS6980 Special Topics In Electrical Engineering & Computer Science

[1-5 credit hours]

Selected topics in the field of Electrical Engineering and Computer Science in areas of special interest to the class and the professor.

EECS6990 Independent Study

[1-3 credit hours]

In depth study of a selected topic of mutual interest to the student and the instructor.

EECS8110 Advanced Computer Architecture

[3 credit hours]

Architectural development in computer systems and scability. Processors and arithmetic algorithms. Memory hierarchy, shared memory and cache architecture. Pipeline, superscaler and vector organization.

EECS8220 Nonlinear Control Systems

[3 credit hours]

The multiple input describing function. Random signals in nonlinear systems. The phase plane, equilibrium points, limit cycles and linearization methods. Lyapunov stability theorems. Optimum switching systems. Selected applications.

EECS8300 Random Signals And Optimal Filters

[3 credit hours]

Description and properties of random signals and their processing by optimal filters. Correlation and power spectra. GRP. Narrowband noise. Signal detection (matched filter) and estimation (Wiener and Kalman filters).

EECS8320 Data Compression For Multimedia Communication

[3 credit hours]

Multimedia information representation, Huffman, run length and arithmetic coding, predictive, transform, pyramid coding; vector quantization and subband coding; wavelet-based coding, data packetization, error resilience coding, mutimedia compression standards, JPEG, MPEG coding.

EECS8340 Modern Communications Engineering I

[3 credit hours]

Introduction to detection and estimation and applications to the bandpass signals, Binary and M-ary digital modulation techniques, Error-control convolutional coding, Trellis Coded Modulation (TCM), Spread Spectrum (SS) communication techniques.

EECS8350 Modern Communications Engineering II

[3 credit hours]

Digital transmission over Gaussian/non-Gaussian channels, Satellite systems (GEO and LEO) and multiple accesses, Cellular and satellite communication network, Mobile/wireless Personal communication services (PCS) and its networking.

Prerequisites: EECS 6340 FOR LEVEL GR WITH MIN. GRADE OF C

EECS8390 Modeling And Performance Evaluation Of Communication Networks

[3 credit hours]

Communication network model-based performance evaluation methodology. Principles of stochastic processes in communication networks. Modeling and analysis of LANs, MANs, and WANs. Single class networks and Jackson networks. Multimedia network analysis.

EECS8550 Software Specification And Design

[3 credit hours]

This course covers the software development steps of specification, requirements analysis and design in depth. Computer-human interfaces are also discussed.

EECS8660 Field Programmable Gate Arrays

[3 credit hours]

Introduction to FPGA's. Programming technology. Logic block architectures. Routing architectures. FPGA based VLSI design. Design tools.

EECS8900 Independent Research

[1-6 credit hours]

Selected topics from current EE and CSE research with intensive investigation into recent literature in an area of mutual interest to the student and the instructor.

EECS8960 Dissertation

[1-15 credit hours]

Graduate research towards completion of a doctoral degree.

EECS8980 Current Topics In Electrical Engineering & Computer Science

[1-5 credit hours]

Current topics in the field of Electrical Engineering and Computer Science in areas of special interest to the class and the professor. Students will be expected to complete a written project based on a review of the research literature of the area covered in this course.

EECS8990 Independent Study

[1-3 credit hours]

In depth study of a selected topic of mutual interest to the student and the instructor.

EEES1010 Physical Geology

[3 credit hours]

Introduction to the physical processes and composition of the Earth, including plate tectonics, internal structure, origin and classification of rocks and minerals, causes of geologic hazards such as earthquakes and volcanoes, surficial processes, water and natural resources, and geologic time. No credit if EEES2100 is taken. Natural sciences core course. Optional 1-credit lab, EEES 1020.

EEES1020 Introductory Geology Laboratory

[1 credit hour]

Investigations of fundamental geological processes, the materials of the Earth, and geologic time. Identification of rocks and minerals. Interpretation of geologic features and processes from maps, aerial images and physical models. This lab supports the introductory geology courses EEES 1010, 1050 and 2100. Natural sciences lab core course.

Prerequisites: EEES 1010 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

EEES1050 Geological Hazards And The Environment

[3 credit hours]

Introduction to risk mitigation involving hazardous geological processes and materials: volcanic eruptions, earthquakes, floods, ground subsidence and collapse, radon, asbestos and others.

EEES1130 Down To Earth: Environmental Science

[3 credit hours]

Evaluation of environmental controversies using ecology, economics and human values. Issues range from global change, overpopulation, food production, pollution, disease, endangered species, to unique habitats including rainforests and coral reefs. (not for credit in the major)[Fall, Spring]. Natural Sciences core course.

EEES1140 Environmental Problems Laboratory

[1 credit hour]

Basic scientific methods are used to conduct laboratory and field studies relevant to contemporary environmental issues.

EEES1150 Marine Biology

[3 credit hours]

An exploration of life in the world's oceans, emphasizing how marine organisms thrive in broadly diverse environments. Topics include the major ocean habitats, and ecological relationships among associated flora/fauna.

EEES1160 Plants And Society

[3 credit hours]

This course centers on the importance of plants to our planet. Includes an introduction to botany and discussion of plants that provide food, materials, spices, medicines, drugs and poisons. (not for major credit)

EEES1170 Microbes And Society

[3 credit hours]

A survey course focused on how microbes impact everyday life including discussions of infectious disease, food safety, and bioterrorism. Natural Sciences core course.

EEES1180 Marine Biology Coral Reef Lab

[1 credit hour]

A virtual laboratory-based exploration of the coral reef environment and the dynamics of the coral reef ecosystem. The web of life on reefs will be examined at multiple levels, including living and non-living components and specialized roles among species, with emphasis on the delicate balance of natural processes and impacts of various stressors. Online data labs will be enhanced with at-home activities including creating and manipulating a physical model of a reef ecosystem. This course fulfills the university requirement for a natural science laboratory.

EEES2010 Introduction To Environmental Studies

[3 credit hours]

Introduction to issues currently affecting environmental quality. Fundamental scientific concepts relating to those issues and ethical, economic, legal and political considerations that affect the resolution of environmental problems.

EEES2100 Fundamentals Of Geology

[4 credit hours]

Consideration of earth materials and the dynamic external and internal processes active on earth; the physical and biological history of the earth. Intended for science majors.

EEES2150 Biodiversity

[4 credit hours]

Exploration of biodiversity and general biological processes and problems as they are experienced by all living organisms: genetics, reproduction, evolution, and ecology.

EEES2160 Biodiversity Laboratory

[1 credit hour]

Laboratory exercises designed to complement the material covered in EEES 2150.

EEES2200 Climate Change

[3 credit hours]

An overview of the understanding of climate change and role of human activities, including atmospheric processes, greenhouse effect, carbon cycling, physical evidence, impacts, and proposed global actions in response.

EEES2230 Earth History: Historical Geology and Paleontology

[3 credit hours]

The morphology and paleoecology of fossil taxa, significant strata, and tectonic events important to the interpretation of paleoenvironments and Earth history are stressed. Field trip(s) required.

Prerequisites: EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES2400 Oceanography And Water Resources

[3 credit hours]

An exploration of the geological, physical, chemical and biological nature of the oceans. Emphasis on the origin and evolution of ocean basins, plate tectonics, properties of seawater, and physical processes of circulation, especially as related to climate, the hydrologic cycle, and life in the oceans.

EEES2500 Computer Applications In Environmental Sciences

[1 credit hour]

Desktop computers used by scientists: word processing, spreadsheets, databases, GPS, processing GPS files, contour and mapping software.

EEES2510 Advanced Computer Applications

[2 credit hours]

Collecting and analyzing spatial data, digital elevation models, mathematical modeling of natural processes and introduction to matrix operations in Excel.

Prerequisites: EEES 2500 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES2980 Special Topics

[1-4 credit hours]

A lower division undergraduate course covering some aspect of environmental sciences not covered in the formal course offerings of the department. Students may repeat the course for different topics.

EEES2990 Independent Study

[1-4 credit hours]

Student selects an appropriate approved subject for individualized study and prepares a report or gives equivalent evidence of mastery of the selected subject.

EEES3050 General Ecology

[3 credit hours]

The structure, function and regulation of populations, communities and ecosystems, emphasizing human activities and their ecological consequences.

Prerequisites: (EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1090 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF

EEES3060 General Ecology Laboratory

[1 credit hour]

Laboratory and field exercises demonstrating ecological principles.

EEES3100 Surficial Processes

[3 credit hours]

Description and study of the earth's surface features from the point of view of their origin, including landforms created by glaciers, rivers, the wind, along coasts, tectonics and erosional/depositional processes. Field trip required.

Prerequisites: EEES 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES3210 Mineralogy and Petrology

[3 credit hours]

Lectures and laboratory exercises introduce common rock-forming minerals and important accessory minerals, their physical and chemical properties, identification and geologic environments of formation. As fundamental components of igneous and metamorphic rocks these minerals will be used to classify igneous and metamorphic rocks. These rock classifications, along with maps and case histories of classic terrains, will be used to understand the origins, conditions of formation and geologic history of igneous and metamorphic rock bodies.

Prerequisites: EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES3220 Sedimentary Petrology and Stratigraphy

[3 credit hours]

Megascopic description of sediments and sedimentary rocks, including their characteristics, classification and diagenesis; introduction to depositional processes and environments of sediments, and stratigraphic relationships of sedimentary rocks.

Prerequisites: EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES3250 Engineering Geology

[3 credit hours]

An introduction to the application of geologic principles to engineering practices through a series of readings, laboratory exercises and practical problems. First the fundamentals of geology are presented including: plate tectonics and the resulting distributions of geologic materials and phenomena; mineral, rock and soil characterization; geologic structures; and construction and use of geologic maps. The remainder of the course investigates specific geologic processes and applications to engineering practices.

Prerequisites: MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2450 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES3310 FIELD METHODS: STRUCTURAL GEOLOGY AND MAPPING

[3 credit hours]

Rock deformation and its expression on maps; applying geometrical and trigonometric principles to solve problems involving dipping strata; stereonet applications, interpreting geological maps, constructing cross sections, geological GIS applications.

Prerequisites: EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES3800 Botany

[4 credit hours]

A detailed introduction for science majors to general plant biology, via lecture and laboratory. Topics include plant structure, function, evolution, diversity, agriculture and other non-food uses, and ecology.

Prerequisites: EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES3810 Science of Gardening

[3 credit hours]

An active-learning inquiry-based class, with both “lecture” and “laboratory” components. Lecture (a separate 1-hr period per week) will often follow a “flipped class” format, wherein class activities will be centered around problem solving and question-answer discussion, following pre-assigned background reading and homework. Laboratory (two separate 2-hr class periods per week) will be comprised primarily of hands-on inquiry-based laboratory activities. Additional course activities include field trips, student presentations, and a student plant-growing competition.

Prerequisites: EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES3900 Literature And Communications In The Environmental Sciences

[3 credit hours]

Survey and analysis of environmental issues featuring guest experts from a variety of environment-related occupations, readings from the environmental literature and student reports.

EEES4100 Glacial Geology

[3 credit hours]

To understand glaciers and glacial landscapes. Topics include mass balance, ice flow, hydrology, erosion, deposition, landforms, glacial lakes and development of the Ohio glacial landscape. Field trip is mandatory.

Prerequisites: EEES 3100 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4150 Evolution

[3 credit hours]

The modern theory of evolution is presented within a general framework of biological and geological evidence focusing on the fossil record, early biomolecules, protein synthesis, genetics, phylogeny and vertebrate evolution.

Prerequisites: (EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-)

EEES4160 Environmental Data Management

[3 credit hours]

An introductory course in data management for environmental science seniors covering the basics of data management practices and the use of Excel and R for data preparation, evaluation, analysis, visualization, and interpretation. Prerequisite: EEES 2500 or approval of instructor.

Prerequisites: EEES 2500 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4200 Quaternary Geology

[3 credit hours]

To provide understanding of such cyclical events as climate change, sea level fluctuations, vegetation change and ice sheet paleogeography during the Quaternary Period and to explore future changes for planet Earth. Field trip is mandatory.

Prerequisites: EEES 3200 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4220 Environmental Geochemistry

[3 credit hours]

Chemical reactions of environmental concern. Water and soil chemistry related to contaminant fate and mobility. Computer software used.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4240 Soil Science

[3 credit hours]

Basic principles of soil formation, physics, and chemistry with emphasis on their influence on fluid and chemical migration and preservation of soil quality from geological, agricultural and environmental perspectives.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4250 Soil Ecology

[3 credit hours]

Underlying concepts and theory of modern soil ecology will be reviewed including the biogeochemical cycles and ecological functions of soil, and the effects of human activities. (Spring, alternate years, odd)

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D- OR EEES 4240 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES4260 Soil Ecology Laboratory

[1 credit hour]

Laboratory exercises designed to complement the material covered in EEES 4250.

EEES4300 Field Botany

[3 credit hours]

Introduction to the principles and methodology of plant taxonomy with particular attention to the native plant species.

Prerequisites: EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES4330 Vertebrate Ecology And Systematics

[4 credit hours]

Ecology, systematics and conservation of the vertebrates, with special emphasis on forms native to North America.

Prerequisites: EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4410 Hydrogeology

[3 credit hours]

Fundamentals of groundwater/earth interactions are introduced concentrating on physical aspects of groundwater flow with applications to the field of water resources and contaminant investigations. This course is designed as the fundamental course in groundwater for students who plan to use hydrogeology in their careers, e.g., environmental geologists, civil and environmental engineers, environmental specialists and scientists, and petroleum geologists.

Prerequisites: MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES4450 Hazardous Waste Management

[3 credit hours]

Environmental regulations concerning hazardous waste, characteristics of hazardous waste and disposal technologies, toxicology, characteristics of organic chemicals and heavy metals, biodegradation, soil science, groundwater contamination, risk assessment, site investigation.

Prerequisites: CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4480 GIS Applications in Environmental Science

[3 credit hours]

An applications course focused on using GIS techniques and applications in environmental problems and research.

Prerequisites: EEES 2500 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4490 Remote Sensing of The Environment

[4 credit hours]

Introduction to theory, methods and techniques used to gather and analyze remote sensor data. Topics range from low altitude air photo interpretation through satellite image acquisition.

Prerequisites: GEPL 3550 FOR LEVEL UG WITH MIN. GRADE OF D- AND EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES4510 Environmental Microbiology

[3 credit hours]

The diversity of microbial life and activities, the functioning of microbial ecosystems in energy and carbon flow and remediation of polluted environments, and the detection and control of pathogens.

Prerequisites: (EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-)

EEES4520 Bioremediation

[3 credit hours]

The environmental fate and transport of contaminants; their transformation and biodegradation by plants and microorganisms; bioremediation strategies, including solid phase, slurry phase, and vapor-phase treatments, and natural attenuation.

Prerequisites: (EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-)

EEES4540 Microbial Ecology

[3 credit hours]

Students will learn the underlying processes that drive microbial population structure and function in the environment and become familiar with classical and current methodology used in microbial community analysis.

Prerequisites: EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES4550 Methods Of Microbial Investigation

[3 credit hours]

Student will learn the classical and current methodologies (biochemical and molecular) used in microbial community analysis while developing an understanding of experimental design sample handling and data analysis.

Prerequisites: EEES 4540 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4610 Geophysics

[3 credit hours]

Survey of theory, field applications, interpretation principles of solid earth and exploration geophysics. Two hours lecture, three hours methods laboratory.

EEES4630 Numerical Methods In Geophysics

[3 credit hours]

Numerical filters and matrix operations used to process potential field data and wave forms, isolating anomalies and signals of interest; derivative maps, upward and downward continuation; current interpretation software. Term project.

Prerequisites: EEES 4610 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4640 Applied Geology

[1-2 credit hours]

Weekly field experiments Friday mornings (10 weeks in fall; or 5 weeks in spring) covering a variety of geology topics to simulate professional activity and strengthen concepts. Junior standing required.

EEES4650 Geology Field Course

[1-4 credit hours]

Intensive field studies in various areas of geologic interest. Studies may involve various geologic field methods and descriptive techniques. Course may be repeated multiple times. Fall and Spring.

Prerequisites: EEES 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

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EEES4730 Aquatic Ecology

[3 credit hours]

The biology of populations, communities and ecosystems with emphasis on aquatic environments. Includes the application of principles and theory from aquatic ecology to help understand and solve management problems in aquatic systems.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4740 Aquatic Ecology Laboratory

[1 credit hour]

Laboratory exercises on the biology of aquatic populations, communities and ecosystems.

EEES4750 Conservation Biology

[3 credit hours]

The application of principles of ecology, biogeography, genetics, economics, philosophy and other disciplines to the study and maintenance of biological diversity in temperate, subtropical and tropical systems.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4755 Conservation Biology Lab

[1 credit hour]

Laboratory and field exercises relevant to the conservation biology of populations, communities and ecosystems. This course includes field trips, sample analyses and computer-based approaches to biodiversity inventories and reserve design.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4760 Landscape Ecology

[3 credit hours]

A general introduction to the theory and practice of landscape ecology, including landcape-analysis, pattern-process relationship, and potential management applications at multiple spatial and temporal scales.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4790 Ecology Field Trip

[2-4 credit hours]

Field study of globally significant ecosustem(s), including analysis of structural and functional relationships within and between ecosystems. Opportunities for individual student projects.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES4910 Directed Research

[1-5 credit hours]

Research under guidance of faculty member. An acceptable thesis is required for credit toward major.

EEES4920 Senior Geology Seminar

[2 credit hours]

Survey of geology at a senior level using readings, class discussions and some lectures. The final exam will be one of the assessment vehicles of the department.

EEES4940 Internship

[1-4 credit hours]

Student gains up to 4 credits for relevant professional experience with an adviser-approved organization. Student must enroll during the term service is performed.

EEES4970 Senior Environmental Capstone

[3 credit hours]

A project-based capstone course focused on integration, synthesis and applications of course work students have taken in their program of study. Departmental majors with different academic backgrounds work in small teams to complete a practical, interdisciplinary project for a client culminating in a scope of work, team-presentation and project report. Clients might include a conservation organization, governmental agency, private industry, school, or other.

EEES4980 Special Topics: Advanced Undergraduate

[1-4 credit hours]

An advanced undergraduate course covering some aspect of the environmental sciences not covered in the formal upper-division undergraduate curriculum. Students may repeat the course for different topics.

EEES4990 Independent Study: Advanced Undergraduate

[1-4 credit hours]

Student selects an appropriate approved subject for individualized study and prepares a report or gives equivalent evidence of mastery of the selected subject.

EEES5100 Advanced Glacial Geology

[3 credit hours]

To understand glaciers and glacial landscapes. Topics include mass balance, ice flow, hydrology, erosion, deposition, landforms, glacial lakes and development of the Ohio glacial landscape. Field trip is mandatory.

Prerequisites: EEES 3100 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES5150 Organic Evolution

[3 credit hours]

The modern theory of evolution is presented within a general framework of biological and geological evidence focusing on the fossil record, early biomolecules, protein synthesis, genetics, phylogeny and vertebrate evolution.

EEES5160 Advanced Environmental Data Management

[3 credit hours]

A course in data management for environmental science graduate students covering the basics of data management practices and the use of Excel and R for data preparation, evaluation, analysis, visualization, and interpretation.

EEES5200 Advanced Quaternary Geology

[3 credit hours]

To provide understanding of such cyclical events as climate change, sea level fluctuations, vegetation change and ice sheet paleogeography during the Quaternary Period and to explore future changes for planet Earth.

EEES5220 Environmental Geochemistry

[3 credit hours]

Chemical reactions of environmental concern. Water and soil chemistry related to contaminant fate and mobility. Computer software used.

EEES5240 Soil Science

[3 credit hours]

Basic principles of soil formation of physics, chemistry and biology with emphasis on their influence on fluid and chemical migration and preservation of soil quality from geological, agricultural and environmental perspectives.

EEES5250 Soil Ecology

[3 credit hours]

Underlying concepts and theory of modern soil ecology will be reviewed including the biogeochemical cycles and ecological functions of soil, and the effects of human activities. (Spring, alternate years, odd)

Prerequisites: (BIOL 3050 FOR LEVEL UG WITH MIN. GRADE OF D- AND EEES 4240 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (BIOL 3050 FOR LEVEL UG WITH MIN. GRADE OF D- AND EEES 5240 FOR LEVEL GR WITH MIN. GRADE OF D-)

EEES5260 Soil Ecology Laboratory

[1 credit hour]

Laboratory exercises designed to complement the material covered in EEES 5250.

EEES5410 Hydrogeology

[3 credit hours]

Fundamentals of groundwater/earth interactions are introduced concentrating on physical aspects of groundwater flow with applications to the field of water resources and contaminant investigations. This course is designed as the fundamental course in groundwater for students who plan to use hydrogeology in their careers, e.g., environmental geologists, civil and environmental engineers, environmental specialists and scientists, and petroleum geologists.

Prerequisites: MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES5450 Hazardous Waste Management

[3 credit hours]

Environmental regulations concerning hazardous waste, characteristics of hazardous waste and disposal technologies, toxicology, characteristics of organic chemicals and heavy metals, biodegradation, soil science, groundwater contamination, risk assessment, site investigation.

EEES5480 GIS Applications in ENSC

[3 credit hours]

An applications course focused on using GIS techniques and applications in environmental problems and research.

EEES5490 Remote Sensing of the Environment

[4 credit hours]

Introduction to theory, methods and techniques used to gather and analyze remote sensor data. Topics range from low altitude air photo interpretation through satellite image acquisition.

Prerequisites: GEPL 3550 FOR LEVEL UG WITH MIN. GRADE OF D- AND EEES 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES5510 Environmental Microbiology

[3 credit hours]

Microbial diversity and activities in an applied environmental context. Topics include function of microbial ecosystems in energy and carbon flow, bioremediation, and the detection and control of pathogens.

Prerequisites: (EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-)

EEES5520 Bioremediation

[3 credit hours]

The environmental fate and transport of contaminants; their transformation and biodegradation by plants and microorganisms; bioremediation strategies, including solid phase, slurry phase and vapor-phase treatments, and natural attenuation.

EEES5540 Advanced Microbial Ecology

[3 credit hours]

An advanced course focusing on the ecology and public health role of microbes with emphasis on the epidemiology of infectious disease outbreaks.

EEES5550 Advanced Methods Of Microbial Investigation

[3 credit hours]

Student will learn the classical and current methodologies (biochemical and molecular) used in microbial community analysis while developing an understanding of experimental design sample handling and data analysis.

Prerequisites: EEES 5540 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES5610 Solid Earth Geophysics

[3 credit hours]

Survey of theory, field applications, interpretation principles of solid earth and exploration geophysics. Two hours lecture, three hours methods laboratory.

Prerequisites: (PHYS 2070 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF D-)

EEES5630 Numerical Methods In Geophysics

[3 credit hours]

Numerical filters and matrix operations used to process potential field data and waveforms, isolating anomalies and signals of interest; derivative maps, upward and downward continuation; current interpretation software. Term project.

Prerequisites: EEES 5610 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES5650 Advanced Geology Field Studies

[1-4 credit hours]

Intensive field studies to various areas of geologic interest. Studies may involve various geologic field methods and descriptive techniques. Course may be repeated multiple times. Fall and Spring.

EEES5730 Advanced Aquatic Ecology

[3 credit hours]

Advanced cross-disciplinary concepts in the ecology of aquatic environments emphasizing the biology of populations, communities and ecosystems. Includes a project on the application of principles and theory to help understand and solve a management problem in aquatic systems.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES5740 Advanced Aquatic Ecology Laboratory

[1 credit hour]

Laboratory exercises on the biology of aquatic populations, communities and ecosystems.

EEES5750 Advanced Conservation Biology

[4 credit hours]

Advanced cross-disciplinary concepts in the application of principles and theory to the study and maintenance of biological diversity in temperate, subtropical and tropical systems. Lectures, classroom discussion and readings.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES5760 Advanced Landscape Ecology

[3 credit hours]

This course is for graduate students from a variety of disciplines. Emphasis will be placed on up-to-date knowledge and methods in landscape analysis, pattern-process relationship and potential management applications at multiple spatial and temporal scales.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES5790 Ecology Field Study

[2-4 credit hours]

Field study of globally significant ecosystem(s), including analysis of structural and functional relationships within and between ecosystems. Opportunities for individual student projects.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES6100 Glacial Stratigraphy And Geophysics

[3 credit hours]

To integrate glacial sedimentology and stratigraphy, with near-surface, geophysical methodologies. Field work to collect a variety of field data to analyze in the lab is mandatory. Data to be presented as posters.

EEES6160 Advanced Environmental Data Management

[3 credit hours]

A course in data management for environmental science graduate students covering the basics of data management practices and the use of Excel and R for data preparation, evaluation, analysis, visualization, and interpretation.

EEES6250 Graduate Launch

[1 credit hour]

This course prepares graduate students for success by preparing individual study plans, research proposals and presentations, and launching bibliographic research.

EEES6400 Biostatistics

[4 credit hours]

Application of statistical inference with environmental and ecological data, including estimation, testing of hypotheses, and statistical modeling.

Prerequisites: EEES 6160 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES6440 Contaminant Hydrogeology

[3 credit hours]

Groundwater contaminant sources, impacts, transport, geochemistry and remediation in relation to geological environments with attention to sampling, detection, characterization, modeling and aquifer protection.

Prerequisites: EEES 5410 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES6450 Advanced Applied Hydrogeology

[3 credit hours]

Applications of hydrogeological monitoring, analyses and modeling using mathematics, statistics and computers. Subjects include: well field and pump test design, sampling strategies, data presentation and analysis and modeling fundamentals.

Prerequisites: EECS 5410 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES6500 Multivariable Geostatistics

[3 credit hours]

Application of multivariate statistical methods to scientific data. Emphasis is on applied regression, cluster, principal components, factor, correspondence, canonical correlation and discriminant analyses.

Prerequisites: EEES 6400 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES6600 Foundations Of Ecology

[4 credit hours]

This course is a thorough review of ecological concepts for graduate students. Readings and discussion include classic papers and historical essays.

EEES6650 Statistical Modeling in Environmental Sciences

[4 credit hours]

Statistical modeling techniques applied to environmental problems, with an emphasis on multilevel modeling.

Prerequisites: EEES 6400 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES6810 Writing For The Environmental Sciences

[3 credit hours]

Learn to write papers that get cited and proposals that get funded. This course focuses on building the fundamental skills required for effective scientific writing. Writing exercises focus on improving the clarity and persuasiveness of student theses, manuscripts, and proposals. This course is for anyone who wants to improve their science writing, is writing theses or proposals, or who may have to write on the job.

EEES6930 Seminar

[1 credit hour]

Individual presentation and discussion of papers in the environmental sciences.

EEES6960 Thesis Research

[1-15 credit hours]

Research on a particular geologic problem leading to a written thesis which must be presented and defended before a faculty committee.

EEES6980 Special Topics

[1-4 credit hours]

A graduate course covering some aspect of environmental sciences not covered in the formal graduate curriculum. Students may repeat the course for credit as topics vary.

EEES6990 Independent Study

[1-4 credit hours]

Student selects an approved subject for individual study and prepares a detailed report, or gives equivalent evidence of mastering of the selected subject. Taken only as S/U.

EEES7150 Organic Evolution

[3 credit hours]

The modern theory of evolution is presented within a general framework of biological and geological evidence focusing on the fossil record, early biomolecules, protein synthesis, genetics, phylogeny and vertebrate evolution.

EEES7730 Advanced Aquatic Ecology

[3 credit hours]

Advanced cross-disciplinary concepts in the ecology of aquatic environments emphasizing the biology of populations, communities and ecosystems. Includes a project on the application of principles and theory to help understand and solve a management problem in aquatic systems.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES7740 Advanced Aquatic Ecology Laboratory

[1 credit hour]

Laboratory exercises on the biology of aquatic populations, communities and ecosystems.

EEES7750 Advanced Conservation Biology

[4 credit hours]

Advanced cross-disciplinary concepts in the application of principles and theory to the study and maintenance of biological diversity in temperate, subtropical and tropical systems. Lectures, classroom discussion and readings.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES7790 Ecology Field Trip

[2-4 credit hours]

Field study of globally significant ecosustem(s), including analysis of structural and functional relationships within and between ecosystems. Opportunities for individual student projects.

Prerequisites: EEES 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

EEES8250 Graduate Launch

[1 credit hour]

This course prepares graduate students for success by preparing individual study plans, research proposals and presentations, and launching bibliographic research.

EEES8400 Biostatistics

[4 credit hours]

Application of statistical inference with environmental and ecological data, including estimation, testing of hypotheses, and statistical modeling.

Prerequisites: EEES 6160 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES8500 Multivariate Geostatistics

[3 credit hours]

Application of multivariate statistical methods to scientific data. Emphasis is on applied regression, cluster, principal components, factor, correspondence, canonical correlation and discriminant analyses.

Prerequisites: EEES 8400 FOR LEVEL GR WITH MIN. GRADE OF D-

EEES8600 Foundations Of Ecology

[4 credit hours]

This course is a thorough review of ecological concepts for graduate students. Readings and discussion include classic papers and historical essays.

EEES8650 Statistical Modeling in Environmental Sciences

[4 credit hours]

Statistical modeling techniques applied to environmental problems, with an emphasis on multilevel modeling.

Prerequisites: EEES 6400 FOR LEVEL GR WITH MIN. GRADE OF D- OR EEES 8400 FOR LEVEL GR WITH MIN. GRADE OF D-

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EEES8810 Writing For The Environmental Sciences

[3 credit hours]

Learn to write papers that get cited and proposals that get funded. This course focuses on building the fundamental skills required for effective scientific writing. Writing exercises focus on improving the clarity and persuasiveness of student theses, manuscripts, and proposals. This course is for anyone who wants to improve their science writing, is writing theses or proposals, or who may have to write on the job.

EEES8930 Seminar In Ecology

[1 credit hour]

Presentation on research or current literature by graduate doctoral students, faculty or guest speakers.

EEES8960 Doctoral Dissertation Research

[1-15 credit hours]

Research on a particular problem leading a written dissertation that must be presented and defended before a faculty committee.

EEES8980 Advanced Topics In Ecology

[2-4 credit hours]

Course covering some aspect of ecology not covered in the formal graduate curriculum. Students may repeat the course for different topics.

EEES8990 Advanced Readings In Ecology

[2-4 credit hours]

Faculty-directed readings or projects in a specific area of ecology. Students may repeat the course for different topics.

EET1010 Resistive Circuits

[0-4 credit hours]

This course constitutes an introduction to electrical components, direct current circuit analysis, circuit theorems and basic electrical measurements. An introduction to sinusoidal waveforms, complex numbers, phasors and Pspice is also included.

EET1020 Reactive Circuits

[0-4 credit hours]

This course involves transient analysis of first order, reactive DC circuits and steady state analysis of reactive circuits under AC conditions. Frequency response, three-phase analysis, oscilloscope usage and PSpice simulation methods are included.

Prerequisites: (EET 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D-)

EET1410 Electrical Drafting

[3 credit hours]

Use of electrical and electronic symbols, familiarization with industry standards and codes and familiarization with different kinds of schematics and other electrical drawings. Course work performed on personal computers using CAD software.

EET2010 Electronic Principles

[0-4 credit hours]

Semiconductor devices and applications with emphasis on power supplies and amplifiers. AC/DC analysis of small-signal amplifiers using both bipolar junction and field effect transistors in various biasing configurations.

Prerequisites: EET 1020 FOR LEVEL UG WITH MIN. GRADE OF D-

EET2020 Electronic Device Applications

[0-4 credit hours]

This course covers principles and applications of electronic circuits and devices such as oscillators, power supplies, thyristors regulators and op amps.

Prerequisites: EET 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

EET2210 Digital Logic Fundamentals

[0-4 credit hours]

This course covers the fundamentals of digital logic circuits. Topics include number systems, logic gates, Boolean algebra, logic simplification, Karnaugh maps, adders, multipliers, multiplexers and decoders. Elementary digital circuits including flip-flops, counters, shift registers, memory devices, programmable logic devices and integrated circuits are also covered.

Prerequisites: EET 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR EET 2420 FOR LEVEL UG WITH MIN. GRADE OF D-

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EET2230 Assembly Language Programming

[0-4 credit hours]

The study of machine and assembly language programming and circuit and system applications. Microprocessor architecture and organization are also presented.

Prerequisites: (EET 2210 FOR LEVEL UG WITH MIN. GRADE OF D- AND CSET 1100 FOR LEVEL UG WITH MIN. GRADE OF D-)

EET2410 Mechatronics I

[0-4 credit hours]

A study of programmable controllers emphasizing program development, logic development and troubleshooting. Emphasis on relays, timers, counters, integer math and scan-dependent programming. Factory floor control concepts are stressed.

Prerequisites: EET 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

EET2420 Electrical Instrumentation Laboratory

[1 credit hour]

Provides an opportunity for freshman Computer Science and Engineering Technology students to gain laboratory experience with basic electrical instrumentation and basic computer components.

EET2980 Special Topics

[1-4 credit hours]

Student performs work on a specialized project of an advanced nature under the supervision of an Electrical Engineering Technology faculty member.

EET3150 C Programming

[0-4 credit hours]

This course emphasizes C programming. Design of a microcontroller system including hardware, interface, and programming using C is implemented. Lab exercises cover the areas of interrupts, structures and other programming concepts.

Prerequisites: EET 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

EET3250 Network Analysis

[3 credit hours]

This course consists of analysis of electrical wave-forms and first order time domain circuits, transient analysis of reactive circuits using Laplace transforms, system transfer functions, Bode plots and the interpretations of Fourier series and transforms.

Prerequisites: (EET 1020 FOR LEVEL UG WITH MIN. GRADE OF D- AND ENGT 3020 FOR LEVEL UG WITH MIN. GRADE OF D-)

EET3350 Embedded Systems Design

[0-4 credit hours]

This course covers different aspects of real-time embedded systems implementation with low-level access to hardware resources of microcontrollers. Topics include but not limited to low-level and high-level microcontroller programming covering assembly and C, I/O access, interrupt-driven programming, timers, serial interfacing, analog-to-digital (ADC), and digital-to-analog (DAC). Uses system design approach, such as flow charts, finite state machines (FSM) while implementing embedded systems is emphasized.

Prerequisites: (EET 2210 FOR LEVEL UG WITH MIN. GRADE OF D- AND EET 3150 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (EET 2210 FOR LEVEL UG WITH MIN. GRADE OF D- AND CSET 2230 FOR LEVEL UG WITH MIN. GRADE OF D-)

EET4150 Analog Systems Design

[0-4 credit hours]

This course emphasizes the design and analysis of analog applications including transistor and integrated circuits using computer-aided engineering techniques. Specifically, this includes the design of small signal amplifiers, multistage amplifiers, operational amplifier circuits and power supplies by applying derived equations and scientific concepts.

Prerequisites: EET 2020 FOR LEVEL UG WITH MIN. GRADE OF D-

EET4250 Database Applications for Industry

[0-4 credit hours]

This course covers fundamentals of database architecture, database management systems, and database systems. Principles and methodologies of database design, and techniques for database application development. It provides needed introductory database fundamentals for Microsoft MS-SQL Server. Applications from industry are included.

Prerequisites: EET 3350 FOR LEVEL UG WITH MIN. GRADE OF D-

EET4350 Electric Power Systems

[0-4 credit hours]

This course constitutes a study of AC-DC machines, including transformers, power transmission and the regulations governing them as specified by industry and the National Electrical Code.

Prerequisites: EET 1020 FOR LEVEL UG WITH MIN. GRADE OF D- AND ENGT 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

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EET4450 Automatic Control Systems

[0-4 credit hours]

This course covers theoretical and practical aspects of analog control. Included are open and closed loop analysis of processes, causes of instability and corrective actions. Also included are practical applications of closed loop systems.

Prerequisites: ENGT 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

EET4550 Mechatronics II

[4 credit hours]

Use of programmable controllers and computers in factory automation. Topics included are process control, supervisory software, PLC networking, PLC/CNC integration, device configuration, use of programming software and PLC languages standards.

Prerequisites: (EET 2410 FOR LEVEL UG WITH MIN. GRADE OF D- AND CSET 2200 FOR LEVEL UG WITH MIN. GRADE OF D-)

EFSB3480 Entrepreneurial Finance

[3 credit hours]

Course focuses on basics of using financial tools to create and analyze financial statements in new ventures and to understand the sources and management of capital for start-ups and growing businesses.

Prerequisites: BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF D- OR ACTG 1040 FOR LEVEL UG WITH MIN. GRADE OF D-

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EFSB3500 Introduction To Entrepreneurship for Non-Business Students

[3 credit hours]

Couse provides an extensive overview of issues and opportunities involved in starting new businesses. Focus is on the entrepreneurial environment and opportunities, technopreneurship, and the entrpreneurial mindset. (This course may not be taken with or after taking EFSB 3590).

EFSB4010 Growing Family And Entrepreneurial Businesses

[3 credit hours]

Advanced study of issues pertaining to family and entrepreneurial businesses. Issues of family psychology, growth strategies, financing, valuation, and harvesting the business are studied using hands-on consulting and case analysis.

Prerequisites: (EFSB 3480 FOR LEVEL UG WITH MIN. GRADE OF D- AND EFSB 4590 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D- AND EFSB 4590 FOR LEVEL UG WITH MIN. GRADE OF D-)

EFSB4590 Entrepreneurship and Small Business Management

[3 credit hours]

A study of entrepreneurship and the process of starting and/or managing a new venture. Tools for developing and managing in all areas in a new or small business are applied in hands-on consulting with local companies and case analysis.

Prerequisites: EFSB 3480 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

EFSB4690 Innovation and Technology Commercialization

[3 credit hours]

The course addreses the entire technology commercialization process from an innovative idea to market. A strategic technology plan to bring the idea forward to a launch of a new product is required.

EFSB4790 Franchising

[3 credit hours]

Franchising is a major form of business ownership and a strategy for growing businesses in the United States and the world. It has been increasing rapidly which has led to increasing demand for employees with franchising knowledge. This course addresses franchising from the perspectives of the entrepreneur as a franchisee and the entrepreneur as a franchisor. Specific attention is given to the franchisor-franchisee relationship and how both sides could work together. Junior Status Required.

EFSB4940 Internship In Entrepreneurship And Family Business

[3 credit hours]

Receive practical entrepreneurship experience working in a family or small business.

EFSB4980 Special Topics In Entrepreneurship And Family Business

[3 credit hours]

This course is designed to focus on current issues in entrepreneurship and family business.

EFSB4990 Independent Study

[1-3 credit hours]

Individually supervised study in Entrepreneurship and Family Business. Student must submit a proposal to be approved by the Program Advisor or Chair prior to enrolling in the course.

EFSB6590 New Venture Creation

[3 credit hours]

Course addresses the issues faced in starting a new venture, including the identification of new business opportunities and the effective and efficient evaluation of the economic feasibility of these opportunities.

EFSB6690 Technology Commercialization

[3 credit hours]

Course addresses the entire technology commercialization process, from idea to market. A key feature of the course is a "strategic opportunity evaluation" of an actual early stage technology. (Prerequisite: EFSB 6590)

EFSB6790 Venture Capital Finance

[3 credit hours]

Course considers how potential entrepreneurial investments are evaluated, valued, structured, and enhanced. Primarily focuses on financing start-up and early stage firms, later stage investments, and buyouts. (Prerequisites: BUAD 6200 and EFSB 6590)

EMBA5500 Analytic Foundation For Executives

[3 credit hours]

This course provides managers with the analytical foundations in economics, computer skills and statistical methods. Internet exercises prior to class meetings provide the basis for continuous discussions of current economic events.

EMBA6100 Global Competitive Challenge

[3 credit hours]

An overview of the competitive challenge faced by firms in today's global setting. Executives select nations or regions and industries to analyze in terms of the competitive challenge. Factors which helped the nations/regions to achieve competitive advantage will be studied to gain a better understanding of the competitive challenge.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6120 Cultural, Legal, & Operational Issues in Doing Business Abroad

[3 credit hours]

This course develops the executive's appreciation, knowledge, and understanding of the different cultures and legal systems as they impact business operations in doing business in major foreign countries or regions, including emerging markets. The underpinning of cross-cultural literacy for global competitive advantage is emphasized.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6140 Accounting And Financial Foundations For Executives

[3 credit hours]

This course gives an overview of the firm from a financial management perspective including financial decision making. Topics covered include the time value of money, stock and bond valuation, and capital budgeting decision rules.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6200 Personal Strategic Planning And Entrepreneurship

[3 credit hours]

Executives assess their personal values, clarifying their personal goals and develop a career strategy. Identifying market opportunities and developing new businesses for today's technological and global environment are explored.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6210 Processes for Ethical Business Decisions

[3 credit hours]

Introduces executives to specific analytical processes for identifying the ethical dilemmas frequently experienced in business, resolving them and then justifying the course of action selected from multiple ethical perspectives. These processes are essential for recognizing and understanding the ethical implications of complex and controversial problems in culturally diverse and competitive organizations. The course involves ongoing practice in ethical dilemma resolution in both group and individual formats involving various ethical scenarios.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6220 Accounting Systems For Operational And Strategic Management

[3 credit hours]

Emphasizes the preparation and use of financial statements, accounting for international transactions and tax consequences of U.S. and international operatives. Managerial accounting and control systems are examined. Focuses on the tax consequences of selected transactions of both U.S. and international operations.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6230 Market-Driven Analysis And Strategy

[3 credit hours]

This course focuses on what it means to be market-oriented and provides individuals with a basic understanding of the market-based management practices needed to create superior customer value. Being ‘market-driven’ means the organization’s decision-making is also driven by customer information, market knowledge, competitive intelligence, an understanding of how the organization creates and delivers value, and a clear set of strategies that differentiate the organization and make give it a competitive advantage.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6240 Entrepreneurial Financial Management

[3 credit hours]

Studies the management of international financial activities, including financial planning and forecasting, capital budgeting and leasing, capital structure, working capital management, sources of funds, business valuation and risk management.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6250 Leadership And Performance Management

[3 credit hours]

Executives learn to be visionary leaders by understanding how change, culture and strategy link to the vision. This course also focuses on employee motivation, development and empowerment, culminating in insights on how to manage performance in order to achieve the company's mission.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6290 Strategic Management In A Global Environment

[3 credit hours]

The goal of the capstone course is for each executive to finish an integrated business plan creating value for his or her sponsoring firm. Strategic planning tools are studied.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6300 Global Technology Management

[3 credit hours]

This course focuses on the strategic and technical challenges facing executives who want to take advantage of today's existing and emerging technological developments to enhance business opportunities. Best practices are reviewed and the focus is on how executives can manage technology across functions to best achieve competitive advantage.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6310 Managing Global Supply Chains

[3 credit hours]

Examines how e-business models, information technology and globalization have changed supply chain design and management. Effective information management for decision making is explored.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6320 Product Development

[3 credit hours]

This course is designed to provide an understanding of how new products/services and e-business initiatives are developed and managed and explores the tools and skills needed to manage these processes.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6470 Global/E-Business Field Trip

[2 credit hours]

This experiential international field trip facilitates student learning of best business practices from senior executives in a variety of multinational firms and organizations across industries, and enables them to gain new insights from being immersed in foreign cultural environments.

Prerequisites: EMBA 5500 FOR LEVEL GR WITH MIN. GRADE OF D-

EMBA6980 Special Topics in Business

[1-3 credit hours]

Analysis of current issues in business, specialized industries, or specfic markets. Syllabus determined jointly by EMBA office and faculty as special topics are identified.

EMBA6990 Independent Study

[3 credit hours]

Independent research report on a business topics of interest to the studsent and faculty member. Students must work with a professor on this project. Permission of Instructor required.

EMS1200 First Responder

[3 credit hours]

An Emergency Medical Services (EMS) course that prepares students to provide medical care at the scene of an emergency. Completion of course makes student eligible for state certification.

EMS1210 EMT - Basic

[7 credit hours]

A course providing fundamental knowledge and training across the breadth of Emergency Medical Services (EMS). Completion of course makes student eligible for state certification.

EMS1310 Paramedic I

[8 credit hours]

This is the first of three courses that provide training for students to become certified paramedics. The course covers a variety of preparatory topics such as legal considerations, assessment, pharmacology, venous access, medication administration, EKG interpretation, and assessment/management of cardiovascular emergencies. It also incorporates hands-on application thru skill labs, simulation, and direct patient contact in a clinical environment. Upon successful completion of this course, the student will be eligible enroll in Paramedic II. In addition to Ohio EMS certification, an applicant for this course must have successfully completed an approved Anatomy class and an EMS Program Entrance Examination.

EMS1320 Paramedic II

[9 credit hours]

This is the second of three courses that provide training for students to become certified paramedics. This course covers a variety of medical emergencies (ie: respiratory, neurology, endocrinology, etc.) as well as obstetric and gynecological emergencies, childbirth and neonatology, assessment and management of various conditions that involve pediatrics and geriatrics. It also incorporates hands-on application thru skill labs, simulation, and direct patient contact in a clinical environment. Upon successful completion of this course, the student will be eligible enroll in Paramedic III.

Prerequisites: EMS 1310 FOR LEVEL UG WITH MIN. GRADE OF D-

EMS1330 Paramedic III

[7 credit hours]

This is the last of three courses that provide training for students to become certified paramedics. This course will complete the remaining paramedic curriculum with Operational topics such as Rescue, Mass Casualties, etc. The student will also finish all necessary field and clinical requirements,and must demonstrate "street readiness" while completing EMS field Internship hours. Upon successful completion, take the National Registry Examination for certification as a Paramedic.

Prerequisites: EMS 1310 FOR LEVEL UG WITH MIN. GRADE OF D- AND EMS 1320 FOR LEVEL UG WITH MIN. GRADE OF D-

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EMSL6000 Sales Leadership

[4 credit hours]

Course will develop a context-specific in depth conceptual and applied understanding of both the strategic and interpersonal processes required to develop a successful proactive sales culture within diverse types of businesses. The sales planning, problem solving, interpersonal and communication skills, goal setting and accountability used by successful sales leaders will be researched, discussed and evaluated. Developmental recommendations for sales leadership improvement will be made, monitored, and revised throughout the program.

EMSL6100 Sales Planning and Processes

[4 credit hours]

The course positions the sales leader as a business owner or entrepreneur required to manage multiple and complex issues with minimal corporate support. This course will require interaction with a variety of internal and external contacts. Participants will assess, research, and report on real world issues including organizational structure and policies, ethical conflicts, cultural ethnic diversity, legal issues, and multi-national topics.

EMSL6200 Finance, Business Acumen and Data Analytics

[4 credit hours]

This course prepares participants to effectively analyze and interpret client financial data, business trends, operating results, industry norms and a wide range of metrics and business intelligence in order to strengthen the financial impact of sales proposals and business propositions, and to effectively manage the sales organization.

EMSL6300 Sales Force Automation and Technology

[4 credit hours]

This course focuses on the impact of the wide range of sales force automation technology, the increasingly pervasive influence of the internet, social media, and emerging information management technologies on sales management, policies and procedures Participants will study sales technology implementation and the management of prospects and clients throughout the sales cycles utilizing key technology based analytical sales metrics and report tools for sales management decision making case studies.

EMSL6701 ndustry Analysis - A Sales Management Perspective

[2 credit hours]

In this integrated learning project, students will select, contact, meet with, and interview executives from within their employers industry and conduct guided research on the state of the industry. In depth project research requirements are designed to further students learning while also furthering the goals of the sponsoring organization.

EMSL6702 Corporate Sales Assessment and Strategy Development

[2 credit hours]

In this integrated learning project, students will conduct extensive research on their company and demonstrate advanced comprehension of sales, marketing, client requirements, financial data and sales operational strategies, concepts and metrics. Students will prepare a written analysis and deliver a graded, board room level presentation to faculty and business assessors on emerging issues and potential sales opportunities for their employer.

EMSL6703 Leading Major, National and Key Account Sales Forces

[2 credit hours]

Through industry research and personal interaction with contacts in their employers key accounts and major clients, students will learn keystone buyer and purchasing decision criteria as well as unique business issues, trends and competitive nuances confronting key accounts. Students will develop insights into customer business plans, priorities, and projects that represent the best opportunities for a key account sales force to deliver value.

ENGL1020 Writing And Grammar For Students Of English As A Second Language

[3 credit hours]

Course work focuses on the major grammatical patterns of academic writing in English as well as accuracy in the mechanics of academic writing. The primary emphasis is on these features in the context of the students' own written work. Eligibility by placement exam only. A maximum of 3 semester hours in ENGL 1020 and 1120 may be counted toward fulfilling the 124 hour requirement for graduation.

Prerequisites: ENLG FOR MIN. SCORE OF 1020

ENGL1110 College Composition I

[3 credit hours]

Explanatory and persuasive writing in both personal and public genres; instruction and practice in generating, focusing, developing, researching and presenting ideas in ways consistent with one's subject, purposes and intended audience. ESL students must have completed ENGL 1020 with grade of Pass. From Composition I with Workshop, Composition I and Composition II, no more than 6 hours apply toward graduation.

ENGL1130 College Composition II: Academic Disciplines And Discourse

[3 credit hours]

Reading and analyzing documents from specific disciplines to synthesize results from multiple perspectives and produce disciplinarily appropriate writing from your research. A significant focus on academic argument and advanced research writing skills included. Discipline-specific sections offered. Web enhanced. Critical reading, research papers required.

Prerequisites: ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENLG FOR MIN. SCORE OF 1130

ENGL2010 Advanced Composition

[3 credit hours]

Instruction and practice in writing expository and persuasive prose for a variety of audiences with particular attention to the effect of content and style upon readers. Introduction to advanced methods for critical thinking, argumentation, and research writing. Writing for discipline-specific and/or public audiences encouraged.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ENGL2710 Reading Fiction

[3 credit hours]

Exploration of various kinds of fiction with goals of literary appreciation and analytical insight. (not for major credit)

Prerequisites: ENGL 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR E

ENGL2720 Reading Drama

[3 credit hours]

Exploration of various kinds of drama with goals of literary appreciation and analytical insight. (not for major credit)

Prerequisites: ENGL 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR E

ENGL2730 Reading Poetry

[3 credit hours]

Exploration of various kinds of poetry with goals of literary appreciation and analytical insight. (not for major credit)

Prerequisites: ENGL 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR E

ENGL2770 American Minority Writers

[3 credit hours]

Study of literature by underrepresented groups in the United States. A particular group may be specified; consult Time Schedules for specific topic.

ENGL2800 Writing About Literature

[3 credit hours]

A writing-intensive (WAC) course introducing the process of writing various types of papers and analyzing literary works. Special emphasis on discovering a topic and on revision and structure in expository writing.

Prerequisites: ENGL 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR E

ENGL2950 Science And Technical Report Writing

[3 credit hours]

Instruction and practice in multiple forms of technical and scientific communication for varied scientific and technical audiences. Emphasis on writing informational and analytical reports and documents in medical, scientific or technical fields. Additional focus on writing for multiple audiences and in different mediums, including online mediums.

Prerequisites: ENGL 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR HON 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

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ENGL2960 Professional and Business Writing

[3 credit hours]

Instruction and practice in multiple forms of professional and business writing within an organizational context. Emphasis on the analytical report based on research. Additional focus on writing for multiple audiences and in different mediums, including online mediums.

Prerequisites: ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGL3010 Creative Writing

[3 credit hours]

A basic introduction to creative writing. Students write poems, stories or creative nonfiction which serve as the basis for classroom discussion and for conferences with instructor.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ENGL3020 Readings for Writers

[3 credit hours]

Through the analysis of a diverse range of literary genres, this course will teach writers how to develop their own material by studying as models the formal strategies of other writers, including but not limited to language, structure, narrator or speaker, character, dialogue, plot, tone, and the many other elements of literature. This course will also offer a unit on professionalization.

Prerequisites: ENGL 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGL3040 Playwriting - WAC

[3 credit hours]

This course involves a practical analysis of plays, emphasizing character development, dialogue, and story structure. Students' plays will be workshopped, critiqued, and read aloud.

ENGL3050 Persuasive Writing

[3 credit hours]

Analysis of and practice in the techniques of persuasive writing. Emphasis varies from writing about legal issues to writing about issues of public controversy.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ENGL3060 Screenwriting

[3 credit hours]

This course involves practical analysis of screenplays, emphasizing story structure and characterization. Students plan, write and refine story lines before writing actual scripts.

ENGL3070 Writing Within the Community

[3 credit hours]

This service learning course will teach students how to teach creative writing with compassion in small communities with a need to have their voices heard.

ENGL3080 The Art And Process Of The Book

[3 credit hours]

This course examines all aspects of the printed book - from scrolls to Gutenburg to contemporary publishing - as students work towards designing, printing and binding a finely printed edition.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ENGL3150 Linguistic Principles

[3 credit hours]

An introduction to modern linguistic theories about the nature and structure of language with emphasis on English.

ENGL3250 The Detective Story

[3 credit hours]

A selective study of the genre from its beginning in the 19th century to the present, with attention to the variety of sub-genres and styles.

ENGL3260 Contemporary Fiction

[3 credit hours]

A study of recent trends in American, British, and World fiction.

ENGL3600 American Literary Traditions

[3 credit hours]

Introduction to literary history, and the terminology and techniques of the historical study of Americanliterature, intended as preparation for the English major. Texts may include works from the colonial period to the 21st-century.

ENGL3610 British Literary Traditions

[3 credit hours]

Introduction to literary history, and the terminology and techniques of the historical study of British literature, intended as preparation for the English major. Texts may include works from the Medieval period to the 21st-century.

ENGL3620 Children's and Young Adult Literature

[3 credit hours]

Study of the history and major themes of children's and young adult literature. Appropriate for both majors and non-majors.

ENGL3650 Science Fiction And Fantasy Literature

[3 credit hours]

This course examines literary works of science fiction and fantasy, and related scholarship, from a variety of perspectives. Readings are selected from prominent writers in both genres.

ENGL3670 Postcolonial, Diasporic, and Nonwhite Communities

[3 credit hours]

Introduction to study of non-white authors representing formerly colonized countries or other nonwestern and diasporic communities. May include African-American, Caribbean, Central and South Asian, or African literature. Will include texts written in English and/or translated from other languages. Intended as preparation for the English major.

ENGL3710 Literature Of The Old Testament

[3 credit hours]

A study of the Old Testament from the literary point of view, including ancient poetry, history, romance, short story, hymn, prophecy, and wisdom writing.

ENGL3720 Literature And Mythology

[3 credit hours]

Study of classical and biblical mythologies in modern Western literature, private mythologies and literary adaptations of patterns from legend and folklore.

ENGL3730 Folklore

[3 credit hours]

A survey of the field of folklore with an emphasis on folk narrative, folk music and material culture in America.

ENGL3740 Folklore And Literature

[3 credit hours]

A study in the relationship of oral and written literature. Focus is on the literary uses of folk forms and use of tradition by specific writers and schools.

ENGL3750 Women And Literature

[3 credit hours]

Offered as Writing Across the Curriculum (WAC) course. Examines literary works in light of major issues raised by feminist criticism and gender studies.

ENGL3760 European Literature To The Renaissance

[3 credit hours]

Offered as Writing Across the Curriculum (WAC) course. A selective study of works of European literature (in translation) from the Ancient Greeks and Romans and Medieval and Renaissance European cultures other than Britain. Particular texts vary, but may include a variety of genres and authors across the periods. Recommended: ENGL 3600, 3610, or 3790.

ENGL3770 World Literature And Cultures

[3 credit hours]

This course examines texts and cultures form around the world (and in particular the non-western world). The genres examined include autobiography, poetry, short fiction, novels, plays and histories.

ENGL3780 Modern European Literature

[3 credit hours]

Literature of Europe other than Britain from the 16th century to the present, in English translation.

ENGL3790 Foundations Of Literary Study

[3 credit hours]

Writing Across the Curriculum Course. An overview and introduction to the discipline of literary study.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ENGL3810 Shakespeare I

[3 credit hours]

An introduction to the study and interpretation of Shakesepare’s works in literary, theatrical, and historical context, with a focus on his drama.

ENGL3980 Special Topics in Literature

[3 credit hours]

Group study of a period, genre, author, or special literary topic. May be repeated with change of specialty number. Topics will be announced in the semester Time Schedules.

ENGL4030 Writing Workshop In Nonfictional Prose

[3 credit hours]

Directed study of nonfiction genres, rhetorical forms and elements of style; extensive practice in the writing and critical evaluation of prose.

Prerequisites: ENGL 2010 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

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ENGL4060 Screenwriting II

[3 credit hours]

For students familiar with the fundamentals of screenplays, this course devotes attention to writing a complete script. Students are expected to come to the class with a planned story line.

Prerequisites: ENGL 3060 FOR LEVEL UG WITH MIN. GRADE OF D- OR FILM 3350 FOR LEVEL UG WITH MIN. GRADE OF D-

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ENGL4070 Writing Workshop In Poetry

[3 credit hours]

An advanced workshop in writing poetry emphasizing a wider range of readings, craft and technique.

Prerequisites: ENGL 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGL4080 Writing Workshop In Fiction

[3 credit hours]

An advanced workshop emphasizing a wider range of readings, craft and technique. May be repeated once for credit.

Prerequisites: ENGL 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGL4090 Current Writing Theory

[3 credit hours]

A study of current theory and research connecting reading, critical thinking, and writing with applications of theory to students' writing practice.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

ENGL4100 The History Of English

[3 credit hours]

Study of the changes that have taken place in the English language from the earliest days to the present.

ENGL4150 Applied Linguistics Research And Theory I

[3 credit hours]

Focus on the methods of applied linguistics in the broad sense, including their use in studies of first and second language acquisition, language teaching, the teaching of reading and writing, and other related areas.

Prerequisites: ENGL 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LING 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

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ENGL4170 Applied Linguistics Research And Theory II

[3 credit hours]

Study of theories of second/foreign language acquisition, especially, but not exclusively, as they relate to English as a Second Language.

Prerequisites: ENGL 4150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LING 4150 FOR LEVEL UG WITH MIN. GRADE OF D-

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ENGL4200 British Fiction: 18th Century

[3 credit hours]

The development of British fiction in the 18th Century. Recommended: ENGL 3610 or 3790.

ENGL4210 Issues in ESL Writing

[3 credit hours]

Course content includes key concepts in ESL writing instruction and research; characteristics of second language writers and their texts; curricular options; and responding to and assessing ESL writing.

ENGL4280 American Fiction: 20th Century

[3 credit hours]

Major developments in the 20th-century American short story and novel. Recommended: ENGL 3600 or 3790.

ENGL4310 British Drama To 1642

[3 credit hours]

A study of drama in England from the opening of the first public theaters to their closing in 1642. May include plays produced for public performance and other dramatic works. Emphasis will be on playwrights other than Shakespeare. Recommended: ENGL 3610, 3790, or 3810

ENGL4340 Modern Drama

[3 credit hours]

Drama in English or translation from the 1870s to the 1930s.

ENGL4400 British Literature: The Medieval Period

[3 credit hours]

The study of British literature before 1500, often in translation. Topics vary between early medieval texts and culture (8th to 11th centuries), late medieval texts and culture (12th to 15th centuries, excluding Chaucer), and specific themes or genres across sub-periods. Check departmental course descriptions for the specific topic in a given semester. May be repeated for credit if topics are different. Recommended: ENGL 3610, 3810, or 3790.

ENGL4420 British Literature: Renaissance

[3 credit hours]

Poetry and prose of the 16th century, with emphasis on the Elizabethan period. Recommended: ENGL 3610, 3790, or 3810.

ENGL4440 Early 17th Century English Literature

[3 credit hours]

Poetry and prose from 1603 to 1660. Recommended: ENGL 3610, 3790, or 3810.

ENGL4460 British Literature: Restoration And 18th Century

[3 credit hours]

Drama, poetry, and prose of the Restoration, neo-classical and pre-Romantic periods. Recommended: ENGL 3610, 3790, or 3810.

ENGL4500 British Literature: The Romantic Period

[3 credit hours]

Study of major authors, genres, and ideas of the Romantic period: approximately 1789 to 1837.

ENGL4520 British Literature: The Victorian Period

[3 credit hours]

Study of major authors, genres, and ideas of the Victorian period: approximately 1837 to 1901.

ENGL4540 British Literature: The 20th Century

[3 credit hours]

Study of major authors, genres, and ideas of 20th-century British literature.

ENGL4560 Literature of the British Empire 1850 to the Present

[3 credit hours]

Studies in texts from Britain and its former colonies. Genres may include the novel, travel writing, memoir, and film.

ENGL4600 Early American Literature

[3 credit hours]

The poetry and theology of the New England Puritans, especially Bradstreet and Taylor, the literature of the American Enlightenment, the beginnings of American Romanticism in Bryant and Cooper. Recommended: ENGL 3600 or 3790.

ENGL4620 American Romanticism

[3 credit hours]

Literature of the United States from the early nineteenth century through about 1865, with concentration on the literary production between 1840 and 1865. Recommended: ENGL 3600 or 3790.

ENGL4630 American Literary Realism

[3 credit hours]

American literature from the post-Civil War period to the early 20th Century. Recommended: ENGL 3600 or 3790.

ENGL4640 Early 20th Century American Poetry

[3 credit hours]

Study of American poetry from 1900 to 1950. Recommended: ENGL 3600 or 3790.

ENGL4650 African American Writers Before The 20th Century

[3 credit hours]

A survey of African-American prose, poetry, drama and fiction from 1760 to 1915. Recommended: ENGL 2800, or 3790.

ENGL4660 African American Literature In The 20th Century

[3 credit hours]

A course focused on 20th- and 21st-century African-American poetry, fiction, nonfiction, and drama.

ENGL4680 American Literature Since World War II

[3 credit hours]

An exploration of American literature from 1945 to the present day with a focus on both poetry and fiction, and possibly drama and other literary forms. Recommended: ENGL 3600 or 3790.

ENGL4690 Native American Literature And Culture

[3 credit hours]

Study of texts by and about Native Americans, including the oral traditions of storytelling and mythology.

ENGL4730 World Cinemas And Cultures

[3 credit hours]

Study of cinematic representations across cultures and the relations between film, its subjects and the camera.

ENGL4800 Chaucer

[3 credit hours]

A study of Geoffrey Chaucer’s major works and cultural, literary, and critical contexts. All works will be read in Chaucer’s original Middle English. Course has two variations: one focusing on The Canterbury Tales and another on the dream visions and Troilus and Criseyde. Consult Time Schedules or departmental course descriptions for the specific topic. May be repeated for credit with different topic. Recommended: ENGL 3610, 3790 or 3810.

ENGL4810 Shakespeare II

[3 credit hours]

Advanced study of Shakespeare's plays, particularly his later plays. Recommended: ENGL 3810.

ENGL4820 Milton

[3 credit hours]

A study of the poetry and selected prose of John Milton. Recommended: ENGL 3610, 3810, or 3790.

ENGL4850 Studies In The Work Of A British Author

[3 credit hours]

Author changes with each offering. Consult Time Schedules for authors to be studied. Can be repeated for credit if topic is different. Recommended: ENGL 3610, 3810, or 3790.

ENGL4860 Studies In The Work Of An American Author

[3 credit hours]

Author changes with each offering. Consult Time Schedules for authors to be studied. Can be repeated for credit if topic is different. Recommended: ENGL 3600, 3810, or 3790.

ENGL4900 English Honors Seminar

[2 credit hours]

The Honors Seminar is taken in conjunction with the Honors Thesis ENGL 4960). Required of all candidates for departmental Honors.

ENGL4940 Internship In English

[1-4 credit hours]

Internship with an approved program, company or agency employing research, writing editing or linguistics expertise. Student must submit proposal for approval by advisory and a departmental committee. (Repeatable for a maximum of 4 hours credit.)

ENGL4950 Special Topics For Writers

[3 credit hours]

An advanced course in genre writing. Content varies with each offering. May be repeated once for credit.

ENGL4960 English Honors Thesis

[1-4 credit hours]

Research and writing of a thesis on a topic in English or linguistics required of all candidates for departmental honors.

ENGL4980 Special Topics In Literature

[3 credit hours]

An undergraduate course on a special topic. Consult Time Schedules for topic to be studied and semester offered.

ENGL4990 Independent Study

[1-3 credit hours]

Supervised independent study in special topics of British and American language and literature. Courses may be repeated more than once for credit.

ENGL5090 Current Writing Theory

[3 credit hours]

An intensive study of current theories and research connecting reading, critical thinking and writing with applications of theory to students' literate practices and research.

ENGL5100 History Of The English Language

[3 credit hours]

Study of the origins and development of the English language.

Prerequisites: ENGL 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LING 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR ENGL 7150 FOR LEVEL GR WITH MIN. GRADE OF D- OR

ENGL5150 Linguistic Principles

[3 credit hours]

Intensive study of modern linguistic theories about the nature and structure of language, with emphasis on English.

ENGL5200 British Fiction: 18th Century

[3 credit hours]

A course in 18th Century fiction with emphasis on the novels of Defoe, Richardson, Fielding, Smollett, and Sterne and their relation to historical background and literary theory.

ENGL5210 Issues in ESL Writing

[3 credit hours]

Course content

ENGL5280 American Fiction: 20th Century

[3 credit hours]

A study of the chief developments in content and form of the American short story and novel since World War I, partly through intensive analysis of works by selected major writers.

ENGL5310 British Drama: 1580-1642

[3 credit hours]

A study of early British drama exclusive of Shakespeare, with particular attention to Elizabethan drama and its background.

ENGL5410 Old And Middle English Literature

[3 credit hours]

Study of Old and Middle English Literature, using translations where necessary, with emphasis on major works and genres, cultural, philosophical, and historical contexts and backgrounds.

ENGL5420 English Renaissance

[3 credit hours]

Poetry and prose of the English Renaissance, including the sonnet tradition; "Spenser¿s Fairie Queene"; Shakespeare¿s longer poems; the prose of Ralegh, Hoby, Ascham, and Elyot; "Defense of Poesy"; More¿s "Utopia."

ENGL5430 Approaches to English As A Second Language

[3 credit hours]

Examination of a broad range of approaches to the teaching of English as a Second Language, including how therse approaches fit into different theoretical assumptions and how they are implemented in practice.

ENGL5460 Restoration And 18th Century British Literature

[3 credit hours]

Drama, poetry, and prose of the Restoration, Neo-classical and pre-Romantic periods, focusing on literary strategies and themes, political and cultural contexts.

ENGL5500 British Literature: The Romantic Period

[3 credit hours]

Study of major authors and genres of the Romantic period: approximately 1789 to 1837.

ENGL5520 British Literature: The Victorian Period

[3 credit hours]

Study of major authors, genres and ideas of the Victorian period: approximately 1837 to 1901.

ENGL5540 20th Century British Literature

[3 credit hours]

British poetry of the early 20th century, including the works of such poets as Hopkins, Housman, Hardy, Yeats, Owen, Lawrence, Auden and Thomas, and the research and criticism relevant to them.

ENGL5560 Literature of the British Empire 1850 to The Present

[3 credit hours]

Studies in texts from Britain and its former colonies. Genres may include the novel, travel writing, memoir, and film. Recommended: ENGL 2800 or 3790

ENGL5600 Early American Literature

[3 credit hours]

The poetry and prose writings of the New England Puritans and the American Enlightenment with emphasis on Bradford, Bradstreet, Taylor, Franklin, Jefferson, Paine and Wheatley.

ENGL5620 American Literary Romanticism

[3 credit hours]

American literature from 1798 to 1865, from the beginnings of Romanticism in Bryant and Cooper through the Transcendental movement, with emphasis on Hawthorne, Melville, Stowe and Douglass.

ENGL5630 American Literary Realism

[3 credit hours]

American literature from the post-Civil War period to the early 20th century: some emphasis on naturalism and humor; such writers as Twain, James, Howells, Dreiser and Wharton.

ENGL5640 Early 20th Century American Literature

[3 credit hours]

Study of American literature from 1900 to World War II, focusing on literary modernism and its social, political and philosophical contexts.

ENGL5650 African American Writing Before The 20th Century

[3 credit hours]

Study of African American prose, poetry, drama and fiction from 1760 to 1915.

ENGL5660 African American Writing In The 20th Century

[3 credit hours]

A literary, historical and social consideration of the achievement of black American writers since 1915.

ENGL5680 American Literature Since World War II

[3 credit hours]

Major trends in postwar American literature, including traditional and uncanonical writers. Emphasis may be on poetry or prose by instructor's option.

ENGL5690 Native American Literature And Culture

[3 credit hours]

Native American literature interrogates a selection of texts by and about Native Americans, including the oral traditions of storytelling and mythology.

ENGL5750 History Of Literary Criticism

[3 credit hours]

A chronological examination of literary criticism, analyzing the variety of claims and practices which contribute to the current frameworks used to interpret and analyze literary texts.

ENGL5780 Contemporary Literary Theories And Criticism

[3 credit hours]

An intensive examination of contemporary literary theories and criticism, focusing on selected issues and on representative theorists and critics.

ENGL5790 Approaches To Research In English

[3 credit hours]

An introduction to the discipline(s) of English, the methods and resources of scholarship in the field.

ENGL5800 Chaucer

[3 credit hours]

A study of Chaucer¿s major works and historical contexts, with emphasis on either Troilus and Criseyde and the dream visions, or on The Canterbury Tales in their entirety.

ENGL5810 Shakespeare

[3 credit hours]

A study of Shakespeare's plays with emphasis on his development as a dramatist and with readings in major Shakespearean criticism.

ENGL5820 Milton

[3 credit hours]

A study of the poetry and selected prose. Particular attention is given to biography and criticism.

ENGL5850 Studies In The Work Of A British Author

[3 credit hours]

Author changes with each offering. Consult Time Schedules for authors to be studied.

ENGL5860 Studies In The Work Of An American Author

[3 credit hours]

Author changes with each offering. Consult Time Schedules for authors to be studied.

ENGL5980 Special Topics

[3 credit hours]

Consideration of a special topic in literature and language.

ENGL6010 Seminar In English Instruction: Composition

[3 credit hours]

For prospective college instructors of composition. Includes supervised teaching of composition. Graded S/U only.

ENGL6150 Applied Linguistics I

[3 credit hours]

Focus on the methods of "applied linguistics" in the broad sense, through case studies including research on first and second language acquisition, language teaching, the teaching of reading and writing, and other related areas.

Prerequisites: ENGL 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 5150 FOR LEVEL GR WITH MIN. GRADE OF D-

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ENGL6170 Applied Linguistics Research And Theory II

[3 credit hours]

Focuses on theories of second/foreign language acquisition, especially, but not exclusively, as they relate to English as a Second Language.

Prerequisites: ENGL 6150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 6150 FOR LEVEL GR WITH MIN. GRADE OF D-

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ENGL6180 Methods In Composition Research, Course Design And Assessment

[3 credit hours]

Students will learn to use rhetorical analysis, discourse analysis and ethnographic research methodologies to write a substantial research proposal, and to design a course and write criteria for assessment of student writing accomplished in such a course.

Prerequisites: ENGL 4090 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 5090 FOR LEVEL GR WITH MIN. GRADE OF D-

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ENGL6190 Environments For Esl Learning

[3 credit hours]

In the course, students learn how to identify English as a Second Language learners' linguistic needs and to design and evaluate environments for ESL learning.

Prerequisites: ENGL 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR ENGL 7150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LING 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR

ENGL6410 Seminar: Studies In Early English Literature

[3 credit hours]

Seminar on a specialized topic in Old and/or Middle English literature.

ENGL6420 Seminar: Studies In English Renaissance Literature

[3 credit hours]

Seminar on a specialized topic in English Renaissance literature.

ENGL6440 Seminar: Studies In Early 17th Century Literature

[3 credit hours]

Seminar on a specialized topic in early 17th century English literature.

ENGL6460 Seminar: Studies In Restoration And 18th Century British Literature

[3 credit hours]

Seminar on a specialized topic in Restoration and 18th century British literature.

ENGL6500 Seminar: Studies In British Romantic Literature

[3 credit hours]

Seminar on a specialized topic in British Romantic literature.

ENGL6520 Seminar: Studies In Victorian Literature

[3 credit hours]

Seminar on a specialized topic in Victorian literature.

ENGL6620 Seminar: Studies In American Literary Romanticism

[3 credit hours]

Seminar on a specialized topic in American literary Romanticism.

ENGL6630 Seminar: Studies In American Literary Realism

[3 credit hours]

Seminar on a specialized topic in American literary realism.

ENGL6640 Seminar: Studies In 20th Century American Literature

[3 credit hours]

Seminar on a specialized topic in 20th century American literature.

ENGL6890 Certificate Capstone

[3 credit hours]

This course completes the certificate program. Students will fulfill research on writing piloted in ENGL 6180, culminating in a research essay that will be submitted for publication to an appropriate scholarly journal.

Prerequisites: (ENGL 5090 FOR LEVEL GR WITH MIN. GRADE OF D- AND ENGL 5780 FOR LEVEL GR WITH MIN. GRADE OF D- AND ENGL 6010 FOR LEVEL GR WITH MIN. GRADE OF D- AND ENGL 6180 FOR LEVEL GR WITH MIN. GRADE OF D-)

ENGL6940 Internship in English as a Second Language

[2 credit hours]

Supervised practice teaching in the form of a community-service internship in English as a Second Language. Must be taken twice with different content. Graded S/U only.

ENGL6960 Master's Research

[1-3 credit hours]

Research on, and writing of the master's paper or thesis.

ENGL6970 Master’s Thesis

[1-3 credit hours]

Research on and writing of the master’s thesis in the concentration in English as a Second Language.

ENGL6980 Seminar: Literary Types And Special Topics

[3 credit hours]

Seminar on a specialized topic in English studies.

ENGL6990 Independent Study

[1-3 credit hours]

By permission of department; may be repeated for additional credit.

ENGL8990 Independent Study

[1-3 credit hours]

By permission of department; may be repeated for additional credit.

ENGT1000 Engineering Technology Orientation

[1 credit hour]

Overview of careers in engineering technology, information about each program in Engineering Technology, and skills required for success in technological fields, such as computer skills.

ENGT2000 Professional Development

[1 credit hour]

An introduction to the performance expectations of the engineering profession. Topics covered include resume writing, public speaking, interviewing skills, ethics, social responsibilities and the value of continuing education and professional registration.

Prerequisites: ENGT 1000 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGT2500 Technical Project Management

[3 credit hours]

General methodology of managing a technical project from concept to operational use. Emphasis is on the functions and responsibilities of the project manager related to maintaining project control and team management.

ENGT3010 Applied Statistics And Design Of Experiments

[4 credit hours]

Introduction to probability, statistical inference and design of experiments. Topics include confidence intervals, tests of hypothesis, regression, analysis of variance, factorial experimental designs and propagation of experimental errors.

Prerequisites: MATH 2460 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGT3020 Applied Engineering Mathematics

[3 credit hours]

Introduction to partial derivatives, series expansions, complex variables, differential equations and Laplace transform analysis. Application of computers for numerical solution techniques.

Prerequisites: MATH 2460 FOR LEVEL UG WITH MIN. GRADE OF D- AND ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

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ENGT3040 Applied Materials Science

[0-4 credit hours]

Study of the relationships between structures and properties for common engineering materials, including metals, polymers, ceramics and composites. Mechanical behavior, temperature effects, heat treatment, corrosion and electrical properties are covered.

Prerequisites: (ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2120 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2120 FOR LEVEL UG WITH MIN. GRADE OF D-

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ENGT3050 Fundamentals Of Electricity

[0-4 credit hours]

An introduction to basic analytical techniques for resistive and reactive DC and AC electric circuits, and an introduction to electronic devices, including diodes and transistors. No credit towards EET degree.

Prerequisites: MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGT3600 Engineering Economics

[3 credit hours]

Fundamentals of analysis of engineering projects and capital investment decisions. Review of break-even analyses, rate of return, cost benefit ratios and tax and inflation implications will be performed.

ENGT3940 Co-Op Experience

[1 credit hour]

Approved co-op work experience. Course may be repeated.

Prerequisites: ENGT 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGT3950 Co-op Experience

[1 credit hour]

Approved co-op work experience beyond third required co-op experience. Course may be repeated.

Prerequisites: ENGT 3940 FOR LEVEL UG WITH MIN. GRADE OF D-

ENGT4050 Senior Technology Capstone

[3 credit hours]

A comprehensive problem in engineering technology is assigned to a group of students who work together as a team to present a solution in a formal written and oral report.

ENGT4900 Engineering Review For Professional Certification

[3 credit hours]

A review and application of general engineering principles and procedures in preparation for the Fundamentals of Engineering (FE) exam. Offered for students preparing to take the exam and for those considering it.

ENGT4980 Special Topics In Engineering Technology

[1-4 credit hours]

Selected topics in engineering technology with emphasis on intensive investigation of recent literature in areas of special interest.

ENTS701 Otolaryngology

[0-6 credit hours]

Designed for students going into Otolaryngology. Will be exposed to common ears, nose and throat problems such as recurrent tonsillitis/adenoidectomy, otitis media/myringotomy and tube insertion, hearing loss/hearing aids, swallowing problems, hoarseness, dizziness, chronic ear disease, sinusitis/sinus surgery, head and neck cancer. Students will be integrated into the OR, work in the Audiology and Speech Department and Vestibular Rehabilitation Department. Student will be integrated as a sub-intern, with appropriate responsibility for diagnosis and management of patients. May be assigned an independent project. Will take call.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

ENTS706 Otolaryngology Elective

[6 credit hours]

This clerkship is designed to expose medical students to common ear, nose and throat problems such as recurrent tonsillitis, otitis media, hearing loss, swallowing problems, hoarseness, dizziness, chronic ear disease, sinusitis, maxilla facial trauma, snoring, sleep apnea, and head and neck cancer.

Prerequisites: (MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY

ENTS707 Otolaryngology Elective

[3 credit hours]

This clerkship is designed to expose medical students to common ear, nose and throat problems such as recurrent tonsillitis, otitis media, hearing loss, swallowing problems, hoarseness, dizziness, chronic ear disease, sinusitis, maxilla facial trauma, snoring, sleep apnea, and head and neck cancer.

Prerequisites: (MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY

ENTS709 Otolaryngology Combined Elect

[3 credit hours]

Elective designed to introduce students to common ears, nose and throat problems along with evaluating patients with eye disorders. This elective will include 2 weeks of inpatient and 2 weeks of outpatient otolaryngology at UTMC and outpatient ophthalmology experience at Vision Associates. Students will be introduced to patients with tonsillitis/adenoidectomy, swallowing problems, hoarsness, chronic ear disease, sinusitis, macular degeneration, cataract, glaucoma, diabetic retinopathy and various ENT/Ophthalmology related diseases. Must register for respective OPTH 731 elective.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ENTS710 Otolaryngology

[3 credit hours]

Designed for students going into Primary Care or related specialty. Will be exposed to common ears, nose and throat problems such as recurrent tonsillitis/adenoidectomy, otitis media/myringotomy and tube insertion, hearing loss/hearing aids, swallowing problems, hoarseness, dizziness, chronic ear disease, sinusitis/sinus surgery, head and neck cancer. Students will be integrated into the OR, may work in the Audiology and Speech Department and Vestibular Rehabilitation Department. This is a pass/fail course.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

ENTS760 Otolaryngology Elective

[6 credit hours]

Designed for students going into Otolaryngology. Will be exposed to common ears, nose and throat problems such as recurrent tonsillitis/adenoidectomy, otitis media/myringotomy and tube insertion, hearing loss/hearing aids, swallowing problems, hoarseness, dizziness, chronic ear disease, sinusitis/sinus surgery, head and neck cancer. Students will be integrated into the OR, work in the Audiology and Speech Department and Vestibular Rehabilitation Department. Student will be integrated as a sub-intern, with appropriate responsibility for diagnosis and management of patients. May be assigned an independent project. Will take call.

ENTS761 Otolaryngology Combined Elect

[3 credit hours]

Elective designed to introduce students to common ears, nose and throat problems along with evaluating patients with eye disorders. This elective will include 2 weeks of inpatient and outpatient otolaryngology at UTMC and 2 weeks outpatient ophthalmology experience at Vision Associates. Students will be introduced to patients with tonsillitis/adenoidectomy, swallowing problems, hoarsness, chronic ear disease, sinusitis, macular degeneration, cataract, glaucoma, diabetic retinopathy and various ENT/Ophthalmology related diseases. Must register for respective OPTH 761 elective.

ENV582 Problems in Environmental Studies

[3 credit hours]

Advanced level study of a selected aspect of the discipline, particular area of concern, or question put forward for consideration. May be repeated with clearly different topics.

ERMD710 Emergency Med Core Elective

[6 credit hours]

The student will function as a part of the emergency team whose members handle all phases of emergency patient management ranging from triage to final disposition. The student will have the primary responsibility to examine and manage emergency patients, in consultation with attending faculty. This elective is NOT an acting internship.

ERMD711 Emergency Medicine Research

[6 credit hours]

Students will be required to 1) complete required readings, and 2) actively participate in an Emergency Medicine research project. Duties may include study design, IRB application, data collection, data entry, data analysis, study presentation, and/or manuscript writing.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ERMD713 Honor Code Exploration

[3-6 credit hours]

The Medical Student Body owns and operates under the tenets of an Honor Code and System. This elective is designed to explore in depth issues pertaining to Honor in medical education and practice. It is expected that during this elective an academic project is to be completed. The specifics of the academic project will be decided upon by the student and faculty. Additionally, the student in this elective is expected to explore various issues pertaining to honor through daily reflection. The student shall utilize the medical literature as a source of background information for issues explored.

ERMD715 Emergency Medicine

[0-6 credit hours]

The student will become a part of the emergency team whose members handle all phases of emergency patient management ranging from triage to final disposition. The student will have the opportunity to examine patients and discuss his/her findings with the Emergency Medicine Attendings and Residents. Each acting intern must complete two on-line modules to prepare the acting intern for his/her role as teachers of junior medical students.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

ERMD716 Emergency Ultrasound

[3 credit hours]

The utilization for bedside (point-of-care) emergency ultrasound is expanding and providing efficient and effective patient care. This elective introduces a 4th year medical student with emergency medicine interest to the basics of performing and interpreting beside ultrasound in the emergency department. They will receive one-on-one bedside teaching in the use of emergency ultrasound with attending physicians and residents and the ability to scan on their own with appropriate supervision.

Prerequisites: ERMD 760 FOR LEVEL MD WITH MIN. GRADE OF P OR ERMD 710 FOR LEVEL MD WITH MIN. GRADE OF P OR ERMD 715 FOR LEVEL MD WITH MIN. GRADE OF P OR ERMD 750 FOR LEVEL MD WITH MIN. GRADE OF P OR ERMD 751 FOR LEVEL MD WITH MIN. GRADE OF P

ERMD745 MD/PhD Emergency Med Clinical

[1-2 credit hours]

In the summer after the second year of medical school, MD/PhD students will identify a clinical mentor who will be responsible for overseeing clinical training for the student during a portion of his/her graduate school phase of the program, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The mentor may change during the course of the student¿s graduate school years, but changes should occur after the end of a semester. Clinical Setting and Training: Students schedule specific hours (which may include evenings or weekends) with their clinical mentor. Patients will be assigned to the student for evaluation, and students will be involved in all aspects of emergency patient care, under direction of their clinical mentor or assigned Emergency Medicine attending. Students should see about one patient per hour of training. Students are expected to document their patient encounters as appropriate, and should be given feedback on these notes. Students should keep a log of their patients, their diagnoses, and any procedures performed. An electronic logging system for patient experiences will be developed. Student time commitment: Students are expected to spend 8 hours per month in clinical training. This can be divided into weekly 2 hour session, biweekly 4 hour sessions or an 8 hour day per month. Students are encouraged to discuss the most appropriate schedule with their laboratory mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. If students wish to limit their commitment to 4 hours per month, with permission of the course director, they should only sign up for one credit for that semester. Student/Mentor Contract: The student/mentor relationship should be formalized in a brief contract in which both acknowledge their time commitment, as well as the student¿s research mentor (to ensure that the dissertation advisor understands that this is an essential part of the student¿s training). Completed contracts should be submitted to the MD/PhD Director and to Pat Munier. The clinical mentor is responsible for ensuring that the student has a high quality training experience, but need not be the attending physician for all patient experiences. The mentor is responsible for providing a grade (submitted through the clerkship director) and both formative and summative evaluations. Credit: MD/PhD Students enrolled in graduate school will sign up for 1 or 2 credit hours during the fall or spring term while enrolled in graduate school and 1 credit hour during the summer term, consistent with an average of 8 contact hours per month (2 per week). Students may earn a maximum of 4 credit hours per academic year. For every 6 hours of credit, 4 weeks of fourth year clinical elective credit will be granted. In the course of 3 years of graduate training, students may earn a maximum of 12 credits and thus be eligible for a maximum of 2 months of clinical elective credit. This credit should allow further flexibility in 4th elective scheduling, enabling additional research months, off site rotations, etc. If students require more than 3 years of graduate work, continued participation in the clinical training program is strongly encouraged, but no more than 2 months of elective time will be awarded. Prerequisites: Successful completion of all preclinical coursework and passing Step I of the USMLE examination

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ERMD760 Emergency Medicine

[6 credit hours]

Students will evaluate and manage Emergency Department (ED) patients under the direct supervision of the EM Faculty. Students will perform histories and physical examinations, document findings in the medical record, order appropriate diagnostic and therapeutic interventions, assess response to therapy, and determine appropriate patient dispositions.

ETPT2020 Technology And Multimedia In Educational Environments

[3 credit hours]

Emphasizes the development of computing skills with a focus on productivity tools in organizing, managing, multimedia authoring, homepage development, software evaluation and presenting lessons for professional communication in K-12.

ETPT4200 Computer Skills For Instructional Professionals

[3 credit hours]

Emphasizes developing skills in the use of this common productivity software and the use of computer technology in solving typical classroom problems.

ETPT4950 Workshop In Educational Technology & Performance Technology

[1-5 credit hours]

Workshops are developed around topics of interest in all areas of educational technology and performance technology. Students should discuss specific content for each offering with educational technology faculty.

ETPT4990 Independent Study In Educational Technology & Performance Technology

[1-5 credit hours]

Individual study designed to provide a student the opportunity to work individually on professional problems under the direction of educational technology & performance technology faculty.

ETPT5000 Introduction To Educational Technology

[3 credit hours]

Introduces the field of Educational Technology and its relevant competencies. Examines current trends in Educational Technology.

ETPT5100 Instructional Systems Design Principles

[3 credit hours]

An introduction to various ISD models and approaches for designing effective systems of instruction. Students will begin to acquire experience in the actual analysis, design, development and evaluation of instruction.

ETPT5200 Computer Skills For Instructional Professionals

[3 credit hours]

Emphasizes developing skills in the use of this common productivity software and the use of computer technology in solving typical instructional problems.

ETPT5210 Introduction To Multimedia And Web Design

[3 credit hours]

An introduction to the software, hardware and processes involved in the design and development of multimedia and Web-based instructional materials.

ETPT5270 Instructional Video Production

[3 credit hours]

An introduction to all facets of producing video for use in various instructional settings.

ETPT5550 Using The Internet In The Classroom

[3 credit hours]

An introduction to effective use of Internet resources in instruction.

ETPT5950 Workshop In Educational Technology & Performance Technology

[1-5 credit hours]

Workshops are developed around topics of interest in all areas of educational technology and performance technology. Students should discuss specific content for each offering with educational technology faculty.

ETPT5980 Special Topics In Educational Technology And Performance Technology

[1-5 credit hours]

Special offerings are of interest to graduate students in educational technology and performance technology. Students should discuss specific content for each offerings with ETPT faculty.

ETPT5990 Graduate Independent Study In Educational Technology & Performance Technology

[1-5 credit hours]

Individual study designed to provide a student the opportunity to work individually on professional problems under the direction of educational technology & performance technology faculty.

ETPT6110 Instructional Systems Design Applications

[3 credit hours]

Based on the knowledge and skills acquired in ETPT 6100/8100, students design, develop and evaluate multimedia-based instructional modules and systems.

Prerequisites: (ETPT 5100 FOR LEVEL GR WITH MIN. GRADE OF D- AND ETPT 5210 FOR LEVEL GR WITH MIN. GRADE OF D-)

ETPT6150 Designing Instruction For Diverse Learner Populations

[3 credit hours]

Focuses on instructional designer's role in assessing and addressing such differences as performance environment, culture, ethnicity, physical attributes, age/experience and socioeconomic factors to maximize learning.

Prerequisites: ETPT 5100 FOR LEVEL GR WITH MIN. GRADE OF D-

ETPT6220 Developing Computer-Based Instructional Materials

[3 credit hours]

Teaches design and development of instructional software, using multimedia development environments and strategies.

Prerequisites: (ETPT 5100 FOR LEVEL GR WITH MIN. GRADE OF D- AND ETPT 5210 FOR LEVEL GR WITH MIN. GRADE OF D-)

ETPT6230 Developing Web-Based Instructional Materials

[3 credit hours]

Students apply previously acquired skills in multimedia and Web design to develop instructional materials for delivery via the World Wide Web.

Prerequisites: ETPT 5100 FOR LEVEL GR WITH MIN. GRADE OF D-

ETPT6300 Technology Management In K-16 Education

[3 credit hours]

Provides teachers and technology coordinators with the knowledge and skills necessary to manage instructional computer laboratories and services in K-16 settings.

ETPT6510 Teaching And Learning At A Distance

[3 credit hours]

Investigates various applications of distance learning for education and training.

ETPT6710 Systemic Change Principles And Applications

[3 credit hours]

Examines the process of change in the diffusion and adoption of innovations in education as well as business and industry. Adoption theory is analyzed.

ETPT6810 Research And Theory In Educational Technology And Performance Technology

[3 credit hours]

Investigates current major research trends and topics in various areas of educational technology and performance technology. Students develop and present a research proposal.

ETPT6900 Master's Seminar In Educational Technology And Performance Technology

[3 credit hours]

This course is the culminating experience in the ETPT master's program. Students complete a project under supervision of an educational technology faculty member.

Prerequisites: (ETPT 5000 FOR LEVEL GR WITH MIN. GRADE OF D- AND ETPT 6110 FOR LEVEL GR WITH MIN. GRADE OF D-)

ETPT6930 Master's Research Project In Educational Technology And Performance Technology

[1-3 credit hours]

Student will complete an individual research project under the orientation of a committee of at least two faculty members in ETPT, ordinarily including the faculty adviser.

ETPT6940 Practicum In Educational Technology And Performance Technology

[3 credit hours]

Students apply ETPT course work to solve an instructional and/or performance problem for a client organization under the supervision of educational technology faculty.

ETPT6960 Master's Thesis In Educational Technology And Performance Technology

[3 credit hours]

Students who elect this option will complete a thesis under the direction of committee of at least two faculty members from ETPT, ordinarily including the faculty adviser.

Prerequisites: ETPT 5100 FOR LEVEL GR WITH MIN. GRADE OF D-

ETPT7000 Introduction To Educational Technology

[3 credit hours]

Introduces the field of educational technology and its relevant competencies. Examines current trends in educational technology.

ETPT7100 Instructional Systems Design Principles

[3 credit hours]

An introduction to various ISD models and approaches for designing effective systems of instruction. Students will begin to acquire experience in the actual analysis, design, development and evaluation of instruction.

ETPT7210 Introduction To Multimedia And Web Design

[3 credit hours]

An introduction to the software, hardware and processes involved in the design and development of multimedia and Web-based instructional materials.

ETPT7270 Instructional Video Production

[3 credit hours]

An introduction to all facets of producing video for use in various instructional settings.

ETPT7550 Using The Internet In The Classroom

[3 credit hours]

An introduction to effective use of Internet resources in instruction.

ETPT7940 Specialist Practicum In Educational Technology And Performance Technology

[3 credit hours]

Observation and supervised experience in an appropriate setting. Students will be assigned to work as interns under the joint supervision of school and University personnel.

Prerequisites: ETPT 7100 FOR LEVEL GR WITH MIN. GRADE OF D-

ETPT7980 Special Topics In Educational Technology And Performance Technology

[1-5 credit hours]

Special offerings are of interest to graduate students in educational technology and performance technology. Students should discuss specific content for each offerings with ETPT faculty.

ETPT7990 Independent Study in ETPT

[1-5 credit hours]

Individual study designed to provide a student the opportunity to work individually on professional problems under the direction of Educational Technology faculty.

ETPT8110 Instructional Systems Design Applications

[3 credit hours]

Based on the knowledge and skills acquired in ETPT 6100/8100, students design, develop and evaluate multimedia-based instructional modules and systems.

Prerequisites: (ETPT 7100 FOR LEVEL GR WITH MIN. GRADE OF D- AND ETPT 7210 FOR LEVEL GR WITH MIN. GRADE OF D-)

ETPT8150 Designing Instruction For Diverse Learner Populations

[3 credit hours]

Focuses on instructional designer's role in assessing and addressing such differences as performance environment, culture, ethnicity, physical attributes, age/experience and socioeconomic factors to maximize learning.

Prerequisites: ETPT 7100 FOR LEVEL GR WITH MIN. GRADE OF D-

ETPT8220 Developing Computer-Based Instructional Materials

[3 credit hours]

Teaches design and development of instructional software, using multimedia development environments and strategies.

Prerequisites: (ETPT 7100 FOR LEVEL GR WITH MIN. GRADE OF D- AND ETPT 7210 FOR LEVEL GR WITH MIN. GRADE OF D-)

ETPT8230 Developing Web-Based Instructional Materials

[3 credit hours]

Students apply previously acquired skills in multimedia and Web design to develop instructional materials for delivery via the World Wide Web.

Prerequisites: (ETPT 7100 FOR LEVEL GR WITH MIN. GRADE OF D- AND ETPT 7210 FOR LEVEL GR WITH MIN. GRADE OF D-)

ETPT8300 Technology Management In K-16 Education

[3 credit hours]

Provides teachers and technology coordinators with the knowledge and skills necessary to manage instructional computer laboratories and services in K-16 settings.

ETPT8510 Teaching And Learning At A Distance

[3 credit hours]

Investigates various applications of distance learning systems for education and training.

ETPT8710 Systemic Change Principles And Applications

[3 credit hours]

Examines the process of change in the diffusion and adoption of innovations in education as well as business and industry. Adoption theory is analyzed.

ETPT8810 Research And Theory In Educational Technology And Performance Technology

[3 credit hours]

Investigates current major research trends and topics in various areas of educational technology and performance technology. Students develop and present a research proposal.

ETPT8900 Doctoral Seminar In Educational Technology And Performance Technology

[3 credit hours]

This seminar will consider problems and provide advanced study for doctoral students in educational technology and performance technology.

Prerequisites: ETPT 7100 FOR LEVEL GR WITH MIN. GRADE OF D-

ETPT8920 Interdisciplinary Seminar In Educational Technology And Performance Technology

[3 credit hours]

Considers issues and problems in various areas of educational technology and performance technology. Intended for advanced ETPT doctoral students.

ETPT8930 Advanced Research In Educational Technology And Performance Technology

[1-5 credit hours]

Individual study is designed to provide the doctoral student opportunity to work individually on professional problems under the direction of educational technology and performance technology faculty.

ETPT8940 Practicum In Educational Technology And Performance Technology

[3 credit hours]

Students apply ETPT course work to solve an instructional and/or performance problem for a client organization under the supervision of educational technology faculty.

ETPT8960 Dissertation In Educational Technology And Performance Technology

[1-12 credit hours]

Original research in an area of educational technology and performance technology.

FACD6250 Learning/Instruct Theories

[3 credit hours]

Introduction to the fundamental principles of curriculum development and assessment of learning outcomes. Application of the theoretical concepts to the development of curriculum and instructional strategies. The concept of instructional alignment will be at the foundation of various experiences that will expose students to knowledge and skill revelant to the development of instructional units and appropriate evaluation strategies.

FACD6350 Teach/Learn Hlth Med Sci

[3 credit hours]

Introduction to various theories of teaching and learning. Explores current issues in medical and health science education relative to the theoretical foundations of teaching. Current challenges faced by educators in the health sciences will be discussed and relevant literature reviewed and assessed.

FACD6700 Teach Improve Practicum

[1 credit hour]

Students evaluate their own teaching and reflect on how they integrate concepts presented in FACD 635 and FACD 625 into their own performance.

Prerequisites: FACD 6350 FOR LEVEL GR WITH MIN. GRADE OF S OR FACD 635 FOR LEVEL GR WITH MIN. GRADE OF S

FACD6970 Teaching/Learning Project

[3 credit hours]

Students are provided with the opportunity to synthesize the concepts presented and discussed in FACD 625 and FACD 635 into a unique curriculum development or educational research project.

Prerequisites: (FACD 6350 FOR LEVEL GR WITH MIN. GRADE OF S AND FACD 6250 FOR LEVEL GR WITH MIN. GRADE OF S) OR (FACD 635 FOR LEVEL GR WITH MIN. GRADE OF S AND FACD 625 FOR LEVEL GR WITH MIN. GRADE OF S)

FDNU5210 Intro to Dietetic Internship

[1-6 credit hours]

Supervised practical field application or clinical experience in food and nutrition.

FDNU5250 Sports Nutrition

[3 credit hours]

Develop an understanding of how macronutrient and micronutrient intake and metabolism fuels the body and affects performance at all levels of activity. Determine energy, protein, and fluid needs using evidenced-based equations. Discuss the appropriate use of supplementation in active and athletic people based on current scientific research. Identify and analyze current myths and controversies associated with sports nutrition. Prerequisite: FN 2070 or consent of the instructor. Approved for Distance Education.

FDNU5350 Nutrition thru Lifestyle: Preg

[3 credit hours]

Nutrition of infants and young children in health and disease, from prenatal period to adolescence (BGSU).

FDNU5360 Nutrition thru Lifestyle: Mid

[3 credit hours]

Psychological, physiological and socioeconomic factors affecting dietary practices and nutritional needs of the elderly in group and individual situations (BGSU). Prerequisite: F&N 535.

FDNU6070 Family and Community Nutrition

[3 credit hours]

Fundamental nutrition needs for the family and community at all social levels. A survey of various community-related nutrition problems and their role in human nutrition.

FDNU6090 Micronutrients

[3 credit hours]

Emphasis on human needs and food sources of vitamins and minerals during health and disease conditions. Identification and discussion of the chemical and physical properties of these micronutrients in foods and human systems (BGSU).

FDNU6100 Macronutrients for Human Nutrition

[3 credit hours]

Emphasis on metabolism of the structural and energy furnishing nutrients as applied to the nutritional requirements and food supplies of people; current literature and research in proteins, carbohydrates, and lipids.

FDNU6110 Advanced Clinical Nutrition

[3 credit hours]

Metabolic and physiologic basis for nutrition intervention in health and disease. Pathophysiology of major disease states and impact on normal nutrition and metabolism. Current research, critical evaluation of resources, current practice, and evidence-based recommendations for medical nutrition therapy.

FDNU6120 Weight Management

[3 credit hours]

Study of the nutritional aspects of overweight and obesity etiology, management, and prevention including scientific recommendations; behavior practices and basic metabolism.

FDNU6150 Phytochemicals Human Nutrition

[3 credit hours]

Summer. In-depth discussion and research on Phytochemicals and their benefits and/or controversies in human health and disease.

FDNU6210 Dietetic Internship I

[1-12 credit hours]

Supervised practice experiences that meet the Commission on Accreditation for Dietetics Education (CADE) dietetic internship requirements. Placement in hospital, clinical, management and community settings. Seminar meetings, case studies, and group discussions.

FDNU6220 Dietetic Internship II

[1-12 credit hours]

Advanced supervised practice experiences that meet the Commission on Accreditation for Dietetics Education (CADE) dietetic internship requirements. Placement in hospital, clinical, management and community settings. Seminar meeting, case study presentation, and group discussions.

Prerequisites: FDNU 6210 FOR LEVEL GR WITH MIN. GRADE OF D- OR FDNU 621 FOR LEVEL GR WITH MIN. GRADE OF D-

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FDNU6800 Seminar in Food and Nutrition

[1-3 credit hours]

Seminar on selected topics of current research in food and nutrition.

FDNU6820 Topics in Food and Nutrition

[1-3 credit hours]

In-depth examination of selected topics in food and/or nutrition. Current controversies, impact of recent research, and other aspects of the disciplines.

FDNU6850 Dir Rdg in Food-Nutrition

[1-3 credit hours]

Supervised independent readings in a focused area of food and/or nutrition.

FDNU6870 Independnt Stdy-Food & Nutritn

[1-3 credit hours]

Supervised study on selected problems in food and/or nutrition. Proposed program of study must be developed by student and FN graduate faculty.

FILM1310 Introduction To Film

[3 credit hours]

Introduction to the history and interpretation of cinema as art form, with emphasis on discovering how meaning is encoded in film at the levels of shot, sequence and narrative construction. (Not recommended or required for majors.)

FILM2310 Film I

[3 credit hours]

An intensive introduction to the theory and practice of creative filmmaking utilizing the professional 16mm format. Individual and group production exercises. Students must purchase supplies. Majors and minors only. Not to be taken simultaneously with FILM 2320. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C

FILM2320 Digital Cinema Production I - WAC

[3 credit hours]

An intensive seminar course where digital media is explored as a means for creative expression. Students purchase supplies. For majors and minors only, or by permission of instructor. Prerequisites: Comp I and Grade of C or better in FILM 2340. May not take simultaneously with FILM 2310. Writing Intensive (WAC) course.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C

FILM2340 Critical Approaches To Cinema

[3 credit hours]

A critical approach to the development of cinema as an industrial, artistic and ideological practice. Emphasis on theories of film construction and interpretation and the development of analytical skills for cinema studies. Screenings included in class.

FILM2350 Cinema History

[3 credit hours]

A study of the major movements and authors of Cinema History. Screenings included in class.

FILM2980 Cinema Studies Topic I

[3 credit hours]

Topics of Cinema Studies, concentrating on a specific style, genre, or national cinema, such as, Italian Cinema, Non-Western Cinema, etc. Topics vary. May be repeated for 9 hours.

FILM2990 Special Projects

[1-3 credit hours]

Individual study provides the student an opportunity to work independently on a problem of special interest in Film/Video under the direction of the faculty. For Freshman and Sophomore students.

FILM3210 Film Theory

[3 credit hours]

Course in fundamental concepts in film theory. Examines the history of film theory and its ongoing development in the face of changes in production and consumption practices. Theories covered include classical narrative, psychoanalysis, semiotics, feminism, genre, reception studies, and globalization. This course is Writing Intensive and incorporates frequent writing assignments in ways that help students learn both the subject matter of the course and discipline-specific ways of thinking and writing.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3310 Film II

[3 credit hours]

An intermediate production/seminar course for 16mm filmmaking. Emphasis on sync-sound and narrative film, advanced lighting and exposure techniques, and camera movement. Individual and group projects. Students are required to purchase supplies. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2310 FOR LEVEL UG WITH MIN. GRADE OF C AND FILM 2320 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3320 Video II

[3 credit hours]

A production/seminar course for digital cinema production. Conceptual frameworks rotate; emphasis on personal and political storytelling and exploring methods of the auteur. Individual and group projects. Students are required to purchase supplies. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2320 FOR LEVEL UG WITH MIN. GRADE OF C AND FILM 2310 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3350 Screenwriting

[3 credit hours]

This course involves practical analysis of screenplays, emphasizing story structure and characterization. Students plan, write and refine story lines before writing actual scripts.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

FILM3360 Production Topic

[3 credit hours]

Topics in production including Animation, Sound, Lighting, Editing, etc. Individual and group projects. Students must purchase supplies. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2310 FOR LEVEL UG WITH MIN. GRADE OF C OR FILM 2320 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3370 Documentary Film

[3 credit hours]

A study of the major movements and authors of Documentary Film. Screenings included in class.

Prerequisites: (ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D-) A

FILM3380 Experimental Film

[3 credit hours]

A study of the major movements and authors of Experimental Film. Screenings included in class.

Prerequisites: (ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D-) A

FILM3390 History Of Video Art

[3 credit hours]

A study of the major movements of the History of Video Art and Installation. Screenings included in class.

Prerequisites: ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D- OR

FILM3410 European Cinema

[3 credit hours]

A study of the major movements and authors of European cinema. Screenings included in class. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C AND FILM 2350 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3420 Third Cinema

[3 credit hours]

A study of the major movements and authors of Third World Cinema. Screenings included in class. Majors and minors only. Interested non-majors should seek instructor permission to enroll. FILM 2350 is recommended before taking this class for non-majors.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C AND FILM 2350 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3510 Lighting and Cinematography

[3 credit hours]

A production/seminar course concentrating on camera format fundamentals, exposure latitude, and lenses. The science, philosophy and workflows of cinematography are explored through demonstrations, active in-class engagement, and individual production done outside of class. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2310 FOR LEVEL UG WITH MIN. GRADE OF C AND FILM 2320 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3530 Animation and Optical Printing

[3 credit hours]

Intensive production/seminar course in the creation of animation and special effects for film and digital work. Hand-drawn, cut-out, stop-motion, pixilation and various optical effects are explored through in-class exercises and individual productions.Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2310 FOR LEVEL UG WITH MIN. GRADE OF D-

FILM3550 Producing and Production Management

[3 credit hours]

Inquiry into the financial, logistical, and organizational aspects of film and video production, focusing on the roles of the line producer, production manager, assistant director and their teams. No prerequisite.

FILM3560 Methods for the Professional Editor

[3 credit hours]

A production/seminar course that prepares students for professional practice in digital post-production methods and concepts. In-class exercises and individual production work done outside of class are required for the course. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2320 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3730 Directing For Camera

[3 credit hours]

A production/seminar course focusing on directing dramatic scenes for camera with emphasis on effective director/actor communication and the creation of dramatically meaningful camera and actor blocking. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2310 FOR LEVEL UG WITH MIN. GRADE OF C AND FILM 2320 FOR LEVEL UG WITH MIN. GRADE OF C

FILM3820 Documentary Field Production

[3 credit hours]

Advanced production class focusing on the unique challenges of field production. Various types of documentary work are explored through field assignments relating to social and scientific subjects. This course includes local and regional production work as well as study abroad options.

Prerequisites: FILM 2310 FOR LEVEL UG WITH MIN. GRADE OF D- AND FILM 2320 FOR LEVEL UG WITH MIN. GRADE OF D-

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FILM3980 Cinema Studies Topic II

[3 credit hours]

A non-historical approach to specific topics of cinema studies, concentrating on problems of film theory and individual research projects. Topics vary. (May be repeated to 12 hours.) Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C AND FILM 2350 FOR LEVEL UG WITH MIN. GRADE OF C

FILM4210 Film Censorship

[3 credit hours]

Advanced cinema studies course focusing on the social, cultural, and political history of film censorship from early cinema through today. Covering early censorship questions, the Production Code Era, the Hollywood Ten, the shift toward the movie ratings system and the MPAA, and present-day concerns about film content.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF D-

FILM4220 Media Studies

[3 credit hours]

Covering issues concerned with film and media history, theory, and criticism and the interrelationship of film to television, radio, print, and/or the Internet. Particular focus of the course can change. Repeatable for credit.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C

FILM4230 Filmmakers

[3 credit hours]

Theoretical and analytical examination of film authorship and its various forms, including directors, producers, and scriptwriters. Consideration is given to the cultural function of the designation of authorship and how this affects reception of films. Particular focus of the course can change. Repeatable for credit. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C

FILM4240 Genre Studies

[3 credit hours]

Critical approaches to serial productions commonly called "genre" films. Consideration of how patterns of recognition form and are sustained in the modes of horror, melodrama, westerns, science fiction, musicals, and others. An emphasis on Hollywood genre production is facilitated by an analysis of cross-cultural influences and divergences. Particular focus of the course can change. Repeatable for credit.

Prerequisites: FILM 2340 FOR LEVEL UG WITH MIN. GRADE OF C

FILM4320 Film/Video Workshop

[3 credit hours]

A production/seminar course for advanced independent production projects, including screenwriting. Regular critiques of work in progress. Requires proposal for admission. Larger projects may be completed over successive semesters. May be repeated up to 6 hours. Majors and minors only. Interested non-majors should seek instructor permission to enroll.

Prerequisites: FILM 3310 FOR LEVEL UG WITH MIN. GRADE OF D- OR FILM 3320 FOR LEVEL UG WITH MIN. GRADE OF D- OR FILM 3350 FOR LEVEL UG WITH MIN. GRADE OF D- OR FILM 3360 FOR LEVEL UG WITH MIN. GRADE OF D-

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FILM4340 Topics In Feminist Cinema Studies

[3 credit hours]

Crosslistings of film classes with the Department of Women's and Gender Studies. Specific topics vary. Check Course Schedule for specific subject and prerequisites.

FILM4350 Screenwriting II

[3 credit hours]

For students familiar with the fundamental elements of screenplays, this course devotes attention to writing a complete script. Students are expected to come to the class with a planned story line.

Prerequisites: FILM 3350 FOR LEVEL UG WITH MIN. GRADE OF C OR ENGL 3060 FOR LEVEL UG WITH MIN. GRADE OF C

FILM4360 Le Cinema Francais

[3 credit hours]

A study of the development of French film and its place in world cinema.

FILM4370 Cinema Studies Seminar (topics)

[3 credit hours]

A research oriented seminar concerning a specific topic of cinema studies, emphasizing original research culminating in an individual research project.

Prerequisites: (ENGL 1130 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1140 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2960 FOR LEVEL UG WITH MIN. GRADE OF D-) A

FILM4940 Internship

[3 credit hours]

Internship with an approved program, company, or agency in Film. Video or television. (repeatable for 6 credit hours)

FILM4950 Honors Thesis

[3 credit hours]

Research or a creative project on a topic in Film or Video. Required of all BA candidates seeking department honors. (Repeatable for 6 credit hours.)

FILM4990 Special Projects

[1-3 credit hours]

Individual study provides the student an opportunity to work independently on a problem of special interest in Film/Video under the direction of the faculty. For Junior and senior students.

FINA2000 Personal Investing

[3 credit hours]

This course features a real time stock market simulation. Students will be able to trade securities and track their performance throughout the semester. Learn about different types of investments including: stocks, bonds, mutual funds, real estate, options, and futures. Not applicable toward finance major.

FINA3060 Personal Finance

[3 credit hours]

This course covers the fundamentals of personal finance and will help you make informed decisions in your financial future. Topics included: how to manage credit, planning for retirement, mortgages and home ownership, understanding life insurance, types of mutual funds, personal taxation principles, how loans work, and estate planning. Not applicable toward finance major.

FINA3480 Investments

[3 credit hours]

This course introduces history of risk-returns trade-off, investment process, different investment securities and financial markets in which financial assets traded. In addition, modern portfolio theory, risk-return trade- off, and performance evaluation are explained in detail.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA3500 International Business Finance

[3 credit hours]

Examines the role of a financial manager in international transactions. The international environment and the role of international asset markets are emphasized.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA3600 Risk Management

[3 credit hours]

Investigates non-speculative risks and the methods used to deal with them. Emphasizes on the insurance mechanism. Explores the functional aspect of the insurance operations.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA3610 Life And Health Insurance

[3 credit hours]

Combines a discussion of the economic aspects of life and health insurance with basic analysis on life insurance, health and annuity contracts. Includes investigation of major functional aspects.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA3660 Real Estate Principles, Practices And Finance

[3 credit hours]

A basic discussion in real estate economics, valuation theory, transfer procedures, legal characteristics, brokerage, taxation and financing techniques. Emphasis on residential properties. A term project is required.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA3670 Real Estate Valuation

[3 credit hours]

Methodology of appraising large and small commercial real properties and the theory underlying appraisal techniques and valuation. A term project is required.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA3680 Real Estate Law, Insurance And Taxes

[3 credit hours]

An integrative analysis of real estate, insurance, taxes and legislation as they impact commercial real estate ownership returns and risk. A term project is required.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA3890 Financial Modeling with Excel

[3 credit hours]

This course help students develop spreadsheet modeling skills necessary to evaluate common financial problems encountered. The course provides hands-on experience in obtaining financial data and using Excel to manipulate and analyze data for a wide variety of subjects in finance.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4080 Intermediate Financial Management

[3 credit hours]

This course explores corporate financial decision making in depth. Topics include financial statement analysis, financial planning, capital budgeting, working capital management, and capital structure.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4090 Financial Markets And Institutions

[3 credit hours]

The course explores operations and functions of financial markets and institutions. The emphasize is on the interest rate theory, the role of the Federal Reserve System and the government in establishing monetary policy and providing regulation, management of institutions, and internationalization.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4100 Security Analysis & Portfolio Management

[3 credit hours]

Emphasizes the importance of portfolio management techniques and evaluation. Techniques of financial statement analysis, economic analysis, industry analysis, theoretical issues of efficient markets, technical analysis and fundamental analysis.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4200 Fixed Income Securities

[3 credit hours]

This course explores the fixed income securities markets, institutions, and instruments. We will analyze the pricing, risks, and risk management of fixed income securities.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4340 Derivatives Securities and Markets

[3 credit hours]

This course explores the derivative securities markets and instruments. It covers the valuation, risks, and risk management aspect of derivative securities.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4480 Student Managed Portfolio Practicum

[1-3 credit hours]

Course provides selected students active portfolio management training utilizing an endowed portfolio. Student Portfolio Managers apply equity selection analysis and portfolio risk analytics, with fiduciary responsibilities.

Prerequisites: FINA 3480 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4670 Advanced Financial Management

[3 credit hours]

Applies financial analysis techniques to real-world problems using computer simulations and case studies. Topics include capital budgeting, working capital management, cost of capital, capital structure, leasing, valuation of levered firms, and options.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4840 Small Business Financial Policies And Practices

[3 credit hours]

Financial management and planning in small and medium-sized firms. Course focuses on the financial analysis and management of their problems, policies, practices and funding requirements.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF C

FINA4870 Advanced Financial Institutions & Markets

[3 credit hours]

Seminar focusing on current issues in financial institutions and services management.

FINA4880 Real Estate Property Management

[3 credit hours]

Methodology of managing large and small commercial properties and buildings to maximize current earnings, earnings potential and asset value for the property owners.

Prerequisites: (BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D- AND FINA 3670 FOR LEVEL UG WITH MIN. GRADE OF D- AND FINA 3680 FOR LEVEL UG WITH MIN. GRADE OF D-)

FINA4890 Financial And Estate Planning

[3 credit hours]

Nature and methods of Financial planning. Creation, conservation and distribution of estates. Emphasis is on investments, insurance wills, trusts and tax laws.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA4900 Seminar In Finance

[3 credit hours]

Seminar course in advanced and specialized topics. Current readings from finance journals. Written paper required.

Prerequisites: (FINA 3480 FOR LEVEL UG WITH MIN. GRADE OF D- AND FINA 4080 FOR LEVEL UG WITH MIN. GRADE OF D-)

FINA4940 Finance Internship

[1-3 credit hours]

This course explores special topics in the field of finance in detail. Topics varies and chosen as need required.

Prerequisites: BUAD 3040 FOR LEVEL UG WITH MIN. GRADE OF D-

FINA4990 Independent Study: Readings And Research In Finance

[1-3 credit hours]

An independent, professor supervised, course dealing with an in depth investigation of a financial area not covered adequately in another listed course.

Prerequisites: (FINA 3480 FOR LEVEL UG WITH MIN. GRADE OF D- AND FINA 4080 FOR LEVEL UG WITH MIN. GRADE OF D- AND FINA 4090 FOR LEVEL UG WITH MIN. GRADE OF D-)

FINA5210 Economics For Business Decisions

[3 credit hours]

This course is designed for students with little or no prior formal economic education. The course consists of two distinct halves–microeconomics and macroeconomics. The former deals with economic behavior at disaggregated levels; the individual, firm, and industry levels. The macroeconomics portion deals with economic behavior and policy making at the highest level of aggregation topics include unemployment, inflation, and economic growth and related government and quasi-governmental institutions.

FINA5310 Managerial Finance

[3 credit hours]

This course is designed to develop the skills necessary to understand how financial managers make value-maximizing decisions in their organization. Contents include fundamentals of financial analysis, short and long-term investments, time value of money, stock and bond valuation, risk and return, and corporate structure.

Prerequisites: ACCT 5000 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 2040 FOR LEVEL UG WITH MIN. GRADE OF C AND BUAD 2050 FOR LEVEL UG WITH MIN. GRADE OF C OR ACTG 1040 FOR LEVEL UG WITH MIN. GRADE OF C AND ACTG 1050 FOR LEVEL UG WITH MIN. GRADE OF C

FINA6130 Advanced Corporate Finance

[3 credit hours]

The course emphasizes the application of financial decision making tools, techniques and theory. Specific topics include advanced capital budgeting, cost of capital, enterprise valuation, mergers and acquisitions, real options and corporate governance.

Prerequisites: BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C

FINA6140 Investments And Security Analysis

[3 credit hours]

This course covers portfolio analysis and asset pricing models such as CAPM, APT, and index models. It also examines bond and stock valuation. In addition, it discusses investment characteristics of individual securities and markets in which these securities are traded, as well as performance evaluation of portfolios.

Prerequisites: BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C

FINA6150 Financial Institutions And Markets

[3 credit hours]

This course covers operations of financial institutions and financial markets. Topics include interest rate theory, the monetary policy of the Federal Reserve, financial instruments characteristics, banking management, and internationalization.

Prerequisites: BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C

FINA6340 Derivative Securities

[3 credit hours]

It examines the valuation of and institutional characteristics of derivative securities such as options, futures, forward contracts, and swaps among others. The course covers the Black-Scholes and binomial option-pricing models. It also introduces the risk management aspect of derivative securities.

Prerequisites: BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C

FINA6370 MBA International Financial Management

[3 credit hours]

Techniques and theory of financial management in an international environment. The role of international markets in risk reduction and profit maximization are emphasized.

Prerequisites: BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C

FINA6480 Student Managed Portfolio

[3 credit hours]

Course provides selected students active portfolio management training utilizing an endowed portfolio. Student Portfolio Managers apply equity selection analysis and portfolio risk analytics, with fiduciary responsibilites.

Prerequisites: BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C

FINA6750 Research In Finance

[1-3 credit hours]

This course fullfils the need for students who would like to do research on specific area of finance supervised by a faculty member.

Prerequisites: BUAD 6200 FOR LEVEL GR WITH MIN. GRADE OF C

FLAN3440 Intercultural Communication: Principles And Practice

[4 credit hours]

This course offers a survey of major concepts in intercultural communication. It emphasizes a balance between theoretical and practical learning opportunities and seeks to promote intercultural understanding.

FLAN3980 Special Topics in Foreign Languages

[0-6 credit hours]

Study of a selected topic in language, literature, or culture.

FLAN4940 Internship in Foreign Languages

[0-12 credit hours]

Educational work experience in a pre-approved professional field.

FLAN4980 Special topics in Foreign Languages

[0-6 credit hours]

Study of a selected topic in foreign languages. May be repeated when topic varies.

FMMD701 Family Medicine

[7.5 credit hours]

Family Medicine (5 weeks)

FMMD702 Family Medicine Elective

[0-6 credit hours]

Inpatient, outpatient or mixed rotation experiences are available.The Toledo Hospital Family Medicine Residency offers a four-week ambulatory experience or a combination of both inpatient and ambulatory family medicine experiences. The ambulatory experience can be tailored to include obstetrics, pediatrics.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P

FMMD703 Family Medicine AHEC

[3-6 credit hours]

Rotation is a one-to-one experience with a family physician. Student is responsible for hospital and office workups unless otherwise specified by the preceptor. Written orders and all workups will be discussed and countersigned.

Prerequisites: (FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P OR FMMD 740 FOR LEVEL MD WITH MIN. GRADE OF P)

FMMD704 Family Medicine AHEC

[3 credit hours]

The student will work with the Mercy Family Medicine residents and faculty. The student is responsible for hospital and office work ups as assigned. Any written orders and workups will be checked, discussed and countersigned by the preceptor.

FMMD707 Health Ed Migrant Workers

[0-6 credit hours]

The student, with the aid of the Community Health Center physician and staff, will meet with the community leaders to determine community needs pertaining to health education. The student will focus on one of the issues deemed most important by the community, develop an appropriate educational program using available resources, and present the program to the targeted population.

FMMD708 Acting Internship Family Med

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P

FMMD709 Sports Medicine

[6 credit hours]

This is a 4 week elective in Family Medicine with a strong emphasis on activity medicine as it relates to sports medicine. Students spend time in UTMC Sports Medicine Clinic, Family Medicine Clinic, Orthopedic Clinic with the option of private orthopedics office. Students will also spend time with sports oriented physical therapists, athletic trainers, and exercise physiologists. Students may also attend high school and college athletic contests and community sporting events as they are available.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P

FMMD710 Family Medicine Elective

[2-6 credit hours]

Flower Hospital Family Medicine offers a four-week experience which can include both ambulatory and inpatient experiences that can be tailored to include obstetrics and geriatrics

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FMMD711 Family Medicine Elective

[2-6 credit hours]

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FMMD712 Family Med Geriatric Elective

[6 credit hours]

This elective will expose the student a broad range of health problems faced by older adults as well as settings in which Geriatric Medicine is practiced. Clinical experiences will occur in outpatient and long term care sites. Inpatient rounding will occur as available. Students will utilize computerized curriculum on a variety of geriatric topics.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P

FMMD719 Complementary Alternative Medi

[6 credit hours]

The purpose of the Complementary and Integrative Medicine (CIM) rotation is to prepare medical students to communicate knowledgeably and effectively with patients in regards to their use of these modalities. The format of the rotation will consist of both clinical and academic components.The clinical component will consist of observation and participation in the integration of CIM therapies in clinical practice. Students will spend time in the clinical setting with both UT/COM faculty and community preceptors. CIM topics to be covered during the rotation will include, acupuncture, yoga, massage therapy, chiropractic, and herbal counseling as available. The academic component will involve presentations, reading assignments and review of project. Each participant will be required to do a comprehensive review of the literature in regards to a given herbal or nutritional supplement. A written summary of the research will be presented at the end of the rotation. The student will also be required to do a review of the literature in regard to the treatment of two common clinical problems utilizing complementary and integrative therapies. The student will choose the topics from experiences in the clinic or from a designated list. A written summary of the two cases will be submitted.The student is required to take a written take home test.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P

FMMD723 Law and Medicine: Intercollegiate Seminar (Informed Consent) Elective

[3 credit hours]

Law and Medicine: Intercollegiate Seminar (Informed Consent) is an interdisciplinary case-based elective that will provide medical students the opportunity to join with law students to review, analyze, and discuss legal cases (appellate court opinions) applying the statutory and common law of informed consent and their affect on healthcare provider behavior. Medical students will learn how to read and interpret legal cases and will develop an understanding of the academic and practice perspective differences of the medical and legal disciplines. Students will be required to 1) attend and actively participate in class sessions at the COL and clinical experiences on the Health Science Campus, including informed consent observation; 2) complete two written assignments (one case brief and one reflective paper); and, 3) prepare and complete an oral presentation.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG

FMMD724 Fundamentals of Teaching for Medical Students Elective

[6 credit hours]

This elective provides upper level medical students with an introduction to teaching in various settings. The content of the elective will focus on (1) giving presentations, (2) facilitating small group discussions, (3) teaching and giving feedback in clinical settings, and (4) educating patients. Students will review and discuss principles of learning that inform best practices for teaching and observe and critique instruction in each of the four contexts. They will also be required to provide instruction in each setting and evaluate their own recorded performance. Students will be required to complete an instructional project relative to an area of personal interest that is characterized by appropriate instructional alignment and valid evaluation strategies.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG

FMMD725 Healthcare Systems: Issues, Trends, and Perspectives

[6 credit hours]

Healthcare Systems: Issues, Trends, and Perspectives explores and analyzes the organization, delivery, financing, and evaluation of health care in the United States. The elective focuses on contemporary issues in healthcare policy ¿ including access, cost, and quality ¿ and their impact on key industry stakeholders (patients, providers, and payers). Topics include organized delivery models, healthcare financing and regulation, and quality assessment and management. Each student, in consultation with the instructor, will determine an area of scholarly concentration. The student will be required to make a formal written and oral presentation related to the area of concentration.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG

FMMD726 Law and Med: Intercol. Seminar

[6 credit hours]

Law and Medicine: Intercollegiate Seminar is an interdisciplinary case-based elective that will provide medical students the opportunity to join with law students to review, analyze, and discuss legal cases, statutes, and articles applying statutory and common law and their affect on healthcare provider behavior. Medical students will learn how to read and interpret legal cases and will develop an understanding of the academic and practice perspective differences of the medical and legal disciplines. Sample seminar topics: informed consent and death, dying, and decisionmaking.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

FMMD745 MD/PhD Family Med Elective

[1-2 credit hours]

In the summer after the second year of medical school, MD/PhD students will identify a clinical mentor. This faculty member will be responsible for the clinical training program of the student, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The mentor may change during the course of the student¿s graduate school years, but any change should occur after the end of a semester. Although students may choose a clinical mentor from any department, the following specialties are particularly suited to training MD/PhD students with limited prior clinical training and restricted hours of availability: Family Medicine: Students may schedule sessions in the outpatient clinic or on the hospital Family Practice service. Contact Dr. Thomas Tafelski, Clerkship Director. Student time commitment: Students are expected to spend 8 hours per month in clinical training. This can be divided into weekly 2 hour session, biweekly 4 hour sessions or an 8 hour day per month. Students are encouraged to discuss the most appropriate schedule with their laboratory mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. The program should be formalized in writing, and submitted to the MD/PhD Director for approval. Students should see about one patient per hour of training. Students should keep a log of their patients, their diagnoses, and any procedures performed. An electronic logging system for patient experiences will be developed. Credit: Upon completion of 3 years of graduate training, assuming 40 weeks per year of participation, students will have accumulated about 300 hours of clinical experience. This is approximately equivalent to 2 months of clinical electives (8 h/d X 5 d/w X 4 weeks = 160 h/mo), and students will be awarded 2 months of 4th year elective credit for this training upon re-enrolling in the College of Medicine. This credit should allow further flexibility in 4th elective scheduling, enabling additional research months, off site rotations, etc. If students require more than 3 years of graduate work, continued participation in the clinical training program is strongly encouraged, but no more than 2 months of elective time will be awarded.

FREN1080 Culture And Commerce In The French-Speaking World

[3 credit hours]

A study of the French-speaking world with emphasis on the relationship between its culture and its business and economic institutions and practices. Taught in English. (Not for major credit.)

FREN1090 French & Francophone Culture In The Modern World

[3 credit hours]

This course focuses on modern French and Francophone culture and their historical and geographical sources. Taught in English. (Not for major credit.)

FREN1110 Elementary French I

[4 credit hours]

A comprehensive introductory course in French language and culture through the four basic skills: aural comprehension, reading, speaking and writing. Laboratory practice required. (not for major credit)

FREN1120 Elementary French II

[4 credit hours]

A comprehensive introductory course in French language and culture through the four basic skills: aural comprehension, reading, speaking and writing. Laboratory practice required. (not for major credit)

Prerequisites: FREN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNFR FOR MIN. SCORE OF 1120

FREN1500 Review Of Elementary French

[4 credit hours]

Review of first-year college French for students who studied the language in high school and who need to strengthen communication skills, vocabulary, grammar and pronunciation before study at the 2000 level. (not for major credit)

FREN2140 Intermediate French I

[3 credit hours]

Review and further development of command of the French language and culture through the four basic skills: aural comprehension, reading, speaking and writing. Laboratory practice required. (not for major credit)

Prerequisites: FREN 1120 FOR LEVEL UG WITH MIN. GRADE OF D- OR FREN 1500 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNFR FOR MIN. SCORE OF 2140

FREN2150 Intermediate French II

[3 credit hours]

Further review and development of command of the French language and culture through the four basic skills: aural comprehension, reading, speaking and writing. Laboratory practice required. (not for major credit)

Prerequisites: FREN 2140 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNFR FOR MIN. SCORE OF 2150

FREN2190 Study Abroad

[1-3 credit hours]

This course is designed to permit and encourage non-majors to spend time in a country where French is spoken. Credit granted in accordance with established departmental procedures. (Not for major credit.)

Prerequisites: FREN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN3010 Conversation And Composition I

[3 credit hours]

Idiomatic conversation practice, dictation and pronunciation drill as well as development of practical writing skills.

Prerequisites: FREN 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNFR FOR MIN. SCORE OF 3000

FREN3020 Conversation And Composition II

[3 credit hours]

Further aural/oral development with emphasis on the mechanics of writing in French and the organization of ideas. A writing-intensive course.

Prerequisites: FREN 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN3170 Business French

[3 credit hours]

An introduction to the language of the French-speaking world, with emphasis on business and commerce.

Prerequisites: FREN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN3210 Survey Of French Literature I

[3 credit hours]

French literature from its origins through the eighteenth century.

Prerequisites: FREN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN3220 Survey Of French Literature II

[3 credit hours]

French and Francophone literature from the 19th and 20th centuries.

Prerequisites: FREN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN3400 Cross-Cultural Understanding

[3 credit hours]

An examination of the notions of culture, multiculturalism and Francophone cultures. Course content emphasizes issues of race, class and gender in U.S. and Francophone contexts.

FREN3410 Survey Of French Civilization I

[3 credit hours]

A study of the many ways in which France has contributed to world culture through architecture, painting, sculpture, music, literature, folklore, science, philosophy and education.

Prerequisites: FREN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN3420 Survey Of French And Francophone Civilization II

[3 credit hours]

An introductory study of selected sociological, political, cultural and economic issues of contemporary France and Francophone areas.

Prerequisites: FREN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN3980 Special Topics in French Studies

[0-6 credit hours]

Study of a selected topic in French language, literature or culture. May be repeated when topic varies.

FREN4010 French Syntax And Stylistics I

[3 credit hours]

A thorough study of syntax, morphology, phonetic principles and grammatical structure of French. Emphasizes various writing activities and styles.

Prerequisites: FREN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN4020 French Syntax And Stylistics II

[4 credit hours]

Emphasizes various writing activities and styles. Includes a research component and basic literary criticism as well as a review of syntax and grammar. A writing-intensive and capstone course.

Prerequisites: FREN 4010 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN4050 Advanced Conversation

[3 credit hours]

Advanced practice in speaking idiomatic French. Special attention to problems of pronunciation and oral proficiency.

Prerequisites: FREN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN4070 French Translation

[3 credit hours]

Practice in translation of texts from French into English and English into French. Subject matter area will include commerce, natural, physical, and social sciences and the humanities.

FREN4160 Teaching Colloquium

[3 credit hours]

A course in the theory and practice of teaching French and of second language acquisition in general.

FREN4190 Study Abroad

[1-12 credit hours]

Designed to permit and encourage the French major to pursue study in a country where French is spoken. Credit granted in accordance with established departmental procedures.

Prerequisites: FREN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

FREN4200 Contemporary French And Francophone Civilization

[3 credit hours]

A study of contemporary France and/or Francophone cultures including discussion of economics, daily life, the family, social groups, industry, politics and education.

FREN4810 French & Francophone Literature Of The 20th Century I

[3 credit hours]

Literature of all genres from the period before World War I to the present.

Prerequisites: (FREN 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND FREN 3220 FOR LEVEL UG WITH MIN. GRADE OF D-)

FREN4820 French & Francophone Literature Of The 20th Century II

[3 credit hours]

Literature of all genres from the period before World War I to the present.

Prerequisites: (FREN 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND FREN 3220 FOR LEVEL UG WITH MIN. GRADE OF D-)

FREN4850 Le Cinema Francais

[3 credit hours]

A study of the development of French film and its place in world cinema.

Prerequisites: (FREN 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND FREN 3220 FOR LEVEL UG WITH MIN. GRADE OF D-)

FREN4860 La Production Feminine

[3 credit hours]

A study of texts produced by women in the French language in various fields (for example, literary theory, film, literature, philosophy, psychoanalysis, semiotics, post-colonial theory).

Prerequisites: (FREN 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND FREN 3220 FOR LEVEL UG WITH MIN. GRADE OF D-)

FREN4910 Honors Research In French

[3 credit hours]

Independent research in special topics. May be repeated once for additional credit.

FREN4940 Internship in French

[0-12 credit hours]

Educational work experience, using French, in a pre-approved professional field.

FREN4980 Special Topics In French Studies

[1-3 credit hours]

Study of a selected topic in French or Francophone language, literature, or culture. May be repeated when topic varies.

FREN4990 Independent Study In French

[1-3 credit hours]

Independent research in special topics. May be repeated once for additional credit.

FREN5010 Advanced French Stylistics I

[3 credit hours]

A study of structural and stylistic principles of French with emphasis on various writing activities.

FREN5020 Advanced French Stylistics II

[4 credit hours]

A study of structural and stylistic principles of French with emphasis on various writing activities.

FREN5050 Advanced Conversation

[3 credit hours]

Intensive practice in speaking French.

FREN5070 French Translation

[3 credit hours]

Practice in translation of texts from French into English and English into French. Subject matter area will include commerce, natural, physical, and social sciences and the humanities.

FREN5160 Teaching Colloquium I

[3 credit hours]

A course in the theory and practice of teaching French and of second language acquisition in general.

FREN5190 Study Abroad

[1-12 credit hours]

Graduate credit may be granted for foreign study on the basis of credentials that certify the nature of the student's academic achievements in a French-speaking country.

FREN5200 Contemporary French And Francophone Civilization

[3 credit hours]

A study of contemporary France and/or Francophone cultures including discussion of economics, daily life, the family, social groups, industry, politics and education.

FREN5210 French For Reading Knowledge I

[3 credit hours]

Course designed to develop sufficient reading proficiency to conduct and process research in French. (Not for majors)

FREN5220 French For Reading Knowledge II

[3 credit hours]

Course designed to develop sufficient reading proficiency to conduct and process research in French. (Not for majors)

FREN5310 Medieval Studies

[3 credit hours]

Introduction to Old French and readings in the major genres from the twelfth through fifteenth centuries.

FREN5410 Renaissance Studies

[3 credit hours]

Literature reflecting major currents of the Renaissance.

FREN5510 17th Century French Literature

[3 credit hours]

A study of the development of French Classicism.

FREN5610 18th Century French Literature

[3 credit hours]

Readings from the novels, plays and prose of the major writers of the Enlightenment.

FREN5710 19th Century French Literature I

[3 credit hours]

Literary and intellectual trends from Romanticism to Symbolism.

FREN5810 Contemporary French & Francophone Literature I

[3 credit hours]

Literature of all genres from the period before World War I to the present.

FREN5850 Le Cinema Francais

[3 credit hours]

A study of the development of French film and its place in world cinema.

FREN5860 La Production Feminine

[3 credit hours]

This course deals with examples of feminine production which have influenced French culture in the areas of film, literary criticism, literature, philosophy, psychoanalysis and semiotics.

FREN5980 Special Topics In French Studies

[3 credit hours]

Study of a selected topic in French or Francophone language, literature, or culture. May be repeated when topic varies.

FREN5990 Independent Study In French

[1-3 credit hours]

Independent research in special topics. May be repeated once for additional credit.

FREN6900 Research In French

[1-3 credit hours]

Independent research of a selected topic in French or Francophone language, literature, or culture. May be repeated once for additional credit.

GEPL1010 Human Geography

[3 credit hours]

This course provides an overview of the geographic dimensions of human diversity with an emphasis on understanding the uneven distribution of people and resources in the context of globalization. It is a systematic treatment of the major concepts of human geography and their application to modern problems, population, migration, cultural patterns and processes, political organization of space, agricultural and rural land use, industrialization and economic development, and urban land use. (not for major credit)

GEPL1100 Environmental Geography

[3 credit hours]

While gaining a fundamental understanding of the world's physical environment, students explore the processes and spatial distributions of anthropological changes to the world's lands, freshwater, biota, oceans and atmosphere. Current issues such as global warming, acid rain, ozone depletion, deforestation and desertification are addressed.

GEPL2010 Fundamentals Of Geography

[3 credit hours]

An introduction to basic geographic concepts of both physical and human geography, with emphasis on the interrelationships of people with their physical and cultural environments.

GEPL2030 Cultural Geography

[3 credit hours]

A learning-through-writing course. Systematic applications of the concepts of culture and cultural diversity to geographical themes and case studies.

GEPL2040 World Regional Geography

[3 credit hours]

The course explores the spatial distribution at various geographical scales, local, regional, national, and global, of urban, cultural, economic and demographic phenomena in several contrasting regions of the world.

GEPL2050 World Cities

[3 credit hours]

This course discusses the physical, cultural, socio-economic aspects of the mega cities of the world - the World Cities. It examines the causes and stages of growth and the decline of cities.

GEPL3030 Geography Of Europe

[3 credit hours]

An introduction to the geography of Europe with an emphasis on boundaries, economic development, integration, identity, nationalism, and regional differences. The course includes an examination of how Europe has been defined and what it means to be European in both historical and contemporary contexts. It provides a critical perspective on the geography of Europe as it is impacted by local, regional, and global forces.

GEPL3050 Geography Of U.s. And Canada

[3 credit hours]

Systematic and regional survey of physical, social and economic geography of the region. Emphasis on the region with respect to worldwide/continental problems and prospects in economic development, management of resources and population adjustment.

GEPL3120 Geography Of Asia

[3 credit hours]

Compares and contrasts physical and human aspects of Asian countries and peoples in relation to economic development.

GEPL3220 Geography Of Africa

[3 credit hours]

Course begins with a general overview of Africa's physical environment, its colonial history and its people and cultures. It then examines a variety of themes associated with development, population, urban and political geography.

GEPL3300 Geography of Latin America and the Caribbean

[3 credit hours]

This course explores one of the world's most vibrant regions, Latin America. This world region stretches across diverse landscapes, from tropical rainforests to the snowcapped peaks of the Andes, from mega-cities to empty deserts and plains. The diversity of environments fosters great cultural diversity, despite sharing similar historical roots. This course explores the geography of Latin America through a combination of thematic and regional approaches.

GEPL3610 Conservation And Resources

[3 credit hours]

A timely examination of some basic philosophies, principles and ethical issues in conservation and resource discourses in geography and across the disciplines. Provocative case studies. A learning-through-writing (WAC) course.

GEPL3650 Industrial Geography

[3 credit hours]

An introduction to industrial geography; including industrial location theory, competing production systems, and shifts from manufacturing to service-based economies.

GEPL3900 Environmental Planning

[3 credit hours]

Study of how humans are impacting the health and sustainability of the earth by their actions and activities and means by which we can reduce the impacts by better planning and management of human uses. Topics include water resources, forests, natural hazards, and the Great Lakes, through conservation, protected areas, better use of science, stewardship, cooperation and community actions. Will include use of local examples and case studies drawn from Ohio and the US.

GEPL4040 Geography Education Strategies

[3 credit hours]

Use of geographic inquiry in the emerging integrated social studies and standard geography education curricula for K -12 instruction.

GEPL4110 Geographic Information Systems

[3 credit hours]

Introduction to computerized methods for the capture, storage, management, analysis and display of spatially-referenced data for the solution of planning, management and research problems.

GEPL4160 Patterns Of World Development

[3 credit hours]

An examination of contemporary global economic patterns and trends. Compares and contrasts population problems; the diffusion of multinational corporations, and the emergence of post-industrial economies.

GEPL4180 Geographic Information Systems Applications

[3 credit hours]

Advanced applications in geographic information systems (GIS) with an emphasis on advanced GIS analysis techniques, Global Positioning System applications in GIS, database design, and a survey of vector- and raster-based GIS software and databases.

Prerequisites: GEPL 4110 FOR LEVEL UG WITH MIN. GRADE OF D-

GEPL4210 Land Use Planning

[3 credit hours]

A broad review of urban and regional planning in the US and Western Europe, introducing land use planning concepts and practices and their role in shaping the direction of urban development.

GEPL4310 Geography Of Gypsies (Romanies) and Travelers - WAC

[3 credit hours]

Explorations into identities and distributions of Gypsies (Romanies) and Travelers (GR&T peoples) worldwide and the challenges that their study presents to Geography and to other social science disciplines.

GEPL4420 Quantitative Methods in Geographic Research

[3 credit hours]

An examination of quantitative methods commonly used in geographic research with an emphasis on spatial statistics and cartographic analysis.

GEPL4490 Remote Sensing Of The Environment

[4 credit hours]

Introduction to theory, methods and techniques used to gather and analyze remote sensor data. Topics range from low altitude air photo interpretation through satellite image acquisition. Recommended: GEPL 3550.

GEPL4500 Digital Image Analysis

[3 credit hours]

Using imagery captured by earth orbiting satellites, students will document changes on the surface of the earth addressing environmental issues. Students will have the opportunity to learn applications of this technology including project based work in the classroom.

Prerequisites: GEPL 4490 FOR LEVEL UG WITH MIN. GRADE OF D- AND EEES 4490 FOR LEVEL UG WITH MIN. GRADE OF D-

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GEPL4520 Analytical And Computer Cartography

[4 credit hours]

The theoretical and mathematical foundations of the mapping process in a digital environment. An introduction to the structure and manipulation of graphic and nongraphic geographical data to produce maps.

Prerequisites: GEPL 4510 FOR LEVEL UG WITH MIN. GRADE OF D- OR GEPL 4110 FOR LEVEL UG WITH MIN. GRADE OF D-

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GEPL4530 Principles Of Urban Planning

[3 credit hours]

An introduction to planning theory. the planner's role in land use regulation economic development, housing and social service delivery is reviewed.

GEPL4540 Weather And Climate

[3 credit hours]

A survey analysis of meteorology and climatology. The physical processes of weather and the pattern of climate provide the basis for this course.

GEPL4580 Location Analysis

[4 credit hours]

The application of geographic location theory, spatial interaction modeling, optimization techniques and geographic information system processing to the solution of facility location problems.

GEPL4600 Urban Design

[3 credit hours]

Concepts and procedures for the organization, design and development of public and private urban forms and spaces at the micro level, including a survey of intraurban elements, cultural, ecological and aesthetic considerations, and interdisciplinary collaboration.

GEPL4650 Physical Geography

[3 credit hours]

Using an Earth System Science approach linking the hydrosphere, biosphere, atmosphere, and lithosphere, students will explorer the relationship and spatial characteristics of events such as hurricane landfall, volcanic eruptions and climate change.

GEPL4700 Community Planning Workshop

[3 credit hours]

This course introduces the skills and techniques used by urban & regional planning practitioners in every-day planning process in real world. Students work on a local, regional or state planning issue that is important to the social, economic, spatial, and environmental development in Toledo, its surrounding regions, or the state of Ohio. Projects focus on communicating with local planning agencies, advisory organizations, and consulting firms for data collection. Students then analyze the data and prepare a planning document.

GEPL4710 Urban Environments

[3 credit hours]

Geographic perspectives on the social, political and economic functions of cities. Issues of land use, redevelopment, residential and commercial geographies are examined in contemporary North American cities.

GEPL4750 Transportation Geography

[3 credit hours]

This course introduces students to the culture of transportation planning while honing their critical reading and analytical skills. The approach combines two types of analysis. One is a historical political–economy treatment of the evolution of the transportation systems, including the evolution of associated institutions, concluding with contemporary transportation planning issues. The other type of analysis is an introduction to the rational method for determining appropriate public responses for dealing with current transportation planning issues.

GEPL4810 Political Geography

[3 credit hours]

An examination of political actors and power relations at local, regional, national and global scales, and their impact on spaces and places. The course includes topics, such as state formation, electoral geography, identity and social movements, nationalism and regionalism, imperialism and post-colonialism, urban politics, feminist political geography, elites and marginalized individuals, and geopolitics.

GEPL5040 Geography Education Strategies

[3 credit hours]

Graduate level preparation for K - 12 educators with geography specialization. Integrates social studies and standard geography curricula in response to state and federal mandates.

GEPL5110 Geographic Information Systems

[3 credit hours]

Introduction to computerized methods for the capture, storage, management, analysis and display of spatially-referenced data for the solution of planning, management and research problems.

GEPL5160 Patterns Of World Development

[3 credit hours]

Examination of contemporary global economic patterns and trends. Topics receiving special attention include population problems, the spread of multinational corporations, and the causes and consequences of the emergence of postindustrial economics.

GEPL5180 Geographic Information Systems Applications

[3 credit hours]

Advanced applications in geographic information systems (GIS) with an emphasis on advanced GIS analysis techniques, Global Positioning System applications in GIS, database design, and a survey of vector- and raster-based GIS software and databases. Research project required.

Prerequisites: GEPL 5110 FOR LEVEL GR WITH MIN. GRADE OF D- OR GEPL 4110 FOR LEVEL UG WITH MIN. GRADE OF D-

GEPL5210 Land Use Planning

[3 credit hours]

A broad review of urban and regional planning in the US and Western Europe, introducing land use planning concepts and practices and their role in shaping the direction of urban development.

GEPL5310 Geography of Gypsies (Romanies) and Travelers

[3 credit hours]

Explorations into identities and distributions of Gypsies (Romanies) and Travelers (GR&T peoples) worldwide and the challenges that their study presents to Geography and to other social science desciplines.

GEPL5420 Quantitative methods in geographic research

[3 credit hours]

An examination of quantitative methods commonly used in geographic research with an emphasis on spatial statistics and cartographic analysis.

GEPL5490 Remote Sensing Of The Environment

[4 credit hours]

Introduction to theory, methods and techniques used to gather and analyze remote sensor data. Topics range from low altitude air photo interpretation through satellite image acquisition. Recommended EEES2100 or GEPL3350.

GEPL5500 Digital Image Analysis

[3 credit hours]

Explores digital image analysis techniques such as classification and principal components analysis. Terrestrial and coastal applications of satellite image analysis are performed in intensive laboratory sessions.

Prerequisites: EEES 5490 FOR LEVEL GR WITH MIN. GRADE OF D- OR GEPL 5490 FOR LEVEL GR WITH MIN. GRADE OF D-

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GEPL5520 Analytical And Computer Cartography

[4 credit hours]

The theoretical and mathematical foundations of the mapping process in a digital environment. An introduction to the structure and manipulation of graphic and nongraphic geographical data to produce maps.

Prerequisites: GEPL 5510 FOR LEVEL GR WITH MIN. GRADE OF D-

GEPL5530 Principles Of Urban Planning

[3 credit hours]

Elaborations on planning theory. The planner's role in land use regulation, economic development, housing and social service delivery is reviewed.

GEPL5540 Weather And Climate

[3 credit hours]

Survey analysis of meteorology and climatology. The physical processes of weather and the pattern of climate provide the basis for this course.

GEPL5570 Land Development And Planning

[4 credit hours]

The exploration of theoretical location analysis, pragmatic land development issues and analytic feasibility tools, and the consequences of land use policies that affect development.

GEPL5580 Location Analysis

[4 credit hours]

The application of geographic location theory, spatial interaction modeling, optimization techniques and geographic information system processing to the solution of facility location problems.

Prerequisites: GEPL 5570 FOR LEVEL GR WITH MIN. GRADE OF D-

GEPL5600 Urban Design

[3 credit hours]

Concepts and procedures for the organization, design and development of public and private urban forms and spaces at the micro-level, including a survey of intraurban elements, cultural, ecological and aesthetic considerations, historic preservation, and interdisciplinary collaboration. Research project required.

GEPL5650 Physical Geography

[3 credit hours]

This course will introduce you to the fundamental aspects of physical geography: the understanding of the physical elements and processes which comprise the environment and the spatial patterns of these elements and processes.

GEPL5700 Community Planning Workshop

[3 credit hours]

This course introduces the skills and techniques used by practitioners in the planning process. Assignments will focus on the collection, analysis and communication of information by following community planning approaches.

Prerequisites: GEPL 4600 FOR LEVEL UG WITH MIN. GRADE OF D-

GEPL5710 Urban Environments

[3 credit hours]

Examines urban areas, the approaches to studying them, and explanations offered for urban processes and forms.

GEPL5750 Transportation Geography

[3 credit hours]

The role of transportation and communication in the economic development of places. Theories of geographic interaction, location of transport routes and the developmental implications of transport investments are explored.

GEPL5810 Political Geography

[3 credit hours]

Space and place facets of population size, growth, migration, distribution and composition with emphasis on the population trends and patterns in both developing and developed nations.

GEPL6100 Philosophy & General Methodology

[3 credit hours]

Past and current trends in geographic thought and related methodological implications, with elaborations by current faculty members.

GEPL6150 Seminar In Research Methods

[3 credit hours]

A computer-based course in geographic research methodology. The course includes an introduction to research design, data measurement, spatial sampling and multivariate approaches to the study of areal networks and spatial distributions.

GEPL6160 Seminar In Spatial Analysis

[4 credit hours]

A computer-based laboratory course in multivariate spatial analysis methodologies. The course includes the study of spatial graphics and mapping, computerized regionalization, areal forecasting and predictive modeling techniques.

Prerequisites: GEPL 6150 FOR LEVEL GR WITH MIN. GRADE OF D-

GEPL6190 Advanced Geographic Information Systems Seminar

[4 credit hours]

Seminar in advanced GIS topics which include database design, spatial analysis and specialized application to spatial problems.

Prerequisites: GEPL 5180 FOR LEVEL GR WITH MIN. GRADE OF D- OR GEPL 6180 FOR LEVEL GR WITH MIN. GRADE OF D-

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GEPL6200 Earth System Science Through Inquiry-Based Learning

[3 credit hours]

The course is geared towards in-service teachers. Teachers will explore four natural events affecting the earth as a system, using inquiry-based learning and lesson plan development.

GEPL6300 Seminar In Resource Management

[3 credit hours]

Intensive group study of major themes in the resource management literature. Primary emphasis is placed on individual student research projects oriented toward resource management problems.

GEPL6530 Seminar-Urban/Regional Planning Applications

[3 credit hours]

The course applies forecasting and projection techniques to urban and regional problems. Population, economic base, land use, retail and fiscal impact analyses are examined.

GEPL6550 Seminar In Environment Planning

[3 credit hours]

Intensive group study of major goals and methodologies of environmental planning. Major emphasis is placed upon individual student research projects oriented toward specific environmental planning problems.

GEPL6570 Seminar In Neighborhood Revitalization

[3 credit hours]

Intensive group study of major themes in the revitalization of urban neighborhoods, both residential and commercial. Major emphasis is placed upon individual residential and commercial. Major emphasis is placed upon individual student research projects oriented toward specific revitalization problems.

GEPL6580 Urban Development And Housing

[3 credit hours]

Course examines the changing land use and functions of metropolitan regions. City suburban linkages, urban restructuring, urban policy and metropolitan planning issues are examined.

GEPL6700 Teaching Practicum In Geography

[1-6 credit hours]

Methods of teaching geography in a university of college setting. Supervision of labs or discussion.

GEPL6910 Comprehensive Exam Preparation

[2 credit hours]

The course is used for the completion of the comprehensive exam requuirement for M.A candidates.

Prerequisites: (GEPL 6100 FOR LEVEL GR WITH MIN. GRADE OF D- AND GEPL 6150 FOR LEVEL GR WITH MIN. GRADE OF D-)

GEPL6920 Research Design

[3 credit hours]

The course will have students prepare all the main components of a thesis proposal leading to the completion presentation of the proposal to their thesis advisory committee.

Prerequisites: (GEPL 6100 FOR LEVEL GR WITH MIN. GRADE OF D- AND GEPL 6150 FOR LEVEL GR WITH MIN. GRADE OF D- AND GEPL 6910 FOR LEVEL GR WITH MIN. GRADE OF D-)

GEPL6940 Internship In Planning

[1-6 credit hours]

Professional work experience with a Greater Toledo planning organization related to academic education.

GEPL6950 Applied Geographic Workshop

[3 credit hours]

Capstone course for GIS/Applied Geographics certificate program to provide hands-on experience in applying GIS, remote sensing and desktop mapping systems to spatially-oriented problems that are unique to their individual disciplines.

GEPL6960 Thesis

[1-6 credit hours]

Work on a thesis is the culmination of graduate education and occupies most of the second year.

GERM1080 German Culture And Commerce

[3 credit hours]

Study of German culture and society with emphasis on business and economics. Taught in English. (Not for major credit.)

GERM1090 Introduction To Modern German Culture

[3 credit hours]

An introduction to principal social, artistic and literary aspects of modern German culture. Taught in English. (Not for major credit.)

GERM1110 Elementary German I

[4 credit hours]

An introduction to German language and culture through listening, speaking, reading and writing. Laboratory practice required.

GERM1120 Elementary German II

[4 credit hours]

An introduction to German language and culture through listening, speaking, reading and writing. Laboratory practice required.

Prerequisites: GERM 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNGE FOR MIN. SCORE OF 1120

GERM1500 Review Of Elementary German

[4 credit hours]

Review of first-year college German for students who studied the language in high school and who need to strengthen communication skills, vocabulary, grammar and pronunciation before study at the 2000 level. (not for major credit)

GERM2140 Intermediate German I

[3 credit hours]

Practice of the four language skills with grammar review and readings of a literary-cultural nature. Laboratory practice required. (not for major credit)

Prerequisites: GERM 1120 FOR LEVEL UG WITH MIN. GRADE OF D- OR GERM 1500 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNGE FOR MIN. SCORE OF 2140

GERM2150 Intermediate German II

[3 credit hours]

Further practice of the four language skills with grammar review and readings of a literary-cultural nature. Laboratory practice required. (Not for major credit)

Prerequisites: GERM 2140 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNGE FOR MIN. SCORE OF 2150

GERM2190 Study Abroad

[1-3 credit hours]

The course permits beginning students of German to study or work in a country where German is spoken. Credit will be awarded in accordance with established departmental procedures. (Not for major credit.)

Prerequisites: GERM 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM2980 Special Topics in German Studies

[0-6 credit hours]

Study of a selected topic in German language, literature or culture. May be repeated when topic varies.

GERM3010 Conversation And Composition I

[3 credit hours]

Work on advanced listening, speaking, reading and writing skills through intensive work with authentic texts that deal with contemporary issues relating to the German-speaking world.

Prerequisites: GERM 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNGE FOR MIN. SCORE OF 3000

GERM3020 Conversation And Composition II

[3 credit hours]

Work on advanced speaking, listening, reading and writing skills through intensive work with authentic texts that deal with contemporary issues relating to the German-speaking world. A writing-intensive course.

Prerequisites: GERM 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM3170 Business German

[3 credit hours]

An introduction to the language and practices of German business and commerce.

Prerequisites: GERM 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM3200 Survey Of German Literature

[3 credit hours]

A survey of German literature from its origins to the present, with emphasis on literature after 1750.

Prerequisites: GERM 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM3410 Survey Of German Civilization I

[3 credit hours]

A study of different aspects of German culture and civilization such as fine arts, history, science and philosophy.

Prerequisites: GERM 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM3420 Survey Of German Civilization II

[3 credit hours]

A study of different aspects of German culture and civilization such as fine arts, history, science and philosophy.

Prerequisites: GERM 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM3980 Special Topics in German Studies

[0-6 credit hours]

Study of a selected topic in German language, literature, or culture. May be repeated for credit when topic varies.

GERM4010 German Syntax And Stylistics I

[3 credit hours]

Refinement of conversation and composition skills through the analysis of texts and written and oral exercises.

Prerequisites: GERM 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM4020 Advanced Conversation And Composition II - WAC

[4 credit hours]

A practical application of language skills in the preparation of a German-related project chosen, developed and presented by the student. A writing-intensive and capstone course.

Prerequisites: GERM 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM4160 Teaching Colloquium

[3 credit hours]

A course in the theory and practice of teaching German and of second language acquisition in general.

GERM4190 Study Abroad

[1-12 credit hours]

The course permits the German major or minor to study or work in a country where German is spoken. Credit awarded in accordance with established departmental procedures.

Prerequisites: GERM 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM4200 German Culture And Civilization

[3 credit hours]

Study of major trends and current developments in German Landeskunde. May be repeated when topic varies.

GERM4620 German Classicism

[3 credit hours]

Study of Classical writers of Germany: Goethe, Schiller and their contemporaries.

GERM4710 German Literature Of The 19th Century

[3 credit hours]

Study of selected works by authors from B¿chner to Fontane.

GERM4720 German Romanticism

[3 credit hours]

Study of Romantic writers of Germany such as Novalis, Eichendorff, E.T.A. Hoffmann and Bettina Brentano.

GERM4810 German Literature Of The 20th Century

[3 credit hours]

Study of selected works by authors from the turn of the century to the present.

GERM4850 Genre Studies

[3 credit hours]

Study of a selected literary or film genre, its development, and its influence on German culture. May be repeated for credit when topic varies.

GERM4870 German Literature In Translation

[3 credit hours]

In-depth study of selected works of German literature in English translation. (Not for major credit).

GERM4900 Studies In The Works Of An Author Or Authors

[1-3 credit hours]

Readings of the works of a major author or authors of German literature. May be repeated when topic varies.

GERM4910 Honors Research In German

[3 credit hours]

Independent research in special topics. May be repeated once for additional credit.

GERM4940 Internship in German

[1-12 credit hours]

Educational work experience, using the German language. Maximum of 3 hours may be applied to the German major or minor program.

Prerequisites: GERM 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

GERM4980 Special Topics In German Studies

[1-3 credit hours]

Study of a selected topic in German language, literature, or culture. May be repeated for credit when topic varies.

GERM4990 Independent Study In German

[1-3 credit hours]

Independent research in special topics. May be repeated once for additional credit.

GERM5010 German Syntax And Stylistics I

[3 credit hours]

A review of German stylistic structures through the analysis of texts and written and oral exercises.

GERM5020 German Syntax And Stylistics II

[4 credit hours]

Further review of German stylistic structures through the analysis of texts and written and oral exercises.

Prerequisites: GERM 5010 FOR LEVEL GR WITH MIN. GRADE OF D-

GERM5160 Teaching Colloquium

[3 credit hours]

A practical course in the theories, methods and specific techniques of teaching German. May be repeated once for additional credit.

GERM5190 Study Abroad

[1-12 credit hours]

Graduate credit may be granted for foreign study on the basis of credentials that certify the nature of the student's academic achievements in a German-speaking country.

GERM5200 German Culture And Civilization

[3 credit hours]

Study of major trends and current developments in German Landeskunde. May be repeated when topic varies.

GERM5210 German For Reading Knowledge I

[3 credit hours]

Elements of pronunciation, structure and vocabulary most appropriate to preparing graduate students to read effectively in German. (Not for major credit).

GERM5620 German Classicism

[3 credit hours]

Study of Classical writers of Germany: Goethe, Schiller and their contemporaries.

GERM5710 German Literature Of The 19th Century

[3 credit hours]

Study of selected works by authors from B¿chner to Fontane.

GERM5720 German Romanticism

[3 credit hours]

Study of Romantic writers of Germany such as Novalis, Eichendorff, E.T.A. Hoffmann and Bettina Brentano.

GERM5810 German Literature Of The 20th Century

[3 credit hours]

Study of selected works by authors from the turn of the century to the present.

GERM5850 Genre Studies

[3 credit hours]

Study of a selected literary or film genre, its development, and its influence on German culture. May be repeated for credit when topic varies.

GERM5980 Special Topics In German Studies

[1-3 credit hours]

Study of a selected topic in German language, literature, or culture. May be repeated for credit when topic varies.

GERM5990 Independent Study In German

[1-3 credit hours]

Independent research in special topics. May be repeated once for additional credit.

GERM6900 Research In German

[1-3 credit hours]

Independent research of a selected topic in German language, literature, or culture. May be repeated once for additional credit.

GERM6930 Seminar: Selected Topics

[1-3 credit hours]

Study of selected topics in German language, literature, or culture. May be repeated once for additional credit.

GERO5400 Health and Aging

[3 credit hours]

This course is designed to investigate health-related issues in older adults. The psychosocial aspects of disability and disease will be explored. Practical application of material will be emphasized.

GERO5410 Issues Contemp Gerontol Pract

[3 credit hours]

Designed to explore introductory issues in older adults. Biological, psychological and sociological perspectives of aging will be addressed. Practical application of the material will be emphasized.

GERO5420 Grief and Bereavement Issues

[3 credit hours]

Grief and bereavement issues related to loss in later life will be explored. The role of the health care professional in facilitating the grief process will be introduced.

GERO5430 Funding Adult Programming

[3 credit hours]

Funding opportunities and resource generation for older adult programming will be introduced. Students will be taught basic needs assessment, grant writing and proposal development skills.

GERO5440 Independent Study Gerontology

[3 credit hours]

Intensive discipline specific study in geriatrics and gerontology, including theoretical and experimental work May be repeated for credit.

GERO6010 Current Perspectives in Gerontology

[3 credit hours]

Study of aging from a multi-disciplinary perspective. Provides a comprehensive understanding of age-related processes in content disciplines.

GERO6100 Aging Policy and Programs

[3 credit hours]

This course covers key aspects of aging policy and programs. The social and historical context of programs at the federal, state and local level will be reviewed. The course focuses on current programs and their organization, funding, utilization, benefits, and the challenges facing aging policies and programs in the future.

GIFT4100 Educating Young Talented And Gifted Children

[3 credit hours]

Examination of major topics about the development of talents and gifts with an emphasis on developmentally appropriate practices with young children.

Prerequisites: CIEC 3200 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIEC 4340 FOR LEVEL UG WITH MIN. GRADE OF D-

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GIFT5100 Introduction To Talented And Gifted Education

[3 credit hours]

Survey of major topics about the education and development of talents and gifts, including history, identification, social-emotional development, curriculum, creativity, intelligence, programming and evaluation.

GIFT5200 Assessment And Evaluation In Talented And Gifted Education

[3 credit hours]

The study of assessment and evaluation as it pertains to the special educational needs of talented and gifted persons. Theoretical and practical issues in assessing talent domains and educational programs are emphasized.

GIFT5300 Socioemotional Development Of The Talented And Gifted

[3 credit hours]

Examination of the social and emotional needs of talented and gifted persons within the context of roles in family, school and society. Attention to issues of guidance, parenting, special populations and underachievement.

GIFT5400 Creativity In The Classroom

[3 credit hours]

Explores existing theories about creativity; examination of approaches and their implementation within various educational settings.

GIFT5500 Curriculum I: Differentiation For The Talented And Gifted

[3 credit hours]

The study of curriculum models, theories and trends, principles and practices of differentiation, and application of content within various educational settings.

GIFT5600 Curriculum II: Integrating & Implementing Service Plans For The Talented & Gifted

[3 credit hours]

The study, development and implementation of curriculum models across content areas both vertically and horizontally within various educational settings. Focuses on multi-exceptionalities and implications of varied service delivery plans.

GIFT5700 Practicum In Talented And Gifted Education

[3-6 credit hours]

Provides opportunities for field experience to use and refine the strategies for persons with talented and gifted abilities.

GIFT6000 Issues & Trends In Talented And Gifted Education

[3 credit hours]

The course examines the current theoretical and practical issues that are dominating the literature in the field. Perennial issues such as identification and intelligence will be discussed, as well as emergent topics such as the biological bases of advanced development and creativity and emotional adjustment.

GIFT6100 Advanced Development In Social, Cultural & Political Context In Talented & Gifted Education

[3 credit hours]

The course explores social, cultural and political contexts related to advanced development or expression of talents. Emphasizes personal reflection and recognition of hegemony related to gifted individuals' past, present and future.

Prerequisites: (GIFT 5100 FOR LEVEL GR WITH MIN. GRADE OF D- AND GIFT 5300 FOR LEVEL GR WITH MIN. GRADE OF D-)

GIFT6900 Advanced Seminar In Teaching, Learning & Curriculum Theory In Talented & Gifted Education

[3 credit hours]

The course studies teaching, learning and curriculum from theoretical and historical perspectives to establish defensible lines of scholarly inquiry in gifted education.

GIFT6910 Seminar In Talent & Advanced Development I: Academic Talents

[3 credit hours]

The course studies the theoretical and research basis of development of specific academic domains, such as science, mathematics, language and literature, etc. Attention is paid to tacit as well as more public kinds of knowledge.

GIFT6920 Seminar In Talent & Advanced Development II: Aesthetic Talents

[3 credit hours]

The course studies development and expression of aesthetic abilities and talents such literacy, theatrical and/or musical expressiveness, visual and performing arts, emotional giftedness, movement and dance.

GIFT6930 Seminar In Talent & Advanced Development III: Practical, Folk & Sport

[3 credit hours]

The course studies the theoretical and research basis for development of talents in folk, practical and athletic domains. Attention is paid to tacit, esoteric and public forms of knowledge.

GIFT6950 Master's Research Project In Talented And Gifted Education

[3 credit hours]

Independent research project that integrates and synthesizes concepts and practices in gifted and talented education with implementation of action research and practical inquiry study.

GIFT6980 Special Topics About Advanced Development In The Talented And Gifted

[3-6 credit hours]

Collaborative inquiry into emerging topics in the field. This course is open to advanced graduate students in the master's or doctoral program.

GIFT6990 Independent Study In The Development Of The Talented & Gifted

[1-6 credit hours]

Directed readings and/or study on a topic selected in conjunction with a faculty mentor.

GIFT7100 Introduction To Talented And Gifted Education

[3 credit hours]

Survey of major topics about the education and development of talents and gifts, including history, identification, social-emotional development, curriculum, creativity, intelligence, programming and evaluation.

GIFT7200 Assessment And Evaluation In Talented And Gifted Education

[3 credit hours]

The study of assessment and evaluation as it pertains to the special educational needs of talented and gifted persons. Theoretical and practical issues in assessing talent domains and educational programs are emphasized.

GIFT7300 Socioemotional Development Of The Talented And Gifted

[3 credit hours]

Examination of the social and emotional needs of talented and gifted persons within the context of roles in family, school and society. Attention to issues of guidance, parenting, special populations and underachievement.

GIFT7400 Creativity In The Classroom

[3 credit hours]

Explores existing theories about creativity; examination of approaches and their implementation within various educational settings.

GIFT7500 Curriculum I: Differentiation For The Talented And Gifted

[3 credit hours]

The study of curriculum models, theories and trends, principles and practices of differentiation, and application of content within various educational settings.

GIFT7600 Curriculum II: Integrating & Implementing Service Plans For The Talented & Gifted

[3 credit hours]

The study, development and implementation of curriculum models across content areas both vertically and horizontally within various educational settings. Focuses on multi-exceptionalities and implications of varied service delivery plans.

GIFT7700 Practicum In Talented And Gifted Education

[3-6 credit hours]

Provides opportunities for field experience to use and refine the strategies for persons with talented and gifted abilities.

GIFT8000 Issues & Trends In Talented And Gifted Education

[3 credit hours]

The course examines the current theoretical and practical issues that are dominating the literature in the field. Perennial issues such as identification and intelligence will be discussed, as well as emergent topics such as the biological bases of advanced development and creativity and emotional adjustment.

GIFT8100 Advanced Development In Social, Cultural & Political Context In Talented & Gifted Education

[3 credit hours]

The course explores social, cultural and political contexts related to advanced development or expression of talents. Emphasizes personal reflection and recognition of hegemony related to gifted individuals' past, present and future.

GIFT8900 Advanced Seminar In Teaching, Learning & Curriculum Theory In Talented & Gifted Education

[3 credit hours]

The course studies teaching, learning and curriculum from theoretical and historical perspectives to establish defensible lines of scholarly inquiry in gifted education.

GIFT8910 Seminar In Talent & Advanced Development I: Academic Talents

[3 credit hours]

The course studies the theoretical and research basis of development of specific academic domains, such as science, mathematics, language and literature, etc. Attention is paid to tacit as well as more public kinds of knowledge.

GIFT8920 Seminar In Talent & Advanced Development II: Aesthetic Talents

[3 credit hours]

The course studies development and expression of aesthetic abilities and talents such literacy, theatrical and/or musical expressiveness, visual and performing arts, emotional giftedness, movement and dance.

GIFT8930 Seminar In Talent & Advanced Development III: Practical, Folk & Sport

[3 credit hours]

The course studies the theoretical and research basis for development of talents in folk, practical and athletic domains. Attention is paid to tacit, esoteric and public forms of knowledge.

GIFT8940 Internship In Gifted Studies

[3-6 credit hours]

Supervised internship in college teaching, or administration/leadership in agencies, or research and evaluation for advanced graduate students to practice skills and knowledge within settings relevant to career goals in talented and gifted education.

GIFT8960 Doctoral Dissertation

[1-15 credit hours]

Developing, conducting analyzing and writing the dissertation.

GIFT8980 Special Topics About Advanced Development In The Talented And Gifted

[3-6 credit hours]

Collaborative inquiry into emerging topics in the field. This course is open to advanced graduate students in the master's or doctoral program.

GIFT8990 Independent Study In The Development Of The Talented & Gifted

[1-6 credit hours]

Directed readings and/or study on a topic selected in conjunction with a faculty mentor.

GLHL755 Faculty Led Team Based Mission

[3-6 credit hours]

Students participating in this medical mission experience will work closely with MINSA (Ministry of Health) physician Dr. Alfonso Medina and pharmacist Mario Rivas to determine which villages will be served. Dr. Medina has a teaching appointment with the medical school in Leon and actively participates in student teaching, thereby affording medical students the ability to learn about cultural aspects unique to delivery of health care in Nicaragua. Both Dr. Medina and Mario will travel with the interprofessional health care team to all clinical sites, primarily serving rural communities within a 30- to 90-minute drive of Léon with limited access to national health services. Fourth-year student leaders will assist UT faculty in mentoring more junior students as they provide primary care services to adults and children, women’s health care, dental services, and physical therapy. Because of the collaboration with Dr. Medina and MINSA, individuals in need of follow-up care will be referred to him for continuity of care. Cervical cancer screening for appropriately aged women will occur, again in coordination with the local healthcare administration and Dr. Medina to ensure appropriate follow-up. A pediatric dental team will accompany the group, and students will likely have an opportunity to spend one-half day assisting the dental team in providing preventive dental services, including fluoride treatments and dental sealants. Statistics will be maintained for all patient visits and will be monitored by both the team and MINSA.

GLHL756 Global Health Elective

[6 credit hours]

The student’s clinical experience will focus on primarily one of the above areas based on the student’s interest and availability of supervised service in that specialty. Student will be expected to manage a variety of problems; specifically the student will learn to integrate the knowledge of clinical disease entities, both medical and surgical. These disease entities will include but not limited to; trauma and acute surgical disease, oncology, cardiology/acute coronary disease, pulmonary disease/acute infectious disease entities, acute neurology emergencies, gastrointestinal disorders, endocrinology and renal/urologic disorders.

GLST2000 Principles Of Global Studies

[3 credit hours]

A multidisciplinary exploration of the world. Global processes will be examined using many viewpoints, such as culture, politics, economics, geography and philosophy.

GLST2980 Topics In Global Studies

[3 credit hours]

An exploration of a specific global issue. Approaches will be explicitly multidisciplinary and will make use of a variety of perspectives. May be repeated for credit.

GLST4900 Senior Seminar In Global Studies

[3 credit hours]

Theories and research methods in global studies will be examined. A major component of the course will be a research project on some aspect of global studies.

Prerequisites: GLST 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

GLST4960 Honors Thesis In Global Studies

[3 credit hours]

Supervised research and writing for honors students only. May be taken twice for credit.

Prerequisites: GLST 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

GLST4980 Advanced Topics In Global Studies

[3 credit hours]

An advanced multidisciplinary exploration of a specific issue in global studies. May be repeated for credit.

GNEN1800 Engineering Applications of Mathematics

[3 credit hours]

Solution of engineering applications using mathematical concepts ranging from algebra to differential equations. Examples from the first two years of engineering coursework are solved in class and explored in corresponding laboratory experiments. The objective of this course is to provide an engineering context for subsequent courses in mathematics. Intended for students prior to Calculus.

GNEN5500 Applications of Engineering Analysis

[3 credit hours]

A course in analysis for engineers. Topics include: Linear differential equations, continuous and discrete series representation. Laplace transforms, matrix methods, eigenvalues and eigen vectors, systems of equations.

GNEN5700 Applied Probability and Statistics

[3 credit hours]

An introduction to the application of descriptive and inferential statistics. Topics include probability distributions, confidence intervals, tests of hypotheses, linear regression and correlation and the use of statistical software.

GNEN6700 Management of Projects and Technological Innovation

[3 credit hours]

Study of new Accelerated Radical Innovation discipline targeting 2X-10X improvement innovation effectiveness, measured by reduced risk, time and cost. Assessment and modeling to speed development, transfer and profitable commercialization.

GNEN6920 Special Projects in Engineering

[1-6 credit hours]

A special project is intended for the graduate student to investigate or solve a problem in an engineering area. The scope of the project is defined by the instructor in an area of mutual interest of the instructor and the student.

GNEN6980 Special Topics in Engineering

[1-6 credit hours]

A special topic at the graduate level in engineering to be offered as a course during a term by a faculty member.

HCAR3000 Introduction to Health Care Administration

[3 credit hours]

Studies the structure of the U.S. health care delivery system, provider organizations, and the health care professionals who staff these organizations. Opportunities and challenges of health care administration are discussed.

HCAR4360 Quality Improvement In Health Care

[3 credit hours]

Purpose and philosophy of quality assessment and system design. Selection/application of tools for data collection, analysis and problem resolution. Incorporates requirements of Joint Commission on the Accreditation of Healthcare Organizations.

HCAR4510 Medical And Legal Aspects Of Health Care

[3 credit hours]

Coverage of historical development of legal controls in health care facilities, contemporary legal medical analysis and strategy. Also involves major factors influencing education in the allied health professions.

HCAR4530 Problem Solving In Health Care Environment

[4 credit hours]

The theory, practice, and management of healthcare administration in effective decision making within the dynamics of current health care organizations.

Prerequisites: HCAR 3000 FOR LEVEL UG WITH MIN. GRADE OF D- AND HCAR 4360 FOR LEVEL UG WITH MIN. GRADE OF D- AND HCAR 4550 FOR LEVEL UG WITH MIN. GRADE OF D-

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HCAR4540 Internship In Health Management

[3 credit hours]

Internship in institutional health care focusing on mid-management.

HCAR4545 Project Management in Healthcare

[3 credit hours]

This course provides an applied approach to creating an Electronic Medical Record system project implementation plan utilizing several approaches to achieve this goal.

Prerequisites: HCAR 4530 FOR LEVEL UG WITH MIN. GRADE OF D- AND HCAR 4570 FOR LEVEL UG WITH MIN. GRADE OF D- AND HCAR 4580 FOR LEVEL UG WITH MIN. GRADE OF D-

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HCAR4550 Health Care Finance

[3 credit hours]

Study of financial problems and current sources of reimbursement to health care organizations. Emphasis on departmental financial management as integrated with financial management of organizations.

Prerequisites: BUAD 2050 FOR LEVEL UG WITH MIN. GRADE OF D-

HCAR4560 Services in Healthcare

[3 credit hours]

This class will describe the services provided by hospitals, the healthcare provider teams and how departments are organized in the provision of care, This course will have specific concentration on hospital services, structure and operations.

HCAR4570 Resources in Healthcare

[4 credit hours]

This four (4) hour hybrid course focuses on the study of resources in healthcare and how these resources impact the daily operations in a health care environment.

Prerequisites: HCAR 3000 FOR LEVEL UG WITH MIN. GRADE OF D- AND HCAR 4560 FOR LEVEL UG WITH MIN. GRADE OF D-

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HCAR4580 Leadership and Management in Healthcare

[3 credit hours]

This three (3) hour class will focus on learning strategies and tools for leading and managing the unique challenges of healthcare organizations. The course will investigate the foundations of leadership, core competencies of health care leadership and techniques to hardwired goals and strategies in leadership and development of a strong organizational culture.

Prerequisites: HCAR 3000 FOR LEVEL UG WITH MIN. GRADE OF D- AND HCAR 4550 FOR LEVEL UG WITH MIN. GRADE OF D- AND HCAR 4560 FOR LEVEL UG WITH MIN. GRADE OF D-

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HDSC5010 Organ Transplant Procurement

[3 credit hours]

This course introduces the student to the history of organ procurement and transplantation, the role of the organ procurement coordinator, consent, privacy issues, diversity and multicultural issues related to death and other issues related with the profession.

HDSC5110 Fundamental Concepts and Clinical Practicum I

[3 credit hours]

This course provides students with clinical information, cases and experiences to compliment HDSC 521. Students also will observe organ procurement coordinators and will be assigned "on call" rotations.

HDSC5120 Clinical Practicum II

[2 credit hours]

Enables the learner to develop proficiency in the practice of human donation science in a clinical setting under the supervision of a professional organ procurement coordinator.

HDSC5130 Human Donation Sci Internship

[8 credit hours]

Supervised full-time clinical experience in organ procurement organizations to prepare students for clinical practice. Builds upon classroom and practicum coursework.

HDSC5210 Scientific & Clinical Foundations for Human Organ & Tissue Donation & Transportation

[6 credit hours]

This course provides the foundation of the basic science and medical/surgical information required for the organ procurement coordinator. Topics include structure, normal and pathological function, pharmacology, brain death, and approaches to medical and surgical management.

HDSC5310 Clinical Aspects Procurement

[4 credit hours]

Builds upon the foundations of the basic science and medical-surgical information required for the organ procurement coordinator.

HDSC5410 Human Donation Science Seminar

[2 credit hours]

Selected topics that integrate learning and practice in human donation science.

HEAL1310 Nutrition for Fitness & Health

[1 credit hour]

The student will learn basic nutrition as it applies physical fitness and overall health. Students will learn principles of planning a healthful diet that meets fitness goals.

HEAL1320 Nutrition for Weight Management

[1 credit hour]

The student will learn principles of weight management, nutrition as it applies to healthy weight control, and overall health and will learn to plan individual approach to healthy diet.

HEAL1360 Alcohol and Contemporary Issues in College Life

[1 credit hour]

This course provides students with an overview of the health, legal, and academic risks associated with excessive alcohol consumption among college students. Various prevention and treatment issues will be examined.

HEAL1500 First Aid

[2 credit hours]

Provides the knowledge, skills, and confidence necessary to provide care for victims of sudden illness and injury. CPR, AED, and First Aid certification upon successful completion of the course.

HEAL1700 Introduction to Health Careers

[3 credit hours]

An introduction to health and human service careers through an examination of the health care system, health career educational requirements, job outlook, and professional settings in which they operate.

HEAL1800 Medical Terminology

[3 credit hours]

Study of the origin and structure of medical words, their prefixes, suffixes, special endings and singular to plural forms. Medical terms relating to the body and to clinical procedures will be explored.

HEAL2000 Foundations Of Health Education

[3 credit hours]

Designed to introduce students to the field of health education by acquainting them with basic information, history, philosophy and competencies unique to health educators.

HEAL2400 General Safety

[3 credit hours]

An analysis of accident causation and disasters occurring in the home, workplace and community, and the presentation of a framework for developing accident counter-measures.

HEAL2500 Personal Health

[3 credit hours]

Information is presented on the prevention and control of health problems including heart disease, cancer, infectious diseases, mental health, nutrition, human sexuality and other pertinent personal health issues.

HEAL2600 Mental Health

[3 credit hours]

An examination of the principles of mental health, mental illnesses, mental health professionals and mental health facilities.

HEAL2700 Community Health

[3 credit hours]

Introduces students to the structure, organization and methods of public health including an emphasis on protecting and improving the health of populations via research, needs assessment, program planning, program implementation, and program evaluation.

HEAL2750 Introduction to Epidemiology

[3 credit hours]

This course provides students with a basic understanding of epidemiologic methods and study design and of the place of epidemiology in preventive and clinical medicine, disease investigation, program evaluation and public policy.

HEAL2800 Principles Of Nutrition

[3 credit hours]

Students learn basic nutrition concepts. Personal nutritional practices are analyzed and evaluated to plan improvements. Encourages making informed decisions about nutrition by critically analyzing nutrition information which abounds in popular media.

HEAL2940 Practicum In Community Health

[1 credit hour]

Supervised field experience with community health agency. Students work under direct supervision of the agency's staff and a University supervisor.

HEAL3000 Global Health

[3 credit hours]

This is an introductory course focused on applying public health principles in developing as well as developed countries designed to fulfill a global studies distribution requirement.

HEAL3100 Health Education For Early Childhood Educators

[2 credit hours]

Provides future early childhood educators with the knowledge and skills necessary to teach and support healthy behaviors among the early childhood population through the establishment of a positive learning environment and the creation and delivery of developmentally appropriate hands-on health education lessons.

Prerequisites: EDU 1700 FOR LEVEL UG WITH MIN. GRADE OF D-

HEAL3200 Consumer Health

[3 credit hours]

An examination of responsible and fraudulent practices in the health field. Evaluation of selected health services, products, fads and types of quackery.

HEAL3300 Drug Awareness

[3 credit hours]

Focuses on the impact of drug abuse and misuse on the individual and society. Explores physiological, psychological and rehabilitative aspects of drug misuse and abuse. Prevention strategies are discussed.

HEAL3500 Environmental Health

[3 credit hours]

An overview of the environmental effects of factors such as population growth, pollution, energy use, agriculture practices and waste disposal on the environment. Consideration will be given to solutions.

HEAL3600 Prevention And Control Of Disease

[3 credit hours]

An examination of the etiology, pathogenesis, prevention and control of acute and chronic diseases. Current techniques of prevention, control and detection are examined.

HEAL3700 Foundations Of Human Sexuality

[3 credit hours]

The course is designed to provide an introduction to the scientific study of human sexuality. The topic is approached from a variety of perspectives, including the historical, psychological, sociological, biological, ethical and legal.

HEAL3800 Death And Dying

[3 credit hours]

The course is designed to analyze the relationship between death and health with emphasis upon the biological, psychological, bioethical and legal aspects of death in contemporary society.

HEAL4100 Health Behavior

[3 credit hours]

Examines the major theories and models of health behavior and explores how those theories/models can be used to promote health and wellness in individuals, groups and populations.

Prerequisites: (HEAL 2000 FOR LEVEL UG WITH MIN. GRADE OF B- AND HEAL 2700 FOR LEVEL UG WITH MIN. GRADE OF B-)

HEAL4200 Methods And Materials In Community Health

[3 credit hours]

Designed for senior-level students to advance their knowledge and skills in needs assessment, program design, program implementation, program management, and program evaluation.

Prerequisites: HEAL 2000 FOR LEVEL UG WITH MIN. GRADE OF D- AND HEAL 2700 FOR LEVEL UG WITH MIN. GRADE OF D- AND HEAL 2750 FOR LEVEL UG WITH MIN. GRADE OF D-

HEAL4400 Health Problems Of Youth

[3 credit hours]

Provides education majors the knowledge and skills necessary to help identify, understand, and prevent preadolescent and adolescent health problems and risky health behaviors which directly impact school and future success.

HEAL4500 Women's Health Care

[3 credit hours]

The course is designed to consider personal health topics of special interest and applicability to women. The focus is upon the role of self-understanding and self-help in promotion of health and well-being.

HEAL4560 Health Problems Of Aging

[3 credit hours]

Acquaints students with physical changes and socio-psychological problems that occur with aging. Focus is on personal adjustment important in maintaining health throughout the aging process.

HEAL4700 Nutritional Science

[3 credit hours]

Introduces basic human nutritional needs. Examines the role of diet and health and disease throughout the lifestyle, including weight control and fitness issues. Personal nutritional practices are analyzed and evaluated.

Prerequisites: KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF D- OR KINE 2560 FOR LEVEL UG WITH MIN. GRADE OF D- OR KINE 2570 FOR LEVEL UG WITH MIN. GRADE OF D- OR HHS 2570 FOR LEVEL UG WITH MIN. GRADE OF D-

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HEAL4750 Obesity And Eating Disorders

[3 credit hours]

Examines the issues of obesity and eating disorders. Consideration of effects on the individual as well as the public health implications. Explores causes, health and emotional impact, and treatment approaches.

Prerequisites: HEAL 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

HEAL4800 Public Health Research And Statistics

[3 credit hours]

An examination of research and statistical techniques commonly employed in the health field. Topics will include research design, ethics of research, hypothesis testing and critiques of published research in health journals.

Prerequisites: HEAL 2750 FOR LEVEL UG WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY) AND HEAL 3600 FOR LEVEL UG WITH MIN. GRADE OF B-

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HEAL4900 Health Education Seminar

[1-3 credit hours]

Seminars are developed around selected topics of interest and allow in-depth consideration of the subject. They provide the student with advanced study in the area.

HEAL4940 Senior Field Experience

[1-9 credit hours]

Provides students the opportunity to develop the competencies necessary to assume responsibilities as an entry-level public health specialist through on-site work experiences in a public health agency, organization, or industry. Students will work under direct supervision of the agency's staff and a University supervisor.

Prerequisites: HEAL 2940 FOR LEVEL UG WITH MIN. GRADE OF D- AND HEAL 4100 FOR LEVEL UG WITH MIN. GRADE OF D- AND HEAL 4800 FOR LEVEL UG WITH MIN. GRADE OF D-

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HEAL4990 Independent Study In Health Education

[1-3 credit hours]

Directed individual study. Specialty title, seminar sheet and permission of instructor are required.

HEAL5750 Obesity And Eating Disorders

[3 credit hours]

Examines the issues of obesity and eating disorders. Consideration of effects on the individual as well as the public health implications. Explores causes, health and emotional impact, and treatment approaches.

HEAL5930 General Seminar In Health Education

[1-3 credit hours]

A seminar to consider health problems and provide advanced study in health education. A graduate student may register for this seminar two or more times with permission of the adviser.

HEAL6280 Health Communication

[3 credit hours]

Designed to help students identify, analyze, and apply concepts, theories and methodologies related to health communication in various settings and at various levels of influence. Emphasis will be placed on learning how to design, communicate and evaluate effective health promotion messages.

HEAL6300 Community Health Organization

[3 credit hours]

Focuses on techniques to bring about change in a community's health status through assessment, public advocacy, coalition building, decision making, planning, policy development and political influence. Application will be emphasized.

HEAL6360 Applied Survey Research In Health

[3 credit hours]

An examination of applied survey research techniques essential in conducting health-related surveys. Topics will include standard health survey instruments, sample selection, quality instruments, response rates and data presentation for publication.

HEAL6530 Drug Use And Misuse

[3 credit hours]

Focuses on impact of drug abuse and misuse on the individual and society. Explores physiological, psychological, societal and rehabilitative aspects of substance abuse. Prevention strategies are addressed.

HEAL6540 Human Sexuality

[3 credit hours]

The course examines the historical, physiological, psychological, sociological and ethical aspects of human sexuality in health and illness. Extensive emphasis is placed on reviewing the pertinent periodical literature.

HEAL6600 Health Behavior

[3 credit hours]

Examines the role of behaviors on health status and how to influence and understand behavior through use of cognitive models and change theory. Applications through projects are emphasized.

HEAL6720 Issues In Minority Health

[3 credit hours]

This course will be an examination of the demographic trends of racial/ethnic minorities and social, political and economic factors affecting the physical and mental well-being of minorities.

HEAL6880 Scientific Writing In Health

[3 credit hours]

Examines salient issues related to scientific writing and academic publishing, including ethical issues surrounding publication and best practices for scientific writing in academia.

HEAL6900 Grant Writing In Health Sciences

[3 credit hours]

Consideration is given to funding sources, proposal guidelines, procedures for support, budgetary requirements and evaluation procedures. Students examine different types of funded projects, develop a research prospectus and grant proposal, and explore the art of politics and grantsmanship.

Prerequisites: (RESM 6320 FOR LEVEL GR WITH MIN. GRADE OF D- AND HEAL 6800 FOR LEVEL GR WITH MIN. GRADE OF D-)

HEAL6920 Master's Research Project In Health Education

[1-4 credit hours]

Open to graduate students who elect the completion of a master's project in fulfilling the research elective of the master's program. Students may register for the credits in more than one semester.

HEAL6930 Interdisciplinary Seminar In Health Education

[1-3 credit hours]

A seminar to consider problems and provide advanced study in several fields of education and other disciplines related to health education. Open only to advanced graduate students.

HEAL6990 Independent Study In Health Education

[1-3 credit hours]

The student will participate in independent readings, laboratory research, field experience and other activities not suited for class instruction. May be repeated for course credit.

HEAL8000 Professional Issues In Health Education

[3 credit hours]

This course will examine the historical and philosophical foundations underlying the health education profession. Occupational and ethical issues specific to the field of health education will be explored. Special emphasis willbe placed on becoming a culturally competent professional.

HEAL8100 College Teaching In Health Education

[3 credit hours]

This course is designed to provide an overview of the issues surrounding teaching health education at the college level. The course will include information on course development, effective teaching, tenure and promotion process, and professional development.

HEAL8200 Methods And Materials In Public Health

[3 credit hours]

Introduces students to resource materials and methods appropriate for public health education. Students will use various mediums of instruction in direct application to public health programs.

HEAL8250 Nutritional Epidemiology

[3 credit hours]

Examination of human nutritional needs. Emphasized the role of diet in health and disease throughout the lifecycle and includes current nutrition issues. Personal nutritional practices are analyzed and evaluated.

Prerequisites: HEAL 8700 FOR LEVEL GR WITH MIN. GRADE OF D-

HEAL8280 Health Communication

[3 credit hours]

Designed to help students identify, analyze, and apply concepts, theories and methodologies related to health communication in various settings and at various levels of influence. Emphasis will be placed on learning how to design, communicate and evaluate effective health promotion messages.

HEAL8300 Community Health Organization

[3 credit hours]

Focuses on techniques to bring about change in a community's health status through assessment, public advocacy, coalition building, decision making, planning, policy development and political influence. Application will be emphasized.

HEAL8360 Applied Survey Research In Health

[3 credit hours]

An examination of applied survey research techniques essential in conducting health-related surveys. Topics will include standard health survey instruments, sample selection, quality instruments, response rates and data presentation for publication.

HEAL8460 Health Promotion Programs

[3 credit hours]

This course introduces the principles of health promotion program planning. Students learn the precursors to program planning as well as the purposes, procedures, terminology, and specific techniques in the planning process.

HEAL8520 Public Health Nutrition

[3 credit hours]

Explore the interdisciplinary and entrepreneurial approaches that lead to effective community nutrition programs. Investigates the impact of these programs to alleviate national and international nutritional problems.

HEAL8530 Drug Use And Misuse

[3 credit hours]

Focuses on impact of drug abuse and misuse on the individual and society. Explores physiological, psychological, societal and rehabilitative aspects of substance abuse. Prevention strategies are addressed.

HEAL8540 Human Sexuality

[3 credit hours]

The course examines the historical, physiological, psychological, sociological and ethical aspects of human sexuality in health and illness. Extensive emphasis is placed on reviewing the pertinent periodical literature.

HEAL8600 Health Behavior

[3 credit hours]

Examines the role of behaviors on health status and how to influence and understand behavior through use of cognitive models and change theory. Applications through projects are emphasized.

HEAL8720 Issues In Minority Health

[3 credit hours]

This course will be an examination of the demographic trends of racial/ethnic minorities and social, political and economic factors affecting the physical and mental well-being of minorities.

HEAL8800 Evaluation Of Health Programs

[3 credit hours]

An exploration of types of program evaluation, evaluation models, data collection, types of data, data quality, evaluation reports, standard data collection instruments and ethical issues in health program evaluation.

Prerequisites: HEAL 8460 FOR LEVEL GR WITH MIN. GRADE OF D-

HEAL8880 Scientific Writing In Health

[3 credit hours]

This course is designed to integrate research methods with the writing of a five-chapter thesis or dissertation, including: selecting a topic, literature reviews; research hypotheses; selecting participants; data analysis; instrument development; institutional review boards; references; conclusions, discussion, and recommendations.

Prerequisites: (HEAL 8600 FOR LEVEL GR WITH MIN. GRADE OF D- AND HEAL 8800 FOR LEVEL GR WITH MIN. GRADE OF D-)

HEAL8900 Grant Writing In Health Sciences

[3 credit hours]

Consideration is given to funding sources, proposal guidelines, procedures for support, budgetary requirements and evaluation procedures. Students examine different types of funded projects, develop a research prospectus and grant proposal, and explore the art of politics and grantsmanship.

Prerequisites: (RESM 8320 FOR LEVEL GR WITH MIN. GRADE OF D- AND HEAL 8800 FOR LEVEL GR WITH MIN. GRADE OF D-)

HEAL8930 Interdisciplinary Seminar In Health Education

[1-3 credit hours]

A seminar to consider problems and provide advanced study in several fields of education and other disciplines related to health education. Open only to advanced graduate students.

HEAL8940 Public Health Internship

[1-4 credit hours]

A field internship designed to supplement classroom experience by providing direct insight into the operation of a public health agency through participant-observer experience.

HEAL8960 Doctoral Research Dissertation

[1-12 credit hours]

Graduate students may register for credit in more than one semester. Dissertation credit toward the degree program may not exceed 16 hours.

HEAL8990 Independent Study In Health Education

[1-3 credit hours]

The student will participate in independent readings, laboratory research, field experience and other activities not suited for class instruction. May be repeated for course credit.

HED5910 Diversity Beginnings

[3 credit hours]

This course will review and apply diversity-related theory, social and psychological understanding, and interpersonal communication to diversity experiences. The course is designed to cultivate an awareness of diversity through communication in education, work, and social settings.

HED5920 Introduction to Master's Studies in Higher Education

[1-3 credit hours]

This course explores the expectations and challenges of graduate education. We will look at the role of the graduate student, faculty, adviser, and other university offices that support your journey.

HED5930 Interdisciplinary Seminar

[3 credit hours]

This seminar formatted course will provide the opportunity to explore problems and issues from the perspectives of the various fields of education and of other disciplines related to higher education.

HED5950 Workshop In Higher Education

[1-3 credit hours]

Each workshop is developed on a topic of interest to faculty members and administrators of higher education institutions. Practical applications of the workshop topic will be emphasized.

HED5960 Diversity in Practice

[3 credit hours]

This course is designed to explore dimensions of diversity in different settings like that of health care. Dimensions of diversity will include but are not limited to topics of global citizenship, socioeconomic diversity, religious diversity, gender and gender identity, LBGTQ, ADA laws, race and ethnicity, successful aging, and harassment and bullying.

HED5970 Diversity Advancement

[3 credit hours]

This course is designed to teach how to measure effectiveness of diversity-related programs, review of tools and instruments for strategic planning, creation and implementation of diversity plans, and exploration of components of being an effective Chief Diversity Officer (CDO).

HED5980 Special Topics In Higher Education

[1-3 credit hours]

This seminar provides advanced study in special topics of interest to faculty and administrators in higher education.

HED6010 History Of Higher Education

[3 credit hours]

Introduction to the historical development of American higher education from colonial times to the 20th century. Emphasis on the major historical events that contributed to the diversity of higher education.

HED6120 International Education

[3 credit hours]

Complex interrelationships between global and educational systems will be examined. Emphasis will be on how education can be used to build a more global society. Some sections will include an international field study trip.

HED6210 The Community College

[3 credit hours]

A study of the history, distinguishing characteristics (mission, functions, organization, curriculum, finances) and current issues facing community colleges, including marginalization of students and institutions, and transfer and articulation policy.

HED6250 Technical Higher Education

[3 credit hours]

This course examines the development, mission, functions, and assessment of technical, occupational, and career education, including community needs assessment.

HED6270 Learning and Teaching in Higher Education

[3 credit hours]

Course facilitates application of theory to practice of teaching in higher education. Students explore diverse pedagogical approaches, professional faculty roles effective learning and teaching.

HED6410 College & University Curriculum

[3 credit hours]

The course examines the philosophical and conceptual underpinnings of college and university curriculum. It introduces a model for curriculum planning, implementation, and evaluation in American higher education, and a framework for designing and assessing courses and curricula.

HED6440 General Education In Higher Education

[3 credit hours]

This course will examine the meaning and purposes of general education in the United States. Students will become acquainted with the design, analysis and evaluation of general education curricula.

HED6510 The American College Student

[3 credit hours]

This course explores the character and nature of student populations in contemporary American colleges and universities and considers the impact of campus environments and experiences on development, interaction and learning.

HED6520 Organization & Management Of Student Affairs

[3 credit hours]

This course provides an overview of functional areas of student affairs and the philosophies and ethics that guide the profession. The overview also considers general areas that influence student affairs such as university mission, campus culture and environment, leadership, financing and budgeting, university assesment, student demographics and diversity, and student development.

HED6530 Theories Of Student Development

[3 credit hours]

Students critically examine traditional and contemporary theories of college student development, identify methods of assessing that development, and explore ways to apply the theories to everyday practice.

HED6540 HED 6540 Advising Diverse Students

[3 credit hours]

This seminar considers the advising role of higher education professionals, emphasizing the ways that culture, race, ethnicity, gender, religion, sexual orientation, socio economic status, and other diversities may impact work with students.

HED6570 Research in Higher Education

[3 credit hours]

The course introduces students to research methods and techniques, along with the resources available, both within the University and nationally, for the purpose of higher education research. Introductory qualitative and quantitative research concepts are covered, as well as how to critique research articles in the field of higher education.

HED6610 Issues Of Access In Higher Education

[3 credit hours]

This course explores access issues that result from the changing educational needs of society and analyzes the application of democratic ideals of American education to current educational policies affecting access.

HED6640 Governance And Administration In Higher Education

[3 credit hours]

This course introduces students to the theories and structures of the governance and administration of academic organizations, and to the sources of authority and decision-making in academic institutions.

HED6650 Community College Leadership

[3 credit hours]

This course examines community college leadership and administration. It introduces models for leading change and explores challenges facing community college leaders.

HED6660 Building Academic Culture

[3 credit hours]

An examination of institutional culture and the interplay of student, faculty and administrative subcultures. Critical perspectives are used to analyze and understand cultural inquiry, conflict and collaboration in post secondary institutions.

HED6700 Finance Of Higher Education

[3 credit hours]

This course discusses issues related to the expenditure of funds for higher education within institutions and systems. issues addressed include capital funding, endowment management and budget preparation.

HED6710 Economics Of Higher Education

[3 credit hours]

This course discusses issues related to the revenue sources of higher education and discussion of the social worth of public and private sector investment in higher education. Issues include the connection of educational outcomes to educational budget making and how sources of funds drive educational policymaking.

HED6730 Legal Aspects Of Higher Education

[3 credit hours]

Law, its history, philosophy and practical application to and effect on the creation and administration of public and private higher education is examined in the context of court decisions.

HED6750 Strategic Planning And Decision Making

[3 credit hours]

This course provides an overview and applications of strategic planning theories and methods in higher education and explores how external environments and internal dynamics affect planning processes. The development and implementation of strategic plans are covered as well as the leadership skills needed to direct strategic decision-making.

HED6770 Evaluation And Outcomes Assessment In Higher Education

[3 credit hours]

This course focuses on outcomes-based assessment of learning and development in student affairs.

HED6790 Managing College And University Personnel

[3 credit hours]

This course acquaints students with key concepts related to the effective management of human resources within institutions of higher education. Topics covered may include human resource management, diversity and inclusion, talent management, training and development, employee engagement and retention, performance management, benefits and compensation, ethics and fair treatment, and collective bargaining in higher education.

HED6810 Women In Higher Education

[3 credit hours]

This course introduces students to the historical, social, and cultural influences on women's higher education, and explores the campus climate for women as students, administrators, faculty, and governing board members. Special attention is paid to the intersections of gender with race and class.

HED6820 Institutional Advancement In Higher Education

[3 credit hours]

Overview of the field of development and introduction to the knowledge, research and theory emerging in the field. Focus on practical skill enhancement as it applies to building development programs.

HED6830 The Independent College

[3 credit hours]

The course examines the historical and conceptual underpinnings of the independent college and university. It explores the strengths, weaknesses, opportunities, and challenges of small residential liberal arts colleges, along with the other major categories of private colleges and universities in the American context.

HED6840 Adult Continuing Education

[3 credit hours]

Course assists student in interpreting the highly diversified field of adult continuing education from the point of view of the student's current or anticipated involvement. Intended for teachers of adults.

HED6850 Critical Issues In Higher Education

[3 credit hours]

This seminar exposes students to critical issues in higher education. Topics covered vary from course to course in order to stay current with ongoing and emerging critical issues.

HED6870 Econonomic Development And Higher Education

[3 credit hours]

How do institutions of higher education impact their local economies? This course examines various roles and methods by which institutions of higher education add to economic development.

HED6910 Introduction to Interpretive Inquiry

[3 credit hours]

This course equips students with basic knowledge and abilities to conduct qualitative research. It fosters understanding of methodology and methods, and their alignment with a particular research tradition.

HED6920 Master's Project In Higher Education

[1-3 credit hours]

Open to graduate students who elect the completion of a research project in fulfilling the research requirements of the master's program.

HED6940 Master's Practicum In Higher Education

[1-3 credit hours]

The Practicum Seminar provides students with the opportunity to develop specialized skills working in a professional/administrative unit of a college or university. Students are expected to complete a 100 hours of work under the supervision of an experienced administrator. Seminar coursework accompanies the practicum experience.

HED6950 HED 6950: Master’s Internship in Higher Education

[1-4 credit hours]

The Master's Internship in Higher Education links directly to a student's Graduate Assistantship and offers students the opportunity to integrate theory, research, and skills gained through courses, workshops, and seminars with the knowledge, skills, and abilities they are developing through practice. In addition, the Internship serves as structured professional development opportunity for enhancing theory-to-practice knowledge and skills of the students and practitioners involved. The HED Internship has been developed jointly by the HED Program and UT's Student Affairs, and includes the collaborative participation of both student affairs professionals and higher education faculty.

HED6960 Master's Thesis In Higher Education

[1-3 credit hours]

Open to graduate students who elect the completion of a research thesis in fulfilling the research requirements of the master's program.

HED6980 Master's Capstone Seminar

[1-3 credit hours]

This seminar provides opportunities for students to strengthen their academic and professional skills and to apply them in different higher education contexts. The culminating requirements may vary.

HED6990 Independent Study In Higher Education-Masters

[1-3 credit hours]

Provides student the opportunity to work independently on a professional problem under the direction of a Higher Education Program faculty member.

HED7910 Diversity Beginnings

[3 credit hours]

Review and application of diversity-related theory, social and psychological understanding, and interpersonal communication when applying to diversity experiences.

HED7930 Interdisciplinary Seminar

[3 credit hours]

This seminar formatted course will provide the opportunity to explore problems and issues from the perspectives of the various fields of education and of other disciplines related to higher education.

HED7950 Workshop In Higher Education

[1-3 credit hours]

Each workshop is developed on a topic of interest to faculty members and administrators of higher education institutions. Practical applications of the workshop topic will be emphasized.

HED7960 Diversity in Practice

[3 credit hours]

Review the different dimensions of diversity, understanding of laws that are in diversity-related areas, and exploration of diversity in a health care setting.

HED7970 Diversity Advancement

[3 credit hours]

Review and application of diversity work as it related to measurement and diversity analysis. Topic categories include but not limited to measuring diversity, creating climate surveys, developing diversity plans, and understanding the components of being an effective Chief Diversity Officer.

HED7980 Special Topics In Higher Education

[1-3 credit hours]

This seminar provides advanced study in special topics of interest to faculty and administrators in higher education.

HED8010 History Of Higher Education

[3 credit hours]

Introduction to the historical development of American higher education from colonial times to the 20th century. Emphasis on the major historical events that contributed to the diversity of higher education.

HED8020 Advanced Seminar In Historiography Hied

[3 credit hours]

Historical methods applied to research in higher education discussed. Course focuses on in-depth readings of primary source material on liberal arts colleges, universities and community colleges. Research paper required.

HED8030 Federal And State Policy Analysis

[3 credit hours]

Designed for those interested in federal and state policy as related to higher education. Students will investigate specific federal and state legislation and regulatory issues.

HED8120 International Education

[3 credit hours]

Complex interrelationships between global issues and educationaal systems will be examined. Emphasis will be on how education can be used to build a more global society. Some sections of the course will include an international field study trip.

HED8210 The Community College

[3 credit hours]

A study of the history, distinguishing characteristics (mission, functions, organization, curriculum, finances), and current issues facing community colleges, including marginalization of students and institutions, and transfer and articulation policy.

HED8250 Technical Higher Education

[3 credit hours]

This course examines the development, mission, functions, and assessment of technical, occupational, and career education, including community needs assessment.

HED8270 Learning and Teaching in Higher Education

[3 credit hours]

Course facilitates application of theory to practice of teaching in higher education. Students explore diverse pedagogical approaches, professional faculty roles effective learning and teaching.

HED8410 College & University Curriculum

[3 credit hours]

The course examines the philosophical and conceptual underpinnings of college and university curriculum. It introduces a model for curriculum planning, implementation, and evaluation in American higher education, and a framework for designing and assessing courses and curricula.

HED8440 General Education In Higher Education

[3 credit hours]

This course will examine the meaning and purposes of general education in the United States. Students will become acquainted with the design, analysis and evaluation of general education curricula.

HED8510 The American College Student

[3 credit hours]

This course explores the character and nature of student populations in contemporary American colleges and universities and considers the impact of campus environments and experiences on development, interaction and learning.

HED8520 Org & Mgmt Of Student Affairs

[3 credit hours]

This course provides an overview of functional areas of student affairs and the philosophies and ethics that guide the profession. The overview also considers general areas that influence student affairs such as university mission, campus culture and environment, leadership, financing and budgeting, university assesment, student demographics and diversity, and student development.

HED8530 Theories Of Student Development

[3 credit hours]

Students critically examine traditional and contemporary theories of college student development, identify methods of assessing that development, and explore ways to apply the theories to everyday practice.

HED8570 Research In Higher Education

[3 credit hours]

"This course introduces students to various research approaches in the field of higher education. Students learn how to critique research articles in the field of higher education, how higher education institutions are classified, what national postsecondary datasets are available for their own research, and how to develop and present a research study proposal. "

HED8580 Leadership Theory

[3 credit hours]

This seminar examines the theory and practice of leadership in higher education. Topics may include the leadership experience, leadership in engaging higher education in social change, and the roles of academic leaders.

HED8610 Issues Of Access In Higher Education

[3 credit hours]

This course explores access issues that result from the changing educational needs of society and analyzes the application of democratic ideals of American education to current educational policies affecting access.

HED8630 Faculty Issues In Higher Education

[3 credit hours]

This course explores current issues in the American academic profession. Topics may include faculty work, faculty reward systems, diversity issues, gender issues, salary issues, part-time faculty, work-home balance, governance, satisfaction, career choice, recruitment and retention, and faculty career stages.

HED8640 Governance And Administration In Higher Education

[3 credit hours]

This course introduces students to the theories and structures of the governance and administration of academic organizations, and to the sources of authority and decision-making in academic institutions.

HED8650 Community College Leadership

[3 credit hours]

This course examines community college leadership and administration. It introduces models for leading change and explores challenges facing community college leaders.

HED8660 Building Academic Culture

[3 credit hours]

An examination of institutional culture and the interplay of student, faculty and administrative subcultures. Critical perspectives are used to analyze and understand cultural inquiry, conflict and collaboration in post secondary institutions.

HED8700 Finance Of Higher Education

[3 credit hours]

This course discusses issues related to the expenditure of funds for higher education within institutions and systems. issues addressed include capital funding, endowment management and budget preparation.

HED8710 Economics Of Higher Education

[3 credit hours]

This course discusses issues related to the revenue sources of higher education and discussion of the social worth of public and private sector investment in higher education. Issues include the connection of educational outcomes to educational budget making and how sources of funds drive educational policymaking.

HED8730 Legal Aspects Of Higher Education

[3 credit hours]

Law, its history, philosophy and practical application to and effect on the creation and administration of public and private higher education is examined in the context of court decisions.

HED8750 Strategic Planning And Decision Making

[3 credit hours]

This course provides an overview and applications of strategic planning theories and methods in higher education and explores how external environments and internal dynamics affect planning processes. The development and implementation of strategic plans are covered as well as the leadership skills needed to direct strategic decision-making.

HED8770 Evaluation And Outcomes Assessment In Higher Education

[3 credit hours]

This course focuses on outcomes-based assessment of learning and development in student affairs.

HED8790 Managing College And University Personnel

[3 credit hours]

This course acquaints students with key concepts related to the effective management of human resources within institutions of higher education. Topics covered may include human resource management, diversity and inclusion, talent management, training and development, employee engagement and retention, performance management, benefits and compensation, ethics and fair treatment, and collective bargaining in higher education.

HED8810 Women In Higher Education

[3 credit hours]

This course introduces students to the historical, social, and cultural influences on women's higher education, and explores the campus climate for women as students, administrators, faculty, and governing board members. Special attention is paid to the intersections of gender with race and class.

HED8820 Institutional Advancement In Higher Education

[3 credit hours]

Overview of the field of development and introduction to the knowledge, research, and theory emerging in the field. Focus on practical skill enhancement as it applies to building development programs.

HED8830 The Independent College

[3 credit hours]

The course examines the historical and conceptual underpinnings of the independent college and university. It explores the strengths, weaknesses, opportunities, and challenges of small residential liberal arts colleges, along with the other major categories of private colleges and universities in the American context.

HED8840 Adult Continuing Education

[3 credit hours]

Course assists student in interpreting the highly diversified field of adult continuing education from the point of view of the student's current or anticipated involvement. Intended for teachers of adults.

HED8850 Critical Issues In Higher Education

[3 credit hours]

This seminar exposes students to critical issues in higher education. Topics covered vary from course to course in order to stay current with ongoing and emerging critical issues.

HED8870 Econonomic Development And Higher Education

[3 credit hours]

How do institutions of higher education impact their local economies? This course examines various roles and methods by which institutions of higher education add to economic development.

HED8910 Introduction to Interpretive Inquiry

[3 credit hours]

This course equips students with basic knowledge and abilities to conduct qualitative research. It fosters understanding of methodology and methods, and their alignment with a particular research tradition.

HED8920 Advanced Seminar

[3 credit hours]

This seminar requires students to work with a professor on the design and implementation of a research project. This project may be qualitative, quantitative, or mixed method. The seminar may be repeated once for credit when topics vary.

HED8930 Doctoral Research Seminar In Higher Education

[3 credit hours]

This course provides students the opportunity to work through the various stages of their dissertation in a seminar format. This course may be repeated once for credit as students progress through stages of the dissertation. These credits may count towards students' dissertation hours.

HED8940 Doctoral Internship In Higher Education

[1-3 credit hours]

The Internship provides students an opportunity to accummulate supervised experience in college/university administration or teaching. Areas of experience are decided upon in collaboration with a guiding higher education organization or institution, the faculty in the Higher Education Program, and the individual student.

HED8960 Dissertation

[1-12 credit hours]

Original and specific research problem of a scholarly nature, requiring the application of advanced research skills and techniques to study. Students must take a minimum of 10 dissertation credit hours.

HED8990 Independent Study In Higher Education

[1-3 credit hours]

Provides student the opportunity to work independently on a professional problem under the direction of a Higher Education Program faculty member.

HHS1000 Health And Human Services/College Orientation

[1 credit hour]

Acquaints the new student with the services, policies, procedures and layout of the university, college and department. Establishes relationships between new students, full-time professors and peer mentors during this time of adjustment. Must be taken first semester of enrollment.

HHS2980 Special Topics In Health & Human Services

[1-3 credit hours]

Selected subjects in the field of Health and/or Human Service of special interest to the class and the professor - lower division.

HHS4980 Special Topics In Health & Human Services

[1-3 credit hours]

Selected subjects in the field of Health and/or Human Service of special interest to the class and the professor - upper division.

HIM2210 Medical Linguistics In Ancillary Services

[3 credit hours]

Expanded medical linguistics utilized in coding, classification systems and ancillary services, especially surgery, medical imaging, anesthesiology, medical tests and laboratory procedures. Linguistics of pharmacology, pathophysiology and infectious/parasitic diseases are analyzed.

HIM2230 Healthcare Document Requirement

[3 credit hours]

Inpatient and ambulatory health care data requirements will be identified and analyzed, including collection, analysis, and implementation. This course also includes aspects related to medical staff, personnel requirements, licensing, certifying, and accrediting agencies.

HIM2260 Legal Issues in HIM

[2 credit hours]

This course covers overview of the US legal system, identification of laws and regulations applicable to healthcare topics and related the health information management. Hardcopy and electronic health record legal issues examined in detail.

HIM2300 Healthcare Resources, Payers

[3 credit hours]

Introduction to roles of professionals in meeting standards of regulatory agencies and voluntary organizations in healthcare delivery systems. Data collection, quality, access, retention, technology and impact on healthcare financing.

HIM2310 Acute Care Clinical Classification Systems And Services

[4 credit hours]

Principles of coding disease conditions and procedures using the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) and 10th Revision Procedure Classification System (ICD-10-PCS) are covered. Manual and computerized methods will be utilized to assign codes following Official Coding Guidelines required for reporting data.

Prerequisites: KINE 1460 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 1560 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2580 FOR LEVEL UG WITH MIN. GRADE OF C AND (HIM 2210 FOR LEVEL UG WITH MIN. GRADE OF C AND HIM 2230 FOR LEVEL UG WITH MIN. GRADE OF C)

HIM2320 Ambulatory Clinical Classifications Systems And Services

[4 credit hours]

Principles of coding with the Healthcare Common Procedure Coding System (HCPCS) are discussed, and the assignments of codes using both manual and computerized methods are practiced.

Prerequisites: HIM 2210 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 1460 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 1560 FOR LEVEL UG WITH MIN. GRADE OF C

HIM2350 Reimbursement Methodologies

[2 credit hours]

MS-DRGs, APCs, RBRVS, and other reimbursement methods used by federal, state, and private insurance carriers are identified and reviewed. Compliance issues, including coding, billing, and chargemaster accuracy are identified and reviewed. Case mix and its implications for providing and improving healthcare quality also discussed.

Prerequisites: HIM 2310 FOR LEVEL UG WITH MIN. GRADE OF C AND HIM 2320 FOR LEVEL UG WITH MIN. GRADE OF C

HIM3240 Health Information Administration Practices

[4 credit hours]

Management theory and principles related to health information management in the acute and non-acute care environments are examined. Business techniques beneficial to health information administrators are identified and analyzed. Management theory and principles related to administration of healthcare service organizations are examined. Focus on strategic planning, accreditation/licensure, marketing, and institutional issues.

Prerequisites: BUAD 1020 FOR LEVEL UG WITH MIN. GRADE OF D- AND HIM 2300 FOR LEVEL UG WITH MIN. GRADE OF C

HIM3940 Healthcare Content and Record Management

[4 credit hours]

Generalized health information administrative duties in regards to staffing, managing, record release, storage and retrieval, coding, abstracting, utilization management, quality improvement, computer applications in health information practice.

Prerequisites: HIM 3240 FOR LEVEL UG WITH MIN. GRADE OF C

HIM4210 Healthcare Statistics, Registries, Research

[4 credit hours]

Theory of healthcare statistics will be reviewed and students will apply practical application of statistical methods used in healthcare to produce reports. Surveillance mechanisms, including database management used in registries to track various disease processes or injuries will be investigated and researched.

Prerequisites: MATH 2600 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

HIM4230 Compliance and Ethical Issues

[3 credit hours]

This course presents an overview of the compliance and ethical issues facing the health care industry. The importance of corporate compliance programs and standards, polices, and procedures healthcare organizations should have in place to assure compliance with government funded programs will be the focus of the course. Senior standing status required.

HIM4500 Health Informatics & Information Management

[4 credit hours]

Case study approach to application and evaluation of health care-related information systems. Includes different information systems used in health care organizations. Basic systems concepts and interrelation between departments and entire organizations.

HIM4910 Integrative Capstone Experience

[4 credit hours]

The course consists of a demonstration of proficiencies and competencies in Health Information Administration (HIA) core courses and an extensive examination of the cognitive levels required to pass the national Registered Health Information Administration (RHIA) exam and to become an effective healthcare information supervisor. Senior standing and instructor permission required.

HIM4940 Professional Practice Experience

[4 credit hours]

Specialized administrative assignment within health information management in a facility, agency or organization. Students submit a major project for the site and members of the related HIM community of practice. Senior standing and instructor permission required.

Prerequisites: HIM 3240 FOR LEVEL UG WITH MIN. GRADE OF C

HIST1010 Europe To 1600

[3 credit hours]

A survey of western Europe, including its ancient Jewish, Greco-Roman and Christian roots; the Middle Ages, Renaissance and Reformation.

HIST1020 Europe From 1600

[3 credit hours]

A survey of European history from the 17th century to the present with emphasis on the major political, economic, social and cultural trends.

HIST1050 World History To 1500

[3 credit hours]

A survey of the ancient world from the stone age to around 1500. Cultural and political topics are treated so as to compare the major civilizations.

HIST1060 World History From 1500

[3 credit hours]

A survey of world history from 1500 to the present. Cultural and political topics are treated so as to draw comparisons between the most significant modern societies.

HIST1070 The Contemporary World

[3 credit hours]

This thematic survey of the 20th century from a historical and global perspective emphasizes the origins of the world in which we live and discusses some of our alternative futures.

HIST1080 East Asia To 1800

[3 credit hours]

Multidisciplinary introduction to traditional East Asia (origins-1800) with emphasis on the historical development, political traditions, socio-economic patterns, religious and philosophical values, and cultural accomplishments of China and Japan.

HIST1090 East Asia From 1800

[3 credit hours]

Multidisciplinary introduction to the history, civilization, political organization, international relations, social and economic patterns, and cultural trends of China and Japan since 1800.

HIST1100 Latin American Civilizations

[3 credit hours]

A thematic survey from pre-Columbian times to the present. Covers Native American cultures, European colonial policies and institutions, independence movements, the emergence of new nations and twentieth-century problems.

HIST1110 African Civilization

[3 credit hours]

General cultural and historical survey of Africa south of the Sahara from earliest times to the 20th century. Includes topics on art, literature, philosophy, religion and society.

HIST1120 Middle East Civilization

[3 credit hours]

General cultural and historical survey of the Middle East and Islam from 600 to the 20th century. Includes topics in historical movements, literature, religion, and social and intellectual history.

HIST1130 Introduction To Historical Thinking

[3-4 credit hours]

(Not for major credit) An introduction to the nature, concepts and skills of the discipline of history designed to improve historical awareness and the ability to think historically. Occasionally offered as a writing intensive course.

HIST1200 Main Themes In American History

[3 credit hours]

This thematic survey introduces students to historical theory, methods, and the primary sub-fields of American history from colonial conquest to the present day.

HIST2000 Methods Seminar

[4 credit hours]

Research techniques, writing of term papers and book reviews. Introduction to historiography. Offered as a writing intensive course.

HIST2010 America To 1865

[3 credit hours]

The development of the United States from its Native American and immigrant roots through the Civil War.

HIST2020 America From 1865

[3 credit hours]

Survey of American history since the Civil War, with special attention to political, social, economic and cultural developments.

HIST2030 Great Americans

[3 credit hours]

The careers of selected Americans in politics, business, science, religion and literature.

HIST2040 Ancient Near East

[3 credit hours]

Survey of the Sumerian, Babylonian, Hittite, Assyrian, Egyptian, Palestinian and Persian worlds.

HIST2050 Ancient Greece

[3 credit hours]

Survey of the Greek and Hellenistic world.

HIST2060 Ancient Rome

[3 credit hours]

Survey of the Roman Republic and Empire.

HIST2170 Great Britain To 1714

[3 credit hours]

An introductory course on English history from the Roman conquest to 1714. Emphasis on the Norman conquest, social and political life in medieval England, the monarchy, and common law.

HIST2180 Great Britain From 1714 To The Present

[3 credit hours]

An introductory course on British history from the Hanoverian dynasty to the present. Emphasis on English maritime power, the industrial revolution and two world wars.

HIST2190 Britain And Ireland

[3 credit hours]

From the 17th to the 20th century, the mutual influences in literature and history of colony and colonizer are examined.

HIST2250 World War I

[3 credit hours]

World War I from origins to conclusion and its effect on the course of the 20th century. Political and diplomatic background, conduct, termination, technology, and the war's effect on society and the 20th century.

HIST2260 World War II On Film

[3 credit hours]

Analysis of contemporary and retrospective documentary film treatments of major aspects of World War II, with emphasis on their historical accuracy and authenticity.

HIST2280 Toledo: Emergence Of A City, 1750-1880

[3 credit hours]

Early history of Toledo and the Maumee River Valley, including Indian settlement, imperial rivalries, Maumee Valley towns, economic growth, immigrant arrivals and the creation of neighborhoods.

HIST2290 Toledo: Metropolitan Era, 1880-1980

[3 credit hours]

The growth of Toledo in the 20th century, including suburbanization, the city's leadership in the national Progressive Movement, Depression and New Deal, organized labor, individual suburbs, and recent problems.

HIST2340 American Indian History

[3 credit hours]

An introduction to Indian-White relations from pre-Columbian times to present. Emphasizes tribes of the United States, Mexico and Canada.

HIST2450 Canada To 1867

[3 credit hours]

Canadian history from before European contact to Confederation. Considers European-Native contact, Canada as an extension of Europe and the beginnings of Canadian identities.

HIST2460 Canada Since 1867

[3 credit hours]

Canadian history since Confederation. Considers expansion westward, constitutional development, continuing British vs. French, and European vs. Native tensions. Canada and the U.S., modern society, economy, politics.

HIST2640 Medieval Russia

[3 credit hours]

Russia from the 9th century to 1700, including Kievan and Moscovite Russia.

HIST2650 Modern Russia

[3 credit hours]

Russia from 1700 to the present, including Imperial and Soviet Russia.

HIST2700 Japan And World War II

[3 credit hours]

A study of the factors behind Japan's entry into World War II with the United States and the Allied Powers and an in-depth treatment of Japan at war.

HIST2710 Postwar Japan

[3 credit hours]

This course examines the development of Japan since the war. It focuses on the political, economic, social and cultural changes since 1945 and relates these factors to Japan's international relations.

HIST2720 History Of Tokyo

[3 credit hours]

An examination of Japanese urban social and cultural history. Treats the foundations of Edo, transition to Tokyo, the modern rise, the great earthquake, the war, the Olympics and the present.

HIST2730 The Chinese Revolution

[3 credit hours]

This course examines the process by which Mao Zedong and the Chinese Communist Party came to power. It treats the political, economic and social forces behind the Chinese revolution (1900-49).

HIST2980 Special Topics

[1-4 credit hours]

Topics selected by various instructors. May be repeated when the topic varies.

HIST3100 European Middle Ages I

[3 credit hours]

The history of Western Europe from its beginnings to the eve of the First Crusade.

HIST3110 European Middle Ages II

[3 credit hours]

Europe from the First Crusade to the late fifteenth century.

HIST3120 Women in Medieval Europe

[3 credit hours]

Women’s lives in medieval Europe from a range of perspectives, including noblewomen, townswomen, peasant women, religious women. Students will gain an appreciation of how medieval women’s lives were different from and similar to those of modern women, as well as a broader understanding of the European middle ages.

HIST3130 Tudor England

[3 credit hours]

Tudor England from 1485 to the end of the reign of Elizabeth I, emphasizing political, economic and social developments.

HIST3160 The American West

[3 credit hours]

Settlement since the Civil War; mining rushes and Indian wars; violence and outlaws; farming and cattle ranching. Twentieth-century politics; ethnicity; and economics. Growth of California and the Sunbelt states.

HIST3190 Britain From 1763 To 1832

[3 credit hours]

An intensive examination of the slave trade, factory system, radicalism, Parliamentary Reform, insurrection, by means of reading primary sources such as Tom Paine.

HIST3200 Colonial Latin America

[3 credit hours]

Latin American history to 1825. Covers pre-Columbian Indian civilizations including Aztecs and Incas; Spanish and Portuguese conquests and Africans in the Americas; colonial policies and institutions; colonial society and independence movements.

HIST3210 Modern Latin America

[3 credit hours]

Major economic, political and social developments from independence to the present. Covers the export boom, neocolonialism, nationalism, and revolutions in Latin America. Considers how, In spite of the region's tremendous diversity, there is a shared "Latin American" experience.

HIST3230 Early Caribbean History

[3 credit hours]

This course covers the history of the early Caribbean through emancipation in the mid-nineteenth century. Topics include: The Carib and Taino Indians, European exploration and colonization, the Atlantic slave trade, and the golden age of piracy.

HIST3240 Modern Caribbean History

[3 credit hours]

This course examines Caribbean history in the nineteenth and twentieth centuries. Topics include: history of Caribbean culture and music, migration, tourism, and social, political, and economic challenges of the twentieth century.

HIST3250 African-American History To 1865

[3 credit hours]

An examination of the historical experiences of African-Americans in the United States from 1619 to 1865.

HIST3260 African-American History From 1865

[3 credit hours]

An examination of the historical experiences of African-Americans in the United States since 1865.

HIST3270 The City In American History, 1607-1850

[3 credit hours]

Examination of early American urban development and culture. Topics include the development of urban infrastructure, crime and disorder; moral reform; religious revival; immigration; prostitution; the development of commercial entertainment.

HIST3280 City And Metropolis In Modern America, 1850 To The Present

[3 credit hours]

The growth of the 19th-century city and the emergence of the 20th- century American metropolis. Urban problems of the 20th century.

HIST3290 Ohio History

[3 credit hours]

From colonial times to the present.

HIST3310 Ethnic America

[3 credit hours]

American ethnic diversity from the colonial era to recent decades. A study of individuals and groups. Topics include American identity and Americanization, migration, legislation, nativism.

HIST3320 Indians In Eastern North America

[3 credit hours]

Native Americans in Eastern North America from prehistoric times through Jacksonian Indian Removal. Emphasis on intercultural interactions.

HIST3330 Western American Indians

[3 credit hours]

Native Americans of the Far West from prehistoric times through recent years. Emphasis on European contact and governmental policies.

HIST3360 American Intellectual History I

[3 credit hours]

Development and influence of major ideas from the colonial period to 1865. Topics include Puritanism, the Enlightenment, Democracy and Transcendentalism.

HIST3370 American Intellectual History II

[3 credit hours]

Major developments in American thought from 1865, including Social Darwinism, pragmatism, ideological conflict, modern science, education.

HIST3380 Business And American Society

[3 credit hours]

The growth of American business from the eighteenth century to the present. Examines enterprise and its relationship to culture, politics, technological developments and economic change.

HIST3410 American Social And Cultural History, 1850-The Present

[3 credit hours]

American social and cultural patterns, institutions and forces from the mid-19th century to the present.

HIST3420 American Military History

[3 credit hours]

The development of the strategy, tactics, organization, operation and policies of the armed forces of the U.S.; the interaction with technological factors, foreign policy goals, international problems and American society.

HIST3430 American Military History In The 20th Century

[3 credit hours]

Intensive examination of the history of land, sea, air and intelligence factors. Emphasizes the historical development of the strategy and tactics of wars, peacetime planning, technological developments and military-societal relationships.

HIST3440 American Radicalism

[3 credit hours]

Origins and development of radical social movements and their ideologies from the American Revolution to the New Left of the 1960s. Abolitionism, Feminism, Communitarianism, Marxism, Anarchism, Populism, Communism and the Peace Movement are among the topics to be studied.

HIST3470 U.S. Disability History

[3 credit hours]

Provides a historical overview of the lived experiences of people defined as disabled and changing historical definitions of disability in the region that became the United States

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HIST3480 American Labor And Working Class History

[3 credit hours]

Development of working class communities, cultures, organizations and ideology from colonial era to the present. Topics include industrialization, unionization, labor law, gender and race constructions.

HIST3500 European Diplomacy 1648-1815

[3 credit hours]

The foreign policies and foreign relations of the great powers from 1648 to the Congress of Vienna, 1815.

HIST3530 20th Century Germany

[3 credit hours]

Germany's development from the end of World War I to the present with emphasis on the rise of Nazism, World War II, and the division and new unification of Germany.

HIST3550 History Of The Middle East Since 1500

[3 credit hours]

History of the Middle East from the collapse of the Medieval Muslim States and the rise of the Ottoman Empire in the 16th century through the period of European intervention to the development of independent Middle Eastern states in the 20th century.

HIST3560 Early Modern France

[3 credit hours]

A survey of early modern French history from c. 1600-1789.

HIST3600 Women In American History

[3 credit hours]

This course presents American history from early settlement to the present by examining the contributions of women, in interaction with men, to the immensely complex fabric of American life.

HIST3870 Junior Honors Research I

[3 credit hours]

Independent research on specific historical topics.

HIST3880 Junior Honors Research II

[3 credit hours]

Independent research on specific historical topics.

HIST3980 Special Topics

[1-4 credit hours]

Topics selected by various instructors. May be repeated when the topic varies.

HIST4010 Greek History

[3 credit hours]

Selected topics on the political and social institutions of Greece in the classical and Hellenistic periods.

HIST4020 Roman History

[3 credit hours]

Selected topics on the political and social institutions of Rome during the Republic and Empire.

HIST4030 Europe In The 14th-15th Centuries

[3 credit hours]

The late Middle Ages and the development of the Renaissance in Western Europe.

HIST4060 Age Of Absolutism

[3 credit hours]

The growth and decline of the absolute monarchies in Europe and the development of a world market economy, c.1550-1715.

HIST4080 Age Of Revolution

[4 credit hours]

The age of the French Revolution and Napoleon, c.1785-1848.

HIST4100 Europe Since World War I

[3 credit hours]

Internal and international development of the major European states from World War I to the end of the twentieth century.

HIST4150 Critics Of Victorian Society

[3 credit hours]

Principal critics of society like Ruskin, Carlyle, Cobbett, Marx, Engels, Morris, Mill are read with a view to understanding capitalism, industrialism and England.

HIST4170 The British Empire: For And Against

[3 credit hours]

The emergence of England as a maritime power, as an empire, and as a financial force, with emphasis upon resistances and decolonization.

HIST4180 Topics In English Social And Economic History

[3 credit hours]

Selected topics on English society and economy will be covered, such as urbanization, family and gender relations, enclosures, work and crafts.

HIST4200 Colonial Foundations Of U.s.

[3 credit hours]

Colonial America from early settlement to the eve of the American Revolution. Examination of the American Colonies from an Atlantic perspective, focusing on European motivation for settlement, European- Native American relations, the origins and development of slavery, religious and economic change, and the creation of early American culture.

HIST4210 Women In Early America

[3 credit hours]

Examination of the evolution of women's experience in the United States from colonization to the Civil War era.

HIST4220 The American Revolution

[3 credit hours]

Examination of the decades surrounding the American Revolution and America's transformation from British colony to independent republic. Political and social origins of the Revolution; formation of the republican state; changing notions of citizenship and equality; the role of political leaders in society; social and cultural consequences of the Revolution.

HIST4230 United States Early Republic

[3 credit hours]

History of the ratification of the United States Constitution; Growth and expansion of federal authority; development of financial and judicial institutions and the first political parties; early American foreign policy; and the creation of American identity and democratic political culture.

HIST4240 The Age Of Jackson

[3 credit hours]

Exploration of the major social, economic and political developments in the United States in the decades leading up to the Civil War. The creation of a market society; religion and reform; westward expansion; slavery and abolition; the origins and development of the second-party system; the politics of slavery

HIST4250 Civil War And Reconstruction

[3 credit hours]

Slavery and the Constitution in the sectional controversy, the political and military events of the Civil War, and the impact of the war on American society, 1848-1876.

HIST4260 Emergence Of Modern America, 1876-1919

[3 credit hours]

American society in the late 19th and early 20th centuries including industrialization, urbanization, immigration, agrarian and labor revolts, politics, economic expansion, overseas initiatives, Progressive reform and involvement in World War I.

HIST4270 20th Century America, 1920-1945

[3 credit hours]

Social, political and economic development of the United States, 1920-1945. The Republican ascendancy, the car culture, Great Depression, New Deal and World War II.

HIST4280 U.s. Since 1945: Affluence And Anxiety

[3 credit hours]

Social, economic and political development of the United States since 1945. The Cold War, McCarthyism, Eisenhower Equilibrium, the New Frontier and the Great Society, civil rights, Watergate and the Reagan Revolution.

HIST4290 US Women from 1865

[3 credit hours]

A survey of women in the United States from 1865. Covers women's political, economic, and social participation in American life. Particular attention is given to the life experiences of women from a diversity of racial, ethnic, sexual, and socio-economic backgrounds.

HIST4310 History Of Native American Religious Movements

[3 credit hours]

History of Native American revitalization movements as a response to European colonization and Indian dispossession.

HIST4340 Far Western Frontier

[3 credit hours]

Native Americans; Spanish conquistadors and missionaries; American scientific and military exploration; mountain men and fur trade; international rivalries and Mexican War; gold rush of '49.

HIST4430 Slavery In America

[3 credit hours]

Stresses the African continuum among slaves within the context of variations in goals and policies of slaveowners, slave trade, slave economics, demographics, slave labor and formation of slave culture.

HIST4450 The United States And Latin America

[3 credit hours]

Examines the 19h and 20th centuries: emphasizing events and movements defining political, economic, migratory, military, and cultural relations and the emergence of Latinos as largest minority group in the US.

HIST4470 People And Politics In Mexico

[3 credit hours]

Mexican history from pre-Hispanic times to the present. Emphasis on the political, social and economic changes imposed by the Spaniards; the legacy of colonialism on the modern nation; the Mexican Revolution and the "Mexican Miracle."

HIST4490 Witchcraft And Magic In Medieval And Early Modern Europe

[3 credit hours]

Witchcraft, religion and magic in western Europe from the 12th through 17th centuries, focusing on the origins of witchcraft belief, diabolical magic, the witchcraze and its decline.

HIST4620 Central Europe

[3 credit hours]

Central Europe from medieval times to the present. The Habsburg Empire, Poland, the Balkans, twentieth-century changes.

HIST4660 Imperial Russia, 1700-1917

[3 credit hours]

Rise and fall of the Russian Empire. Politics and society from the time of Peter the Great to the 1917 Revolution.

HIST4680 20th Century Russia

[3 credit hours]

Russia from the 1917 Revolution to the present. Topics include Marxism, Communism, Stalinism, Cold War.

HIST4720 Modern Chinese History

[3 credit hours]

China in transition under the impact of the West; forces leading to the revolution of 1911, the Nationalists' struggle, the emergence of the People's Republic of China and aspects of post-revolutionary China.

HIST4740 Modern Japanese History

[3 credit hours]

Japan in transition under Western influence, forces leading to the Meiji Restoration, the modernization of Japan, Japan's rise as a world power, war and postwar developments.

HIST4750 Europe And Asia: Exploration And Exchange, 1415-1800

[3 credit hours]

Motivation and process of European expansion to Africa and Asia from 1415-1800.

HIST4790 The Holocaust

[3 credit hours]

This advanced course deals with selected aspects of the history and memory of Nazi genocide against the Jews of Europe, with special emphasis on visual and survivor sources.

HIST4830 Theory Of Public History

[3 credit hours]

The definition, philosophy and evolution of public history as well as the current literature and debates within the field. Public history is the application of historical knowledge and methodology beyond academe.

HIST4840 Public History Practicum

[3 credit hours]

Course provides students with hands-on experience in the practice of public history by completing a project using specialized techniques, client-oriented research and teamwork. May be repeated for credit.

HIST4870 Senior Honors Research I

[3 credit hours]

Open to College Honors students, to History Honors students and to Honors students from other departments. Independent research in specific topics.

HIST4880 Senior Honors Research II

[3 credit hours]

Open to College Honors students, to History Honors students and to Honors students from other departments. Independent research in specific topics.

HIST4940 Public History Internship

[0-8 credit hours]

Supervised experiential learning in history.

Prerequisites: (HIST 2000 FOR LEVEL UG WITH MIN. GRADE OF D- AND HIST 4830 FOR LEVEL UG WITH MIN. GRADE OF D-)

HIST4980 Special Topics

[1-4 credit hours]

Topics selected by various instructors.

HIST4990 Independent Studies

[1-4 credit hours]

Research and writing on topics designed to meet individual needs.

HIST5010 Greek History

[3 credit hours]

Selected topics on the political and social institutions of Greece in the classical and Hellenistic periods.

HIST5020 Roman History

[3 credit hours]

Selected topics on the political and social institutions of Rome during the Republic and Empire.

HIST5030 Europe In The 14th-15th Centuries

[3 credit hours]

The waning of the Middle Ages and the development of the Renaissance in Western Europe with emphasis on Italy.

HIST5060 Age Of Absolutism

[3 credit hours]

The growth and decline of the absolute monarchies in Europe and the development of a world market economy, c. 1550-1715.

HIST5080 Age Of Revolution

[4 credit hours]

The age of the French Revolution and Napoleon, c. 1785-1848.

HIST5100 Europe Since World War I

[3 credit hours]

Internal and international development of the major European states from World War I to the end of the twentieth century.

HIST5150 Critics Of Victorian Society

[3 credit hours]

Principal critics of society like Ruskin, Carlyle, Cobbett, Marx, Engels, Morris and Mill are read with a view to understanding capitalism, industrialism and England.

HIST5170 The British Empire: For And Against

[3 credit hours]

The emergence of England as a maritime power, as an empire, and as a financial force, with emphasis upon resistances and decolonization.

HIST5200 Colonial Foundations Of The U.s.

[3 credit hours]

This course analyzes the colonial experience of the United States prior to 1763. It stresses the various cultures and social groups in America and how they related with one another.

HIST5220 The American Revolution

[3 credit hours]

The background and progress of the War for Independence.

HIST5230 United States Early Republic

[3 credit hours]

American politics and culture from the Federalist period to the Mexican - American War, 1789-1848.

HIST5240 The Age Of Jackson

[3 credit hours]

Jacksonian democracy in politics and as a reform movement; the sectional controversy; the Mexican-American War.

HIST5250 Civil War And Reconstruction

[3 credit hours]

Slavery and the Constitution in the sectional controversy, the political and military events of the Civil War, and the impact of the war on American society, 1848-1876.

HIST5260 Emergence Of Modern America, 1876-1919

[3 credit hours]

American society in the late 19th and early 20th centuries, including industrialization, urbanization, immigration, agrarian and labor revolts, politics, economic expansion, overseas initiatives, Progressive reform and involvement in World War I.

HIST5270 20th Century America, 1920-1945

[3 credit hours]

Social, political and economic development of the United States, 1920-1945. The Republican ascendancy, the car culture, Great Depression, New Deal and World War II.

HIST5280 U.s. Since 1945: Affluence And Anxiety

[3 credit hours]

Social, economic and political development of the United States since 1945. The Cold War, McCarthyism, Eisenhower Equilibrium, the New Frontier and the Great Society, civil rights, Watergate and the Reagan Revolution.

HIST5310 History Of Native American Religious Movements

[3 credit hours]

History of Native American revitalization movements as a response to European colonization and Indian dispossession.

HIST5330 Western American Indians

[3 credit hours]

Native Americans of the Far West from prehistoric times through recent years. Emphasis on European contact and governmental policies.

HIST5340 Far Western Frontier

[3 credit hours]

Native Americans; Spanish conquistadors and missionaries; American scientific and military exploration; mountain men and fur trade; international rivalries and Mexican War; gold rush of '49.

HIST5360 American Intellectual History I

[3 credit hours]

Development and influence of major ideas from the colonial period to 1865. Topics include Puritanism, the Enlightenment, Democracy and Transcendentalism.

HIST5370 American Intellectual History II

[3 credit hours]

Major developments in American thought from 1865, including Social Darwinism, pragmatism, ideological conflict, modern science, education.

HIST5430 Slavery In America

[3 credit hours]

Stresses the African continuum among slaves within the context of variations in goals and policies of slaveowners, slave trade, slave economics, demographics, slave labor and formation of slave culture.

HIST5460 Women In American History

[3 credit hours]

This course presents American history from early settlement to the present by examining the contributions of women, in interaction with men, to the immensely complex fabric of American life.

HIST5470 Mexico

[3 credit hours]

Mexican history from pre-Hispanic times to the present. Emphasis on the political, social and economic changes imposed by the Spaniards; the legacy of colonialism on the modern nation; the Mexican Revolution and the "Mexican Miracle."

HIST5480 American Labor And Working Class History

[3 credit hours]

Development of working class communities, cultures, organizations and ideology from colonial era to the present. Topics include industrialization, unionization, labor law, gender and race constructions.

HIST5490 Witchcraft And Magic In Medieval And Early Modern Europe

[3 credit hours]

Witchcraft, religion and magic in western Europe from the 12th through 17th centuries, focusing on the origins of witchcraft belief, diabolical magic, the witchcraze and its decline.

HIST5530 History Of The Middle East Since 1500

[3 credit hours]

History of the Middle East from the collapse of the Medieval Muslim States and the rise of the Ottoman Empire in the 16th century through the period of European intervention to the development of independent Middle Eastern States in the 20th century.

HIST5620 Central Europe

[3 credit hours]

Central Europe from medieval times to the present. The Habsburg Empire, Poland, the Balkans, twentieth-century changes.

HIST5660 Imperial Russia, 1700-1917

[3 credit hours]

Rise and fall of the Russian Empire. Politics and society from the time of Peter the Great to the 1917 Revolution.

HIST5680 20th Century Russia

[3 credit hours]

Russia from the 1917 Revolution to the present. Topics include Marxism, Communism, Stalinism, Cold War.

HIST5720 Modern Chinese History

[3 credit hours]

China in transition under the impact of the West; forces leading to the revolution of 1911, the Nationalists' struggle, the emergence of the People's Republic of China and aspects of post-revolutionary China.

HIST5740 Modern Japanese History

[3 credit hours]

Japan in transition under Western influence, forces leading to the Meiji Restoration, the modernization of Japan, Japan's rise as a world power, war and postwar developments.

HIST5750 Europe And Asia: Exploration And Exchange, 1415-1800

[3 credit hours]

Motivation and process of European expansion to Africa and Asia from 1415-1800.

HIST5790 The Holocaust

[3 credit hours]

This advanced course deals with selected aspects of the history and memory of Nazi genocide against the Jews of Europe, with special emphasis on visual and survivor sources.

HIST5830 Theory Of Public History

[3 credit hours]

The definition, philosophy and evolution of public history as well as the current literature and debates within the field. Public history is the application of historical knowledge and methodology beyond academe.

HIST5840 Public History Practicum

[3 credit hours]

Course provides students with hands-on experience in the practice of public history by completing a project using specialized techniques, client-oriented research and teamwork. May be repeated for credit.

HIST5940 Public History Internship

[2-4 credit hours]

Supervised practical experience in the field of public history.

HIST5980 Special Topics

[1-4 credit hours]

Topics selected by various instructors.

HIST6600 Historiography

[3 credit hours]

The nature of historical writing. Concepts of the historical method. The history of the writing of history from the beginning to the present.

HIST6930 Seminar

[3 credit hours]

Focus on primary research and writing in various fields: 01: 17th and 18th century America, 05: 19th century America, 06: American Urban, 07: American West, 08: American Intellectual, 10: Local History, 11: American Labor, 12: American Foreign Relations, 15: 20th century America, 16: Public History, 17: U. S. Bibliography to 1865, 18: U. S. Bibliography since 1865, 35: Latin America, 39: Ancient, 40: Medieval Europe, 45: Early Modern Europe, 50: Modern Europe, 55: Central Europe and Balkans, 60: England, 65: British Empire, 70: Russia, 75: Modern East Asia, 80: Africa, 90: Special Topics

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HIST6950 Workshops

[3 credit hours]

Introduction to essential pedagogical and academic skills including survey class design: syllabi, lectures, history writing, theses and prospectuses. And professional skills: constructing a CV, letter of introduction, teaching philosophy, and grant proposals.

HIST6960 Thesis

[1-16 credit hours]

M.A. thesis topic to be selected by the student with the approval of the thesis adviser.

HIST6990 Independent Study

[1-4 credit hours]

Readings: 01: 17th and 18th Century America, 05: 19th Century America, 06: American Urban, 07: American West, 08: American Intellectual, 10: Local History, 11: American Labor, 12: American Foreign Relations, 13: Public History, 15: 20th Century America, 16: Business, 17: Peace Movements, 18: Social, 35: Latin America, 40: Medieval Europe, 41: Renaissance and Reformation, 45: Early Modern Europe, 50: Modern Europe, 55: Central Europe and Balkans, 60: England, 65: British Empire, 70: Russia, 75: Modern East Asia, 80: Ancient Greece, 90: Ancient Rome, 92: Africa, 99: Any Title

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HIST7980 Special Topics

[1-4 credit hours]

Study of secondary and primary sources in various fields: 01: Colonial and Revolutionary, 02: 19th century America, 03: 20th century America, 04: American South, 05: American West, 06: American Intellectual, 07: American Foreign Relations, 08: American Constitutional, 09: American Labor, 10: American Urban, 11: American Social, 12: American Urban Progressive Reform, 13: Public History, 16: American Business, 17: Peace Movements, 18: Ethnic, 19: Ancient, 20: Medieval Europe, 21: Renaissance and Reformation, 22: Europe, 1648-1815, 23: Europe, 1815-present, 24: Russia, 25: Great Britain, 26: Traditional East Asia to 1800, 27: Modern East Asia, 1800 to present, 28: Latin America, 29: Middle East, 30: Africa, 99: Any Title

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HIST8600 Historiography

[3 credit hours]

The nature of historical writing. Concepts of the historical method. The history of the writing of history from the beginning to the present: 01: America 02: Asia 03: Europe 04: Latin America 05: Africa 06: Special Topics

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HIST8930 Seminar

[3 credit hours]

Focus on primary research and writing in various fields: 01: 17th and 18th century America, 05: 19th century America, 06: American Urban, 07: American West, 08: American Intellectual, 10: Local History, 11: American Labor, 12: American Foreign Relations, 15: 20th century America, 16: Public History, 17: U. S. Bibliography to 1865, 18: U. S. Bibliography since 1865, 35: Latin America, 39: Ancient, 40: Medieval Europe, 45: Early Modern Europe, 50: Modern Europe, 55: Central Europe and Balkans, 60: England, 65: British Empire, 70: Russia, 75: Modern East Asia, 80: Africa, 90: Special Topics

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HIST8950 Workshops

[3 credit hours]

Introduction to essential pedagogical and academic skills including survey class design: syllabi, lectures, history writing, theses and prospectuses. And professional skills: constructing a CV, letter of introduction, teaching philosophy, and grant proposals.

HIST8960 Dissertation

[1-16 credit hours]

Ph.D. dissertation topic to be selected by the student with the approval of the dissertation adviser.

HIST8990 Independent Study

[1-4 credit hours]

Readings: 01: 17th and 18th Century America, 05: 19th Century America, 06: American Urban, 07: American West, 08: American Intellectual, 10: Local History, 11: American Labor, 12: American Foreign Relations, 13: Public History, 15: 20th Century America, 16: Business, 17: Peace Movements, 18: Social, 35: Latin America, 40: Medieval Europe, 41: Renaissance and Reformation, 45: Early Modern Europe, 50: Modern Europe, 55: Central Europe and Balkans, 60: England, 65: British Empire, 70: Russia, 75: Modern East Asia, 80: Ancient Greece, 90: Ancient Rome, 92: Africa, 99: Any Title

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HON1000 Orientation

[1 credit hour]

This course will orient students to the resources of the university and to important aspects of college life, including campus resources, academic policies and procedures, degree requirements, and Honors College requirements. In addition, it will strengthen students academic skills, enhance their career goals, and develop a sense of community with faculty, staff, and peers at UT.

HON1010 Ideas, Innovation, and Society I

[3 credit hours]

This reading, writing and discussion course examines Great Books and formative ideas, primarily from the Western tradition. Readings Conference 1010 focuses on selected works from ancient times through the Middle Ages.

HON1020 Ideas, Innovation, and Society II

[3 credit hours]

This reading, writing and discussion course examines Great Books and formative ideas, primarily from the Western tradition. Readings Conference 1020 focuses on selected works from the Renaissance through the 20th Century.

HON2020 Multicultural Literatures: The North American Experience-Honors-WAC

[3 credit hours]

This reading, writing and discussion course examines selected literatures of the North American experience: for example, texts by African American, Arab American, Asian American, Hispanic or Native American authors.

HON2030 Multicultural Literatures: The Non-European World-Honors-WAC

[3 credit hours]

This reading, writing and discussion course examines selected non-European literatures.

HON2990 Independent Study

[1-5 credit hours]

Supervised independent study.

HON4950 Honors Seminar

[3 credit hours]

These interdisciplinary seminars are organized around a variety of subjects and intellectual concerns.

HON4960 Honors Seminar

[3 credit hours]

These interdisciplinary seminars are organized around a variety of subjects and intellectual concerns.

HON4990 Independent Study

[1-5 credit hours]

Supervised independent study.

HSHS6000 Statistics and Research for Health Science and Human Service Professions

[3-5 credit hours]

An interdisciplinary course covering basic statistics and related research design with specific applications in various health sciences and human service professions.

HSHS8000 Statistics and Research for Health Science and Human Service Professions

[3-5 credit hours]

An interdisciplinary course covering basic statistics and related research design with specific applications in various health sciences and human service professions.

HUM1010 Classical Humanities

[3 credit hours]

An introduction to the civilization of the Greeks and Romans in which history, literature, mythology, art and philosophy are interrelated and interpreted.

HUM1200 Framing Cultures, Building Communities

[3 credit hours]

This interdisciplinary course examines cultures and community difference and group identity through reading and discussing major texts from various world traditions, mainly Western civilization from antiquity to the present.

HUM2010 World Humanities Traditions I

[3 credit hours]

Study of major works of world literature, philosophy and the arts from ancient times to c. 1600. Inter-relationships among history, ideas and the arts are explored in lectures and discussions.

HUM2020 World Humanities Traditions II

[3 credit hours]

Study of major works of world-literature, philosophy and the arts from c. 1600 to the present day. Inter-relationships among history, ideas and the arts will be explored in lectures and discussions.

HUM2980 Special Topics In The Humanities

[1-4 credit hours]

This course is devoted to any topic or topics in the humanities that the instructor sees fit. The instructor and topic will alternate from semester to semester according to student and departmental interest in certain topics.

HUM3020 Reason's Culture

[3 credit hours]

An examination of what education has meant and can mean in our present context. Topics will include the nature of culture, how it is evaluated and what the cultivation of critical reasoning involves.

HUM4950 Humanities Senior Thesis I

[4 credit hours]

This seminar provides senior humanities majors with an opportunity to pursue creative/research projects and to discuss them with their adviser and their peers.

HUM4960 Humanities Senior Thesis II

[4 credit hours]

This seminar provides senior humanities majors with the opportunity to pursue creative/research projects and to discuss them with their adviser and their peers.

HURM3220 Human Resource Management

[3 credit hours]

Introduction to the field of human resource management. It is designed for students planning careers in human resources or those who simply wish to supplement their skills in personnel matters commonly of concern to all managers.

HURM4640 Benefits, Health & Wellness

[3 credit hours]

Includes planning and administering mandatory and voluntary benefit programs, cost containment strategies and benefit communication programs. Development and administration of Employee Assistance Programs and employee wellness programs are also covered.

Prerequisites: HURM 3220 FOR LEVEL UG WITH MIN. GRADE OF D-

HURM4650 Compensation

[3 credit hours]

Design and administration of compensation systems, including job evaluation, skill-based pay, salary surveys, pay level decisions, pay structures, executive and special employee group compensation programs, and budget and administrative issues.

Prerequisites: HURM 3220 FOR LEVEL UG WITH MIN. GRADE OF D-

HURM4660 Planning, Selection, And Recruitment

[3 credit hours]

Covers aspects of human resource planning, including Affirmative Action and succession planning, developing legally defensible selection and recruitment methods, and career development.

Prerequisites: HURM 3220 FOR LEVEL UG WITH MIN. GRADE OF D-

HURM4710 Training and Development

[3 credit hours]

Theory, research, and practice related to the design and implementation of employee training programs and formal performance evaluation systems. Includes development of specific training programs.

Prerequisites: HURM 3220 FOR LEVEL UG WITH MIN. GRADE OF D-

HURM6700 Human Resource Management

[3 credit hours]

A survey of the functions and current trends in human resources management. Special emphasis on research methods, tools and techniques for in-depth understanding of problems and challenges faced by for-profit and not-for-profit organizations.

HURM6710 Employment And Labor Law

[3 credit hours]

This course introduces the objectives, activities and practices involved in employment and labor law. It is designed for those pursuing careers in human resources or managers wishing to understand their responsibilities in this area.

HURM6720 Advanced Negotiation and Conflict Management

[3 credit hours]

Course is designed to develop advanced skills in all phases of negotiation and conflict management strategies and techniques. The course is based on a series of simulated negotiations in a variety of contexts.

HURM6730 Performance Management

[3 credit hours]

This course is designed to provide practical working knowledge of the processes of setting expectations, monitoring performance, coaching and developing employees, and assessing and rewarding good performance in rapidly changing organizations.

HURM6750 Current Topics In Human Resource Management

[3 credit hours]

This course is designed to provide students with current viewpoints, challenges, practices and theories in human resource management. Conducted in a seminar format, the course will emphasize different aspects of HR management each time it is offered.

Prerequisites: HURM 6700 FOR LEVEL GR WITH MIN. GRADE OF C

HURM6760 Talent Management

[3 credit hours]

Talent management uses interconnected human resources to provide organizational benefits though developing a strategic approach to managing core talent encompassing recruiting, onboarding, training, performance management, and succession planning.

Prerequisites: HURM 6700 FOR LEVEL GR WITH MIN. GRADE OF C

HURM6800 Tools And Techniques In Human Resource Management

[3 credit hours]

Course covers issues and techniques related to human resource planning, identifying and predicting HRM problems, and demonstrating the relationship between effective HRM practices and the bottom-line of the organization.

Prerequisites: (MGMT 5110 FOR LEVEL GR WITH MIN. GRADE OF D- AND HURM 6700 FOR LEVEL GR WITH MIN. GRADE OF D-)

HURM8700 Human Resource Management

[3 credit hours]

Intrduces the objectives, activities, and practices involved in human resource management. Designed for both those pursuing careers in human resources or managers who wish to supplement their skills in this area. (Prerequisite: None)

HURM8710 Employment and Labor Law

[3 credit hours]

Introduces the objectives, activities, and practices involved in employment and labor law. Designed for those pursuing careers in human resources or managers wishing to understand their responsibilities in this area.

HURM8720 Employer-Employee Relations

[3 credit hours]

Course is designed to develop advanced skills in all phases of negotiation and conflict management strategies and techniques. The course is based on a series of simulated negotiations in a variety of contexts.

HURM8730 Performance Management

[3 credit hours]

Course is designed to provide practical working knowledge of the processes of setting expectations, monitoring performance, coaching and developing employees, and assessing and rewarding good performance in rapidly changing organizations.

Prerequisites: HURM 6700 FOR LEVEL GR WITH MIN. GRADE OF D- AND HURM 8700 FOR LEVEL GR WITH MIN. GRADE OF D-

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HURM8740 Human Resource Strategy and Metrics

[3 credit hours]

Focuses on the integration of human resource strategies with the strategies of the firm. Students will learn how to assess and measure human resource processes, programs, and outcomes.

Prerequisites: HURM 6700 FOR LEVEL GR WITH MIN. GRADE OF D- AND HURM 8700 FOR LEVEL GR WITH MIN. GRADE OF D-

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HURM8750 Current Topics in Human Resource Management

[3 credit hours]

Course is designed to provide students with current viewpoints, challenges, practices, and theories in human resource management. Conducted in a seminar format, the course will emphasizes different aspects of HR management each time it is offered.

Prerequisites: HURM 6700 FOR LEVEL GR WITH MIN. GRADE OF D- AND HURM 8700 FOR LEVEL GR WITH MIN. GRADE OF D-

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HURM8760 Recruitment and Retention

[3 credit hours]

Talent management uses interconnected human resources to provide organizational benefits though developing a strategic approach to managing core talent encompassing recruiting, onboarding, training, performance management, and succession planning.

Prerequisites: HURM 8700 FOR LEVEL GR WITH MIN. GRADE OF D-

IBUS3150 Understanding Cultural Differences For Business

[3 credit hours]

Course focuses on understanding cultures and managing cultural differences for competitive advantage in global business.

IBUS3600 International Management

[3 credit hours]

An overview of management in different geographic regions of the world. Case studies will be used to compare and contrast national models of management.

Prerequisites: BUAD 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

IBUS4100 Study Abroad Program

[3 credit hours]

Program includes travel abroad, study and written report of an industry, company, or issues of interest, cultural immersion, and visits to manufacturing, service and government organizations.

IBUS4180 North American Business Practices

[3 credit hours]

This course will examine the business environment in North America and compare business practices and trade relationships between Canada, Mexico and the United States.

IBUS4360 Global Business

[3 credit hours]

Students will learn to integrate international business functions, develop strategies that respond to environmental changes, and understand the challenges faced by small, mid-sized and multinational firms operating in a global environment.

IBUS4490 Global Management Systems

[3 credit hours]

A study of how management systems in various world regions evolve in response to the emerging global context. Focus will be on analyzing the determinants of similarities and contrasts in management systems.

Prerequisites: BUAD 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

IBUS4940 Internship In International Business II

[3 credit hours]

A course in which the student receives practical International Business experience working in a global organization either within the U.S. or overseas.

IBUS4980 Special Topics In International Business

[3 credit hours]

Analysis of current issues in International Business.

IBUS4990 Independent Study

[1-3 credit hours]

An individually supervised study in International Business. Students must submit a proposal to be approved by a department faculty member prior to enrolling in the course.

IBUS6100 Study Abroad Program

[3 credit hours]

Program includes travel abroad, study and written report of an industry, company, or issues of interest, cultural immersion, and visits to manufacturing, service and government organizations.

IBUS6360 Management Of Multinational Firms

[3 credit hours]

Analysis of the multinational firm, emphasizing the differences with domestic enterprises, with respect to strategic planning and capital allocation, marketing, production, supply, personnel and contract negotiation.

IBUS6990 Independent Study

[1-3 credit hours]

Independent study in international business. A proposal for the independent study must be approved by faculty member and department chair.

IBUS8490 Global Management Systems

[3 credit hours]

Compares the management philosophies, systems and methods of U.S. firms with those of firms from other countries, particularly the management system of Japanese, German and other nationality firms that are competitors of U.S. firms. Ph.D. students are assigned additional readings from the academic literature.

IBUS8790 International Business Research Seminar

[3 credit hours]

A seminar in selected topics in International Business. PhD. students are assigned readings from the International Business academic literature. They will complete several research papers focusing on specific topics that advance the field and that are suitable for submission to an academic journal or conference.

IDS1000 Arts Living And Learning Forum

[1 credit hour]

This course will provede a framework for and supplement to the activities and objectives of the UT Arts Living and learning Community. It is required for participation in the Arts Living-Learning Community.

IDS2010 Interdisciplinary Studies

[1-4 credit hours]

Multilevel designations which permit the offering of interdisciplinary courses. Participation from at least two departments is required. Prerequisites to be determined by the constituencies conrtibuting to each course.

IITP6010 Infection Immunity Transplanta

[1 credit hour]

The course will introduce fundamental knowledge of the immune system and its defense mechanisms and the nature and role of microbial pathogens in human and animal diseases.

IITP8010 Infection Immunity Transplanta

[1 credit hour]

The course will introduce fundamental knowledge of the immune system and its defense mechanisms and the nature and role of microbial pathogens in human and animal diseases.

INDI4000 Directed Research in Human Health Sciences

[1-12 credit hours]

The Directed Research in Human Health Sciences course is designed to help undergraduate students gain real insight into specific human health science research programs by involving them in Mentor's research program and working on an ongoing project. Students learn and execute the experimental techniques required to examine the question, analyze data and draw conclusions. May be repeated for credit.

INDI5050 Medical Science Practicum

[0-10 credit hours]

Practical applications of theory in basic and clinical medical sciences. Practicum experience will be under the guidance of a faculty preceptor. May be repeated for credit.

INDI5150 Intro Anatomy and Physiology

[6 credit hours]

This course provides basic knowledge of anatomy and physiology.

INDI5200 Cellular and Molecular Biology

[11 credit hours]

This course includes an introduction to cell structure, function and pathological changes, information about molecular structure of proteins, carbohydrates and lipids, basic human genetics.

INDI5350 Pathophysiology of Organ Systems

[2-10 credit hours]

MSBS in Medical Sciences (MSBS-MS) is a one-year program designed to train students in foundational medical sciences. The newly redesigned course emphasizes an organ-system based approach where clinical and graduate faculty train students in the pathophysiology of disease. This is a graduate level course that incorporates materials taught to medical students during their first and second years, and provides foundational information for the MD curriculum. Also, pathophysiology of disease is a significant portion of the USMLE exams and its inclusion in our new MSBS-MS curriculum has the potential to increase our student-scores in step 1 and step 2.

INDI5450 Molecular Cell Biology

[7 credit hours]

This is a graduate level course that incorporates materials taught to first year medical students and provides foundational information for the MD curriculum. The major topics are molecular biology and genetics, biochemistry of metabolic pathways, and cellular organization. This is the first course in the MSBS in Medical Sciences (MSBS-MS) curriculum.

INDI5550 Anatomy and Pathophysiology

[3 credit hours]

Introductory and foundational course designed to cover selected topics in human anatomy, embryology, physiology and pathophysiology.

INDI5650 Immunology and Medical Microbiology

[4 credit hours]

This course introduces foundational concepts in immunology and medical microbiology. The course will educate the students about the microorganisms that are relevant to human health, and the immune system, which allows us to overcome infection as well as to reject transplantation of organs and tissue.

INDI6000 Introduction to Biostatistical Methods

[3 credit hours]

An introduction to statistical reasoning with an overview of selected descriptive and inferential statistics commonly used in healthcare research. Computer analysis of data will be included.

INDI6020 On Being a Scientist

[1 credit hour]

A series of one-hour lectures dealing with the ethics, regulations, and issues facing a modern, biomedical research scientist.

INDI6280 Intro to Global Medicine

[3 credit hours]

This course is intended for medical and graduate students as an introduction to medical and community development missions in developing nations.

INDI6730 Research Biomedical Science

[0-15 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit.

INDI6790 Basic and Adv Light Microscopy

[4 credit hours]

A lecture/laboratory course in the standard theories and techniques in histology and light microscopy. The emphasis is on preparation of samples, including histocytochemistry, immunocytochemistry and special staining for photo microscopy. Brightfield, fluorescence and confocal microscopy.

INDI6860 Electron Microscopy

[4 credit hours]

A lecture/laboratory course in the standard theories and techniques employed in biological transmission and scanning electron microscopy.

INDI6920 Readings in Population Health

[1 credit hour]

This is an interdisciplinary course in which students will read and discuss articles in primary and other literature that will address cultural competence, health communications, critical reading of medical and health studies and other relevant topics.

INDI6980 Scholarly Project for Medical Sciences

[0-10 credit hours]

Option to develop an in-depth scholarly project to fulfill the research requirements of the MSBS Degree Program. May be repeated for credit.

INDI6990 Thesis Research

[1-15 credit hours]

Research in biomedical sciences or interdisciplinary investigation of significant problems at the master level, leading to the preparation of a scientific project for presentation as a thesis. May be repeated for credit.

INDI726 Research in Biomedical Science

[3-12 credit hours]

Students will participate in a mentored research project that includes laboratory or other practical opportunities for the direct application of the scientific method, accurate observation of biomedical phenomena, and critical analysis of data. Students will be expected to either collect or use data to test and/or verify hypotheses or to address questions about biomedical principles and/or phenomena.

INDI742 Population/Public Health

[6 credit hours]

The students will have an immersive learning opportunity in Population Health as they hear from regional experts in public health via small group discussions followed by actual field experiences in which they will participate in food safety courses and restaurant inspections, environmental health inspections including education and evaluation methods for lead poisoning. They will learn basic concepts in infectious disease epidemiology, from the importance of immunizations to hospital reporting of infectious disease to the Health Department and the epidemiologist's role in disease intervention. Discussions will include opiate addiction in the community and the use of naloxone. They will spend time with the Minority Health Director in addition to discussing emerging strategies to address social determinants of health and the use of vital Community Health Assessment data.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR

INDI745 MD/PhD Elective

[1-2 credit hours]

MD/PhD students will identify a clinical mentor. The process for selection of the mentor and approval of the MD/PhD Student Clinical Training Agreement will be under the direction of the MD/PhD program director(s). The clinical faculty mentor will be responsible for the clinical training program of the student, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The clinical mentor may change during the course of the student's graduate school years, but any change should occur after the end of a semester. Students may choose a clinical mentor from any department, the following specialties may be particularly suited to training MD/PhD students who ahve limited prior clinical training and restricted hours of availability: Internal Medicine, Emergency Medicine and Family Medicine. Students are expected to spend 8 hours per month in clinical training. This can be divided into weekly 2 hour session, biweekly 4 hour sessions or an 8 hour day per month. Students are encouraged to discuss the most appropriate schedule with their laboratory mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. The program should be formalized in writing and the MD/PhD Student Clinical Training Agreement submitted to the MD/PhD Director(s) for approval. Students should see about one patient per hour of training. Students should keep a log of their patients, their diagnoses, and any procedures performed. An electronic logging system for patient experiences will be developed.

INDI750 Research in Biomedical Sciences Away

[3-12 credit hours]

Students will participate in a mentored research project that includes laboratory or other practical opportunities for the direct application of the scientific method, accurate observation of biomedical phenomena, and critical analysis of data. Students will be expected to either collect or use data to test and/or verify hypotheses or to address questions about biomedical principles and/or phenomena.

INDI774 Patient Safety & Quality Care

[6 credit hours]

Improving the quality and safety, coupled with providing a high degree of patient satisfaction is a critical component of the evolving health care system. This is a multidisciplinary elective is designed to provide a strong translational foundation linked to clinical practice and care. Students will understand the fundamental vocabulary, principles, and tools and techniques related to improving quality and safety in a patient centered manner. Using day to day operations and cases at UTMC students, will be exposed to the myriad of issues confronting medical leadership as real world operating systems are improved in the midst of providing ongoing care. Students will participate in quality and safety measurement, root cause analysis of sentinel or serious adverse events, infection control and real time patient safety and event reporting. Engaging in triage and evaluation of real world, common occurrences including medication errors, procedural mishaps, morbidity and mortality students will have the rudimentary tools to assess quality and safety problems. Students will work with clinical and non-clinical staff to develop an understanding of the multidisciplinary nature of improving care. Students will be provided reading assignments; attend key meetings and conferences, and senior leadership meetings related to patient safety and quality of care. Students will be expected to develop and complete a project in a specified time frame. Grade for this elective will be based on student report and overall initiative and performance.

Prerequisites: (MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P (MAY BE TAKEN CONCURRENTLY) AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD

INDI775 Cellular and Molecular Biology

[0-14 credit hours]

Cell and Molecular Biology (Block 1)

INDI777 Integrative Pathophysiology I

[8 credit hours]

Integrative Pathophysiology (Block 4)

INDI778 Clinical Decision Making 1

[7 credit hours]

This longitudinal course includes a range of instructional strategies and experiences designed to provide medical students with fundamental knowledge and skills for clinical decision making.

INDI780 Organ Systems

[0-25 credit hours]

Organ Systems (Block 7)

INDI781 Integrative Pathophysiology

[0-8 credit hours]

Integrative Pathophysiology (Block 8)

INDI783 Immunity and Infection

[14 credit hours]

Immunity and Infection (Block 6)

INDI786 Fundamentals Clinical Practice

[0-6 credit hours]

Fundamentals of Clinical Practice (Block 5)

INDI792 Fundamentals Clinical Prac II

[0-8 credit hours]

Fundamentals of Clinical Practice (Block 9)

INDI796 Capstone-Bridge to Internship

[3 credit hours]

This is an online course, along with simulation experience via the Interprofessional Immersive Simulation Center (IISC), developed by the Office of Medical Education to prepare students for the internship and residency. The core competencies required for successful completion of this course include medical knowledge, interprofessional and communication skills, systems based practice, practice based improvement, professionalism and lifelong learning.

Prerequisites: (FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

INDI8000 Introduction to Biostatistical Methods

[3 credit hours]

An introduction to statistical reasoning with an overview of selected descriptive and inferential statistics commonly used in healthcare research. Computer analysis of data will be included.

INDI8020 On Being a Scientist

[1 credit hour]

A series of one-hour lectures dealing with the ethics, regulations, and issues facing a modern, biomedical research scientist.

INDI827 Fundamentals of Oncology

[2 credit hours]

A discussion of: cancer epidemiology; the role of chemicals, viruses, and radiation in cancer induction; and mechanism(s) of conversion of normal cells to cancer cells including the activation of cellular proto-oncogenies, autocrine secretion of growth factors, and changes in signal transduction.

INDI8280 Intro To Global Medicine

[3 credit hours]

This course is intended for medical and graduate students as an introduction to medical and community development missions in developing nations.

INDI8730 Research Biomedical Sciences

[0-15 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit.

INDI8790 Basic and Adv Light Microscopy

[4 credit hours]

A lecture/laboratory course in the standard theories and techniques in histology and light microscopy. The emphasis is on preparation of samples, including histocytochemistry, immunocytochemistry and special staining for photo microscopy. Brightfield, fluorescence and confocal microscopy.

INDI8860 Electron Microscopy

[4 credit hours]

A lecture/laboratory course in the standard theories and techniques employed in biological transmission and scanning electron microscopy.

INDI9990 Dissertation Research

[1-15 credit hours]

Disciplinary or interdisciplinary investigation of significant problems at the doctoral level under the guidance of a member of the Graduate Faculty, leading to the preparation of a scientific project for presentation as a dissertation. May be repeated for credit.

INFS3150 Principles Of Structured Computer Programming And Problem Solving

[3 credit hours]

Introduction to fundamental constructs of computer programming. This course introduces data types, variables, constants, arrays, objects, properties, methods, arguments, events, subroutines, functions, data handling, and program control structures. Additionally the course helps students develop skills and logical reasoning used in solving business problems.

Prerequisites: BUAD 1020 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMPT 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR BUSC FOR MIN. SCORE OF 39

INFS3160 Business Application Development

[3 credit hours]

Building on programming skills developed in INFS3150 this course emphasizes database connectivity, data retrieval, design of user interfaces and business application development. The course will survey an object oriented language like C++, Java.

Prerequisites: INFS 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

INFS3250 Business Data Analysis & Reporting

[3 credit hours]

This course is designed to acquaint students with the application and use of integrated software. The course will provide students with hands-on experience in data analysis and manipulation, macro recording and editing and other advanced features and functions of popular business software packages. Students will gain skills in computer based report writing and data visualization techniques.

Prerequisites: BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

INFS3370 Business Data Communications

[3 credit hours]

An introduction to data communications in business. Topics include local-area and wide-area networks, including the Internet; hardware and media; network topologies; client-server networks; and network operating system software.

Prerequisites: BUAD 1020 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMPT 1100 FOR LEVEL UG WITH MIN. GRADE OF D- OR BUSC FOR MIN. SCORE OF 39

INFS3380 Web Application Development I

[3 credit hours]

An introduction to business application program development on the web using contemporary technologies with emphasis on client-side applications. Implications of information technology projects on organizations will be discussed.

Prerequisites: BUAD 1020 FOR LEVEL UG WITH MIN. GRADE OF D- OR CMPT 1100 FOR LEVEL UG WITH MIN. GRADE OF D-

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INFS3400 Principles of Information Systems Security

[3 credit hours]

This course aims to give students a broad understanding of technical and business issues in information systems security, systems security models, analysis of process and technology in systems security and security policies leading to information assurance.

INFS3770 Introduction To Database Systems

[3 credit hours]

In this course, the design and implementation of database management systems are studied. Students will develop significant skills in data modeling, database design and SQL. Students will work in teams developing a database application.

Prerequisites: INFS 3150 FOR LEVEL UG WITH MIN. GRADE OF D- AND BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

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INFS3780 Enterprise Wide Information Systems Management

[3 credit hours]

Introduction to ERP, Roles of SCM and CRM in Business Environment, Major Business Processes relating to functional areas of Business in an integrated software environment. Extensive hands-on exercises using an ERP software.

Prerequisites: BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

INFS3980 Contemporary Topics

[3 credit hours]

Selected current topics in Information Systems practice, trends and technology.

Prerequisites: BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

INFS4100 Business Intelligence Using Big Data

[3 credit hours]

This course aims to give students a broad understanding of technical and business issues in data analytics. Students will gain proficiency with reporting, data visualization and prediction using SAP Business Warehouse.

Prerequisites: BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

INFS4300 Web Application Development II

[3 credit hours]

Address web architecture, web server administration and security issues; analyze, design, develop, and implement extensive database oriented business processes using server-side and client-side processing.

Prerequisites: (INFS 3770 FOR LEVEL UG WITH MIN. GRADE OF D- AND INFS 3380 FOR LEVEL UG WITH MIN. GRADE OF D-)

INFS4320 Information Systems Planning And Outsourcing Management

[3 credit hours]

Issues of planning, control, outsourcing management, and the organizational impact of computer systems will be studied. Challenges and opportuntities in outsourcing will also be the focus of the course.

Prerequisites: BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

INFS4510 Business Systems Analysis and Design

[3 credit hours]

Analysis, design and implementation of business information systems will be studied using Case tools and other appropriate software systems. Will also emphasize management of organizational change brought about by information technology projects.

Prerequisites: BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D- AND INFS 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

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INFS4620 Enterprise Database Systems

[3 credit hours]

In-depth exposure to database concepts including relational and Obect Data Models, normalization, logical design, stored functions, procedures, triggers, forms and reports will be explored using a business database package.

Prerequisites: (INFS 3770 FOR LEVEL UG WITH MIN. GRADE OF D- AND BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-)

INFS4680 Enterprise Systems Implementation and Integration

[3 credit hours]

This course will provide students an overview of the fundamental business processes and examination of how business processes interact with SAP ERP including the system configuration and implementation. Issues. Students will gain a deep appreciation for the role of enterprise systems in managing processes from multiple functional perspectives. Also, students will work on various hands-on exercises including configuration of a fictitious company and implementation of business rules using an enterprise system.

Prerequisites: BUAD 3050 FOR LEVEL UG WITH MIN. GRADE OF D-

INFS4810 Enterprise Database Administration

[3 credit hours]

Designed for database administrators. Covers Physical Database Design, Indexing, performance monitoring and evaluation, partitioning databases, distributed and parallel processing. Exposure will be sufficient for certification exams.

Prerequisites: (INFS 3770 FOR LEVEL UG WITH MIN. GRADE OF D- AND INFS 4510 FOR LEVEL UG WITH MIN. GRADE OF D- AND INFS 4620 FOR LEVEL UG WITH MIN. GRADE OF D-)

INFS4940 Infs Internship

[1-3 credit hours]

A prearranged work-study program where students specializing in computer systems, operations management or decision sciences obtain on-the-job experience while learning and applying the basic concepts and techniques of their respective areas.

INFS4990 Independent Study: Readings And Research

[1-3 credit hours]

Individual student study of a topic of interest to both the faculty member and student. Students are responsible for finding a faculty member to sponsor readings and research.

INFS6150 Business Intelligence Management

[3 credit hours]

This course aims to give students a broad understanding of technical and business issues in data analytics. Students will gain proficiency with reporting, data visualization and prediction. Students will learn analytics techniques that is useful in areas such as marketing and forensics accounting.

INFS6460 Management Information Systems

[3 credit hours]

This course is designed for end-users of computers to understand and appreciate the role of information technology and end-user's role in the management of this technology in organizations.

INFS6560 Systems Analysis And Design

[3 credit hours]

Concepts, tools, and techniques for information systems analysis, design and development will be discussed. Contemporary methodologies for systems development including CASE tools, prototyping and RAD project work will be included.

Prerequisites: BUAD 6800 FOR LEVEL GR WITH MIN. GRADE OF C

INFS6610 Information Storage And Retrieval Structures

[3 credit hours]

This course will analyze the concepts and methods used in the management of organizational data resources. Covers data modeling, database design, administration and architecture. Hands-on applications of database development are provided.

INFS6710 Management of Information Systems Security

[3 credit hours]

This course aims to give students a broad understanding of technical and business issues in information systems security, systems security models, analysis of process and technology in systems security and security policies leading to information assurance.

INFS6750 Research In Information Systems, Operations Management Or Decision Sciences

[1-3 credit hours]

Individual study of topics of common interest to both student and faculty member.

INFS6780 ERP Systems Process Management

[3 credit hours]

This course will provide students an overview of the fundamental business processes and examination of the application of business enterprise software using SAP. Issues include software deployment that supports transaction processing in the business supply chain. Also, students will work on various hands-on exercises including process of entire business cycle with a fictitious company and implementation of simple application with NetWeaver development platform.

INFS6790 ERP Systems Configuration and Integration

[3 credit hours]

This course will provide students an overview of the fundamental business processes and examination of how business processes interact with SAP ERP including the system configuration and implementation. Issues. Students will gain a deep appreciation for the role of enterprise systems in managing processes from multiple functional perspectives. Also, students will work on various hands-on exercises including configuration of a fictitious company and implementation of business rules using an enterprise system.

INFS6810 Network Communications

[3 credit hours]

Applications of business data communication, basic electronic communications concepts, public networks, computer networks, the Internet, network management, regulatory environment.

INFS6930 Contemporary Topics Seminar

[3 credit hours]

This seminar will focus on current topics in the fields of Information Systems and Operations Management.

INFS8150 Business Intelligence Management

[3 credit hours]

This course aims to give students a broad understanding of technical and business issues in data analytics. Students will gain proficiency with reporting, data visualization and prediction. Students will learn analytics techniques that is useful in areas such as marketing and forensics accounting.

INFS8460 Management Information Systems

[3 credit hours]

This course is designed for end-users of computers to understand and appreciate the role of information technology and end-user's role in the management of this technology in organizations.

INFS8480 Information Systems Issues In Manufacturing

[4 credit hours]

This course examines theoretical frameworks and recent empirical research of information and manufacturing technology. Emphasis will be on developing an integrative perspective of both technologies.

INFS8710 Management of Information Systems Security

[3 credit hours]

This course aims to give students a broad understanding of technical and business issues in information systems security, systems security models, analysis of process and technology in systems security and security policies leading to information assurance.

INFS8760 IS Research Seminar I

[3 credit hours]

This course covers the full spectrum of IS research on technology adoption models and the adoption and diffusion of innovations in information technology. We examine the Technology Acceptance Model, TAM II, the Unified Theory of the Acceptance and Use of Technology and UTAUT 2. We also examine the literature on technology acceptance beyond the dominant paradigm of technology acceptance.

INFS8770 IS Research Seminar II

[3 credit hours]

This course covers the rich vein of IS research that falls outside the Technology Acceptance Model or quantitative positivist research genre. These include examining questions of IT strategy and the value of IT to business firms. The value of IT to the organization has been approached using various theoretical lenses.

INFS8930 Contemporary Topics Seminar-Outsourcing

[3 credit hours]

The course will address issues in planning for, implementing and managing or just working in, outsourcing projects. PhD. students enrolled in 8930 will be assigned additional readings and required to complete a research paper.

INFS8990 Integrative Seminar in IT

[3 credit hours]

The seminar will investigate managerial issues in the field of information systems and technology management.

ITEC2100 Small Computer Systems

[4 credit hours]

This course covers the various parts of a Personal Computer and how the hardware and software perform together. Content covers CPU development, various busses, memory devices, connections to peripheral devices, operating systems and additional topics concerned with the PC.

JAPN1080 Japanese Culture And Commerce

[3 credit hours]

Study of Japanese culture and society with emphasis on business and economics. Taught in English. (not for major credit).

JAPN1090 Introduction To Japanese Culture

[3 credit hours]

An introduction to principal social, artistic and literary aspects of modern Japanese culture. Taught in English. (Not for major credit.)

JAPN1110 Elementary Japanese I

[4 credit hours]

An introduction to Japanese language and culture through aural comprehension, speaking, reading and writing. Laboratory practice required. (not for major credit)

JAPN1120 Elementary Japanese II

[4 credit hours]

An introduction to Japanese language and culture through listening, speaking, reading and writing. Laboratory practice required. (not for major credit)

Prerequisites: JAPN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNJP FOR MIN. SCORE OF 1120

JAPN2140 Intermediate Japanese I

[3 credit hours]

Further practice of the four language skills with grammar review and readings of a literary-cultural nature. Laboratory practice required. (not for major credit)

Prerequisites: JAPN 1120 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNJP FOR MIN. SCORE OF 2140

JAPN2150 Intermediate Japanese II

[3 credit hours]

Further practice of the four language skills with grammar review and readings of a literary-cultural nature. Laboratory practice required. (not for major credit)

Prerequisites: JAPN 2140 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNJP FOR MIN. SCORE OF 2150

JAPN2190 Study Abroad

[1-3 credit hours]

The course permits beginning students of Japanese to spend time in a country where Japanese is spoken. Credit awarded in accordance with established departmental procedures.

Prerequisites: JAPN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

JAPN3010 Conversation And Composition I

[3 credit hours]

Work on advanced aural comprehension, speaking, reading and writing skills through intensive work with authentic texts dealing with contemporary issues relating to Japan. Laboratory practice required.

Prerequisites: JAPN 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNJP FOR MIN. SCORE OF 3000

JAPN3020 Conversation And Composition II

[3 credit hours]

Further work on advanced aural comprehension, speaking, reading and writing skills through intensive work with authentic texts dealing with contemporary issues relating to Japan. Laboratory practice required. A writing-intensive course.

Prerequisites: JAPN 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

JAPN3170 Business Japanese

[3 credit hours]

An introduction to the language and practices of Japanese business and commerce.

JAPN3410 Survey Of Japanese Civilization I

[3 credit hours]

A study of different aspects of Japanese culture and civilization such as fine arts, history, science and philosophy.

Prerequisites: JAPN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

JAPN3980 Special Topics in Japanese Studies

[0-6 credit hours]

Study of a selected topic in Japanese language, literature, or culture. May be repeated for credit when topic varies.

JAPN4010 Japanese Syntax And Stylistics I

[3 credit hours]

A review of Japanese stylistic structures through the analysis of texts and written and oral exercises in Japanese.

Prerequisites: JAPN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

JAPN4020 Japanese Syntax And Stylistics II

[4 credit hours]

Further review of Japanese stylistic structures through the analysis of texts and written and oral exercises in Japanese. The course includes an introduction to Japanese calligraphy. A writing-intensive course.

Prerequisites: JAPN 4010 FOR LEVEL UG WITH MIN. GRADE OF D-

JAPN4050 Advanced Conversation I

[3 credit hours]

Practice in speaking idiomatic Japanese.

JAPN4060 Advanced Conversation II

[3 credit hours]

Continued practice in speaking idiomatic Japanese.

JAPN4070 Japanese Translation

[3 credit hours]

Practice in translation of texts from Japanese into English and English into Japanese. Subject matter area will include commerce, natural, physical and social sciences, and the humanities.

JAPN4190 Study Abroad

[1-12 credit hours]

The course permits the student minoring in Japanese to spend time in a country where Japanese is spoken. Credit awarded in accordance with established departmental procedures.

Prerequisites: JAPN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

JAPN4940 Internship in Japanese

[0-12 credit hours]

Educational work experience, using Japanese, in a pre-approved professional field.

JAPN4980 Special Topics In Japanese Studies

[1-3 credit hours]

Study of a selected topic in Japanese language, literature, or culture. May be repeated for credit when topic varies.

JAPN4990 Independent Study In Japanese

[1-3 credit hours]

Independent research on special topics. May be repeated once for additional credit.

KINE1060 Understanding Human Body Structure and Function

[3 credit hours]

This introductory course in human anatomy and physiology emphasizes critical thinking, functional concepts and interactive exercises. This course does not meet the Natural and Physical Science Core Requirements for the University.

KINE1460 Fundamentals of Anatomy and Physiology Lab

[1 credit hour]

Laboratory sessions designed to provide the fundamentals of anatomy and physiology of the cell, tissues, and major organ systems of the human body using a systemic approach. Topics include scientific method, anatomical terminology, the cell, the four tissue types, and the eleven organ systems of the human body. Co-requisite: KINE 1560.

KINE1560 Fundamentals of Anatomy and Physiology

[3 credit hours]

This course describes the fundamentals of anatomy and physiology of the cell, tissues, and major organ systems of the human body using a systemic approach. Topics include anatomical terminology, homeostasis, the cell, the four tissue types, and the eleven organ systems of the human body. Co-requisite: KINE 1460.

KINE1700 Introduction To Exercise Science

[2 credit hours]

An introduction to the professions involving exercise science, sports science, athletic training andrehabilitation therapy. Emphasis is on basic concepts of anatomical, neurological, physiological, biomechanical and psychological function in human movement. Programmatic and career opportunities are discussed.

KINE2460 Human Anatomy And Physiology I Lab

[1 credit hour]

Laboratory exercise in anatomical terminology, cell division and transport, histology, and dissection, identification, and physiology of the skeletal system, skeletal muscle system, and nervous system; including the eye and ear. Co-requisite: KINE 2560.

KINE2470 Human Anatomy And Physiology II Lab

[1 credit hour]

Laboratory exercises in endocrine, cardiovascular, respiratory, digestive, lymphatic, urinary, and reproductive anatomy, histology, physiology, including computer assisted experiments.

KINE2510 Human Anatomy

[3 credit hours]

An integrated study of both regional anatomy and musculoskeletal, cardiovascular, lymphatic, respiratory, neurologic, digestive, renal, endocrine and reproductive systems. Required for students in exercise science and allied health professional programs.

Prerequisites: KINE 1700 FOR LEVEL UG WITH MIN. GRADE OF C

KINE2520 Human Anatomy Laboratory

[1 credit hour]

Laboratory exercises in musculoskeletal, neurological, cardiovascular and respiratory anatomy.

KINE2530 Human Physiology

[3 credit hours]

This course provides foundational information on human physiology. Emphasis is placed on cell physiology, metabolism, as well as the musculoskeletal, cardiovascular, respiratory, endocrine, and immune systems in the maintenance of normal body function.

Prerequisites: KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2520 FOR LEVEL UG WITH MIN. GRADE OF C

KINE2540 Human Physiology Laboratory

[1 credit hour]

Laboratory exercises in musculoskeletal, neurological, cardiovascular and respiratory physiology.

KINE2560 Anatomy And Physiology I

[3 credit hours]

Anatomy and physiology of the human body. Study of cells, tissues, special senses, and the skeletal, muscle, and nervous systems. Co-requisite: KINE 2460. Natural science core course.

KINE2570 Human Anatomy And Physiology II

[3 credit hours]

Anatomy and physiology of human endocrine, blood, cardiovascular, lymphatic, respiratory, digestive, urinary and electrolyte, and reproductive systems. Pre-requisite: KINE 2460 and KINE 2560 or permission of instructor; Co-requisite: KINE 2470.

Prerequisites: KINE 2460 FOR LEVEL UG WITH MIN. GRADE OF D- AND KINE 2560 FOR LEVEL UG WITH MIN. GRADE OF D-

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KINE2580 Human Pathophysiology For Health Care

[3 credit hours]

Topics include the cellular perspective and fluid environment, genetic disorders, and pathophysiology of organ systems, concentrating on cardiovascular, respiratory, renal-urinary, endocrine, gastrointestinal and nervous.

Prerequisites: (KINE 2560 FOR LEVEL UG WITH MIN. GRADE OF D- AND KINE 2460 FOR LEVEL UG WITH MIN. GRADE OF D- AND KINE 2570 FOR LEVEL UG WITH MIN. GRADE OF D- AND KINE 2470 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF

KINE2590 Microbiology And Infectious Diseases

[3 credit hours]

This course describes and differentiates basic Microbiology topics as well as covering bacterial, viral, and protozoan infections within various body systems.

Prerequisites: KINE 2560 FOR LEVEL UG WITH MIN. GRADE OF C OR BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF C OR BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF C OR EEES 2150 FOR LEVEL UG WITH MIN. GRADE OF C OR KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C OR KINE

KINE2610 Evaluation Of Lower Extremity Injuries

[3 credit hours]

Study of the pathology, etiology and physiology of lower extremity injuries common in athletics as well as life-threatening head and neck injuries. Signs, symptoms and specific tests will be discussed.

KINE2620 Evaluation Of Upper Extremity Injuries

[3 credit hours]

Study of the pathology, etiology and physiology of Upper extremity injuries common in athletics as well as non-life-threatening head and neck injuries. Signs, symptoms and specific tests for the upper extremity and trunk will be discussed.

Prerequisites: KINE 2710 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE2630 Clinical Anatomy for Athletic Training I

[1 credit hour]

A clinical anatomy course for athletic training majors focusing on the musculoskeletal system of the lower extremity and how it relates to injury mechanism, prevention and rehabilitation in active individuals.

KINE2640 Clinical Anatomy for Athletic Training II

[1 credit hour]

A clinical anatomy course for athletic training majors focusing on the musculoskeletal system of the upper extremity and how it relates to injury mechanism, prevention and rehabilitation in active individuals.

KINE2710 Clinical Skills Development I

[2 credit hours]

Laboratory experience to review and test the clinical skills taught during the first year of the athletic training curriculum and clinical skill development experiences provided in the athletic training room with intercollegiate athletic teams.

KINE2720 Clinical Skills Development II

[2 credit hours]

Laboratory experience to review and test the clinical skills taught during the lower extremity evaluation course in the athletic training curriculum and clinical skill development experiences provided in the athletic training room with intercollegiate athletic teams.

Prerequisites: KINE 2710 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE3200 Advanced Human Anatomy

[3 credit hours]

An electilve course that applies musculoskeletal anatomy to human movement, function, injury evaluation and rehabilitation through in cadaver observation and dissection.

Prerequisites: KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2520 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2540 FOR LEVEL UG WITH MIN. GRADE OF C

KINE3240 Concepts of Exercise Fitness and Health Strategies

[3 credit hours]

This focus of this course is the self-exploration of the importance of regular physical activity including cardiovascular and muscular exercise on maintaining physical fitness and wellness. Min.grade of C for HPFP concentration.

Prerequisites: (KINE 2560 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2460 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2570 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2470 FOR LEVEL UG WITH MIN. GRADE OF C) OR (KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AN

KINE3520 Applied Exercise Physiology

[3 credit hours]

This course will provide information related to the physiological responses of the human organism to exercise and exercise training. Emphasis will also be placed on the role exercise plays in health and disease prevention.

Prerequisites: KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2570 FOR LEVEL UG WITH MIN. GRADE OF C

KINE3530 Applied Exercise Physiology Laboratory

[1 credit hour]

This course is the laboratory component of the applied exercise physiology course. Emphasis will be placed on the concepts learned in lecture. This will occur through hands-on activities and experiments involving various forms of exercise testing and the use of standardized equipment.

KINE3610 General Medical Conditions For Athletic Trainers

[2 credit hours]

Knowledge and skills that entry-level athletic trainers must possess to recognize, treat and refer, when appropriate, the general medical conditions and disabilities of people involved in physical activity.

Prerequisites: KINE 3630 FOR LEVEL UG WITH MIN. GRADE OF D- AND KINE 3710 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE3620 Professional Responsibilities in the Fitness Industry

[3 credit hours]

This course examines the ethical, legal and professional responsibilities of working in an allied health profession as a personal trainer, fitness consultant or exercise specialist.

KINE3630 Therapeutic Modalities For Athletic Trainers

[3 credit hours]

Physiological, mechanical and bio-electrical principles and techniques of application for electrical, thermal, high frequency radiation and traction modalities used in the treatment of athletic injuries.

Prerequisites: KINE 2620 FOR LEVEL UG WITH MIN. GRADE OF D- AND KINE 2720 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE3650 Foundations of Sports Medicine

[3 credit hours]

A review of the foundation aspects of sports medicine, including but not limited to: prevention and wellness, emergency care, clinical examination and diagnosis, therapeutic interventions and aspects of professional practice. Specifically relates to the fields of athletic training, sports medicine, musculoskeletal rehabilitation and orthopedic medicine. Course will also include observation of sports medicine professionals in a clinical setting.

KINE3660 Rehabilitation Of Athletic Injuries

[3 credit hours]

A systematic approach to exercise program development, techniques, indications and contraindications of exercise, and exercise progression as related to athletic injuries, prevention, reconditioning and return to play guidelines.

Prerequisites: KINE 3710 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE3680 Sport and Exercise Pharmacology

[3 credit hours]

Provide the basics of pharmacology related to sport and exercise including: pharmacokinetics, indications and contradictions of various drugs and legal concerns related to using therapeutic and non-therapeutic drugs. Min.grade of C for HPFP concentration.

Prerequisites: (KINE 2560 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2460 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2570 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2470 FOR LEVEL UG WITH MIN. GRADE OF C) OR (KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AN

KINE3710 Clinical Skills Development III

[2 credit hours]

Laboratory experience to review and test the clinical skills taught during the upper extremity evaluation course in the athletic training curriculum and clinical skill development experiences provided in the athletic training room with intercollegiate athletic teams.

Prerequisites: KINE 2720 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE3720 Clinical Skills Development IV

[2 credit hours]

Laboratory experience to review and test the clinical skills taught during the therapeutic modalities course in the athletic training curriculum and clinical skill development experiences provided in the athletic training room with intercollegiate athletic teams.

Prerequisites: KINE 3710 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE3830 Principles of Strength Conditioning

[3 credit hours]

This course provides students with a fundamental understanding of muscular strength conditioning principles and the application of these principles to exercise programming relevant to physical activity and athletic performance. Min. grade of C for HPFP concentration.

Prerequisites: (KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2520 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2540 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 3520 FOR LEVEL UG WITH MIN. GRADE OF C AND

KINE3850 Cardiac Dysrhythmia Interpretation

[3 credit hours]

This course examines cardiac anatomy, electrophysiology and basic cardiac rhythms with an emphasis on the recognition and interpretation of cardiac dysrhythmias. Min. grade of C for HPFP concentration.

Prerequisites: KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2520 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2540 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 3520 FOR LEVEL UG WITH MIN. GRADE OF C AND

KINE3860 Cardiac Dysrhythmia Lab

[1 credit hour]

This course is the practical application of the techniques required to administer a 12 lead EKG at rest and during exercise. Students will record multiple EKG's and interpret the rhythm. Min. grade of C for HPFP concentration.

Prerequisites: KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2520 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2540 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 3520 FOR LEVEL UG WITH MIN. GRADE OF C AND

KINE3950 Research Design in Exercise Science

[3 credit hours]

This course emphasizes the design, analysis and interpretation of qualitative and quantitative research methods in the areas of athletic training, exercise science and other health-related fields. Min. grade of C or better for HPFP concentration.

Prerequisites: MATH 2600 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D-

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KINE4140 Fitness Internship I

[4 credit hours]

Students will actively engage and participate in the day-to-day functions including operational, managerial and client assessments in a health, wellness or fitness facility (16 hours/week).Min. grade of C for HPFP concentration.

Prerequisites: KINE 3850 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 3860 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 4850 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 4860 FOR LEVEL UG WITH MIN. GRADE OF C

KINE4210 Exercise Facilty Management

[3 credit hours]

Students will develop an understanding of the skills necessary for marketing, promoting and managing various fitness, wellness and rehabilitation facilities.Min. grade of C for HPFP concentration.

KINE4540 Applied Biomechanics

[3 credit hours]

This course focuses on the application of biomechanics concepts to the acquisition and refinement of fundamental movement patterns, basic functional skills and sport activities. Such topics as locomotion, balance and the biomechanical basis of injury are examined.

Prerequisites: KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF C

KINE4550 Applied Biomechanics Laboratory

[1 credit hour]

This course is the laboratory component of the applied biomechanics course. Emphasis will be placed on the application of the concepts learned in lecture to rehabilitation, sports in jury, exercise, and sport situations. This will occur through hands-on activities and experiments involving contemporary forms of biomechanical instrumentation.

KINE4640 Neurological And Pathological Foundations Of Rehabilitation

[3 credit hours]

Study of neurological control of normal movement and the implications of various medical pathologies for rehabilitation. Emphasis on inflammatory processes, metabolic and vascular disturbances, traumatic injuries, nutritional deficiencies, neoplasms, degenerative conditions and congenital disorders.

Prerequisites: KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C OR KINE 2560 FOR LEVEL UG WITH MIN. GRADE OF C

KINE4650 Organization And Administration Of Athletic Training Programs

[3 credit hours]

Administration of athletic training programs including athletic training room management, budgeting, staffing, insurance, medical records, emergency care planning, preparticipation physical examinations, athletic training room design, legal issues and public relations.

Prerequisites: KINE 3720 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE4710 Clinical Skills Development V

[2 credit hours]

Laboratory experience to review and test the clinical skills taught during the rehabilitation of sports injuries course in the athletic training curriculum and clinical skill development experiences provided in the athletic training room with intercollegiate athletic teams.

Prerequisites: KINE 3720 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE4720 Clinical Skills Development Vi

[2 credit hours]

Emphasis on clinical experience in athletic training off-campus. Also includes a laboratory experience to review clinical skills.

Prerequisites: KINE 4710 FOR LEVEL UG WITH MIN. GRADE OF B-

KINE4830 Principles of Endurance Conditioning

[3 credit hours]

This course is intended to prepare students with a fundamental understanding of endurance conditioning principles and the application of these principles to exercise programming relevant to physical activity and athletic performance.

Prerequisites: (KINE 2510 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2520 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2530 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 2540 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 3520 FOR LEVEL UG WITH MIN. GRADE OF C AND

KINE4840 Fitness Internship II

[4 credit hours]

Students will actively engage and participate in the day-to-day functions including operational, managerial and client assessments in a health, wellness or fitness facility (16 hours/week). Min. grade of C for HPFP concentration.

Prerequisites: KINE 4140 FOR LEVEL UG WITH MIN. GRADE OF D-

KINE4850 Exercise Testing And Programming

[3 credit hours]

The purpose of this course is to provide students with an understanding of the relationship between exercise and chronic disease, an understanding of the mechanisms and adaptations by which exercise influences the disease process, and an understanding of the role and importance of exercise testing and training in the prevention, evaluation and treatment of these chronic diseases. Min. grade of C for HPFP concentration.

Prerequisites: KINE 3850 FOR LEVEL UG WITH MIN. GRADE OF C AND KINE 3860 FOR LEVEL UG WITH MIN. GRADE OF C

KINE4860 Clinical Exercise Testing Lab

[1 credit hour]

The purpose of this course is to provide students with the skills needed to perform a 12 lead electrocardiogram stress test on their own. Min. grade of C for HPFP concentration.

Prerequisites: KINE 4850 FOR LEVEL UG WITH MIN. GRADE OF D-

KINE4900 Human Performance Seminar

[1-3 credit hours]

Classroom and laboratory analysis of current research in varied topic areas.

KINE4940 Internship/Practicum

[2-15 credit hours]

Clinical experience in locations both inside and outside the university setting. Placement depends on area of study.

KINE4990 Independent Study In Exercise Science/Physical Education

[1-3 credit hours]

Directed individual study. Specialty title, seminar sheet and permission of instructor required.

KINE5110 Measurement And Statistical Inference In Human Performance

[3 credit hours]

Application of measurement and statistical inference to human performance testing and research. Includes descriptive and inferential statistics, principles of test construction and introduction to authentic assessment in public schools.

KINE5250 Readings In Exercise Biology

[3 credit hours]

Faculty and student directed readings of original research in Exercise Biology. Readings will focus on how changes in physical activity influence the biology of skeletal muscle.

KINE6010 Clinical Applications I

[1 credit hour]

Clinical skill experience is provided to develop autonomous athletic trainer and provide exposure to implimenting evidence based practice in clinical practice.

KINE6020 Clinical Applications II

[1 credit hour]

Continue to develop autonomous athletic training skills built upon in Clinical Applications I and continue to advance diagnosis, treatment and intervention skills.

Prerequisites: KINE 6010 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE6030 Clinical Applications III

[2 credit hours]

Advanced integration of clinical skills with the introduction of mentoring athletic training students in a clinical setting.

Prerequisites: KINE 6020 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE6040 Clinical Applications IV

[2 credit hours]

Preparation of autonomous athletic training care for the transition into an occupation in sports medicine.

Prerequisites: KINE 6030 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE6100 Physiology Of Exercise

[3 credit hours]

This course is designed to provide an understanding of the mechanisms of the physiological responses to exercise. Emphasis will be placed on adaptations to exercise training and the role of exercise in health and disease.

KINE6130 Biomechanics Of Human Motion

[3 credit hours]

This course provides a basic overview of the principles of biomechanics as they apply to human movement. In-depth discussion and lab activities focus on the application of these principles to such topics as muscle function, locomotion, balance, mechanisms of injury and ergonomics.

KINE6200 Biomechanical Instrumentation

[3 credit hours]

Provides students with experience in the research and clinical use of videography, force and pressure plates, electromyography and other systems in applied biomechanics. Emphasis on hands-on lab experience and topics related to data collection and signal processing.

Prerequisites: KINE 6130 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE6230 Scientific Writing And Research Methods

[3 credit hours]

Principles and issues involved in the design and conduct of research in exercise science: critical evaluation, research design, development of a research proposal, grant acquisition, and compliance with institutional and federal guidelines on the use of humans and animals.

KINE6410 Clinical Biomechanics

[2 credit hours]

The study of common kinematic and kinetic alterations that can occur following acute and chronic musculoskeletal injuries and the deleterious effects these changes can cause. In addition, students will be introduced to both laboratory and clinical techniques to assess and alter the kinematic and kinetic deficits associated with injury.

Prerequisites: KINE 6210 FOR LEVEL GR WITH MIN. GRADE OF C+ AND KINE 6610 FOR LEVEL GR WITH MIN. GRADE OF B-

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KINE6420 Cardiopulmonary Exercise Physiology

[3 credit hours]

The responses and adaptations of the cardiovascular and pulmonary systems to exercise in healthy individuals.

Prerequisites: KINE 6100 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE6430 Environmental Physiology

[3 credit hours]

Physiological responses and adaptations to extreme environments.

KINE6460 Readings in Cardiovascular Physiology

[3 credit hours]

This is a faculty directed examination of current research in Cardiovascular Physiology. Emphasis is placed on the role of physical activity on the prevention and/or treatment of cardiovascular treatment

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KINE6540 Laboratory Techniques In Exercise Physiology

[3 credit hours]

This course covers theoretical and practical knowledge for the assessment of exercise metabolism, cardiorespiratory function, body composition, thermoregulation and skeletal muscle function. Hands-on data collection will be emphasized.

KINE6550 Lab Techniques In Exercise Biology

[3 credit hours]

The course provides students with theoretical and practical knowledge for assessing cellular and molecular responses to exercise and inactivity. Emphasis will be placed on laboratory safety, reagent preparation, cell culture techniques, and tissue analysis.

Prerequisites: (KINE 6100 FOR LEVEL GR WITH MIN. GRADE OF D- AND KINE 6540 FOR LEVEL GR WITH MIN. GRADE OF D-)

KINE6600 Issues And Management In Athletic Training

[3 credit hours]

This course addresses current issues that affect the profession of Athletic Training. Topics cover issues that influence clinical practice as well as political issues related to the profession.

KINE6660 Evidence-Based Practice in Sports Medicine

[2 credit hours]

This course will introduce the student to clinical epidemiology and the evaluation of the efficacy of prevention, diagnosis, and treatment strategies in athletic training and sports medicine.

KINE6670 Pathology of Orthopedic Injury

[3 credit hours]

An in-depth investigation into the basic structure and mechanisms of injury of various musculoskeletal tissue applied to the recognition and prevention of specific orthopedic injuries and conditions.

KINE6680 Advanced Interventions I

[2 credit hours]

Students will be introduced to advanced techniques that impact clinical practice in Athletic Training, including manual therapy, advanced orthopedic evaluation s, and advanced management and planning related to emergency medicine.

KINE6690 Advanced Interventions II

[3 credit hours]

Students will be introduced to advanced evaluation and assessment techniques that impact clinical practice, including general medical conditions, psychosocial, professionalism, and profession advocacy.

Prerequisites: KINE 6680 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE6720 Advanced Clinical Anatomy

[2 credit hours]

A cadever anatomy course focusing on the extremities. Emphasis will be placed on the link between anatomical structure, orthopedic injuries, and clinical practice.

KINE6910 Introduction to Sports Medicine Research I

[1 credit hour]

Students will be introduced to sports medicine research with a focus on evaluating the literature, asking a clinically relevant research question, and developing experimental hypotheses.

KINE6920 Introduction to Sports Medicine Research II

[1 credit hour]

Students will continue to develop the ability to critque research and will be introduced to developing research methods to address a clinically question related to sports medicine.

Prerequisites: KINE 6910 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE6960 Masters Thesis In Exercises Science

[1-4 credit hours]

Independence research in Exercise Science completed as part of the requirements for the Master of Science in Exercise Science degree.

KINE6990 Independent Study In Exercise Science

[1-4 credit hours]

Faculty supervised independent reading, laboratory research, field experience and other activities not suited for class instruction.

KINE7110 Measurement And Statistical Inference In Human Performance

[3 credit hours]

Application of measurement and statistical inference to human performance testing and research. Includes descriptive and inferential statistics, principles of test construction and introduction to authentic assessment in public schools.

KINE7250 Readings In Exercise Biology

[3 credit hours]

Faculty and student directed readings of original research in Exercise Biology. Readings will focus on how changes in physical activity influence the biology of skeletal muscle.

KINE8100 Physiology Of Exercise

[3 credit hours]

This course is designed to provide an understanding mechanisms of the physiological responses to exercise. Emphasis will be placed on adaptations to exercise training and the role of exercise in health and disease.

KINE8130 Biomechanics Of Human Motion

[3 credit hours]

This course provides a basic overview of the principles of biomechanics as they apply to human movement. In-depth discussion and lab activities focus on the application of these principles to such topics as muscle function, locomotion, balance, mechanisms of injury and ergonomics.

KINE8200 Biomechanical Instrumentation

[3 credit hours]

Provides students with experience in the research and clinical use of videography, force and pressure plates, electromyography and other systems in applied biomechanics. Emphasis on hands-on lab experience and topics related to data collection and signal processing.

Prerequisites: KINE 6130 FOR LEVEL GR WITH MIN. GRADE OF D- OR KINE 8130 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE8230 Scientific Writing And Research Methods

[3 credit hours]

Principles and issues involved in the design and conduct of research in exercise science: critical evaluation, research design, development of a research proposal, grant acquisition, and compliance with institutional and federal guidelines on the use of humans and animals.

KINE8420 Cardiopulmonary Exercise Physiology

[3 credit hours]

The responses and adaptations of the cardiovascular and pulmonary systems to exercise in healthy individuals.

Prerequisites: KINE 8100 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE8430 Environmental Physiology

[3 credit hours]

Physiological responses and adaptations to extreme environments.

KINE8460 Readings in Cardiovascular Physiology

[3 credit hours]

This is a faculty directed examination of current research in Cardiovascular Physiology. Emphasis is placed on the role of physical activity on the prevention and/or treatment of cardiovascular diseases.

Prerequisites: KINE 8100 FOR LEVEL GR WITH MIN. GRADE OF D-

KINE8540 Laboratory Techniques In Exercise Physiology

[3 credit hours]

This course covers theoretical and practical knowledge for the assessment of exercise metabolism, cardiorespiratory function, body composition, thermoregulation and skeletal muscle function. Hands-on data collection will be emphasized.

KINE8550 Lab Techniques In Exercise Biology

[3 credit hours]

The course provides students with theoretical and practical knowledge for assessing cellular and molecular responses to exercise and inactivity. Emphasis will be placed on laboratory safety, reagent preparation, cell culture techniques, and tissue analysis.

Prerequisites: (KINE 8100 FOR LEVEL GR WITH MIN. GRADE OF D- AND KINE 8540 FOR LEVEL GR WITH MIN. GRADE OF D-)

KINE8600 Issues And Management In Athletic Training

[3 credit hours]

This course addresses current issues that affect the profession of Athletic Training. Topics cover issues that influence clinical practice as well as political issues related to the profession.

KINE8660 Evidence Based Approach To Physical Rehabilitation

[3 credit hours]

An investigation into the science and theories of therapeutic rehabilitation and its impact on clinical practice using current literature and databases from the areas of evidence based medicine.

KINE8670 Pathomechanics Of Musculoskeletal Injury

[3 credit hours]

An in-depth investigation into the basic structure and mechanisms of injury of various musculosketetal tissue applied to the recognition and prevention of specific orthopedic injuries and conditions.

KINE8720 Anatomical Concepts for Clinical Practice

[3 credit hours]

A cadaver anatomy course focusing on the extremities. Emphasis will be placed on the link between anatomical structure, orthopedic injuries, and clinical practice.

KINE8960 Doctoral Dissertation In Exercise Science

[1-12 credit hours]

Directed research towards completion of the doctoral degree. Students may register for credit in more than one semester. Total dissertation credit toward the degree may not exceed 16 hours.

KINE8990 Independent Study In Exercise Science

[1-4 credit hours]

Faculty supervised independent reading, laboratory research, field experience and other activities not suited for class instruction.

LAT1110 Elementary Latin I

[4 credit hours]

Study of the fundamentals of Latin vocabulary, grammar and syntax. Translation of elementary readings. (not for major credit)

LAT1120 Elementary Latin II

[4 credit hours]

Continued study of fundamental Latin vocabulary, grammar and syntax. Translation of elementary readings. (not for major credit)

Prerequisites: LAT 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNLT FOR MIN. SCORE OF 1120

LAT2140 Intermediate Latin I

[3 credit hours]

Brief review of vocabulary, grammar and syntax. Readings in Latin prose by such authors as Sallust, Livy and Cicero. (not for major credit)

Prerequisites: LAT 1120 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNLT FOR MIN. SCORE OF 2140

LAT2150 Intermediate Latin II

[3 credit hours]

Intermediate level Latin poetry of the Republic and Augustan periods. (not for major credit)

Prerequisites: LAT 2140 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNLT FOR MIN. SCORE OF 2150

LAT5210 Latin For Reading Knowledge I

[3 credit hours]

Elements of grammar and vocabulary appropriate to preparing graduate students to read effectively in Latin.

LAT5220 Latin For Reading Knowledge II

[3 credit hours]

Elements of pronunciation, structure and vocabulary most appropriate to preparing graduate students to read effectively in Latin.

LAWA6000 Legal Ethics and Professional Responsibility

[3 credit hours]

An introduction to legal and ethical principles governing lawyers, the legal profession and the practice of law. The course considers the principal ways in which lawyers are regulated through bar admission, professional codes, lawyer disciplinary actions and civil liability. The course explores the lawyer-client relationship and the scope and limits of duties to the client, the legal system and third parties.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWA6010 Civil Procedure - Jurisdiction

[3 credit hours]

Study of the rules controlling the jurisdiction of courts. State and federal systems are covered.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C

LAWA6120 Constitutional Law - Rights

[3 credit hours]

Constitutional Law II will cover issues of individual rights protected by the Equal Protection Clause of the fourteenth Amendment. It will also cover First Amendment protections against governmental restrictions of speech and the press, with some coverage of First Amendment protections of religion.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWA6310 Evidence

[4 credit hours]

The rules and policies governing a trial court's fact-finding process, as exemplified by the Federal Rules of Evidence. Topics cover the full range of evidentiary issues at trial, including the content of admissible proof, the matter of presenting it and the respective roles of the judge and jury.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWA6400 Advanced Research and Writing

[1 credit hour]

This course involves an advanced writing project completed under the supervision of a full-time faculty member.

LAWA9000 Legal Ethics and Professional Responsibility

[3 credit hours]

An introduction to legal and ethical principles governing lawyers, the legal profession and the practice of law. The course considers the principal ways in which lawyers are regulated through bar admission, professional codes, lawyer disciplinary actions and civil liability. The course explores the lawyer-client relationship and the scope and limits of duties to the client, the legal system and third parties.

LAWA9010 Civil Procedure - Jurisdiction

[3 credit hours]

Study of the rules controlling the jurisdiction of courts. State and federal systems are covered.

LAWA9120 Constitutional Law - Rights

[3 credit hours]

Constitutional Law II will cover issues of individual rights protected by the Equal Protection Clause of the fourteenth Amendment. It will also cover First Amendment protections against governmental restrictions of speech and the press, with some coverage of First Amendment protections of religion.

LAWA9310 Evidence

[4 credit hours]

The rules and policies governing a trial court's fact-finding process, as exemplified by the Federal Rules of Evidence. Topics cover the full range of evidentiary issues at trial, including the content of admissible proof, the matter of presenting it and the respective roles of the judge and jury.

LAWA9400 Advanced Research and Writing

[1 credit hour]

This course involves an advanced writing project completed under the supervision of a full-time faculty member.

Prerequisites: LAWD 9750 FOR LEVEL LW WITH MIN. GRADE OF C OR LAWD 9760 FOR LEVEL LW WITH MIN. GRADE OF C

LAWD6020 Civil Procedure - Pleading and Practice

[3 credit hours]

Study of the rules controlling the management of civil litigation. State and federal systems are covered.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWD6110 Constitutional Law - Structure

[3 credit hours]

Constitutional Law I will cover structural issues focusing on the Supreme Court's interpretation of the nature and distribution of power within the federal government, the relationship between the federal government and the states in regulating commerce, and the meaning and scope of the Due Process Clause of the Fourteenth Amendment.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6210 Contracts I

[3 credit hours]

A survey of the law of contracts including the creation, modification and termination of contract rights obligations, the roles of reliance and restitution, capacity, conditions, third party rights and duties, and the effect of changed circumstances or mistake. Performance and breach of contractual obligations and remedies for breach are also examined in detail. The course includes a survey of the law relating to sales of goods under Article 2 of the Uniform Commercial Code.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6220 Contracts II

[3 credit hours]

A continued survey of the law of contracts including the creation, modification and termination of contract rights and obligations, the roles of reliance and restitution, capacity, conditions, third party rights and duties, and the effect of changed circumstances or mistake. Performance and breach of contractual obligations and remedies for breach are also examined in detail. The course includes a survey of the law relating to sales of goods under Article 2 of the Uniform Commercial Code.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6300 Criminal Law

[4 credit hours]

Substantive criminal law, focusing on general principles of liability and defenses, the definitional elements of certain crimes, particularly homicide, and principles of accessorial liability.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6410 Property - Fundamentals of Ownership

[3 credit hours]

An introduction to the law of personal property and comprehensive coverage of the law of real property as it relates to estates and interests in land, landlord-tenant relationships, real estate transactions, private agreements respecting the use of land and public controls upon property use.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6420 Property - Transactions and Land Use

[3 credit hours]

Continued study of the law of personal property and comprehensive coverage of the law of real property as it relates to estates and interests in land, landlord-tenant relationships, real estate transactions, private agreements respecting the use of land and public controls upon property use.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6510 Torts

[4 credit hours]

Torts explores civil claims for a variety of intentional harms and offenses to people and property, negligent harms and theories of strict liability (including products liability). The course studies both traditional principles and modern concepts.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6750 Lawyering Skills I

[2-3 credit hours]

A foundation course providing intensive instruction in three major areas: using research resources and techniques of research; developing skills of legal analysis; presenting legal analysis in predictive and persuasive formats, both written and oral. Instruction is through class meetings, small group meetings and individual conferences.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD6760 Lawyering Skills II

[1-2 credit hours]

A continuation of Lawyering Skills I, this course provides intensive instruction in three major areas: using research resources and techniques of research; developing skills of legal analysis; presenting legal analysis in predictive and persuasive formats, both written and oral. Instruction is through class meetings, small group meetings and individual conferences.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWD9020 Civil Procedure - Pleading and Practice

[3 credit hours]

Study of the rules controlling the management of civil litigation. State and federal systems are covered.

LAWD9110 Constitutional Law - Structure

[3 credit hours]

Constitutional Law I will cover structural issues focusing on the Supreme Court's interpretation of the nature and distribution of power within the federal government, the relationship between the federal government and the states in regulating commerce, and the meaning and scope of the Due Process Clause of the Fourteenth Amendment.

LAWD9210 Contracts I

[3 credit hours]

A survey of the law of contracts including the creation, modification and termination of contract rights obligations, the roles of reliance and restitution, capacity, conditions, third party rights and duties, and the effect of changed circumstances or mistake. Performance and breach of contractual obligations and remedies for breach are also examined in detail. The course includes a survey of the law relating to sales of goods under Article 2 of the Uniform Commercial Code.

LAWD9220 Contracts II

[3 credit hours]

A continued survey of the law of contracts including the creation, modification and termination of contract rights and obligations, the roles of reliance and restitution, capacity, conditions, third party rights and duties, and the effect of changed circumstances or mistake. Performance and breach of contractual obligations and remedies for breach are also examined in detail. The course includes a survey of the law relating to sales of goods under Article 2 of the Uniform Commercial Code.

LAWD9300 Criminal Law

[4 credit hours]

Substantive criminal law, focusing on general principles of liability and defenses, the definitional elements of certain crimes, particularly homicide, and principles of accessorial liability.

LAWD9410 Property - Fundamentals of Ownership

[3 credit hours]

An introduction to the law of personal property and comprehensive coverage of the law of real property as it relates to estates and interests in land, landlord-tenant relationships, real estate transactions, private agreements respecting the use of land and public controls upon property use.

LAWD9420 Property - Transactions and Land Use

[3 credit hours]

Continued study of the law of personal property and comprehensive coverage of the law of real property as it relates to estates and interests in land, landlord-tenant relationships, real estate transactions, private agreements respecting the use of land and public controls upon property use.

LAWD9510 Torts

[4 credit hours]

Torts explores civil claims for a variety of intentional harms and offenses to people and property, negligent harms and theories of strict liability (including products liability). The course studies both traditional principles and modern concepts.

LAWD9750 Lawyering Skills I

[2-3 credit hours]

A foundation course providing intensive instruction in three major areas: using research resources and techniques of research; developing skills of legal analysis; presenting legal analysis in predictive and persuasive formats, both written and oral. Instruction is through class meetings, small group meetings and individual conferences.

LAWD9760 Lawyering Skills II

[1-2 credit hours]

A continuation of Lawyering Skills I, this course provides intensive instruction in three major areas: using research resources and techniques of research; developing skills of legal analysis; presenting legal analysis in predictive and persuasive formats, both written and oral. Instruction is through class meetings, small group meetings and individual conferences.

LAWG6010 Business Associations

[4 credit hours]

Business Associations focuses on the legal entities commonly used to operate business enterprises, with an emphasis on closely held businesses. The course explores the major issues involved in formation and operation of agency relationships, corporations and limited liability companies. These include creation of business entities; financing for the small business; sharing in earnings; the roles of corporate officers, directors and shareholders; roles of LLC managers and members; doctrines of limited liability; fiduciary duties; and special statutory treatment of closely held corporations.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWG6110 Commercial Paper

[3 credit hours]

A study of payment systems. Initial emphasis is upon commercial paper (Article 3 of the Uniform commercial Code) and bank deposits and collections (Article 4 of the Uniform Commercial Code), followed by credit cards (Truth in Lending, Consumer Credit Protection, and Fair Credit Billing Acts), commercial funds transfer (Article 4A of the Uniform Commercial Code) and consumer electronic funds transfer (Electronic Funds Transfers Act).

Prerequisites: LAWD 6210 FOR LEVEL GR WITH MIN. GRADE OF D- AND LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWG6210 Criminal Procedure - Investigations

[3 credit hours]

A study of the constitutional and statutory limitations on the conduct of criminal investigations and related matters. Includes a discussion of the Fourth Amendment prohibition against unreasonable searches and seizures, the Fifth Amendment privilege against self-incrimination and the Sixth Amendment right to counsel.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWG6280 Criminal Procedure - Adjudications

[3 credit hours]

A study of the criminal processes from arrest through sentencing and appeal. Topics covered include bail, preliminary hearing, grand jury, plea bargaining and guilty pleas, discovery, fair trial, free press, jury trial, sentencing and double jeopardy.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWG6610 Secured Transactions

[3 credit hours]

The creation, enforcement, perfection and priority of security interests in personal property under Article Nine of the Uniform Commercial Code and the federal Bankruptcy Code.

Prerequisites: LAWD 6210 FOR LEVEL GR WITH MIN. GRADE OF D- AND LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWG6710 Trusts and Estates

[3-4 credit hours]

The study of decedents' estates and trust law. Interstate succession, the law of wills, estate administration, formation and administration of trusts and future interests are studied. Common law approaches are contrasted with Ohio and Uniform Probate Code practices.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWG9010 Business Associations

[4 credit hours]

Business Associations focuses on the legal entities commonly used to operate business enterprises, with an emphasis on closely held businesses. The course explores the major issues involved in formation and operation of agency relationships, corporations and limited liability companies. These include creation of business entities; financing for the small business; sharing in earnings; the roles of corporate officers, directors and shareholders; roles of LLC managers and members; doctrines of limited liability; fiduciary duties; and special statutory treatment of closely held corporations.

LAWG9110 Commercial Paper

[3 credit hours]

A study of payment systems. Initial emphasis is upon commercial paper (Article 3 of the Uniform commercial Code) and bank deposits and collections (Article 4 of the Uniform Commercial Code), followed by credit cards (Truth in Lending, Consumer Credit Protection, and Fair Credit Billing Acts), commercial funds transfer (Article 4A of the Uniform Commercial Code) and consumer electronic funds transfer (Electronic Funds Transfers Act).

Prerequisites: LAWD 9210 FOR LEVEL LW WITH MIN. GRADE OF D

LAWG9210 Criminal Procedure - Investigations

[3 credit hours]

A study of the constitutional and statutory limitations on the conduct of criminal investigations and related matters. Includes a discussion of the Fourth Amendment prohibition against unreasonable searches and seizures, the Fifth Amendment privilege against self-incrimination and the Sixth Amendment right to counsel.

LAWG9280 Criminal Procedure - Adjudications

[3 credit hours]

A study of the criminal processes from arrest through sentencing and appeal. Topics covered include bail, preliminary hearing, grand jury, plea bargaining and guilty pleas, discovery, fair trial, free press, jury trial, sentencing and double jeopardy.

LAWG9610 Secured Transactions

[3 credit hours]

The creation, enforcement, perfection and priority of security interests in personal property under Article Nine of the Uniform Commercial Code and the federal Bankruptcy Code.

Prerequisites: LAWD 9210 FOR LEVEL LW WITH MIN. GRADE OF D

LAWG9710 Trusts and Estates

[3-4 credit hours]

The study of decedents' estates and trust law. Interstate succession, the law of wills, estate administration, formation and administration of trusts and future interests are studied. Common law approaches are contrasted with Ohio and Uniform Probate Code practices.

Prerequisites: LAWD 9410 FOR LEVEL LW WITH MIN. GRADE OF D

LAWI6000 International Comparative Law

[2-3 credit hours]

This course introduces students to the major legal systems of the world. The first third of the course provides an overview of the major families of law encountered in various nations of the world today: common law (as exemplified by California and England), civil law (France and Germany), religious law (Egypt), and the extra-legal approach seen in various Asian countries (China). The rest of the course examines how each of these systems handles the same types of common legal situation: inheritance and succession, criminal behavior and contracts.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6010 Accounting and Financial Statements

[1-3 credit hours]

An introduction for students without prior accounting experience to the terms and concepts necessary to an understanding of the financial affairs of a client and to the variety of legal contexts in which the lawyer is likely to encounter accounting problems. Students will learn to perform basic financial analysis.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6020 E-Commerce

[1-3 credit hours]

This course will examine critical information technologies that provide a basis for electronic commerce. Topics include problems surrounding electronic commerce such as security, privacy, content selection and rating, intellectual property rights, authentication, encryption, acceptable use policies, UETA, UCITA and E-Sign.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6030 Administrative Law

[3 credit hours]

The law and operation of administrative agencies, including agency adjudication, rulemaking and other forms of policy implementation. The course covers agencies' place in the constitutional structure, legislative and executive controls on agency action, and judicial review of agency fact-finding, statutory interpretation, and exercise of discretion. The course examines state agencies as well as federal agencies and the federal Administrative Procedure Act.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6040 Civil and Political Rights

[2-3 credit hours]

Civil and Political Rights focuses on a broad array of legal issues and rights in this area of law. Beginning with a history of the area, the course includes topics such as voting rights, religion, education, discrimination, police misconduct and prisoners' rights. Current issues are discussed using news articles and videos.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6050 Admiralty and Maritime Law

[1-2 credit hours]

Useful for any practice proximate to navigable waters, this course surveys admiralty jurisdiction, rights and liabilities of commercial and pleasure boat owners, rights of injured maritime workers and passengers, collision, salvage, maritime liens, cargo claims, and limitation of liability.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6060 Sales and Leases of Goods

[2-3 credit hours]

A detailed study of sales of goods under Article 2 of the Uniform Commercial Code and a survey of both Article 2A of the Uniform Commercial Code (leases of goods) and the U.N. Convention on Contracts for the International Sale of goods. Topics include contract formation and interpretation, warranties, express and implied terms, risk of loss, performance obligations and breach, and remedies for breach. Consideration may also be given to other state and federal laws affecting sales and leases of goods.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6070 Antitrust

[2-3 credit hours]

This course will cover the role of competition in a modern market economy, federal antitrust law, regulation and policies. Topics covered include horizontal restraints (price fixing, conspiracy, data dissemination, concerted refusals to deal, etc.); monopolization, attempts to monopolize, and oligopoly; problems concerning the relationship of antitrust to patent law; vertical restraints (restricted distribution, typing arrangements, exclusive dealing etc.); mergers (horizontal, vertical and conglomerate); selected Robinson-Patman Act problems, remedies and enforcement.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6080 Gender and the Law

[2-3 credit hours]

This course covers issues of gender and the law with a primary focus on how the law addresses sex discrimination. Students will discuss constitutional and statutory protections against sex discrimination from a doctrinal and theoretical perspective. Subjects covered in this class include employment discrimination, family law, public benefits, domestic violence and sexual orientation and the law.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6090 Disability Law

[2-3 credit hours]

This course examines the growing area of disability law. Topics to be covered include discrimination based on disability in employment and public accommodations, as well as the requirement for educational institutions to provide special education services to disabled students. Relevant federal statutes will be examined, including the Americans with Disabilities Act (with special emphasis on the ADA Amendments Act of 2009), Section 504 of the Rehabilitation Act, and the Individuals with Disabilities in Education Act.

LAWI6100 International Law

[3 credit hours]

This course focuses on the legal processes of the international community. The creation of law among nation states, the law-making activities of international organizations, the enforcement (and non-enforcement) of international law in both national and international forums, the limits of national jurisdiction, the responsibility of states for the injuries to the persons or property of aliens and the rules governing international agreements are surveyed. Particular attention is given to the law of treaties and the role of lawyers in foreign policy decision making.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6110 Education Law

[1-3 credit hours]

This course will explore the legal, practical and policy implications of the law surrounding education, both primary and secondary education. The course will cover a wide variety of topics, including: the legal and financial structure of education; the boundaries between public and private education and between church and state; school governance; the constitutional and statutory rights of students (including issues of discrimination, affirmative action, harassment and individuals with disabilities); and the constitutional and statutory rights of teacher. Throughout the course, we will explore the important but perhaps unanswerable question: What is good education and does the law help or hinder its achievement?

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6130 Business Enterprise Tax

[2-3 credit hours]

An examination of the federal income tax treatment of business enterprises (including corporations, partnerships and limited liability companies) and their owners. The course considers the tax consequences of entity-owner transactions (formation and property contributions, distributions, redemptions and liquidations) as well as entity-level transactions (business operations, mergers, acquisitions and other business combinations).

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6140 Business Planning

[2-3 credit hours]

The course considers problems and transactions of business enterprises in a practical fashion. Projects requiring planning, drafting and negotiating, principally on behalf of smaller and closely held businesses, are an integral part of the course. Contractual arrangements typically examined include buy-sell agreements, close corporation/shareholder agreements and limited liability company operating agreements.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6150 Bioethics and Law

[2-3 credit hours]

This course addresses the evolving relationship between medicine, law and ethics. The course focuses on individual topics including the definition of death, decision-making about death and dying, physician-assisted suicide, access to health care, research involving human subjects and genetic engineering.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6160 Real Estate Finance

[2-3 credit hours]

The legal problems related to private financing and development of land. Emphasis is on the structuring of real estate transactions, tax considerations and problems of developers, lenders and other participants.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6170 Conflict of Laws

[2-3 credit hours]

This course will study the problems encountered when a transaction or occurrence has a significant relationship to two or more states or countries. The jurisdiction of courts, the effect to be given to out-of-state judgments and the rules of decision in multi-state cases are studied. Both traditional rules and theories and modern developments are analyzed.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6180 Communications Law

[2-3 credit hours]

The class explores in detail legal and practical issues arising in connection with various media: newspaper, television and radio stations, cable television and other video providers, and the Internet, including Internet-service providers, web-hosting companies, and web-publishing. We will identify, analyze, and critique the legal doctrines - constitutional, statutory, and common-law - that applies to these media, either individually or collectively. We also study how those doctrines have evolved and will continue to change, as the means of mass communication evolve and converge.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6190 European Union

[2-3 credit hours]

This course will begin with an examination of the history of and legal foundations for the European Union. It will then explore the relationship between individual sovereign states and the EU. Finally, the course will look at various particular bodies of EU law such as free movement of capital, goods and labor; freedom of establishment; harmonization of laws; antitrust and competition policy; currency unification; environmental protection; intellectual property protection; rights to privacy; and women's rights.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6200 Jurisprudence

[2-3 credit hours]

Jurisprudence is the philosophy of law. The two primary goals of this class are 1) to give students a basic background and understanding of important legal thinkers and theory and 2) to stimulate critical thinking through assigned readings and rollicking in-class discussions about concepts of law from Plato to present day. We will philosophically analyze concepts of precedence, interpretation, rights, civil disobedience, semantics, and virtues such as justice, desert and compassion.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6210 Copyright Law

[2-3 credit hours]

A substantive examination of the Copyright Act. This course will cover the fundamentals of copyright law and practice and the challenges to the existing copyright regime by new technologies.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6220 Constitutional Litigation

[2-3 credit hours]

This course will explore how to litigate constitutional claims, and how to enforce individual constitutional rights, including 4th, 8th, and 14th Amendment claims. The course will cover the relevant case law for a doctrinal overview, as well as the historical and factual backgrounds to the landmark cases in constitutional litigation. The course will also involve simulated law practice problems and other exercises to provide a hands-on approach to the problems and issues that arise in litigating constitutional claims.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C

LAWI6230 Corporate Finance

[1-3 credit hours]

An advanced exploration of the legal and financial problems encountered in financing corporations, with emphasis on the corporate capital structure, including the rights of holders of various equity and debt securities; the valuation of businesses, as well as corporate equity and debt securities; and mergers and acquisitions, including tender offers.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6250 Forensic Evidence Law

[2-3 credit hours]

A review of the law of scientific evidence and the underlying science employed in detecting and solving crimes and in the reconstruction of accidents. Topics include, accident and injury reconstruction, DNA matching, the identification and toxicology of drugs and alcohol, fingerprint identification, dental matching, the reconstruction of computer files, basics of forensic accounting and hair, fiber and similar matching techniques.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6270 Creditor and Debtor Law

[2-3 credit hours]

Explores creditors' rights under state law including judgment liens, execution liens, fraudulent conveyances, set off, assignments to benefit creditors and statutory liens. Debtor defenses under state and federal law including constitutional protections, exemptions and counterclaims are evaluated. Following this overview of general creditor execution, the majority of the course is devoted to resolution of claims in federal bankruptcy law.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6300 Employment Discrimination

[3 credit hours]

This course focuses on the main federal statutes prohibiting employment discrimination and the policies underlying these laws, with the majority of time spent on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act and the Americans With Disabilities Act. Additional topics and subtopics include sexual harassment, discrimination based on sexual orientation, defenses and reasonable accommodation of religion.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6310 Employment Law

[2-3 credit hours]

This course focuses on the major state and federal employment laws affecting individual employees, excluding laws on unions and employment discrimination. Coverage includes the legal regulation of the hiring and firing process, testing and privacy issues, wage and hour laws, occupational health and safety, workers' compensation, unemployment insurance, covenants not to compete, and related topics.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6330 Environmental Law

[2-3 credit hours]

This course provides an introduction to U.S. environmental law by examining major federal statutes and the policy goals underlying them. Key statutes explored include the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act (RCRA), and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Through analyzing and comparing different environmental statutes, students develop an understanding not only of the current environmental regulatory framework, but also of alternative approaches that may be employed to prevent pollution, clean up contamination, and protect the environment.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6350 Estate Planning

[2-3 credit hours]

This course focuses on the practical aspects of will and trust drafting. Emphasis is placed on the application of estate planning and wealth preservation techniques to commonly encountered estate planning problems.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6360 Estate and Gift Tax

[2-3 credit hours]

A study of the federal estate and gift tax structure and its impact on the gratuitous transfer of property. Income taxation of trusts and estates and the generation skipping transfer tax are also discussed.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6370 Family Law

[3 credit hours]

The interaction of law and the family and the consequences of state intervention in family relationships. Some of the subjects surveyed are the marriage relationship, de facto marriage, adoption, the termination of marital status, economic consequences of divorce, child custody after divorce and the role of the lawyer as counselor.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6380 Federal Courts and Federal Rights

[3 credit hours]

An intensive examination of the jurisdiction of federal courts, the role of the federal courts within the federal government, and within our federalist system. Topics surveyed include the law applied by federal courts in civil actions, the original and removal jurisdiction of federal courts, the relationship of the federal courts to state courts, congressional power over federal courts, the enforceability of federal law against states, and states' sovereign immunity.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6390 Natural Resources Law

[2-3 credit hours]

This course provides an introduction to natural resources law and policy affecting both public lands and private property. Conflicts over natural resources, including their protection and use, are among the most contentious legal and policy issues of our time. Students explore the reasons why, the roles governmental authorities play in the management of natural resources, and the laws and policies pertaining to wildlife, preservation, conservation, protected lands, forestry, mining, oil and gas, water rights and other natural resources. Key federal statutes such as the National Environmental Policy Act and the Endangered Species Act are reviewed as well as cases, regulations, and commentary.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6400 American Legal History

[2-3 credit hours]

This seminar/course (students may elect either to write a paper or to take an examination) follows the profession's development from the American Revolution through the 1920's and the emergence of university-based professional education, the advent of new client constituencies including corporations, labor organizations, and anti-slavery and other social action groups, the development of standards of professional ethnic and racial minorities. The teaching approach emphasizes comparisons with current practice, critical use of original source materials and development of research and writing skills.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6440 Immigration Law

[2-3 credit hours]

The course is designed to present a survey of immigration and nationality law. It will cover issues of citizenship as well as admissions to the United States. The course will address issues of removal and deportation, as well as relief from removal.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6450 International Intellectual Property

[2-3 credit hours]

This course reviews: the main international intellectual property instruments (such as TRIPS, Paris Convention, Patent Cooperation Treat, European Patent Convention; Madrid Agreement, Berne and Rome conventions, WIPO treaties), and European main legislative texts (mainly regulations and directives) and main case law on patent, trademark and copyright. We also review the principal differences between the common law based system of copyright and the civil law system based on "droit d¿auteur" (author¿s rights), with a special focus on electronic and Internet issues.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6460 Insurance Law

[2-3 credit hours]

A study of property, liability and life insurance, and the insurer-insured relationship from a legal vantage point. Numerous concepts are examined during the course, including insurable interest, concealment and misrepresentation, the duty of good faith and fair dealing, scope of coverage, policy interpretation, change of beneficiary, duty to defend, bad faith refusal to settle, measures of recovery, multiple interests coverage, subrogation and other insurance clauses. Several insurance policies are examined in detail.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6470 Intellectual Property and Licensing

[2-3 credit hours]

This course focuses on the commercialization of intellectual property through the use of assignments and licenses. The course will cover intellectual property assignments and licenses, including express and implied licenses, the scope of licenses, bankruptcy issues, anti-trust issues and international licensing. The course will also cover intellectual property audits and patent, trade secret, copyright and trademark law to the extent an understanding of the rights and obligations inherent in such intellectual property classifications are necessary to effectively assign or license intellectual property. Students will analyze several licenses.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6480 International Business Transactions

[2-3 credit hours]

This course introduces students to the issues, problems and legal norms applicable to International Business Transactions. The course will examine various problems that occur in international business as a means of discerning pitfalls for the unwary, as well as the matters that must be considered to protect one's client. The course will begin with an examination of the issues arising in a basic international sale and will progress through increasingly complex types of business interaction, including distributorships, franchising, licensing, joint ventures and incorporating abroad. Through the course, there will be an emphasis on the U.S., foreign and international laws and standards that may affect the transaction. The course will emphasize contract negotiation and drafting skills.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6490 Juvenile Law

[2-3 credit hours]

An examination of the relationship between children, their parents, siblings and the state in the lives of delinquent, unruly, dependent, neglected and abused children. The role of the court, judiciary, attorneys, police and social services historically, and in modern practice, will be examined as to the impact on families and individuals brought before the juvenile court. Special emphasis will be given to the theory of the juvenile justice system; the various court alternatives to adjudication; dispositional considerations and the attorney's role in representing the child, parents or serving as a guardian ad litem.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6500 Federal Income Tax

[4 credit hours]

After a brief consideration of the federal income taxation system, this course examines the conceptual problems in defining income. A detailed treatment of the more significant personal and business deductions, exemptions and credits follows. Statutory methodology and policy considerations (including the tax expenditure concept) are developed integrally with substantive topics. In addition, the course considers the tax treatment of gains and losses from the disposition of property, including the capital gains preference and deferral of taxation. Tax shelters and attempts by Congress and the Internal Revenue Service to limit their utilization may be explored as well.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6510 Labor Law

[3 credit hours]

This course focuses on the law governing and policy issues surrounding the major facets of union-management relations in the private sector under the National Labor Relations Act (NLRA). These include union organizing, collective bargaining, contract enforcement, picketing and the economic weapons of both sides, including strikes. The course also covers the procedural mechanisms by which rights under the NLRA are enforced and remedies for NLRA violations.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6520 Health Care Finance

[2-3 credit hours]

This course will cover the different problems presented by government regulation versus the private market model focusing on managed care (risk allocation, standard of care, consumer information), insurance (basic models of insurance and underwriting), health care licensing, and related ERISA issues as they affect the delivery of health care services.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6530 Consumer Law

[2-3 credit hours]

This course will study the practical application of Consumer Law including student loan law, credit card and debt collection law, Fair Credit Reporting Act, Lemon Law, Predatory Lending, etc.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6550 Health Care Fraud and Abuse

[2-3 credit hours]

The high cost of health care in the United States is exacerbated by rampant fraud and abuse on state and federal health care systems. This course presents an overview of legal and policy issues related to health care fraud and practical issues related to the prosecution and defense of heath care fraud-related suits. Pre- and post-litigation issues, such as corporate compliance programs, administrative investigations, and corporate integrity agreements, will also be explored. Course materials will cover major health care fraud and abuse statutes, including statutes addressing false claims, kickbacks, and self-referrals, as well as the regulatory regimes and administrative rulings that govern this area of the law. Students will be evaluated on one or more written assignments and exercises.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C

LAWI6560 Real Estate Transactions

[2-3 credit hours]

The course will address the purchase and sale, financing and leasing of real property. Students will draft various documents common in real estate transactions. Assignments will be reviewed, critiqued and revised in order to enhance drafting skills.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6570 Health Care Provider Liability

[2-3 credit hours]

This advanced torts course covers quality control in health care, medical malpractice, informed consent, medical confidentiality and institutional liability for medical injury. It includes causes of action against individual and institutional health care providers as well as third party payors, including insurers and managed care organizations. Tort reform issues are also addressed.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6600 Law and Literature

[2-3 credit hours]

A study of the relationship between literary development and criticism and the law. The class studies great works of literature and examines their meaning for the law in general and the lawyer in particular.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6610 Health Care Regulation

[2-3 credit hours]

Examines the legal structures that regulate the organization, delivery and financing of health care. Topics include Medicare and Medicaid, Antitrust and the structure of health care enterprises. Discussion includes the public policy objectives and effects of current regulatory schemes, as well as enacted and proposed reforms at state and federal levels.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6630 Health Law

[3 credit hours]

This course provides an overview of the legal issues that arise in the health care field. Topics surveyed will include individual and institutional liability, public and private regulation, accreditation and licensure, hospital/medical staff relationships, and the challenge of achieving cost efficiencies, while also maintaining high quality care and improved access to care. Students will learn to identify key legal issues affecting the operation of a health care entity.

Prerequisites: LAWM 5000 FOR LEVEL LW WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6650 International Environmental Law

[2-3 credit hours]

This course introduces students to issues, problems and legal norms applicable to environmental concerns in the international arena. The course begins with an examination of the various sources of international law and the applicability and effect that international legal norms have on domestic law (an introduction to basic international law). Next the course will consider the unique nature of environmental problems in the international context. The course will then explore the various norms, treaties and other sources of international law that exist to protect the environment in the context of various problems.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6660 Legislative Process and Drafting

[2-3 credit hours]

This course focuses on legislative drafting techniques and surveys legal drafting, limitations on legislation, statutory interpretation, legislative procedure and professional responsibility. Students will draft a bill for an actual client and write a scholarly paper in support of the bill.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6670 Mental Health Law

[2-3 credit hours]

Mental Health Law deals with the rights of persons with mental disabilities. Topics considered are: civil commitment, right to treatment, right to refuse treatment, Americans with Disabilities Act, competence to stand trial, the doctrine of not guilty by reason of insanity, and dangerous offender statutes.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6680 State and Local Government Law and Taxation

[2-3 credit hours]

An overview of the law relating to the administration of municipalities and their dealings with other local governmental units. Topics include the powers and problems of urban governmental units, federalism, corporate powers and police powers. Coverage includes the basic law and rules relating to the financing of local government and the various sources of tax revenue for local governments.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6690 Native American Law

[1-3 credit hours]

This course will initially examine the legal concepts of Native American individuals and tribes. The study of unique (and not so unique) aspects of the treatment of Native American individuals and tribes under the U.S. Constitution, treaties, and national, tribal and state law will form the heart of the course. Attention will be given to issues relating to tribal government and tribal courts, criminal and civil jurisdiction over Indians and non-Indians, environmental regulation on reservation lands, commercial trade in Indian art, casino gaming, the American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6700 Patent Practice and Procedure

[2-3 credit hours]

A hands-on course focusing on both regulatory requirements and attorney skills relating to representation of inventors before the Patent and Trademark Office. The course will follow a patent attorney's relationship with an inventor and the written PTO responses, appeals and finally patent grant.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6710 Patent Law

[2-3 credit hours]

A survey of the legal protection of inventions. This course covers the requirements for obtaining and enforcing a patent and the rights of a patentee with respect to licensing, assignment and patent misuse.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6720 Intellectual Property Survey

[2-3 credit hours]

A preparatory course covering Copyright, Patent, Trademark and Trade Secret Law. A broad coverage of intellectual property law is useful for those students who want to learn the fundamentals of intellectual property law either as basis for more advanced courses or to integrate intellectual property law into other substantive courses.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6730 Pension and Employee Benefits

[2-3 credit hours]

A study of the law regarding employment benefits, such as ERISA, focusing on various forms of pension plans, and health and welfare plans. The law will address issues of plan qualification under the tax code and also applicable labor laws and regulations. Some familiarity with tax concepts would be helpful but is not required.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6750 Products Liability

[2-3 credit hours]

An examination of the law relating to products liability. Particular emphasis will be given to strict liability in tort, with coverage of negligence and warranty-based products claims. Discussions will cover design and manufacturing defects and failure to warn. Applications to contemporary problem areas, such as pharmaceuticals, automobiles, and tobacco, will be explored.

Prerequisites: LAWD 6220 FOR LEVEL GR WITH MIN. GRADE OF D- AND LAWD 6510 FOR LEVEL GR WITH MIN. GRADE OF D- AND LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6760 Publicly Held Corporations

[2-3 credit hours]

This course focuses on legal issues that are commonly faced by larger corporations, and the special concerns involved in protecting widely scattered shareholder constituencies. Topics covered include directors' role in large corporations, social responsibility of large businesses, the growing prominence of institutional investors, securities fraud, insider trading, shareholder meetings, proxy solicitations, shareholder litigation, mergers and tender offers.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6770 NAFTA

[2-3 credit hours]

This course will begin with an overview of free trade in North America. Then it will turn to an in-depth examination of different areas of commerce affected by the North American Free Trade Agreement (NAFTA): the movement of goods, the cross border provision of services, the treatment of foreign investments, the protection of intellectual property and dispute settlement procedures. Next, it will consider the labor and environmental side agreements. Finally, it will explore how the NAFTA may be expanded in the future.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6780 Remedies

[2-3 credit hours]

The course in Remedies is about the bottom line. It is about what a court can do for a litigant who has been wronged or is about to be wronged. The most common remedies are judgments for money and injunctions against defendants to prevent them from wronging plaintiffs or to require them to undo wrongs. The course takes up questions such as the measure of relief, the relationship between legal and equitable remedies, declaratory remedies, benefit to the defendant as the measure of relief in restitution, punitive remedies, enforcing judgments, equitable defenses, immunities and federal interference with state law enforcement.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6790 Bar Exam Preparation

[2-3 credit hours]

This is a pre-bar preparatory course designed to introduce students to certain critical and analytical and writing skills, techniques, protocols, and frameworks that are essential to maximize bar exam preparation and ultimately pass the bar exam. Students will review outlines for selected substantive topics, complete in-class and at-home simulated bar exam tests and assignments, and receive feedback. Through the use of problems and exercises in a bar exam format, students will become familiar with techniques for answering multiple choice questions, essays, and performance tests that comprise the bar exam in Ohio and other states. It is reserved for third year students and is graded on a pass/fail basis.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6800 Securities Regulation

[2-3 credit hours]

This course focuses on the disclosure requirements of the federal securities laws which apply when businesses raise capital and when their shares are publicly traded. It examines the requirements of the Securities Act of 1933, selected provisions of the Securities Exchange Act and state blue sky laws. It covers extensively the structuring of exempt transactions for small businesses. The course is taught primarily from a transactional, rather than a litigation, focus.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C AND LAWG 6010 FOR LEVEL GR WITH MIN. GRADE OF D

LAWI6810 Sentencing

[2-3 credit hours]

A survey of the law relating to the disposition of individuals convicted of crimes. Topics include sentencing authority, ex post facto laws, factual bases for sentencing, probation, parole, the death penalty and state and federal sentencing guidelines.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C AND LAWD 6300 FOR LEVEL GR WITH MIN. GRADE OF C AND LAWD 6110 FOR LEVEL GR WITH MIN. GRADE OF C

LAWI6820 Land Use Planning

[2-3 credit hours]

This course explores the rapidly evolving area of public land use regulation in the context of private property development rights and constitutional protections of those rights. Regulatory areas examined include: zoning, subdivision controls, environmental land use controls, development exactions, aesthetic regulations, and growth controls, as well as land use planning requirements. First and Fifth Amendment issues are explored along with a variety of key public policy questions.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6830 Advanced Topics in Employment Law

[2-3 credit hours]

This course will cover the most current topics facing practitioners, and the most problematic issues facing clients. Topics will vary each year but may include restrictive covenants, the use of expert testimony in employment law, retaliation, and the latest and developing issues in this area of the law. Students will also choose a current topic to research, and will present their research for class discussion. Assignments involving issues of practical application will be used throughout the course to gain a better understanding of their effect on clients, and effective strategies and preventive measures.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6840 International and Domestic Arbitration

[2-3 credit hours]

This course conveys a thorough understanding of the law and practice of arbitration: its practical, doctrinal, theoretical, and policy aspects both in the domestic and international spheres.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C

LAWI6870 Sports Law

[2-4 credit hours]

A substantive examination of concepts and cases from legal disciplines which affect professional and amateur sports including antitrust law, labor law, contracts, tax and civil procedure.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6880 Business Bankruptcy

[2-3 credit hours]

This course will explore basic principles of Federal Bankruptcy Law, with particular emphasis on corporate reorganizations under Chapter 11 of the Bankruptcy Code. Topics addressed will include business operations in Chapter 11; the rights and duties of a Chapter 11 debtor; allowance, disallowance, estimation, and subordination of creditor claims; the reduction of secured obligations to the value of collateral; debtor-in-possession financing; preference and fraudulent transfer avoidance actions; and using bankruptcy to effect a sale of assets. This course will also address special rules involving, among others, small business debtors, municipalities, and international (cross-border) insolvency cases.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C

LAWI6890 Toxic Substances

[1-3 credit hours]

Regulating the manufacture, use and disposal of chemicals is complex and poses significant challenges to regulators, regulated entities, environmentalists and general practitioners. From the accidental poisoning of children in their homes by pest control operators to chemical monitoring and reporting requirements under TSCA, FIFRA and EPCRA, this course provides an overview of the federal regulatory landscape for toxic - though legal - commercial chemicals.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6900 Trademarks

[2-3 credit hours]

An introduction to the fundamentals of federal trademark law and practice with some discussion of common law trademarks and state trademark registration. This course will cover how trademarks are acquired, trademark registration and practice before the U.S. Patent and Trademark Office, and trademark infringement. False advertising and other forms of unfair competition actionable under the Lanham Act also will be studied.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6910 Art and Cultural Property Law

[2 credit hours]

This course offers a structured introduction to two distinct topics – Art Law and Cultural Property Law. The first part of the course considers the legal rights of artists, merchants, collectors, and museums. The second part considers wider legal and social policy issues concerning public and private ownership and control over culturally-important property. The latter part of the course will explore selected topics which may include historic preservation law, archeological resources law, international and domestic law governing looted art objects and U.S. law governing ownership of indigenous cultural objects.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWI6930 Water Law

[2-3 credit hours]

This course focuses on the laws governing surface and ground water resources, with an emphasis on allocation and management issues. Because water is perhaps our most vital natural resource, and because it is often in scarce supply relative to demand, disputes over its use have been and will continue to be of crucial importance. Students explore common law, statutory and constitutional issues, at the state and federal levels, including the Clean Water and Safe Drinking Water Acts. Topics crucial to the Great Lakes region are particularly emphasized.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWI6940 White Collar Crime

[2-3 credit hours]

A survey of the federal criminal law relating to crimes committed by corporations and non-traditional criminals. Topics include corporate criminal liability, wire and mail fraud, RICO, money laundering, false claims and false statements, tax crimes, environmental crimes, perjury and obstruction of justice.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C AND LAWD 6300 FOR LEVEL GR WITH MIN. GRADE OF C

LAWI9000 International Comparative Law

[2-3 credit hours]

This course introduces students to the major legal systems of the world. The first third of the course provides an overview of the major families of law encountered in various nations of the world today: common law (as exemplified by California and England), civil law (France and Germany), religious law (Egypt), and the extra-legal approach seen in various Asian countries (China). The rest of the course examines how each of these systems handles the same types of common legal situation: inheritance and succession, criminal behavior and contracts.

LAWI9010 Accounting and Financial Statements

[1-3 credit hours]

An introduction for students without prior accounting experience to the terms and concepts necessary to an understanding of the financial affairs of a client and to the variety of legal contexts in which the lawyer is likely to encounter accounting problems. Students will learn to perform basic financial analysis.

LAWI9020 E-Commerce

[1-3 credit hours]

This course will examine critical information technologies that provide a basis for electronic commerce. Topics include problems surrounding electronic commerce such as security, privacy, content selection and rating, intellectual property rights, authentication, encryption, acceptable use policies, UETA, UCITA and E-Sign.

LAWI9030 Administrative Law

[3 credit hours]

The law and operation of administrative agencies, including agency adjudication, rulemaking and other forms of policy implementation. The course covers agencies' place in the constitutional structure, legislative and executive controls on agency action, and judicial review of agency fact-finding, statutory interpretation, and exercise of discretion. The course examines state agencies as well as federal agencies and the federal Administrative Procedure Act.

LAWI9040 Civil and Political Rights

[2-3 credit hours]

Civil and Political Rights focuses on a broad array of legal issues and rights in this area of law. Beginning with a history of the area, the course includes topics such as voting rights, religion, education, discrimination, police misconduct and prisoners' rights. Current issues are discussed using news articles and videos.

LAWI9050 Admiralty and Maritime Law

[1-2 credit hours]

Useful for any practice proximate to navigable waters, this course surveys admiralty jurisdiction, rights and liabilities of commercial and pleasure boat owners, rights of injured maritime workers and passengers, collision, salvage, maritime liens, cargo claims, and limitation of liability.

LAWI9060 Sales and Leases of Goods

[2-3 credit hours]

A detailed study of sales of goods under Article 2 of the Uniform Commercial Code and a survey of both Article 2A of the Uniform Commercial Code (leases of goods) and the U.N. Convention on Contracts for the International Sale of goods. Topics include contract formation and interpretation, warranties, express and implied terms, risk of loss, performance obligations and breach, and remedies for breach. Consideration may also be given to other state and federal laws affecting sales and leases of goods.

LAWI9070 Antitrust

[2-3 credit hours]

This course will cover the role of competition in a modern market economy, federal antitrust law, regulation and policies. Topics covered include horizontal restraints (price fixing, conspiracy, data dissemination, concerted refusals to deal, etc.); monopolization, attempts to monopolize, and oligopoly; problems concerning the relationship of antitrust to patent law; vertical restraints (restricted distribution, typing arrangements, exclusive dealing etc.); mergers (horizontal, vertical and conglomerate); selected Robinson-Patman Act problems, remedies and enforcement.

LAWI9080 Gender and the Law

[2-3 credit hours]

This course covers issues of gender and the law with a primary focus on how the law addresses sex discrimination. Students will discuss constitutional and statutory protections against sex discrimination from a doctrinal and theoretical perspective. Subjects covered in this class include employment discrimination, family law, public benefits, domestic violence and sexual orientation and the law.

LAWI9090 Disability Law

[2-3 credit hours]

This course examines the growing area of disability law. Topics to be covered include discrimination based on disability in employment and public accommodations, as well as the requirement for educational institutions to provide special education services to disabled students. Relevant federal statutes will be examined, including the Americans with Disabilities Act (with special emphasis on the ADA Amendments Act of 2009), Section 504 of the Rehabilitation Act, and the Individuals with Disabilities in Education Act.

LAWI9100 International Law

[3 credit hours]

This course focuses on the legal processes of the international community. The creation of law among nation states, the law-making activities of international organizations, the enforcement (and non-enforcement) of international law in both national and international forums, the limits of national jurisdiction, the responsibility of states for the injuries to the persons or property of aliens and the rules governing international agreements are surveyed. Particular attention is given to the law of treaties and the role of lawyers in foreign policy decision making.

LAWI9110 Education Law

[1-3 credit hours]

This course will explore the legal, practical and policy implications of the law surrounding education, both primary and secondary education. The course will cover a wide variety of topics, including: the legal and financial structure of education; the boundaries between public and private education and between church and state; school governance; the constitutional and statutory rights of students (including issues of discrimination, affirmative action, harassment and individuals with disabilities); and the constitutional and statutory rights of teacher. Throughout the course, we will explore the important but perhaps unanswerable question: What is good education and does the law help or hinder its achievement?

LAWI9130 Business Enterprise Tax

[2-3 credit hours]

An examination of the federal income tax treatment of business enterprises (including corporations, partnerships and limited liability companies) and their owners. The course considers the tax consequences of entity-owner transactions (formation and property contributions, distributions, redemptions and liquidations) as well as entity-level transactions (business operations, mergers, acquisitions and other business combinations).

Prerequisites: LAWG 9500 FOR LEVEL LW WITH MIN. GRADE OF D OR LAWI 9500 FOR LEVEL LW WITH MIN. GRADE OF D

LAWI9140 Business Planning

[2-3 credit hours]

The course considers problems and transactions of business enterprises in a practical fashion. Projects requiring planning, drafting and negotiating, principally on behalf of smaller and closely held businesses, are an integral part of the course. Contractual arrangements typically examined include buy-sell agreements, close corporation/shareholder agreements and limited liability company operating agreements.

LAWI9150 Bioethics and Law

[2-3 credit hours]

This course addresses the evolving relationship between medicine, law and ethics. The course focuses on individual topics including the definition of death, decision-making about death and dying, physician-assisted suicide, access to health care, research involving human subjects and genetic engineering.

LAWI9160 Real Estate Finance

[2-3 credit hours]

The legal problems related to private financing and development of land. Emphasis is on the structuring of real estate transactions, tax considerations and problems of developers, lenders and other participants.

LAWI9170 Conflict of Laws

[2-3 credit hours]

This course will study the problems encountered when a transaction or occurrence has a significant relationship to two or more states or countries. The jurisdiction of courts, the effect to be given to out-of-state judgments and the rules of decision in multi-state cases are studied. Both traditional rules and theories and modern developments are analyzed.

LAWI9180 Communications Law

[2-3 credit hours]

The class explores in detail legal and practical issues arising in connection with various media: newspaper, television and radio stations, cable television and other video providers, and the Internet, including Internet-service providers, web-hosting companies, and web-publishing. We will identify, analyze, and critique the legal doctrines - constitutional, statutory, and common-law - that applies to these media, either individually or collectively. We also study how those doctrines have evolved and will continue to change, as the means of mass communication evolve and converge.

LAWI9190 European Union

[2-3 credit hours]

This course will begin with an examination of the history of and legal foundations for the European Union. It will then explore the relationship between individual sovereign states and the EU. Finally, the course will look at various particular bodies of EU law such as free movement of capital, goods and labor; freedom of establishment; harmonization of laws; antitrust and competition policy; currency unification; environmental protection; intellectual property protection; rights to privacy; and women's rights.

LAWI9200 Jurisprudence

[2-3 credit hours]

Jurisprudence is the philosophy of law. The two primary goals of this class are 1) to give students a basic background and understanding of important legal thinkers and theory and 2) to stimulate critical thinking through assigned readings and rollicking in-class discussions about concepts of law from Plato to present day. We will philosophically analyze concepts of precedence, interpretation, rights, civil disobedience, semantics, and virtues such as justice, desert and compassion.

LAWI9210 Copyright Law

[2-3 credit hours]

A substantive examination of the Copyright Act. This course will cover the fundamentals of copyright law and practice and the challenges to the existing copyright regime by new technologies.

LAWI9220 Constitutional Litigation

[2-3 credit hours]

This course will explore how to litigate constitutional claims, and how to enforce individual constitutional rights, including 4th, 8th, and 14th Amendment claims. The course will cover the relevant case law for a doctrinal overview, as well as the historical and factual backgrounds to the landmark cases in constitutional litigation. The course will also involve simulated law practice problems and other exercises to provide a hands-on approach to the problems and issues that arise in litigating constitutional claims.

LAWI9230 Corporate Finance

[1-3 credit hours]

An advanced exploration of the legal and financial problems encountered in financing corporations, with emphasis on the corporate capital structure, including the rights of holders of various equity and debt securities; the valuation of businesses, as well as corporate equity and debt securities; and mergers and acquisitions, including tender offers.

Prerequisites: LAWG 9010 FOR LEVEL LW WITH MIN. GRADE OF D

LAWI9250 Forensic Evidence Law

[2-3 credit hours]

A review of the law of scientific evidence and the underlying science employed in detecting and solving crimes and in the reconstruction of accidents. Topics include, accident and injury reconstruction, DNA matching, the identification and toxicology of drugs and alcohol, fingerprint identification, dental matching, the reconstruction of computer files, basics of forensic accounting and hair, fiber and similar matching techniques.

LAWI9270 Creditor and Debtor Law

[2-3 credit hours]

Explores creditors' rights under state law including judgment liens, execution liens, fraudulent conveyances, set off, assignments to benefit creditors and statutory liens. Debtor defenses under state and federal law including constitutional protections, exemptions and counterclaims are evaluated. Following this overview of general creditor execution, the majority of the course is devoted to resolution of claims in federal bankruptcy law.

LAWI9300 Employment Discrimination

[3 credit hours]

This course focuses on the main federal statutes prohibiting employment discrimination and the policies underlying these laws, with the majority of time spent on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act and the Americans With Disabilities Act. Additional topics and subtopics include sexual harassment, discrimination based on sexual orientation, defenses and reasonable accommodation of religion.

LAWI9310 Employment Law

[2-3 credit hours]

This course focuses on the major state and federal employment laws affecting individual employees, excluding laws on unions and employment discrimination. Coverage includes the legal regulation of the hiring and firing process, testing and privacy issues, wage and hour laws, occupational health and safety, workers' compensation, unemployment insurance, covenants not to compete, and related topics.

LAWI9330 Environmental Law

[2-3 credit hours]

This course provides an introduction to U.S. environmental law by examining major federal statutes and the policy goals underlying them. Key statutes explored include the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act (RCRA), and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Through analyzing and comparing different environmental statutes, students develop an understanding not only of the current environmental regulatory framework, but also of alternative approaches that may be employed to prevent pollution, clean up contamination, and protect the environment.

LAWI9350 Estate Planning

[2-3 credit hours]

This course focuses on the practical aspects of will and trust drafting. Emphasis is placed on the application of estate planning and wealth preservation techniques to commonly encountered estate planning problems.

Prerequisites: LAWI 9360 FOR LEVEL LW WITH MIN. GRADE OF D

LAWI9360 Estate and Gift Tax

[2-3 credit hours]

A study of the federal estate and gift tax structure and its impact on the gratuitous transfer of property. Income taxation of trusts and estates and the generation skipping transfer tax are also discussed.

LAWI9370 Family Law

[3 credit hours]

The interaction of law and the family and the consequences of state intervention in family relationships. Some of the subjects surveyed are the marriage relationship, de facto marriage, adoption, the termination of marital status, economic consequences of divorce, child custody after divorce and the role of the lawyer as counselor.

LAWI9380 Federal Courts and Federal Rights

[3 credit hours]

An intensive examination of the jurisdiction of federal courts, the role of the federal courts within the federal government, and within our federalist system. Topics surveyed include the law applied by federal courts in civil actions, the original and removal jurisdiction of federal courts, the relationship of the federal courts to state courts, congressional power over federal courts, the enforceability of federal law against states, and states' sovereign immunity.

LAWI9390 Natural Resources Law

[2-3 credit hours]

This course provides an introduction to natural resources law and policy affecting both public lands and private property. Conflicts over natural resources, including their protection and use, are among the most contentious legal and policy issues of our time. Students explore the reasons why, the roles governmental authorities play in the management of natural resources, and the laws and policies pertaining to wildlife, preservation, conservation, protected lands, forestry, mining, oil and gas, water rights and other natural resources. Key federal statutes such as the National Environmental Policy Act and the Endangered Species Act are reviewed as well as cases, regulations, and commentary.

LAWI9400 American Legal History

[2-3 credit hours]

This seminar/course (students may elect either to write a paper or to take an examination) follows the profession's development from the American Revolution through the 1920's and the emergence of university-based professional education, the advent of new client constituencies including corporations, labor organizations, and anti-slavery and other social action groups, the development of standards of professional ethnic and racial minorities. The teaching approach emphasizes comparisons with current practice, critical use of original source materials and development of research and writing skills.

LAWI9440 Immigration Law

[2-3 credit hours]

The course is designed to present a survey of immigration and nationality law. It will cover issues of citizenship as well as admissions to the United States. The course will address issues of removal and deportation, as well as relief from removal.

LAWI9450 International Intellectual Property

[2-3 credit hours]

This course reviews: the main international intellectual property instruments (such as TRIPS, Paris Convention, Patent Cooperation Treat, European Patent Convention; Madrid Agreement, Berne and Rome conventions, WIPO treaties), and European main legislative texts (mainly regulations and directives) and main case law on patent, trademark and copyright. We also review the principal differences between the common law based system of copyright and the civil law system based on "droit d¿auteur" (author¿s rights), with a special focus on electronic and Internet issues.

LAWI9460 Insurance Law

[2-3 credit hours]

A study of property, liability and life insurance, and the insurer-insured relationship from a legal vantage point. Numerous concepts are examined during the course, including insurable interest, concealment and misrepresentation, the duty of good faith and fair dealing, scope of coverage, policy interpretation, change of beneficiary, duty to defend, bad faith refusal to settle, measures of recovery, multiple interests coverage, subrogation and other insurance clauses. Several insurance policies are examined in detail.

LAWI9470 Intellectual Property and Licensing

[2-3 credit hours]

This course focuses on the commercialization of intellectual property through the use of assignments and licenses. The course will cover intellectual property assignments and licenses, including express and implied licenses, the scope of licenses, bankruptcy issues, anti-trust issues and international licensing. The course will also cover intellectual property audits and patent, trade secret, copyright and trademark law to the extent an understanding of the rights and obligations inherent in such intellectual property classifications are necessary to effectively assign or license intellectual property. Students will analyze several licenses.

LAWI9480 International Business Transactions

[2-3 credit hours]

This course introduces students to the issues, problems and legal norms applicable to International Business Transactions. The course will examine various problems that occur in international business as a means of discerning pitfalls for the unwary, as well as the matters that must be considered to protect one’s client. The course will begin with an examination of the issues arising in a basic international sale and will progress through increasingly complex types of business interaction, including distributorships, franchising, licensing, joint ventures and incorporating abroad. Through the course, there will be an emphasis on the U.S., foreign and international laws and standards that may affect the transaction. The course will emphasize contract negotiation and drafting skills.

LAWI9490 Juvenile Law

[2-3 credit hours]

An examination of the relationship between children, their parents, siblings and the state in the lives of delinquent, unruly, dependent, neglected and abused children. The role of the court, judiciary, attorneys, police and social services historically, and in modern practice, will be examined as to the impact on families and individuals brought before the juvenile court. Special emphasis will be given to the theory of the juvenile justice system; the various court alternatives to adjudication; dispositional considerations and the attorney’s role in representing the child, parents or serving as a guardian ad litem.

LAWI9500 Federal Income Tax

[4 credit hours]

After a brief consideration of the federal income taxation system, this course examines the conceptual problems in defining income. A detailed treatment of the more significant personal and business deductions, exemptions and credits follows. Statutory methodology and policy considerations (including the tax expenditure concept) are developed integrally with substantive topics. In addition, the course considers the tax treatment of gains and losses from the disposition of property, including the capital gains preference and deferral of taxation. Tax shelters and attempts by Congress and the Internal Revenue Service to limit their utilization may be explored as well.

LAWI9510 Labor Law

[3 credit hours]

This course focuses on the law governing and policy issues surrounding the major facets of union-management relations in the private sector under the National Labor Relations Act (NLRA). These include union organizing, collective bargaining, contract enforcement, picketing and the economic weapons of both sides, including strikes. The course also covers the procedural mechanisms by which rights under the NLRA are enforced and remedies for NLRA violations.

LAWI9520 Health Care Finance

[2-3 credit hours]

This course will cover the different problems presented by government regulation versus the private market model focusing on managed care (risk allocation, standard of care, consumer information), insurance (basic models of insurance and underwriting), health care licensing, and related ERISA issues as they affect the delivery of health care services.

LAWI9530 Consumer Law

[2-3 credit hours]

This course will study the practical application of Consumer Law including student loan law, credit card and debt collection law, Fair Credit Reporting Act, Lemon Law, Predatory Lending, etc.

LAWI9550 Health Care Fraud and Abuse

[2-3 credit hours]

The high cost of health care in the United States is exacerbated by rampant fraud and abuse on state and federal health care systems. This course presents an overview of legal and policy issues related to health care fraud and practical issues related to the prosecution and defense of heath care fraud-related suits. Pre- and post-litigation issues, such as corporate compliance programs, administrative investigations, and corporate integrity agreements, will also be explored. Course materials will cover major health care fraud and abuse statutes, including statutes addressing false claims, kickbacks, and self-referrals, as well as the regulatory regimes and administrative rulings that govern this area of the law. Students will be evaluated on one or more written assignments and exercises.

LAWI9560 Real Estate Transactions

[2-3 credit hours]

The course will address the purchase and sale, financing and leasing of real property. Students will draft various documents common in real estate transactions. Assignments will be reviewed, critiqued and revised in order to enhance drafting skills.

LAWI9570 Health Care Provider Liability

[2-3 credit hours]

This advanced torts course covers quality control in health care, medical malpractice, informed consent, medical confidentiality and institutional liability for medical injury. It includes causes of action against individual and institutional health care providers as well as third party payors, including insurers and managed care organizations. Tort reform issues are also addressed.

LAWI9600 Law and Literature

[2-3 credit hours]

A study of the relationship between literary development and criticism and the law. The class studies great works of literature and examines their meaning for the law in general and the lawyer in particular.

LAWI9610 Health Care Regulation

[2-3 credit hours]

Examines the legal structures that regulate the organization, delivery and financing of health care. Topics include Medicare and Medicaid, Antitrust and the structure of health care enterprises. Discussion includes the public policy objectives and effects of current regulatory schemes, as well as enacted and proposed reforms at state and federal levels.

LAWI9630 Health Law

[3 credit hours]

This course provides an overview of the legal issues that arise in the health care field. Topics surveyed will include individual and institutional liability, public and private regulation, accreditation and licensure, hospital/medical staff relationships, and the challenge of achieving cost efficiencies, while also maintaining high quality care and improved access to care. Students will learn to identify key legal issues affecting the operation of a health care entity.

LAWI9650 International Environmental Law

[2-3 credit hours]

This course introduces students to issues, problems and legal norms applicable to environmental concerns in the international arena. The course begins with an examination of the various sources of international law and the applicability and affect that international legal norms have on domestic law (an introduction to basic international law). Next the course will consider the unique nature of environmental problems in the international context. The course will then explore the various norms, treaties and other sources of international law that exist to protect the environment in the context of various problems.

LAWI9660 Legislative Process and Drafting

[2-3 credit hours]

The Legislative Drafting course focuses on legislative drafting techniques and surveys legal drafting, limitations on legislation, statutory interpretation, legislative procedure and professional responsibility. Students will draft a bill for an actual client and write a scholarly paper in support of the bill.

LAWI9670 Mental Health Law

[2-3 credit hours]

Mental Health Law deals with the rights of persons with mental disabilities. Topics considered are: civil commitment, right to treatment, right to refuse treatment, Americans with Disabilities Act, competence to stand trial, the doctrine of not guilty by reason of insanity, and dangerous offender statutes.

LAWI9680 State and Local Government Law and Taxation

[2-3 credit hours]

An overview of the law relating to the administration of municipalities and their dealings with other local governmental units. Topics include the powers and problems of urban governmental units, federalism, corporate powers and police powers. Coverage includes the basic law and rules relating to the financing of local government and the various sources of tax revenue for local governments.

LAWI9690 Native American Law

[1-3 credit hours]

This course will initially examine the legal concepts of Native American individuals and tribes. The study of unique (and not so unique) aspects of the treatment of Native American individuals and tribes under the U.S. Constitution, treaties, and national, tribal and state law will form the heart of the course. Attention will be given to issues relating to tribal government and tribal courts, criminal and civil jurisdiction over Indians and non-Indians, environmental regulation on reservation lands, commercial trade in Indian art, casino gaming, the American Indian Religious Freedom Act and the Native American Graves Protection and Repatriation Act.

LAWI9700 Patent Practice and Procedure

[2-3 credit hours]

A hands-on course focusing on both regulatory requirements and attorney skills relating to representation of inventors before the Patent and Trademark Office. The course will follow a patent attorney's relationship with an inventor and the written PTO responses, appeals and finally patent grant.

LAWI9710 Patent Law

[2-3 credit hours]

A survey of the legal protection of inventions. This course covers the requirements for obtaining and enforcing a patent and the rights of a patentee with respect to licensing, assignment and patent misuse.

LAWI9720 Intellectual Property Survey

[2-3 credit hours]

A preparatory course covering Copyright, Patent, Trademark and Trade Secret Law. A broad coverage of intellectual property law is useful for those students who want to learn the fundamentals of intellectual property law either as basis for more advanced courses or to integrate intellectual property law into other substantive courses.

LAWI9730 Pension and Employee Benefits

[2-3 credit hours]

A study of the law regarding employment benefits, such as ERISA, focusing on various forms of pension plans, and health and welfare plans. The law will address issues of plan qualification under the tax code and also applicable labor laws and regulations. Some familiarity with tax concepts would be helpful but is not required.

LAWI9750 Products Liability

[2-3 credit hours]

An examination of the law relating to products liability. Particular emphasis will be given to strict liability in tort, with coverage of negligence and warranty-based products claims. Discussions will cover design and manufacturing defects and failure to warn. Applications to contemporary problem areas, such as pharmaceuticals, automobiles, and tobacco, will be explored.

Prerequisites: (LAWD 9510 FOR LEVEL LW WITH MIN. GRADE OF D AND LAWD 9220 FOR LEVEL LW WITH MIN. GRADE OF D)

LAWI9760 Publicly Held Corporations

[2-3 credit hours]

This course focuses on legal issues that are commonly faced by larger corporations, and the special concerns involved in protecting widely scattered shareholder constituencies. Topics covered include directors' role in large corporations, social responsibility of large businesses, the growing prominence of institutional investors, securities fraud, insider trading, shareholder meetings, proxy solicitations, shareholder litigation, mergers and tender offers.

LAWI9770 NAFTA

[2-3 credit hours]

This course will begin with an overview of free trade in North America. Then it will turn to an in-depth examination of different areas of commerce affected by the North American Free Trade Agreement (NAFTA): the movement of goods, the cross border provision of services, the treatment of foreign investments, the protection of intellectual property and dispute settlement procedures. Next, it will consider the labor and environmental side agreements. Finally, it will explore how the NAFTA may be expanded in the future.

LAWI9780 Remedies

[2-3 credit hours]

The course in Remedies is about the bottom line. It is about what a court can do for a litigant who has been wronged or is about to be wronged. The most common remedies are judgments for money and injunctions against defendants to prevent them from wronging plaintiffs or to require them to undo wrongs. The course takes up questions such as the measure of relief, the relationship between legal and equitable remedies, declaratory remedies, benefit to the defendant as the measure of relief in restitution, punitive remedies, enforcing judgments, equitable defenses, immunities and federal interference with state law enforcement.

LAWI9790 Bar Exam Preparation

[2-3 credit hours]

This is a pre-bar preparatory course designed to introduce students to certain critical and analytical and writing skills, techniques, protocols, and frameworks that are essential to maximize bar exam preparation and ultimately pass the bar exam. Students will review outlines for selected substantive topics, complete in-class and at-home simulated bar exam tests and assignments, and receive feedback. Through the use of problems and exercises in a bar exam format, students will become familiar with techniques for answering multiple choice questions, essays, and performance tests that comprise the bar exam in Ohio and other states. It is reserved for third year students and is graded on a pass/fail basis.

LAWI9800 Securities Regulation

[2-3 credit hours]

This course focuses on the disclosure requirements of the federal securities laws which apply when businesses raise capital and when their shares are publicly traded. It examines the requirements of the Securities Act of 1933, selected provisions of the Securities Exchange Act and state blue sky laws. It covers extensively the structuring of exempt transactions for small businesses. The course is taught primarily from a transactional, rather than a litigation, focus.

Prerequisites: LAWG 9010 FOR LEVEL LW WITH MIN. GRADE OF D

LAWI9810 Sentencing

[2-3 credit hours]

A survey of the law relating to the disposition of individuals convicted of crimes. Topics include sentencing authority, ex post facto laws, factual bases for sentencing, probation, parole, the death penalty and state and federal sentencing guidelines.

Prerequisites: LAWD 9300 FOR LEVEL LW WITH MIN. GRADE OF C AND LAWD 9110 FOR LEVEL LW WITH MIN. GRADE OF C

LAWI9820 Land Use Planning

[2-3 credit hours]

This course explores the rapidly evolving area of public land use regulation in the context of private property development rights and constitutional protections of those rights. Regulatory areas examined include: zoning, subdivision controls, environmental land use controls, development exactions, aesthetic regulations, and growth controls, as well as land use planning requirements. First and Fifth Amendment issues are explored along with a variety of key public policy questions.

LAWI9830 Advanced Topics in Employment Law

[2-3 credit hours]

This course will cover the most current topics facing practitioners, and the most problematic issues facing clients. Topics will vary each year but may include restrictive covenants, the use of expert testimony in employment law, retaliation, and the latest and developing issues in this area of the law. Students will also choose a current topic to research, and will present their research for class discussion. Assignments involving issues of practical application will be used throughout the course to gain a better understanding of their effect on clients, and effective strategies and preventive measures.

LAWI9840 International and Domestic Arbitration

[2-3 credit hours]

This course conveys a thorough understanding of the law and practice of arbitration: its practical, doctrinal, theoretical, and policy aspects both in the domestic and international spheres.

LAWI9870 Sports Law

[2-4 credit hours]

A substantive examination of concepts and cases from legal disciplines which affect professional and amateur sports including antitrust law, labor law, contracts, tax and civil procedure.

LAWI9880 Business Bankruptcy

[2-3 credit hours]

This course will explore basic principles of Federal Bankruptcy Law, with particular emphasis on corporate reorganizations under Chapter 11 of the Bankruptcy Code. Topics addressed will include business operations in Chapter 11; the rights and duties of a Chapter 11 debtor; allowance, disallowance, estimations, and subordination of creditor claims; the reduction of secured obligations to the value of collateral; debtor-in-possession financing; preference and fradulent transfer avoidance actions; and using bankruptcy to effect a sale of assets. This course will also address special rules involving, among others, small business debtors, municipalities, and international (cross-border) insolvency cases.

LAWI9890 Toxic Substances

[1-3 credit hours]

Regulating the manufacture, use and disposal of chemicals is complex and poses significant challenges to regulators, regulated entities, environmentalists and general practitioners. From the accidental poisoning of children in their homes by pest control operators to chemical monitoring and reporting requirements under TSCA, FIFRA and EPCRA, this course provides an overview of the federal regulatory landscape for toxic - though legal - commercial chemicals.

LAWI9900 Trademarks

[2-3 credit hours]

An introduction to the fundamentals of federal trademark law and practice with some discussion of common law trademarks and state trademark registration. This course will cover how trademarks are acquired, trademark registration and practice before the U.S. Patent and Trademark Office, and trademark infringement. False advertising and other forms of unfair competition actionable under the Lanham Act also will be studied.

LAWI9910 Art and Cultural Property Law

[2 credit hours]

This course offers a structured introduction to two distinct topics – Art Law and Cultural Property Law. The first part of the course considers the legal rights of artists, merchants, collectors, and museums. The second part considers wider legal and social policy issues concerning public and private ownership and control over culturally-important property. The latter part of the course will explore selected topics which may include historic preservation law, archeological resources law, international and domestic law governing looted art objects and U.S. law governing ownership of indigenous cultural objects.

LAWI9930 Water Law

[2-3 credit hours]

This course focuses on the laws governing surface and ground water resources, with an emphasis on allocation and management issues. Because water is perhaps our most vital natural resource, and because it is often in scarce supply relative to demand, disputes over its use have been and will continue to be of crucial importance. Students explore common law, statutory and constitutional issues, at the state and federal levels, including the Clean Water and Safe Drinking Water Acts. Topics crucial to the Great Lakes region are particularly emphasized.

LAWI9940 White Collar Crime

[2-3 credit hours]

A survey of the federal criminal law relating to crimes committed by corporations and non-traditional criminals. Topics include corporate criminal liability, wire and mail fraud, RICO, money laundering, false claims and false statements, tax crimes, environmental crimes, perjury and obstruction of justice.

Prerequisites: LAWD 9300 FOR LEVEL LW WITH MIN. GRADE OF C

LAWL6110 Law Review I

[1-2 credit hours]

Course is graded on a Satisfactory/Unsatisfactory basis. Course requires the successful completion of a publishable manuscript as determined by the editor-in-chief and faculty adviser of the Law Review.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWL6120 Law Review II

[1-2 credit hours]

Only students who have successfully completed Law Review I and who are serving as editors of the Law Review will be permitted to register for Law Review II. Enrollment is selective.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C AND LAWL 6110 FOR LEVEL GR WITH MIN. GRADE OF S

LAWL6150 Moot Court I

[1-2 credit hours]

Students participate in interscholastic Moot Court competitions, each of which deals with a particular area of law, such as: international law, labor and employment law, corporate law, sports law, tax, intellectual property, criminal law and constitutional law. Students will prepare a brief and present an appellate argument at a regional or national competition.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWL6160 Moot Court II

[1-2 credit hours]

Students participate in or coach Moot Court or Trial Advocacy teams. Students are also required to judge rounds of the annual Fornoff Moot Court competition.

Prerequisites: LAWL 6150 FOR LEVEL GR WITH MIN. GRADE OF S

LAWL6180 Trial Advocacy I

[1-2 credit hours]

Students participate in interscholastic trial advocacy competitions. Students on the trial advocacy team will conduct a trial against counsel from other schools; including making opening and closing statements, introducing evidence and examining and cross-examining witnesses.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWL6190 Trial Advocacy II

[1-2 credit hours]

Students participate in and/or judge interscholastic trial advocacy competitions. Students on the trial advocacy team will conduct a trial against counsel from other schools; including making opening and closing statements, introducing evidence and examining and cross-examining witnesses.

Prerequisites: LAWL 6180 FOR LEVEL GR WITH MIN. GRADE OF S

LAWL6210 Writing for Law Review

[1 credit hour]

Writing for Law Review develops and explores the principles and techniques of thinking like a writer and thinking like an editor. It will be taught as a flex course, with sessions covering various aspects of writing a law review note or comment, including: selecting a topic, developing a thesis, organizing the paper, writing the paper, and editing.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWL6220 Writing for Moot Court

[1 credit hour]

Students who have been chosen to compete on a Moot Court team will be required to take this course, which focuses on teaching advanced advocacy skills for practice before the appellate courts. It covers advanced persuasive writing, as well as advanced research techniques. Students must also take Advanced Research and Writing concurrently with this course.

Prerequisites: LAWL 9150 FOR LEVEL GR WITH MIN. GRADE OF S (MAY BE TAKEN CONCURRENTLY) AND LAWA 6400 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWL9110 Law Review I

[1-2 credit hours]

Course is graded on a Satisfactory/Unsatisfactory basis. Course requires the successful completion of a publishable manuscript as determined by the editor-in-chief and faculty adviser of the Law Review.

LAWL9120 Law Review II

[1-2 credit hours]

Only students who have successfully completed Law Review I and who are serving as editors of the Law Review will be permitted to register for Law Review II. Enrollment is selective.

Prerequisites: LAWL 9110 FOR LEVEL LW WITH MIN. GRADE OF S

LAWL9150 Moot Court I

[1-2 credit hours]

Students participate in interscholastic Moot Court competitions, each of which deals with a particular area of law, such as: international law, labor and employment law, corporate law, sports law, tax, intellectual property, criminal law and constitutional law. Students will prepare a brief and present an appellate argument at a regional or national competition.

LAWL9160 Moot Court II

[1-2 credit hours]

Students participate in or coach Moot Court or Trial Advocacy teams. Students are also required to judge rounds of the annual Fornoff Moot Court competition.

Prerequisites: LAWL 9150 FOR LEVEL LW WITH MIN. GRADE OF S

LAWL9180 Trial Advocacy I

[1-2 credit hours]

Students participate in interscholastic trial advocacy competitions. Students on the trial advocacy team will conduct a trial against counsel from other schools; including making opening and closing statements, introducing evidence and examining and cross-examining witnesses.

LAWL9190 Trial Advocacy II

[1-2 credit hours]

Students participate in and/or judge interscholastic trial advocacy competitions. Students on the trial advocacy team will conduct a trial against counsel from other schools; including making opening and closing statements, introducing evidence and examining and cross-examining witnesses.

Prerequisites: LAWL 9180 FOR LEVEL LW WITH MIN. GRADE OF S

LAWL9210 Writing for Law Review

[1 credit hour]

Writing for Law Review develops and explores the principles and techniques of thinking like a writer and thinking like an editor. It will be taught as a flex course, with sessions covering various aspects of writing a law review note or comment, including: selecting a topic, developing a thesis, organizing the paper, writing the paper, and editing.

LAWL9220 Writing for Moot Court

[1 credit hour]

Students who have been chosen to compete on a Moot Court team will be required to take this course, which focuses on teaching advanced advocacy skills for practice before the appellate courts. It covers advanced persuasive writing, as well as advanced research techniques. Students must also take Advanced Research and Writing concurrently with this course.

LAWM5000 Law And The Legal System

[2-3 credit hours]

This course introduces students to the U.S. legal system, including cases, statutes and other sources of law; federal, state, trial and appellate courts; legal reasoning; and principles of contracts, torts, property, criminal and constitutional law. Not for J.D. degree credit; serves as prerequisite for non-J.D. students to take other College of Law courses.

LAWN6000 Trial Practice

[3 credit hours]

Simulated exercises and trials, including such matters as pretrial motions, jury selection, opening statement, presentation of evidence, cross-examination, witness impeachment, closing argument and jury instructions. Emphasis is given to developing and proving a theory of the case.

Prerequisites: LAWA 6310 FOR LEVEL GR WITH MIN. GRADE OF C

LAWN6020 Advanced Legal Research

[2-3 credit hours]

An in-depth view of legal bibliography in both print and electronic formats. Detailed attention given to encyclopedias, treatises, and various general and topical indexes, digests, and citators as well as web based compilations of legal materials.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6030 Law Practice

[1-3 credit hours]

An introduction to management of a law practice. This course will develop concepts related to four areas: Business Management, Practice Management, Client Management and Life Management. In the area of Business Management, students will be exposed to business start-up considerations, including choice of entity, financing, bookkeeping and trust accounting. In the area of Practice Management, the students will cover administrative and substantive systems, including conflicts of interest, docket management, form files and employee management. In Client Management, the students will be exposed to issues related to client acceptance, declination, disengagement, client satisfaction and malpractice to name a few.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6040 Mediation and Settlement

[2-3 credit hours]

This course explores the theory and practice of mediation from the standpoint of both the mediator and the attorney-advocate. The course includes several mediation simulations that require preparation of post-mediation evaluations. Other topics include mediator roles and functions, agenda setting, issue identification, communication skills, power balancing, the caucus, ethical issues and the place of mediation in the larger context of Alternative Dispute Resolution.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6050 Negotiation and Settlement

[2-3 credit hours]

This course focuses on developing an analytical framework for preparing, conducting and evaluating negotiations. A variety of negotiation strategies and tactics are explored including cooperative, problem-solving and competitive, positional approaches. Students conduct approximately ten negotiations that explore a variety of deal-making and dispute resolution fact situations.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6090 Alternative Dispute Resolution

[2-3 credit hours]

This survey course starts with a comparison of various adjudicatory and non-adjudicatory methods of dispute resolution and then proceeds to an in-depth study of negotiation, mediation and arbitration as well as various hybrid dispute resolution processes such as the mini-trial, the summary jury trial, early neutral evaluation, mediation-arbitration and ombudsmen. Attention is also given to client interviewing and counseling.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6100 Negotiation: Theory and Strategy

[3 credit hours]

This practical, skills course develops a series of conceptual structures for understanding negotiation as a coherent process and for understanding the strategic dynamics of all negotiating situations. The goal of the course is to encourage students to become skilled, versatile, and effective negotiators by applying the relevant structures, theories, and strategies to legal negotiations that will be scheduled each week of the course.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6110 Advanced Trial Practice

[2 credit hours]

An examination of the development and adjudication of complex civil and criminal cases through demonstration and performance exercises. Students will participate in developing juror profiles and the creation of jury instructions; the direct and cross examination of expert witnesses; the introduction, handling and admissibility of exhibit evidence; and the recognition of constitutional issues arising during the trial.

Prerequisites: LAWA 6310 FOR LEVEL GR WITH MIN. GRADE OF C AND (LAWN 6000 FOR LEVEL GR WITH MIN. GRADE OF C OR LAWL 6180 FOR LEVEL GR WITH MIN. GRADE OF S)

LAWN6120 Post-Conviction Practicum

[3 credit hours]

This class will provide a comprehensive overview of state and federal post-conviction remedies. Students will receive instruction regarding substantive issues involving both direct and post-conviction appeals. There will also be a strong clinical component with students working on actual pending appeals. The students will also benefit from relevant speakers including an inmate's family who will discuss their experiences with the legal system, judges and other experienced attorneys. Students will complete this class with enhanced research, writing, analytical and interview skills that will assist them in any future area of practice.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWN6130 Criminal Law Simulation

[2-3 credit hours]

In this simulation course, students will prepare a case for trial/plea and end the semester with a sentencing hearing. The course will feature written assignments and in-class exercises and will cover hearings on arraignment, detention, suppression, plea, and sentencing. Students will work together and hone their skills as members of prosecution and defense teams.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C

LAWN6190 Interviewing and Counseling

[2-3 credit hours]

Most lawyers in both litigation and transactional practice spend substantial amounts of their time interviewing and counseling clients. The goals of this course are to develop understanding of theories and techniques of client interviewing and counseling and to assist students to develop skills in performance of interviewing and counseling. Readings and class discussion impart knowledge of theory and techniques. Mere understanding, however, is insufficient to develop performance competence. To develop competence in performance of these skills, students participate in simulations based on case files that will be distributed. Simulations will be recorded on videotape and will be evaluated by the performer, classmates and the instructor.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6310 Criminal Law Practice Program

[4-6 credit hours]

The Criminal Law Practice Program trains law students in basic prosecutorial skills and values. Students serve externships in local prosecutor offices trying cases, plea-bargaining, and interviewing witnesses. The clinic may be taken for either six or four credit hours.

Prerequisites: LAWA 6310 FOR LEVEL GR WITH MIN. GRADE OF C

LAWN6330 Advanced Criminal Law Practice Program

[3-4 credit hours]

The Advanced Criminal Law Practice Program trains students in advanced skills of prosecution. Students undertake more challenging tasks than those typically undertaken in the basic clinic. For example, students may conduct jury trials, make appellate arguments, or draft clinical training manuals.

Prerequisites: LAWN 6310 FOR LEVEL GR WITH MIN. GRADE OF C

LAWN6410 Dispute Resolution Clinic

[2-4 credit hours]

In the Dispute Resolution Clinic, second and third year students have the unique opportunity to learn mediation skills and apply those skills mediating in the Lucas County Juvenile Court and Toledo Municipal Court. This fieldwork experience provides hands-on training in the area of alternative dispute resolution. Skills such as listening, communication and negotiation are stressed in both the fieldwork and weekly classroom component. Students are taught theoretical technique and are exposed to a variety of topics and speakers in the Alternative Dispute Resolution field. This clinical program is designed to teach practical skills and give the students an opportunity to interact in the legal community in a new and emerging area of law.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6420 Advanced Dispute Resolution Clinic

[2-4 credit hours]

The Advanced Dispute Resolution Clinic emphasizes development of skills beyond those achieved in the basic clinic. The course provides students with the opportunity to become involved in mediations in a number of courts throughout Lucas County and Northwest Ohio.

Prerequisites: LAWN 6410 FOR LEVEL GR WITH MIN. GRADE OF C

LAWN6610 Public Service Externship

[1-6 credit hours]

The Public Service Externship Clinic is a field placement program in which students are placed in structured legal settings with public service attorneys and programs. There is a required classroom component in which issues relating to learning from experience are explored. The program is available year round with out-of-town placements available in the summer term.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6910 Civil Advocacy Clinic

[2-6 credit hours]

The Civil Advocacy Clinic focuses on development of skills such as interviewing, counseling, negotiation, problem-solving, fact investigation, strategy formation law, landlord and tenant, consumer and civil rights cases. In addition, students may work on law reform and policy projects. Students in the clinic are the primary contact for clients, and are given responsibility for work on all aspects of the case under the close supervision of clinic faculty. Classroom meetings focus on practical, substantive, procedural and ethical issues, especially as they relate to the clients and cases handled by the clinic. It is recommended, but not required, that students complete at least 59 credit hours and apply for certification as legal interns under Rule II of the Ohio Supreme Court Rules for the Governance of the Bar.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6930 Advanced Civil Advocacy Clinic

[2-4 credit hours]

The Advanced Civil Advocacy Clinic emphasizes development of skills beyond those achieved in the basic clinic. The program is tailored to meet the needs and interests of individual students. Typically, students in the Advanced Civil Advocacy Clinic are assigned more complex legal matters, mentor students in the basic Civil Advocacy Clinic, and/or work on policy or legislative projects.

Prerequisites: LAWN 6910 FOR LEVEL GR WITH MIN. GRADE OF C

LAWN6940 Children's Rights Clinic

[3-6 credit hours]

The Children’s Rights Clinic deals with a variety of legal and policy issues affecting survivors of domestic violence, including representation to obtain protection orders, dissolution of marriage and attendant issues of custody and support. The Clinic also handles juvenile law matters including parentage, parental rights, and adoptions. Admission is by the permission of the instructor. It is recommended, but not required, that students complete at least 59 credit hours and apply for certification as legal interns under Rule II of the Ohio Supreme Court Rules for the Governance of the Bar.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWN6950 Advanced Children's Rights Clinic

[2-4 credit hours]

In the Advanced Children's Rights Clinic students will act more independently as lead counsel for clients and may assume some supervisory responsibilities on cases handled by students in the basic Children's Rights Clinic. In addition, depending on student interest, students may conduct research on issues relating to domestic violence or juvenile law.

Prerequisites: LAWN 6940 FOR LEVEL GR WITH MIN. GRADE OF C

LAWN9000 Trial Practice

[3 credit hours]

Simulated exercises and trials, including such matters as pretrial motions, jury selection, opening statement, presentation of evidence, cross-examination, witness impeachment, closing argument and jury instructions. Emphasis is given to developing and proving a theory of the case.

Prerequisites: LAWA 9310 FOR LEVEL LW WITH MIN. GRADE OF C

LAWN9020 Advanced Legal Research

[2-3 credit hours]

An in-depth view of legal bibliography in both print and electronic formats. Detailed attention given to encyclopedias, treatises, and various general and topical indexes, digests, and citators as well as web based compilations of legal materials.

LAWN9030 Law Practice

[1-3 credit hours]

An introduction to management of a law practice. This course will develop concepts related to four areas: Business Management, Practice Management, Client Management and Life Management. In the area of Business Management, students will be exposed to business start-up considerations, including choice of entity, financing, bookkeeping and trust accounting. In the area of Practice Management, the students will cover administrative and substantive systems, including conflicts of interest, docket management, form files and employee management. In Client Management, the students will be exposed to issues related to client acceptance, declination, disengagement, client satisfaction and malpractice to name a few.

LAWN9040 Mediation and Settlement

[2-3 credit hours]

This course explores the theory and practice of mediation from the standpoint of both the mediator and the attorney-advocate. The course includes several mediation simulations that require preparation of post-mediation evaluations. Other topics include mediator roles and functions, agenda setting, issue identification, communication skills, power balancing, the caucus, ethical issues and the place of mediation in the larger context of Alternative Dispute Resolution.

LAWN9050 Negotiation and Settlement

[2-3 credit hours]

This course focuses on developing an analytical framework for preparing, conducting and evaluating negotiations. A variety of negotiation strategies and tactics are explored including cooperative, problem-solving and competitive, positional approaches. Students conduct approximately ten negotiations that explore a variety of deal-making and dispute resolution fact situations.

LAWN9090 Alternative Dispute Resolution

[2-3 credit hours]

This survey course starts with a comparison of various adjudicatory and non-adjudicatory methods of dispute resolution and then proceeds to an in-depth study of negotiation, mediation and arbitration as well as various hybrid dispute resolution processes such as the mini-trial, the summary jury trial, early neutral evaluation, mediation-arbitration and ombudsmen. Attention is also given to client interviewing and counseling.

LAWN9100 Negotiation: Theory and Strategy

[3 credit hours]

This practical, skills course develops a series of conceptual structures for understanding negotiation as a coherent process and for understanding the strategic dynamics of all negotiating situations. The goal of the course is to encourage students to become skilled, versatile, and effective negotiators by applying the relevant structures, theories, and strategies to legal negotiations that will be scheduled each week of the course.

LAWN9110 Advanced Trial Practice

[2 credit hours]

An examination of the development and adjudication of complex civil and criminal cases through demonstration and performance exercises. Students will participate in developing juror profiles and the creation of jury instructions; the direct and cross examination of expert witnesses; the introduction, handling and admissibility of exhibit evidence; and the recognition of constitutional issues arising during the trial.

LAWN9120 Post-Conviction Practicum

[3 credit hours]

This class will provide a comprehensive overview of state and federal post-conviction remedies. Students will receive instruction regarding substantive issues involving both direct and post-conviction appeals. There will also be a strong clinical component with students working on actual pending appeals. The students will also benefit from relevant speakers including an inmate’s family who will discuss their experiences with the legal system, judges and other experienced attorneys. Students will complete this class with enhanced research, writing, analytical and interview skills that will assist them in any future area of practice.

LAWN9130 Criminal Trial Simulation

[2-3 credit hours]

In this simulation course, students will prepare a case for trial/plea and end the semester with a sentencing hearing. The course will feature written assignments and in-class exercises and will cover hearings on arraignment, detention, suppression, plea, and sentencing. Students will work together and hone their skills as members of prosecution and defense teams.

LAWN9190 Interviewing and Counseling

[2-3 credit hours]

Most lawyers in both litigation and transactional practice spend substantial amounts of their time interviewing and counseling clients. The goals of this course are to develop understanding of theories and techniques of client interviewing and counseling and to assist students to develop skills in performance of interviewing and counseling. Readings and class discussion impart knowledge of theory and techniques. Mere understanding, however, is insufficient to develop performance competence. To develop competence in performance of these skills, students participate in simulations based on case files that will be distributed. Simulations will be recorded on videotape and will be evaluated by the performer, classmates and the instructor.

LAWN9310 Criminal Law Practice Program

[4-6 credit hours]

The Criminal Law Practice Program trains law students in basic prosecutorial skills and values. Students serve externships in local prosecutor offices trying cases, plea-bargaining, and interviewing witnesses. The clinic may be taken for either six or four credit hours.

Prerequisites: LAWA 9310 FOR LEVEL LW WITH MIN. GRADE OF C

LAWN9330 Advanced Criminal Law Practice Program

[3-4 credit hours]

The Advanced Criminal Law Practice Program trains students in advanced skills of prosecution. Students undertake more challenging tasks than those typically undertaken in the basic program. For example, students may conduct jury trials, make appellate arguments, or draft clinical training manuals.

Prerequisites: LAWN 9310 FOR LEVEL LW WITH MIN. GRADE OF C

LAWN9410 Dispute Resolution Clinic

[2-4 credit hours]

In the Dispute Resolution Clinic, second and third year students have the unique opportunity to learn mediation skills and apply those skills mediating in the Lucas County Juvenile Court and Toledo Municipal Court. This fieldwork experience provides hands-on training in the area of alternative dispute resolution. Skills such as listening, communication and negotiation are stressed in both the fieldwork and weekly classroom component. Students are taught theoretical technique and are exposed to a variety of topics and speakers in the Alternative Dispute Resolution field. This clinical program is designed to teach practical skills and give the students an opportunity to interact in the legal community in a new and emerging area of law.

LAWN9420 Advanced Dispute Resolution Clinic

[2-4 credit hours]

The Advanced Dispute Resolution Clinic emphasizes development of skills beyond those achieved in the basic clinic. The course provides students with the opportunity to become involved in mediations in a number of courts throughout Lucas County and Northwest Ohio.

Prerequisites: LAWN 9410 FOR LEVEL LW WITH MIN. GRADE OF C

LAWN9610 Public Service Externship

[1-6 credit hours]

The Public Service Externship Clinic is a field placement program in which students are placed in structured legal settings with public service attorneys and programs. There is a required classroom component in which issues relating to learning from experience are explored. The program is available year round with out-of-town placements available in the summer term.

LAWN9910 Civil Advocacy Clinic

[2-6 credit hours]

The Civil Advocacy Clinic focuses on development of skills such as interviewing, counseling, negotiation, problem-solving, fact investigation, strategy formation law, landlord and tenant, consumer and civil rights cases. In addition, students may work on law reform and policy projects. Students in the clinic are the primary contact for clients, and are given responsibility for work on all aspects of the case under the close supervision of clinic faculty. Classroom meetings focus on practical, substantive, procedural and ethical issues, especially as they relate to the clients and cases handled by the clinic. It is recommended, but not required, that students complete at least 59 credit hours and apply for certification as legal interns under Rule II of the Ohio Supreme Court Rules for the Governance of the Bar.

LAWN9930 Advanced Civil Advocacy Clinic

[2-4 credit hours]

The Advanced Civil Advocacy Clinic emphasizes development of skills beyond those achieved in the basic clinic. The program is tailored to meet the needs and interests of individual students. Typically, students in the Advanced Civil Advocacy Clinic are assigned more complex legal matters, mentor students in the basic Civil Advocacy Clinic, and/or work on policy or legislative projects.

Prerequisites: LAWN 9910 FOR LEVEL LW WITH MIN. GRADE OF C

LAWN9940 Children's Rights Clinic

[3-6 credit hours]

The Children’s Rights Clinic deals with a variety of legal and policy issues affecting survivors of domestic violence, including representation to obtain protection orders, dissolution of marriage and attendant issues of custody and support. The Clinic also handles juvenile law matters including parentage, parental rights, and adoptions. Admission is by the permission of the instructor. It is recommended, but not required, that students complete at least 59 credit hours and apply for certification as legal interns under Rule II of the Ohio Supreme Court Rules for the Governance of the Bar.

LAWN9950 Advanced Children's Rights Clinic

[2-4 credit hours]

In the Advanced Children's Rights Clinic students will act more independently as lead counsel for clients and may assume some supervisory responsibilities on cases handled by students in the basic Children's Rights Clinic. In addition, depending on student interest, students may conduct research on issues relating to domestic violence or juvenile law.

Prerequisites: LAWN 9940 FOR LEVEL LW WITH MIN. GRADE OF C

LAWP6000 Seminar

[2-3 credit hours]

Seminars are offered in a wide variety of subject areas. In addition to class work, seminars require a substantial research project.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWP6010 Honors Research I

[2 credit hours]

A student who has completed 30 semester hours in the College of Law and who has a cumulative grade point average of 3.0 or higher may apply to undertake honors research. The student must submit a topic and detailed research proposal four weeks prior to enrollment to a faculty member who agrees to take primary responsibility to supervise the student's work. Two other faculty members are appointed by the Dean to serve on the student's advisory committee. The research and writing take place over two semesters and culminate in a written thesis intended for publication. The student must orally defend his or her thesis before the advisory committee and interested members of the University community. The purpose of the program is to provide an opportunity for students to make a contribution to the professional literature through concentrated study in an area of interest. The advisory committee decides on the grade that will be awarded to the project.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C

LAWP6020 Honors Research II

[2 credit hours]

A student who has completed 30 semester hours in the College of Law and who has a cumulative grade point average of 3.0 or higher may apply to undertake honors research. The student must submit a topic and detailed research proposal four weeks prior to enrollment to a faculty member who agrees to take primary responsibility to supervise the student's work. Two other faculty members are appointed by the Dean to serve on the student's advisory committee. The research and writing take place over two semesters and culminate in a written thesis intended for publication. The student must orally defend his or her thesis before the advisory committee and interested members of the University community. The purpose of the program is to provide an opportunity for students to make a contribution to the professional literature through concentrated study in an area of interest. The advisory committee decides on the grade that will be awarded to the project.

Prerequisites: LAWP 6010 FOR LEVEL GR WITH MIN. GRADE OF (MAY BE TAKEN CONCURRENTLY)

LAWP6050 Independent Research

[2 credit hours]

A student who has completed at least 30 semester hours in the College of Law and who has a grade point average of 2.0 or higher may undertake and complete individual research and writing for credit under an Independent Research Program. To enroll in the program, a student must submit a written proposal to the faculty member agreeing to take primary responsibility for that student. If the faculty member and the Dean approve the proposal, the student may then enroll for two hours of credit for one semester. The supervising faculty member decides on the grade that will be awarded to the project.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWP9000 Seminar

[2-3 credit hours]

Seminars are offered in a wide variety of subject areas. In addition to class work, seminars require a substantial research project.

LAWP9010 Honors Research I

[2 credit hours]

A student who has completed 30 semester hours in the College of Law and who has a cumulative grade point average of 3.0 or higher may apply to undertake honors research. The student must submit a topic and detailed research proposal four weeks prior to enrollment to a faculty member who agrees to take primary responsibility to supervise the student's work. Two other faculty members are appointed by the Dean to serve on the student's advisory committee. The research and writing take place over two semesters and culminate in a written thesis intended for publication. The student must orally defend his or her thesis before the advisory committee and interested members of the University community. The purpose of the program is to provide an opportunity for students to make a contribution to the professional literature through concentrated study in an area of interest. The advisory committee decides on the grade that will be awarded to the project.

LAWP9020 Honors Research II

[2 credit hours]

A student who has completed 30 semester hours in the College of Law and who has a cumulative grade point average of 3.0 or higher may apply to undertake honors research. The student must submit a topic and detailed research proposal four weeks prior to enrollment to a faculty member who agrees to take primary responsibility to supervise the student's work. Two other faculty members are appointed by the Dean to serve on the student's advisory committee. The research and writing take place over two semesters and culminate in a written thesis intended for publication. The student must orally defend his or her thesis before the advisory committee and interested members of the University community. The purpose of the program is to provide an opportunity for students to make a contribution to the professional literature through concentrated study in an area of interest. The advisory committee decides on the grade that will be awarded to the project.

LAWP9050 Independent Research

[2 credit hours]

A student who has completed at least 30 semester hours in the College of Law and who has a grade point average of 2.0 or higher may undertake and complete individual research and writing for credit under an Independent Research Program. To enroll in the program, a student must submit a written proposal to the faculty member agreeing to take primary responsibility for that student. If the faculty member and the Dean approve the proposal, the student may then enroll for two hours of credit for one semester. The supervising faculty member decides on the grade that will be awarded to the project.

LAWT6600 Special Topics

[1-6 credit hours]

Courses covering special topics and current events.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

LAWT6630 Tax Fraud

[2 credit hours]

This course first considers civil tax cases, with emphasis upon negotiation between taxpayers' counsel and Internal Revenue Service personnel, and upon Tax Court procedure. The course then takes up criminal tax prosecutions, with emphasis upon the interaction of IRS civil and criminal investigatory powers, and upon defense of the typical tax prosecution.

Prerequisites: LAWM 5000 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

LAWT9600 Special Topics

[1-6 credit hours]

Courses covering special topics and current events.

LAWT9630 Tax Fraud

[2 credit hours]

This course first considers civil tax cases, with emphasis upon negotiation between taxpayers' counsel and Internal Revenue Service personnel, and upon Tax Court procedure. The course then takes up criminal tax prosecutions, with emphasis upon the interaction of IRS civil and criminal investigatory powers, and upon defense of the typical tax prosecution.

LGL1010 Introduction To Law

[3 credit hours]

The course is designed to improve oral and written communication skills through the study of contracts, real property, torts and criminal law. The course includes the structure and operation of the state and federal court systems, as well as the status and uses of paralegals.

LGL1150 Tort Law

[3 credit hours]

This course covers the traditional areas of tort law, including negligence, trespass, mental distress and conversion as well as the defenses to these claims. The course is taught through the case study method.

LGL1160 Legal Research, Writing And Case Analysis

[3 credit hours]

Designed to provide the student with an understanding of the function of the law library and to develop research techniques and legal analysis and writing skills through use of traditional law library materials and computerized legal research techniques such as Lexis and Anderson CD-ROM Law on Disk.

Prerequisites: LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

LGL1720 Law Practice Management

[3 credit hours]

This course exposes students to various management structures within and the administration of the law office and other legal environments. Critical thinking will be applied to management theories and applications.

LGL2020 Civil Procedure

[3 credit hours]

An in-depth study of the Rules of Civil Procedure, including application of rules of fact patterns. Students will draft litigation documents including complaint, answer and discovery pleadings.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL2110 Estate & Probate Administration

[3 credit hours]

Study of the common forms of wills and trusts and a survey of the fundamental principles of law applicable to each; study of the organization and jurisdiction of the probate court, analysis of the administration of estates in probate court and a review of estate and inheritance taxes.

LGL2120 Real Estate Transactions

[3 credit hours]

The law of real property and common types of real estate transactions and conveyances, such as deeds, land installment contracts, sales contracts and leases, with emphasis on researching, drafting and recording of documents related thereto.

LGL2130 Family Law

[3 credit hours]

Study of the law and practice of divorce, dissolution and all matters relating to the termination of a marriage. Students will be trained to conduct client interviews, draft pleadings and associated court forms, and calculate support under state-mandated guidelines.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL2210 Practices And Procedures In Administrative Law

[3 credit hours]

This course takes a look at the substantive and procedural aspects of various administrative law agencies with emphasis on providing skills to practice in administrative law.

LGL2700 Advocacy: Mock Trial

[3 credit hours]

An in-depth survey of the trial process which exposes students to each step of a trial in a hands-on fashion. The course will be taught utilizing traditional lecture, reading and actual mock trial experience.

LGL2940 Legal Assisting Internship

[3 credit hours]

Field experience in law offices. Students will be placed in various legal assisting positions by the program director. Students will meet for job-related seminar once a week and will work at their assigned law office for 180 hours during the semester.

LGL2990 Independent Study

[1-3 credit hours]

This course is used for faculty-assisted independent study in the area of legal assisting.

LGL3010 Law Of Business Associations

[3 credit hours]

Study of business entities: sole proprietorships, partnerships and corporations. Critical analysis of business entities, de factor and de jure entities. Students will complete articles of incorporation, bylaws and minute books.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1720 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL3030 Advanced Legal Research & Writing

[3 credit hours]

Focus on advanced legal writing. Students will be challenged to master computer assisted legal research methods.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL3050 Bankruptcy Practices & Consumer Applications

[3 credit hours]

An analysis of consumer laws including landlord-tenant relationships, consumer sales practices, uniform commercial code transactions, credit card law, garnishment, fair debt collection practices act and the United States Bankruptcy Code.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL3110 Personal Law

[3 credit hours]

Through critical reasoning/collaborative learning, students will examine personal law issues and legal rights/responsibilities, enabling them to formulate analytical models readily transferable to legal issues in their present and future lives.

LGL3120 Personal Law II

[3 credit hours]

An analysis of current legal decisions on topics such as same sex marriage, home forced entry and theology studies subsidies through analogizing/distinguishing related fact patterns and criticizing judicial exposition/logic.

Prerequisites: LGL 3110 FOR LEVEL UG WITH MIN. GRADE OF D-

LGL3330 Litigation

[3 credit hours]

Focus on evidence and investigation, applying critical thinking skills to actual litigation cases. Analysis of court pleadings for appropriateness and alternative mechanisms. Study of post trial and appellate matters.

Prerequisites: (LGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 2020 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL3350 Alternative Dispute Resolution

[3 credit hours]

Students will overview conflict theory, resolution and its history. Students will focus on skills necessary for alternative dispute resolution: negotiation, mediation, arbitration, summary jury trial and mini trial.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1150 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 2020 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL4030 Contract Law

[3 credit hours]

Focus on the laws concerning creation and termination of contracts. Students will analyze contractual terms including reliance, capacity, unconscionability, conditions, assignments, third-party beneficiaries and the effect of changed circumstances.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL4130 Clinic Experience

[3 credit hours]

Students will work in a clinical environment, such as: Court Appointed Special Advocates, the UT Center for Mediation and Legal Rights, the Toledo Bar Association's Pro Se Family Law Program.

Prerequisites: (LGL 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND LGL 1160 FOR LEVEL UG WITH MIN. GRADE OF D-)

LGL4230 Health Care And The Law

[3 credit hours]

An analysis of health care laws and legal issues, including treatment relationships, medical malpractice, the right to die, reproductive rights, bioethics, health care financing, public health, delivery systems and regulations.

LGL4330 Mediation: Topics And Techniques

[3 credit hours]

This service learning course teaches the facilitative approch to mediating disputes. Students break down disputed issues, role play, and observe actual mediations for the peaceful and cooperative resolution of disputes.

LGL4940 Advanced Paralegal Internship

[3 credit hours]

Field experience for seniors, placement within their specialty. Students meet for 1 hour seminar and work at assigned law office for 12 hours per week.

LGL4990 Criminal Forensics and Trial Practice

[3 credit hours]

This course allows students to step out of the traditional classroom setting and practice hands-on skills. Students will be assigned as crime scene investigators, paralegals and attorneys and will be responsible for investigating a homicide, indicting a suspect and conducting a trial. Part I of the class involves investigative techniques for the homicide investigative process. Part II of the class exposes students to each step of the trial in a hands-on fashion.

Prerequisites: LGL 2700 FOR LEVEL UG WITH MIN. GRADE OF D-

LGL6100 Legal Issues for the Elderly

[3 credit hours]

A comprehensive review of legal issues affecting elderly people, including estate planning, trusts, guardianships, powers of attorney, advance directives, social security, Medicare, Medicaid, grandparents' rights, and prenuptial agreements.

LGL6200 Elderly Health Law and Ethical

[3 credit hours]

A study of elder health law and elder legal and ethical issues affecting our aging population including home, long term and hospice care, guardianship, housing, age discrimination and elder abuse.

LGL6300 Introduction to Patient Advocacy

[3 credit hours]

An introduction to public and private health care delivery systems in the US. Basic legal and ethical issues are presented as they impact the provider and recipient of health care.

LGL6400 Health Issues Patient Advocacy

[3 credit hours]

This course will focus on health related legal, regulatory and ethical matters, patient advocates may face. A review of the United States health system, medical ethics, ethics committees, and public health care policies will be discussed.

LGL6500 Legal Issues in Patient Advocacy

[3 credit hours]

This course will focus on how the U.S. legal system functions and how it impacts health care institutions and the patients they serve.

LGL6600 Guided Study Patient Advocacy

[3 credit hours]

An exploration of Patient Advocacy topics or issues through advanced study of journal articles, research, readings, case studies, on-line postings, and on-line discussions, culminating in the completion of a reflective paper or thesis on a topic in the field of Patient Advocacy.

LGL6980 Special Topics

[3 credit hours]

Content may vary, covering some aspect of the law or some area of special interest to the student and instructor. Students may repeat the course for credit as topics vary.

LING3150 Linguistic Principles

[3 credit hours]

An introduction to modern linguistic theories about the nature and structure of language. Data from English as well as other languages will be used.

LING3190 Sociolinguistics

[3 credit hours]

Study of linguistic and societal concerns through empirical research; includes issues of language variation and related larger constructs such as speech community, communicative competence, dialect and language change.

LING4100 The History Of English

[3 credit hours]

Study of the changes that have taken place in the English language from the earliest days to the present.

LING4110 Old English

[3 credit hours]

Study of phonology, morphology and syntax with representative readings in verse and prose.

LING4120 Middle English

[3 credit hours]

Study of the phonology, morphology and syntax of Middle English, with special attention to literary and cultural background. Representative readings in verse and prose.

LING4150 Applied Linguistics I

[3 credit hours]

Study of methods of applied linguistics in the broad sense, including their use in studies of first and second language acquisition, language teaching, the teaching of reading and writing, and other related areas.

LING4170 Applied Linguistics II

[3 credit hours]

Study of theories of second/foreign language acquisition, especially, but not exclusively, as they relate to English as a Second Language.

LING4190 Sociolinguistics

[3 credit hours]

Combines linguistic and societal concerns through empirical research; includes issues of language variation and related larger constructs such as speech community, communicative competence, dialect and language change.

Prerequisites: LING 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 3150 FOR LEVEL UG WITH MIN. GRADE OF D-

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LING4210 Issues In Esl Writing

[3 credit hours]

Study of key concepts in ESL writing instruction and research, characteristics of second language writers and their texts, curricular options, and responding to and assessing ESL writing.

LING4980 Special Topics

[3 credit hours]

An undergraduate course on a special topic. Consult Time Schedules for topic to be studied, prerequisite(s) and semester offered.

LING4990 Independent Study

[1-3 credit hours]

An opportunity for students to concentrate on areas of interest or weakness.

LING5100 History Of The English Language

[3 credit hours]

Study of the origins and development of the English language.

Prerequisites: ENGL 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LING 3150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR ENGL 7150 FOR LEVEL GR WITH MIN. GRADE OF D- OR

LING5110 Old English

[3 credit hours]

Study of the phonology, morphology and syntax of Old English, with special attention to literary and cultural backgrounds. Representative readings in verse and prose.

LING5120 Middle English

[3 credit hours]

Study of the phonology, morphology and syntax of Middle English, with special attention to literary and cultural background. Representative readings in verse and prose.

LING5150 Fundamentals Of Linguistics

[3 credit hours]

Formal techniques required for the synchronic and diachronic study of language.

LING5190 Sociolinguistics

[3 credit hours]

Combines linguistic and societal concerns through empirical research.

Prerequisites: ENGL 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR ENGL 7150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 7150 FOR LEVEL GR WITH MIN. GRADE OF D-

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LING5210 Issues In Esl Writing

[3 credit hours]

Course content includes key concepts in ESL writing instruction and research; characteristics of second language writers and their texts; curricular options; and responding to and assessing ESL writing.

LING5430 Approaches to English As A Second Language

[3 credit hours]

Examination of a broad range of approaches to the teaching of English as a Second Language, including how these approaches fit into different theoretical assumptions and how they are implemented in practice.

LING5980 Special Topics

[3 credit hours]

A graduate course on a special topic. Consult Time Schedule for topic to be studied, prerequisite(s), and semester offered.

LING6150 Applied Linguistics I

[3 credit hours]

Focus on the methods of applied linguistics in the broad sense, through case studies including research on first and second language acquisition, language teaching, the teaching of reading and writing, and other related areas.

Prerequisites: LING 5150 FOR LEVEL GR WITH MIN. GRADE OF D- OR ENGL 5150 FOR LEVEL GR WITH MIN. GRADE OF D-

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LING6160 Applied Linguistics Lab

[1 credit hour]

Computer lab work for Applied Linguistics Research and Theory I.

LING6170 Applied Linguistics Research And Theory II

[3 credit hours]

Focuses on theories of second/foreign language acquisition, especially, but not exclusively, as they relate to English as a Second Language.

Prerequisites: ENGL 6150 FOR LEVEL GR WITH MIN. GRADE OF D- OR ENGL 8150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 6150 FOR LEVEL GR WITH MIN. GRADE OF D- OR LING 8150 FOR LEVEL GR WITH MIN. GRADE OF D-

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LING6990 Independent Study

[1-3 credit hours]

An opportunity for students to concentrate on areas of interest or weakness.

LING8990 Independent Study

[1-3 credit hours]

An opportunity for students to concentrate on areas of interest or weakness.

LLSS1000 Orientation

[1 credit hour]

Course will introduce new students to the university and college, provide information on requirements, regulartions, campus resources and career exploration and help students develop academic skills.

LST2010 Law And Social Thought

[3 credit hours]

This course examines the function and force of law in society in an interdisciplinary context. Students are given the opportunity to think about law in relationship to society, morality, politics, language, history and power. Readings may include perspectives from philosophy, literature, psychology, sociology, history, anthropology and opinions of the court.

LST2030 Cultural Geography

[3 credit hours]

A learning-through-writing course. Systematic applications of the concept of cultural to geographic themes: culture areas, cultural landscapes, culture history, cultural ecology and cultural diversity.

LST2500 Proseminar I

[1 credit hour]

For sophomore and junior majors in LST: discussion among faculty and students of the interdisciplinary study of law and LST program development. Topics vary, may be repeated for credit.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

LST2640 Race, Class, And Gender

[3 credit hours]

Introduction to the study of race, class and gender as factors in American satisfaction.

LST2800 Cultural Anthropology

[3 credit hours]

Introduction to culture patterns and processes and their relationship to human society and language.

LST2980 Special Topics

[3 credit hours]

Special topics in Law and Social Thought. Topics vary by instructor, may be repeated for credit.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

LST3050 Economics Of Gender

[3 credit hours]

Analysis of labor market outcomes and income distribution characteristics resulting from gender differences; Gender-related economic outcomes: the "feminization of poverty," persistent male-female wage differential, expanding proportion of female headed households.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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LST3070 Economics And Law

[3 credit hours]

Methodologies of Law and Economics; Legal institutions; Economic Theory of Property; Property Rights; Contract Theory; Economic Theory of Torts and Tort Law, Common Law Process; Economics of Crime and Punishment.

LST3080 Economics Of Crime

[3 credit hours]

Study of crime as an economic activity; costs of crime to the community; economic approach to crime reduction.

LST3180 Mass Communication Law

[4 credit hours]

Case studies and readings in libel, privacy, access and other legal issues arising from constitutional, judicial and administrative laws that affect mass communication.

LST3270 Campaign and Elections

[3 credit hours]

In this course, we examine how citizens participate in electoral politics. Topics covered throughout the semester include candidate recruitment, voting behavior, interest groups, campaign finance, and the impact of how technologies on party mobilization.

LST3500 Proseminar II

[1 credit hour]

For Junior and Senior majors in LST: discussion among faculty and students of the interdisciplinary study of law and LST program development. Topics vary, may be repeated for credit.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

LST3510 Constitutional Law I

[3 credit hours]

The development of the American legal system and the implications of judicial decisions affecting the institutions and powers of government, the federal system and the relationship of the individual to government.

Prerequisites: PSC 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

LST3520 Constitutional Law II

[3 credit hours]

The development of the American legal system and the implications of judicial decisions affecting the institutions and powers of government, the federal system and the relationship of the individual to government.

Prerequisites: PSC 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

LST3550 Principles Of Law

[3 credit hours]

An overview of law, legal procedures and the legal professions.

LST3710 Psychology And The Law

[3 credit hours]

Emphasizes the utilization of theoretical and empirical notions of psychological science as they apply to both civil and criminal law.

LST3720 Philosophy Of Law

[3 credit hours]

A study of philosophical issues raised by law such as the relation of law to morality, obligation to obey the law, paternalism, censorship and free speech.

LST3750 Social And Political Philosophy

[3 credit hours]

A study of classic and contemporary treatments of justice, authority, the relations between individual and community, the meaning of freedom and equality, power and violence, and race and gender.

LST3760 Crime And Punishment

[3 credit hours]

A philosophical study of topics such as crime, responsibility, justice and punishment. Special attention is paid to current practices in the criminal justice system.

LST3800 Sexual Politics

[3 credit hours]

This course examines sexual politics through studying canonical literature of Western political theory, feminism and postmodern theory.

LST3810 Political Geography

[3 credit hours]

An examination of geopolitical and geostrategic issues at the nation-state and international level.

LST3820 Contemporary Political Ideas

[3 credit hours]

Surveys trends in 20th century political and social thought, including critical theory, post-structuralist theory, feminism and anti-racist politics. Particular issues addressed include bureaucracy, mass society, state and civil violence, and identity politics.

LST3860 Gender And Geography

[3 credit hours]

Traces the development and institutionalization of gender roles and how these influence spatial decisions and the formation of perceptual landscapes.

LST3980 Special Topics

[3 credit hours]

Special topics relating to issues in Law and Social Thought. Topics vary by instructor, may be repeated for credit.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

LST4170 Law And Society

[3 credit hours]

Dynamics of law and legal institutions; the relationship of sociocultural changes in substantive and procedural aspects of law to the concept of justice, and to the social control of deviance.

LST4490 Witchcraft And Magic In Medieval And Early Modern Europe

[3 credit hours]

Witchcraft, religion and magic in western Europe from the 12th through 17th centuries, focusing on the origins of witchcraft belief, diabolical magic, the witchcraze and its decline.

LST4530 Civil Rights

[3 credit hours]

A study of judicial policy-making and administrative implementation of decisions affecting racial issues, freedom of expressions, national security and criminal procedures.

LST4550 Issues In Contemporary Law

[3 credit hours]

Examination of contemporary approaches to the analyses of law and the judicial system with special focus on current issues facing the courts.

LST4570 Legal Issues

[3 credit hours]

Topics may include abortion, three strikes sentencing, homosexual rights, hate speech and decriminalizing narcotics. Emphasizes liberal/conservative ideology.

LST4580 International Law

[3 credit hours]

An examination of the legal status of nation states and dependencies and the rules concerning international diplomacy, treatment of persons and peaceful settlement of disputes.

LST4590 Law, Policy, And The Politics of Sexuality

[3 credit hours]

This course explores law, policymaking, and public attitudes that affect gay, lesbian, bisexual and transgendered individuals in the U.S. Topics include hate crimes legislation, discrimination law, and same-sex marriage.

LST4710 Criminology

[3 credit hours]

Crime and criminal behavior: nature, types and extent of crime, societal reactions; problems in research and theory, prevention, control and treatment.

LST4740 Issues In Crime

[3 credit hours]

Topics may include legalizing drugs, police violence, please bargaining, death sentence and mandatory sentencing. Emphasizes liberal/conservative ideology.

LST4770 Human Rights

[3 credit hours]

What are human rights? How are human rights created? Why do states protect or repress human rights? This class answers these questions by examining both the theoretical and empirical contributions to the study of human rights from the social sciences and law. In addition, human rights best (and worst) practices are considered.

LST4820 Anthropology Of Religion

[3 credit hours]

A cross-cultural approach to the description and aliases of magical and religious beliefs and practices in Asia, Africa, Latin America and Indigenous North America.

LST4830 Theory Of Public History

[3 credit hours]

The definition, philosophy and evolution of public history as well as the current literature and debates within the field. Public history is the application of historical knowledge and methodology beyond academe.

LST4900 Seminar In Law And Social Thought

[3 credit hours]

Advanced seminar for the interdisciplinary study of law in society. Topics vary by instructor, may be repeated for credit. Required of LST majors.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

LST4940 Field Experience

[1-6 credit hours]

Community work, internship, or field study relating to law and society. May be repeated for credit.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

LST4980 Special Topics

[3 credit hours]

Advanced seminar in Law and Social Thought. Topics vary by instructor, may be repeated for credit. Required of LST majors.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

LST4990 Capstone in Law and Social Thought

[3 credit hours]

The Capstone course in Law and Social Thought is an interdisciplinary, collaboratively taught seminar thematically organized around a topic in the study of law.

Prerequisites: LST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

MARS1010 Marketing Principles

[3 credit hours]

A theoretical and practical understanding of marketing issues from both a micro and macro perspective: environmental forces, ethical and social responsibility, consumer buying behavior, target market analysis, market segmentation, branding and packaging, promotion, advertising, personal selling and pricing decisions.

MARS2990 Independent Study

[1-3 credit hours]

Students will study a marketing/retail-related subject mutually agreed upon between the student and instructor. The format may include lecture, computer lab and/or practical experience.

MATH1010 Applied Business Mathematics

[3 credit hours]

Mathematics used in solving business problems related to simple and compound interest, annuities, payroll, taxes, promissory notes, consumer credit, insurance, markup and markdown, mortgage loans, discounting, financial statement ratios and break-even analysis. Course is not applicable toward the undergraduate Mathematics major requirements.

MATH1180 Reasoning With Mathematics

[3 credit hours]

Reasoning with Mathematics will prepare students for an increasingly information-based society. Students will acquire the skills necessary to make rational decisions based on real data and evaluate numerical information. They will be exposed to general methods of inquiry that apply in a wide variety of settings. They will be able to critically assess arguments and make rational decisions. Finally, students will develop the ability to judge the strengths and limitations of quantitative approaches.

MATH1190 Math Modeling Study Skills

[1 credit hour]

A course to provide the study skills needed to succeed in college mathematics. Students learn and apply skills such as reading textbooks, note-taking, and analyzing tests.

MATH1200 Mathematical Modeling and Problem Solving

[4 credit hours]

Mathematical modeling of data using linear, quadratic, rational, and radical functions in their numerical, symbolic, graphic, and verbal forms. Problem solving methods and strategies will be emphasized. Course is not applicable toward the undergraduate Mathematics major requirements. Math core course.

MATH1210 Mathematics For Education Majors I

[3 credit hours]

Principles of elementary number theory, base systems, foundations of arithmetic operations, fractions, decimals and problem solving techniques. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1180 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF C- OR AMPT FOR MIN. SCORE OF 46 OR AMRT FOR MIN. SCORE OF 46 OR A02 FOR MIN. SCORE OF 20 OR MTCA FOR MIN. SCORE OF 10 OR MTEA FOR MIN. SCORE OF 12 OR

MATH1220 Mathematics For Education Majors II

[3 credit hours]

Development of integers, rational numbers and real numbers; probability, statistics, informal geometry, geometric figures and measurements. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1210 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH1320 College Algebra

[3 credit hours]

Number system; elementary theory of equations and inequalities; functions and relations; exponentials and logarithms; systems of equations and topics in analytic geometry. Course is not applicable toward the undergraduate Mathematics major requirements. No credit given for students who have credit for MATH 1340.

Prerequisites: MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF C- OR A02 FOR MIN. SCORE OF 20 OR S02 FOR MIN. SCORE OF 480 OR AMPT FOR MIN. SCORE OF 46 OR AMRT FOR MIN. SCORE OF 46 OR MTCA FOR MIN. SCORE OF 10

MATH1330 Trigonometry

[3 credit hours]

Definitions and graphs of trigonometric functions and their inverses, solving trigonometric equations, applications and topics in analytic geometry. Course is not applicable toward the undergraduate Mathematics major requirements. No credit given for students who have credit for MATH 1340.

Prerequisites: MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C- OR A02 FOR MIN. SCORE OF 22 OR S02 FOR MIN. SCORE OF 520 OR AMPT FOR MIN. SCORE OF 61 OR AMRT FOR MIN. SCORE OF 61 OR MTCA FOR MIN. SCORE OF 15

MATH1340 College Algebra And Trigonometry

[0-5 credit hours]

Functions and graphs, exponential and logarithmic functions, trigonometric functions and applications, systems of equations and topics in analytic geometry. No credit for students who have credit for MATH 1320 or 1330.

Prerequisites: A02 FOR MIN. SCORE OF 24 OR S02 FOR MIN. SCORE OF 560 OR AMPT FOR MIN. SCORE OF 68 OR AMRT FOR MIN. SCORE OF 68 OR (MTCA FOR MIN. SCORE OF 12 AND MTTR FOR MIN. SCORE OF 9)

MATH1730 Calculus with Applications to Business and Finance

[0-5 credit hours]

An introduction to differential and integral calculus. Topics include limits, derivatives, maxima/minima, indefinite and definite integrals with an emphasis on business applications and technology use.

Prerequisites: MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C- OR MTCA FOR MIN. SCORE OF 15 OR A02 FOR MIN. SCORE OF 22 OR S02 FOR MIN. SCORE OF 520 OR AMPT FOR MIN. SCORE OF 61 OR AMRT FOR MIN. SCORE OF 61

MATH1750 Calculus For The Life Sciences With Applications I

[0-4 credit hours]

Definitions of trigonometric functions, solving trigonometric equations, functions, limits and derivatives, exponential and logarithmic functions, and applications. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C- OR MTCA FOR MIN. SCORE OF 12 OR A02 FOR MIN. SCORE OF 22 OR S02 FOR MIN. SCORE OF 520 OR AMPT FOR MIN. SCORE OF 61 OR AMRT FOR MIN. SCORE OF 61

MATH1760 Calculus For The Life Sciences With Applications II

[0-3 credit hours]

Indefinite and definite integrals, probability, vectors, least squares, differential equations. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH1830 Calculus I For Mathematicians, Scientists And Educators

[4 credit hours]

Limits, differentiation, Fundamental Theorem of Calculus, Mean Value Theorem, curve sketching, maxima/minima, definite and indefinite integrals, applications. The emphasis is on the rigorous aspects and foundational ideas of calculus. Of interest to students requiring a conceptual understanding of calculus. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C- OR (MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C- AND MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF C-) OR AMPT FOR MIN. SCORE OF 76 OR AMRT FOR MIN. SCORE OF 76 OR (MTTR FOR MIN. SCORE OF 12 AND A02

MATH1840 Calculus II For Mathematicians, Scientists And Educators

[4 credit hours]

Applications and techniques of integration, polar coordinates and calculus of plane curves, infinite series and Taylor series, vectors and geometry of space. The emphasis is on the rigorous aspects and foundational ideas of calculus. Of interest to students requiring a conceptual understanding of calculus.

Prerequisites: MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH1850 Single Variable Calculus I

[0-4 credit hours]

Limits, differentiation, Fundamental Theorem of Calculus, curve sketching, maxima/minima, definite and indefinite integrals, applications. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C- OR (MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C- AND MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF C-) OR AMPT FOR MIN. SCORE OF 76 OR AMRT FOR MIN. SCORE OF 76 OR (A02 FOR MIN. SCORE OF 27 AND MTTR

MATH1860 Single Variable Calculus II

[0-4 credit hours]

Applications and techniques of integration, polar coordinates and calculus of plane curves, infinite series and Taylor series, vectors and geometry of space.

Prerequisites: MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH1890 Elementary Linear Algebra

[3 credit hours]

Matrix algebra, systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, applications, additional topics chosen from Google's page rank algorithm, Digital Image Compression, and others.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH1980 Topics In Mathematics

[1-4 credit hours]

Selected topics in mathematics.

MATH2190 Foundations of Mathematics

[3 credit hours]

This course lays the logical and set-theoretic foundations for upper level mathematics courses. Topics include: logical connectives, quantifiers; techniques of proof; set operations; functions; equivalence classes; partitions, cardinality, natural numbers, rationals, real numbers.

Prerequisites: MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH2450 Calculus For Engineering Technology I

[0-4 credit hours]

Differential calculus of algebraic and trigonometric functions, including limits, curve sketching, motion, maxima/minima, related rates, integral calculus of algebraic functions.

Prerequisites: MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C- OR (MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C- AND MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF C-) OR AMPT FOR MIN. SCORE OF 76 OR AMRT FOR MIN. SCORE OF 76 OR (A02 FOR MIN. SCORE OF 24 AND MTTR

MATH2460 Calculus For Engineering Technology II

[0-4 credit hours]

Transcendental functions, methods of integration, applications of the integral, polar coordinates, vectors and vector operation, lines and planes, parametric equations.

Prerequisites: MATH 2450 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH2600 Introduction To Statistics

[3 credit hours]

An introduction to descriptive and inferential statistical methods including point and interval estimation, hypothesis testing and regression. No credit allowed if taken after MATH 3610 or 4680; credit not allowed for both MATH 2600 and 2630. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF C- OR A02 FOR MIN. SCORE OF 20 OR S02 FOR MIN. SCORE OF 480 OR AMPT FOR MIN. SCORE OF 46 OR AMRT FOR MIN. SCORE OF 46 OR MTCA FOR MIN. SCORE OF 10

MATH2620 Discrete Probability

[3 credit hours]

Sample spaces, events, counting techniques, probability distributions and their applications. No credit if taken after 4680. Course is not applicable toward the undergraduate Mathematics major requirements.

Prerequisites: MATH 1180 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF C- OR MTCA FOR MIN. SCORE OF 10 OR MTEA FOR MIN. SCORE OF 12 OR A02 FOR MIN. SCORE OF 20 OR S02 FOR MIN. SCORE OF 480 OR AMPT FOR MIN. SCORE OF 46 OR

MATH2640 Statistics for Applied Science

[3 credit hours]

Introduction to statistical methods. Modeling relationships between variables. Basic concepts in probability. Introduction to design of experiments, surveys and observational studies. Overview of statistical procedures used in applied science literature.

Prerequisites: MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF C- OR A02 FOR MIN. SCORE OF 20 OR S02 FOR MIN. SCORE OF 480 OR AMPT FOR MIN. SCORE OF 46 OR AMRT FOR MIN. SCORE OF 46 OR MTCA FOR MIN. SCORE OF 10

MATH2850 Elementary Multivariable Calculus

[4 credit hours]

Geometry of functions of several variables, partial differentiation, multiple integrals, vector algebra and calculus (including Theorems of Green, Gauss and Stokes), and applications.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH2860 Elementary Differential Equations

[3 credit hours]

An introduction to the analysis and solution of ordinary differential equations with emphasis on the fundamental techniques for solving linear differential equations.

Prerequisites: MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 2950 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH2890 Numerical Methods And Linear Algebra

[3 credit hours]

Topics include: matrices, characteristic roots, solution of linear and nonlinear equations, curve fitting, integration, differentiation and numerical solution of ordinary differential equations. MATLAB is introduced and used to analyze problems. Additional topics are chosen from Google's page rank algorithm, Digital Image Compression, and others.

Prerequisites: MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH2950 Honors Calculus III

[4 credit hours]

A more rigorous course in calculus of functions of several variable. Topics include geometry of functions of several variables, partial differentiation, multiple integrals, vector algebra and calculus (including Theorems of Green, Gauss and Stokes), and applications. The course stresses mathematical definitions and emphasizes proofs of standard theorems in calculus.

Prerequisites: MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH3000 Symbolic Logic

[3 credit hours]

A study of propositional and predicate logic, the symbolic techniques used to evaluate deductive arguments. Topics may include computability, set theory, Bayesianism and other formal systems with mathematical or philosophical relevance.

Prerequisites: MATH 1180 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH3190 Introduction To Mathematical Analysis

[3 credit hours]

This course is intended to introduce students to mathematical analysis. The focus will be on learning to write clear, rigorous proofs. Topics include set theory and logic, the real number system and its topology, sequences, limits and continuity.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH3200 Number Theory

[3 credit hours]

Divisibility, congruences, diophantine equations, numerical functions, quadratic reciprocity.

Prerequisites: MATH 2190 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH3320 Introduction To Abstract Algebra

[3 credit hours]

Sets and mappings, integers, groups, rings and applications.

Prerequisites: MATH 2190 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH3440 Fundamentals Of Modern Geometry I

[3 credit hours]

Euclidean geometry from a modern viewpoint, constructions and transformations. Primarily for students in secondary education.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH3450 Fundamentals Of Modern Geometry II

[3 credit hours]

Euclidean geometry from a modern viewpoint, constructions and transformations. Primarily for students in secondary education.

Prerequisites: MATH 3440 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH3510 History Of Mathematics

[3 credit hours]

Contributions to the development of mathematics by various groups and individuals from the earliest history to the present, with special emphasis on the elementary branches: arithmetic, algebra, geometry and calculus.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH3610 Statistical Methods I

[3 credit hours]

Basic probability, sampling, descriptive statistics, statistical inference, regression, correlation, analysis of variance, goodness of fit, model formulation and testing.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH3620 Statistical Methods II

[3 credit hours]

Multiple regression, analysis of covariance, standard experimental designs, contingency tables, nonparametric methods and methods for sample surveys.

Prerequisites: MATH 3610 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH3820 Honors Elementary Differential Equations

[3 credit hours]

Theory, applications and systems of ordinary differential equations. The course stresses mathematical definitions and emphasizes proofs of standard theorems in the subject.

Prerequisites: MATH 2950 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH3920 Junior Readings

[1-3 credit hours]

Selected subjects in mathematics of special interest to students and the professor.

MATH4300 Linear Algebra I

[3 credit hours]

Theory of vector spaces and linear transformations, including such topics as matrices, determinants, inner products, eigenvalues and eigenvectors, and rational and Jordan canonical forms.

Prerequisites: MATH 2190 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4310 Linear Algebra II

[3 credit hours]

Hermitian and normal operators, multilinear forms, spectral theorem and other topics.

Prerequisites: MATH 4300 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4330 Abstract Algebra I

[3 credit hours]

Arithmetic of the integers, unique factorization and modular arithmetic; group theory including normal subgroups, factor groups, cyclic groups, permutations, homomorphisms, the isomorphism theorems, abelian groups and p-groups.

Prerequisites: MATH 2190 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4340 Abstract Algebra II

[3 credit hours]

Ring theory including integral domains, field of quotients, homomorphisms, ideals, Euclidean domains, polynomial rings, vector spaces, roots of polynomials and field extensions.

Prerequisites: MATH 4330 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4350 Applied Linear Algebra

[3 credit hours]

Matrices, systems of equations, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors, singular value decomposition, pseudoinverses, rank, numerical methods and applications to various areas, e.g., the Google Matrix or Digital Image Compression or others.

Prerequisites: MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4380 Discrete Structures And Analysis Of Algorithms

[3 credit hours]

Discrete mathematical structures for applications in computer science such as graph theory, combinatorics, and groups theory, asymptotics, recurrence relations and analysis of algorithms.

Prerequisites: MATH 3320 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 4330 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4450 Introduction To Topology I

[3 credit hours]

Metric spaces, topological spaces, continuous maps, bases and subbases, closure and interior operators, products, subspaces, sums, quotients, separation axioms, compactness and local compactness.

Prerequisites: MATH 2190 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4460 Introduction To Topology II

[3 credit hours]

Connectedness and local connectedness, convergence, metrization, function spaces. The fundamental groups and its properties, covering spaces, classical applications, e.g. Jordan Curve Theorem, Fundamental Theorem of Algebra, Brouwer's Fixed Point Theorem.

Prerequisites: (MATH 4450 FOR LEVEL UG WITH MIN. GRADE OF C- AND MATH 3320 FOR LEVEL UG WITH MIN. GRADE OF C-) OR (MATH 4450 FOR LEVEL UG WITH MIN. GRADE OF C- AND MATH 4330 FOR LEVEL UG WITH MIN. GRADE OF C-)

MATH4540 Classical Differential Geometry I

[3 credit hours]

Smooth curves in Euclidean space including the Frenet formulae. Immersed surfaces with the Gauss map, principal curvatures and the fundamental forms. Special surfaces including ruled surfaces and minimal surfaces. Intrinsic Geometry including the Gauss Theorem Egregium.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4550 Classical Differential Geometry II

[3 credit hours]

Tensors, vector fields, and the Cartan approach to surface theory, Bonnet's Theorem and the construction of surfaces via solutions of the Gauss Equation. Geodesics parallel transport, and Jacobi Fields. Theorems of a global nature such as Hilbert's Theorem or the Theorem of Hopf-Rinow.

Prerequisites: MATH 4540 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4600 Advanced Statistical Methods I

[3 credit hours]

Basics of descriptive statistics, study designs and statistical inference. Properties of, and assumptions required for, inference for means, variances, and proportions from one and two-sample paired and unpaired studies. Introduction to ANOVA with multiple comparisons. Model assessment and diagnostics. Statistical software will be employed. Opportunities to apply procedures to real data. Emphasis placed on the foundations to approaches in introductory statistics.

Prerequisites: MATH 2600 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2640 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3610 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 4690 FOR LEVEL UG WITH MIN. GRADE OF D-

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MATH4610 Applications Of Statistics II

[3 credit hours]

Continuation of Applications of Statistics I.

Prerequisites: MATH 4600 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4620 Theory Of Interest

[3 credit hours]

This course covers the measurement of interest, certain annuities, yield rates, amortization and sinking funds, bonds and other securities and application of interest theory.

Prerequisites: MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1930 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4640 Statistical Computing

[3 credit hours]

Modern statistical computing, including programming tools, modern programming methodologies, design of data structures and algorithms, numerical computing and graphics. Additional topics selected from simulation studies, rejection sampling, importance sampling, Monte Carlo integration, and bootstrapping.

Prerequisites: MATH 3610 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 4600 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 4690 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4680 Introduction To Theory Of Probability

[3 credit hours]

Probability spaces, random variables, probability distributions, moments and moment generating functions, limit theorems, transformations and sampling distributions.

Prerequisites: MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 2950 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4690 Introduction To Mathematical Statistics

[3 credit hours]

Sampling distributions, point and interval estimation, hypothesis testing, regression and analysis of variance.

Prerequisites: MATH 4680 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4710 Methods Of Numerical Analysis I

[3 credit hours]

Floating point arithmetic; polynomial interpolation; numerical solution of nonlinear equations; Newton's method. Likely topics include: numerical differentiation and integration; solving systems of linear equations; Gaussian elimination; LU decomposition; Gauss-Seidel method.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4720 Methods Of Numerical Analysis II

[3 credit hours]

Likely topics include: Computation of eigenvalues and eigenvectors; solving systems of nonlinear equations; least squares approximations; rational approximations; cubic splines; fast Fourier transforms; numerical solutions to initial value problems; ordinary and partial differential equations.

Prerequisites: MATH 4710 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4740 Advanced Applied Mathematics I

[3 credit hours]

Series and numerical solutions to ordinary differential equations, special functions, orthogonal functions, Sturm-Liouville problems, self-adjointness, vector analysis.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4750 Advanced Applied Mathematics II

[3 credit hours]

Continuation of vector analysis, introduction to complex analysis, partial differential equations, Fourier series and integrals.

Prerequisites: MATH 4740 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4760 Actuarial Mathematics I

[3 credit hours]

Survival distributions and life tables, life insurance, life annuities, benefit premiums and reserves and multiple life functions are some topics covered in this course.

Prerequisites: MATH 4680 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4770 Actuarial Mathematics II

[3 credit hours]

Continuation of Actuarial Mathematics I. Multiple decrement models, collective risk models and applications of risk theory.

Prerequisites: MATH 4760 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4800 Ordinary Differential Equations

[3 credit hours]

Modern theory of differential equations; transforms and matrix methods; existence theorems and series solutions; and other selected topics.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4810 Partial Differential Equations

[3 credit hours]

First and second order equations; numerical methods; separation of variables; solutions of heat and wave equations using eigenfunction techniques; and other selected topics.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4820 Introduction To Real Analysis I

[3 credit hours]

The real number system; continuity and differentiability of functions; convergence of sequences and series; applications.

Prerequisites: MATH 2190 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4830 Introduction To Real Analysis II

[3 credit hours]

Riemann Integral; limits of functions; elementary metric space theory including compactness, connectedness and completeness. Optional topics include differentiable functions on Rn; the Implicit and Inverse Function Theorems.

Prerequisites: MATH 4820 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4860 Calculus Of Variations And Optimal Control I

[3 credit hours]

Conditions for an extrema (Euler's equations, Erdman corner conditions, conditions of Legendre, Jacobi, and Weierstrass, fields of extremals, Hilbert's invariant integral); Raleigh-Ritz method; isoperimetric problems; Lagrange, Mayer-Bolza problems. Recommended: MATH 4820.

Prerequisites: MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4870 Calculus Of Variations And Optimal Control II

[3 credit hours]

Pontryagin's maximum principle; necessary and sufficient conditions for optimal control, controllability, time optimal control, existence of optimal controls, relationship to the calculus of variations.

Prerequisites: MATH 4860 FOR LEVEL UG WITH MIN. GRADE OF C-

MATH4880 Complex Variables

[3 credit hours]

Analytic functions; Cauchy's theorem; Taylor and Laurent series; residues; contour integrals; conformal mappings, analytic continuation and applications.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF C-

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MATH4900 Senior Seminar

[1-3 credit hours]

Seminar on a topic not usually covered in a course. Library research and paper to be expected.

MATH4920 Senior Readings

[1-3 credit hours]

Selected subjects in mathematics of special interest to students and the professor. (By arrangement with professor and student.)

MATH4960 Actuarial Science Problem Seminar

[1-3 credit hours]

The primary activity will be student solution and presentation of problems of a type given on actuarial exams.

MATH5010 Functions And Modeling For Middle Grade Mathematics

[3 credit hours]

Introduction to the theory of functions through modeling. Subjects include polynomial, exponential, logarithmie and rational functions, interpolation and modeling of data sets though least squares and other methods. Graduate math credit for education students only.

MATH5040 Concepts Of Calculus For Middle Grade Mathematics

[3 credit hours]

Introduction to the basic idea of calculus. Subjects include limits, continuity, the derivative and its applications, indefinite and definite integral, Fundamental Theorem of Calculus, evaluation of integrals. Graduate math credit for education students only.

MATH5060 Number Theory Concepts For Middle Grade Mathematics

[3 credit hours]

Introduction to basic number theory. Subjects include history of number theory, prime numbers, unique factorization, Euclidean algorithm, Pythagorean relations, number systems, and transformations. Graduate math credit for education students only.

MATH5070 Geometry Concepts For Middle School Mathematics

[3 credit hours]

Descriptive geometry in 2 and 3 dimensions, use of axioms and definitions in the proof theorems, formal Euclidean geometry, transformations. Graduate math credit for education students only.

MATH5080 History Of Mathematics For Middle Grade Mathematics

[3 credit hours]

Study of the history of mathematics from antiquity to the 20th century concentrating on the development of arithmetic, algebra, geometry and calculus. Graduate math credit for education students only.

MATH5110 Probability Concepts For Middle Grade Mathematics

[3 credit hours]

Introduction to the theory of probability, counting principles and combinatorics, risk, coincidence, expectation and conditional probability, probability distributions. Graduate math credit for education students only.

MATH5120 Statistics Concepts For Middle Grade Mathematics

[3 credit hours]

Introduction to the fundamental ideas of statistics, including sampling techniques, descriptive, variance, confidence intervals, correlation and regression. Graduate math credit for education students only.

MATH5220 Theory Of Interest

[3 credit hours]

This course covers the measurement of interest, certain annuities, yield rates, amortization and sinking funds, bonds and other securities and application of interest theory.

MATH5260 Actuarial Mathematics I

[3 credit hours]

Survival distributions and life tables, life insurance, life annuities, benefit premiums and reserves and multiple life functions are some topics covered in this course.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5300 Linear Algebra I

[3 credit hours]

Theory of vector spaces and linear transformations, including such topics as matrices, determinants, inner products, eigenvalues and eigenvectors, and rational and Jordan canonical forms.

MATH5310 Linear Algebra II

[3 credit hours]

Hermitian and normal operators, multilinear forms, spectral theorem and other topics.

Prerequisites: MATH 5300 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5330 Abstract Algebra I

[3 credit hours]

Arithmetic of the integers, unique factorization and modular arithmetic; group theory including normal subgroups, factor groups, cyclic groups, permutations, homomorphisms, the isomorphism theorems, abelian groups and p-groups.

Prerequisites: MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5340 Abstract Algebra II

[3 credit hours]

Ring theory including integral domains, field of quotients, homomorphisms, ideals, Euclidean domains, polynomial rings, vector spaces, roots of polynomials and field extensions.

Prerequisites: MATH 5330 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5350 Applied Linear Algebra

[3 credit hours]

Matrices, systems of equations, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors, generalized inverses, rank, numerical methods and applications to various areas of science.

Prerequisites: MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5380 Discrete Structures And Analysis Algorithms

[3 credit hours]

Discrete mathematical structures for applications in computer science such as graph theory, combinatorics, groups theory, asymptotics, recurrence relations and analysis of algorithms.

Prerequisites: MATH 3320 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 5330 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5450 Introduction To Topology I

[3 credit hours]

Metric spaces, topological spaces, continuous maps, bases and sub-bases, closure and interior operators, products, subspaces, sums, quotients, separation axioms, compactness and local compactness.

Prerequisites: MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5460 Introduction To Topology II

[3 credit hours]

Connectedness and local connectedness, convergence, metrization, function spaces. The fundamental groups and its properties, covering spaces, classical applications, e.g. Jordan Curve Theorem, Fundamental Theorem of Algebra, Brouwer's Fixed Point Theorem.

Prerequisites: MATH 5450 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5540 Classical Differential Geometry I

[3 credit hours]

Smooth curves in Euclidean space including the Frenet formulae. Immersed surfaces with the Gauss map, principal curvatures and the fundamental forms. Special surfaces including ruled surfaces and minimal surfaces. Intrinsic Geometry including the Gauss Theorem Egregium.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5550 Classical Differential Geometry II

[3 credit hours]

Tensors, vector fields and the Cartan approach to surface theory, Bonnet's Theorem and the construction of surfaces via solutions of the Gauss Equation. Geodesics, parallel transport and Jacobi Fields. Theorems of a global nature such as Hilbert's Theorem or the Theorem of Hopf-Rinow.

Prerequisites: MATH 5540 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5600 Advanced Statistical Methods I

[3 credit hours]

Basics of descriptive statistics, study designs and statistical inference. Properties of, and assumptions required for, inference for means, variances, and proportions from one and two-sample paired and unpaired studies. Introduction to ANOVA with multiple comparisons and multiple regression. Model assessment and diagnostics. Statistical software will be employed. Opportunities to apply procedures to real data. Emphasis placed on the foundations to approaches in introductory statistics.

MATH5610 Advanced Statistical Methods II

[3 credit hours]

Statistical/biostatistical concepts and methods. Broad subject categories that may be included are study design, longitudinal data analysis, survival analysis, logistic regression, random and mixed effects models. Other topics applicable to current statistical consulting projects, or related to modern data analytics, may be introduced. Appropriate statistical software will be employed.

Prerequisites: MATH 5600 FOR LEVEL GR WITH MIN. GRADE OF C-

MATH5620 Linear Statistical Models

[3 credit hours]

Multiple regression, analysis of variance and covariance, general linear models and model building for linear models. Experimental designs include one-way, randomized block, Latin square, factorial and nested designs.

Prerequisites: MATH 6650 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5630 Theory And Methods Of Sample Surveys

[3 credit hours]

The mathematical basis to estimation in various sampling contexts, including probability proportional to size sampling, stratified sampling, two-stage cluster sampling and double sampling, is developed.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5640 Statistical Computing

[3 credit hours]

Modern statistical computing, including programming tools, modern programming methodologies, design of data structures and algorithms, numerical computing and graphics. Additional topics selected from simulation studies, inversion of probability integral transforms, rejection sampling, importance sampling, Monte Carlo integration, bootstrapping and optimization.

MATH5680 Introduction To Theory Of Probability

[3 credit hours]

Probability spaces, random variables, probability distributions, moments and moment generating functions, limit theorems, transformations and sampling distributions.

Prerequisites: (MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 5350 FOR LEVEL GR WITH MIN. GRADE OF D-)

MATH5690 Introduction To Mathematical Statistics

[3 credit hours]

Sampling distributions, point estimation, interval estimation, hypothesis testing, regression and analysis of variance.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5710 Methods Of Numerical Analysis I

[3 credit hours]

Floating point arithmetic; polynomial interpolation; numerical solution of nonlinear equations; Newton's method. Likely topics include: numerical differentiation and integration; solving systems of linear equations; Gaussian elimination; LU decomposition; Gauss-Seidel method.

MATH5720 Methods Of Numerical Analysis II

[3 credit hours]

Likely topics include: Computation of eigenvalues and eigenvectors; solving systems of nonlinear equations; least squares approximations; rational approximations; cubic splines; fast Fourier transforms; numerical solutions to initial value problems; ordinary and partial differential equations.

Prerequisites: MATH 5710 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5740 Advanced Applied Mathematics I

[3 credit hours]

Series and numerical solutions to ordinary differential equations, special functions, orthogonal functions, Sturm-Liouville Problems, self-adjointness, vector analysis.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

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MATH5750 Advanced Applied Mathematics II

[3 credit hours]

Continuation of vector analysis, introduction to complex analysis, partial differential equations, Fourier series and integrals.

Prerequisites: MATH 5740 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5780 Advanced Calculus

[3 credit hours]

Extrema for functions of one or more variables, Lagrange multipliers, indeterminate forms, inverse and implicit function theorems, uniform convergences, power series, transformations, Jacobians, multiple integrals.

Prerequisites: MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5800 Ordinary Differential Equations

[3 credit hours]

Modern theory of differential equations; transforms and matrix methods; existence theorems and series solutions; and other selected topics.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5810 Partial Differential Equations

[3 credit hours]

First and second order equations; numerical methods; separation of variables; solutions of heat and wave equations using eigenfunction techniques; and other selected topics.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

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MATH5820 Introduction To Real Analysis I

[3 credit hours]

A rigorous treatment of the Calculus in one and several variables. Topics to include: the real number system; sequences and series; elementary metric space theory including compactness, connectedness and completeness; the Riemann Integral.

Prerequisites: MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5830 Introduction To Real Analysis II

[3 credit hours]

Differentiable functions on Rn; the Implicit and Inverse Function Theorems; sequences and series of continuous functions; Stone-Weierstrass Theorem; Arsela-Ascoli Theorem; introduction to measure theory; Lebesgue integration; the Lebesgue Dominated Convergence Theorem.

Prerequisites: MATH 5820 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5860 Calculus Of Variations And Optimal Control Theory I

[3 credit hours]

Conditions for an extreme (Euler's equations, Erdman corner conditions, conditions of Legendre, Jacobi and Weierstrass, fields of extremals, Hilbert's invariant integral);); Raleigh-Ritz method; isoperimetric problems; Lagrange, Mayer-Bolza problems. Recommended: MATH 5820.

Prerequisites: MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5870 Calculus Of Variations And Optimal Control Theory II

[3 credit hours]

Pontryagin's maximum principle; necessary and sufficient conditions for optimal control, controllability, time optimal control, existence of optimal controls, relationship to the calculus of variations.

Prerequisites: MATH 5860 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH5880 Complex Variables

[3 credit hours]

Analytic functions; Cauchy's theorem; Taylor and Laurent series; residues; contour integrals; conformal mappings, analytic continuation and applications.

Prerequisites: MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH5970 Industrial Math Practicum

[1 credit hour]

Students must submit for approval by their adviser a report on the solution of a practical problem involving mathematics. The problem must be drawn from a company, university department of government unit.

MATH5980 Topics In Mathematics

[3 credit hours]

Special topics in mathematics.

MATH6180 Linear And Nonlinear Programming

[3 credit hours]

Simplex algorithm, ellipsoidal algorithm, Karmarkar's method, interior point methods, elementary convex analysis, optimality conditions and duality for smooth problems, convex programming, algorithms and their convergence.

Prerequisites: MATH 5820 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6190 Infinite Dimensional Optimization

[3 credit hours]

Introduction to nonlinear analysis, abstract optimization problems on abstract spaces, applications to calculus of variations, optimal control theory and game theory.

MATH6300 Algebra I

[3 credit hours]

Group actions, Sylow's theorems, permutation groups, nilpotent and solvable groups, abelian groups, rings, unique factorization domains, fields.

Prerequisites: MATH 5340 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6310 Algebra II

[3 credit hours]

Field extensions, Galois theory, modules, Noetherian and Artinian rings, tensor products, primitive rings, semisimple rings and modules, the Wedderburn-Artin theorem.

Prerequisites: MATH 6300 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6400 Topology I

[3 credit hours]

Topological spaces, continuous functions, compactness, product spaces, Tychonov's theorem, quotient spaces, local compactness, homotopy theory, the fundamental group, covering spaces.

Prerequisites: MATH 4450 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 5450 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 7450 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH6410 Topology II

[3 credit hours]

Homology theory, excision, homological algebra, the Brouwer fixed point theorem, cohomology, differential manifolds, orientation, tangent bundles, Sard's theorem, degree theory.

Prerequisites: MATH 6400 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6440 Differential Geometry I

[3 credit hours]

Introduction to differential geometry. Topics include differentiable manifolds, vector fields, tensor bundles, the Frobenius theorem, Stokes' theorem, Lie groups.

Prerequisites: MATH 6410 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6450 Differential Geometry II

[3 credit hours]

Topics include connections on manifolds, Riemannian geometry, the Gauss-Bonnet theorem. Further topics may include: homogeneous and symmetric spaces, minimal surfaces, Morse theory, comparison theory, vector and principal bundles.

Prerequisites: MATH 6440 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6500 Ordinary Differential Equations

[3 credit hours]

Existence, uniqueness and dependence on initial conditions and parameter, nonlinear planar systems, linear systems, Floquet theory, second order equations, Sturm-Liouville theory.

MATH6510 Partial Differential Equations

[3 credit hours]

First order quasi-linear systems of partial differential equations, boundary value problems for the heat and wave equation, Dirichlet problem for Laplace equation, fundamental solutions for Laplace, heat and wave equations.

MATH6520 Dynamical Systems I

[3 credit hours]

Topic include the flow-box theorem, Poincare maps, attractors, w limit sets, Lyapunov stability, invariant submanifolds, Hamiltonian systems and symplectic manifolds.

Prerequisites: MATH 6500 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6600 Statistical Consulting

[1-5 credit hours]

Real data applications of various statistical methods, project design and analysis including statistical consulting experience. May be repeated for credit.

MATH6610 Statistical Consulting II

[3 credit hours]

Real data applications of various statistical methods, project design and analysis including statistical consulting experience.

MATH6620 Categorical Data Analysis

[3 credit hours]

Important methods and modeling techniques using generalized linear models and emphasizing loglinear and logit modeling.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6630 Nonparametric Statistics

[3 credit hours]

Statistical methods based on counts and ranks; methods designed to be effective in the presence of contaminated data or error distribution misspecification.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF C-

MATH6640 Topics In Statistics

[3 credit hours]

Topics selected from an array of modern statistical methods such as survival analysis, nonlinear regression, Monte Carlo methods, etc.

MATH6650 Statistical Inference

[3 credit hours]

Estimation, hypothesis testing, prediction, sufficient statistics, theory of estimation and hypothesis testing, simultaneous inference, decision theoretic models.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6670 Measure Theoretic Probability

[3 credit hours]

Real analysis, probability spaces and measures, random variables and distribution functions, independence, expectation, law of large numbers, central limit theorem, zero-one laws, characteristic functions, conditional expectations given a s-algebra, martingales.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6680 Theory Of Statistics

[3 credit hours]

Exponential families, sufficiency, completeness, optimality, equivariance, efficiency. Bayesian and minimax estimation. Unbiased and invariant tests, uniformly most powerful tests. Asymptotic properties for estimation and testing. Most accurate confidence intervals.

Prerequisites: MATH 5960 FOR LEVEL GR WITH MIN. GRADE OF D- OR (MATH 6650 FOR LEVEL GR WITH MIN. GRADE OF D- AND MATH 6670 FOR LEVEL GR WITH MIN. GRADE OF D-)

MATH6690 Multivariate Statistics

[3 credit hours]

Multivariate normal sampling distributions, T tests and MANOVA, tests on covariance matrices, simultaneous inference, discriminant analysis, principal components, cluster analysis and factor analysis.

Prerequisites: MATH 5690 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 6650 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH6720 Methods Of Mathematical Physics I

[3 credit hours]

Analytic functions, residues, method of steepest descent, complex differential equations, regular singularities, integral representation, real and complex vector spaces, matrix groups, Hilbert spaces, coordinate transformations.

MATH6730 Methods Of Mathematical Physics II

[3 credit hours]

Self-adjoint operators, special functions, orthogonal polynomials, partial differential equations and separation of variables, boundary value problems, Green¿s functions, integral equations, tensor analysis, metrics and curvature, calculus of variations, finite groups and group representations.

Prerequisites: MATH 6720 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6800 Real Analysis I

[3 credit hours]

Completeness, connectedness and compactness in metric spaces, continuity and convergence, the Stone-Weierstrass Theorem, Lebesgue measure and integration on the real line, convergence theorems, Egorov's and Lusin's theorems, derivatives, functions of bounded variation.

Prerequisites: MATH 4830 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 5830 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH6810 Real Analysis II

[3 credit hours]

The Vitali covering theorem, absolutely continuous functions, Lebesgue-Stieltjes integration, the Riesz representation theorem , Banach spaces, Lp-spaces, abstract measures, the Radon-Nikodym theorem, measures on locally compact Hausdorff spaces.

Prerequisites: MATH 6800 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6820 Functional Analysis I

[3 credit hours]

Topics include Topological vector spaces, Banach spaces, convexity, the Hahn-Banch theorem, weak and strong topologies, Lp spaces and duality.

Prerequisites: MATH 6810 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6830 Functional Analysis II

[3 credit hours]

Topics include the Mackey-Ahrens Theorem, Banach algebras, spectra in Banach algebras, commutative Banach algebras, unbounded operators, the spectral theorem, topics in functional analysis.

Prerequisites: MATH 6820 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6840 Complex Analysis I

[3 credit hours]

Elementary analytic functions, complex integration, the residue theorem, infinite sequences of analytic functions, Laurent expansions, entire functions.

Prerequisites: MATH 6800 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6850 Complex Analysis II

[3 credit hours]

Meromorphic functions, conformal mapping, harmonic functions and the dirichlet problem, the Riemann mapping theorem, monodromy, algebraic functions, Riemann surfaces, elliptic functions and the modular function.

Prerequisites: MATH 6840 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6860 Measure Theoretic Probability I

[3 credit hours]

Focus on measure theory and probability. Measures and their extensions, integration, convergence theorems, product measures. Probability spaces, random variables and distribution functions, independence, expectation, law of large numbers, central limit theorem, zero-one laws, characteristic functions.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH6930 Colloquium

[1 credit hour]

Lectures by visiting mathematicians and staff members on areas of current interest in mathematics.

MATH6940 Proseminar

[1-5 credit hours]

Problems and techniques of teaching elementary college mathematics, supervised teaching, seminar in preparation methods.

MATH6980 Topics In Mathematical Sciences

[3 credit hours]

Special topics in Mathematics or Statistics.

MATH6990 Readings In Mathematics

[1-5 credit hours]

Readings in areas of Mathematics of mutual interest to the student and the professor.

MATH7300 Linear Algebra I

[3 credit hours]

Theory of vector spaces and linear transformations, including such topics as matrices, determinants, inner products, eigenvalues and eigenvectors, and rational and Jordan canonical forms.

MATH7310 Linear Algebra II

[3 credit hours]

Hermitian and normal operators, multilinear forms, spectral theorem and other topics.

Prerequisites: MATH 5300 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7330 Abstract Algebra I

[3 credit hours]

Arithmetic of the integers, unique factorization and modular arithmetic; group theory including normal subgroups, factor groups, cyclic groups, permutations, homomorphisms, the isomorphism theorems, abelian groups and p-groups.

Prerequisites: MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH7340 Abstract Algebra II

[3 credit hours]

Ring theory including integral domains, field of quotients, homomorphisms, ideals, Euclidean domains, polynomial rings, vector spaces, roots of polynomials and field extensions.

Prerequisites: MATH 5330 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7350 Applied Linear Algebra

[3 credit hours]

Matrices, systems of equations, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors, generalized inverses, rank, numerical methods and applications to various areas of science.

Prerequisites: MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH7380 Discrete Structures And Analysis Algorithms

[3 credit hours]

Discrete mathematical structures for applications in computer science such as graph theory, combinatorics, groups theory, asymptotics, recurrence relations and analysis of algorithms.

Prerequisites: MATH 3320 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 5330 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH7450 Introduction To Topology I

[3 credit hours]

Metric spaces, topological spaces, continuous maps, bases and sub-bases, closure and interior operators, products, subspaces, sums, quotients, separation axioms, compactness and local compactness.

Prerequisites: MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH7460 Introduction To Topology II

[3 credit hours]

Connectedness and local connectedness, convergence, metrization, function spaces. The fundamental groups and its properties, covering spaces, classical applications, e.g. Jordan Curve Theorem, Fundamental Theorem of Algebra, Brouwer's Fixed Point Theorem.

Prerequisites: MATH 5450 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7540 Classical Differential Geometry I

[3 credit hours]

Smooth curves in Euclidean space including the Frenet formulae. Immersed surfaces with the Gauss map, principal curvatures and the fundamental forms. Special surfaces including ruled surfaces and minimal surfaces. Intrinsic Geometry including the Gauss Theorem Egregium.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH7550 Classical Differential Geometry II

[3 credit hours]

Tensors, vector fields and the Cartan approach to surface theory, Bonnet's Theorem and the construction of surfaces via solutions of the Gauss Equation. Geodesics, parallel transport and Jacobi Fields. Theorems of a global nature such as Hilbert's Theorem or the Theorem of Hopf-Rinow.

Prerequisites: MATH 5540 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7600 Advanced Statistical Methods I

[3 credit hours]

Basics of descriptive statistics, study designs and statistical inference. Properties of, and assumptions required for, inference for means, variances, and proportions from one and two-sample paired and unpaired studies. Introduction to ANOVA with multiple comparisons and logistic and multiple regression. Model assessment and diagnostics. Statistical software will be employed. Opportunities to apply procedures to real data. Emphasis placed on the foundations to approaches in introductory statistics.

MATH7610 Advanced Statistical Methods II

[3 credit hours]

Statistical/biostatistical concepts and methods. Broad subject categories that may be included are study design, longitudinal data analysis, survival analysis, logistic regression, random and mixed effects models and Bayesian Statistics. Other topics applicable to current statistical consulting projects, or related to modern data analytics, may be introduced. Appropriate statistical software will be employed.

Prerequisites: MATH 5600 FOR LEVEL GR WITH MIN. GRADE OF C-

MATH7620 Linear Statistical Models

[3 credit hours]

Multiple regression, analysis of variance and covariance, general linear models and model building for linear models. Experimental designs include one-way, randomized block, Latin square, factorial and nested designs.

Prerequisites: MATH 6650 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7630 Theory And Methods Of Sample Surveys

[3 credit hours]

The mathematical basis to estimation in various sampling contexts, including probability proportional to size sampling, stratified sampling, two-stage cluster sampling and double sampling, is developed.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7640 Statistical Computing

[3 credit hours]

Modern statistical computing, including programming tools, modern programming methodologies, design of data structures and algorithms, numerical computing and graphics. Additional topics selected from simulation studies, inversion of probability integral transforms, rejection sampling, importance sampling, Monte Carlo integration, bootstrapping and optimization.

MATH7680 Introduction To Theory Of Probability

[3 credit hours]

Probability spaces, random variables, probability distributions, moments and moment generating functions, limit theorems, transformations and sampling distributions.

Prerequisites: MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH7690 Introduction To Mathematical Statistics

[3 credit hours]

Sampling distributions, point estimation, interval estimation, hypothesis testing, regression and analysis of variance.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7710 Methods Of Numerical Analysis I

[3 credit hours]

Floating point arithmetic; polynomial interpolation; numerical solution of nonlinear equations; Newton's method. Likely topics include: numerical differentiation and integration; solving systems of linear equations; Gaussian elimination; LU decomposition; Gauss-Seidel method.

MATH7720 Methods Of Numerical Analysis II

[3 credit hours]

Likely topics include: Computation of eigenvalues and eigenvectors; solving systems of nonlinear equations; least squares approximations; rational approximations; cubic splines; fast Fourier transforms; numerical solutions to initial value problems; ordinary and partial differential equations.

Prerequisites: MATH 5710 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7740 Advanced Applied Mathematics I

[3 credit hours]

Series and numerical solutions to ordinary differential equations, special functions, orthogonal functions, Sturm-Liouville Problems, self-adjointness, vector analysis.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

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MATH7750 Advanced Applied Mathematics II

[3 credit hours]

Continuation of vector analysis, introduction to complex analysis, partial differential equations, Fourier series and integrals.

Prerequisites: MATH 5740 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7800 Ordinary Differential Equations

[3 credit hours]

Modern theory of differential equations; transforms and matrix methods; existence theorems and series solutions; and other selected topics.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

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MATH7810 Partial Differential Equations

[3 credit hours]

First and second order equations; numerical methods; separation of variables; solutions of heat and wave equations using eigenfunction techniques; and other selected topics.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-

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MATH7820 Introduction To Real Analysis I

[3 credit hours]

A rigorous treatment of the Calculus in one and several variables. Topics to include: the real number system; sequences and series; elementary metric space theory including compactness, connectedness and completeness; the Riemann Integral.

Prerequisites: MATH 3190 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH7830 Introduction To Real Analysis II

[3 credit hours]

Differentiable functions on Rn; the Implicit and Inverse Function Theorems; sequences and series of continuous functions; Stone-Weierstrass Theorem; Arsela-Ascoli Theorem; introduction to measure theory; Lebesgue integration; the Lebesgue Dominated Convergence Theorem.

Prerequisites: MATH 5820 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7860 Calculus Of Variations And Optimal Control Theory I

[3 credit hours]

Conditions for an extreme (Euler's equations, Erdman corner conditions, conditions of Legendre, Jacobi and Weierstrass, fields of extremals, Hilbert's invariant integral); Raleigh-Ritz method; isoperimetric problems; Lagrange, Mayer-Bolza problems.

Prerequisites: MATH 5820 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7870 Calculus Of Variations And Optimal Control Theory II

[3 credit hours]

Pontryagin's maximum principle; necessary and sufficient conditions for optimal control, controllability, time optimal control, existence of optimal controls, relationship to the calculus of variations.

Prerequisites: MATH 5860 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH7880 Complex Variables

[3 credit hours]

Analytic functions; Cauchy's theorem; Taylor and Laurent series; residues; contour integrals; conformal mappings, analytic continuation and applications.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D-

MATH7980 Topics In Mathematics

[3 credit hours]

Special topics in mathematics.

MATH8180 Linear And Nonlinear Programming

[3 credit hours]

Simplex algorithm, ellipsoidal algorithm, Karmarkar's method, interior point methods, elementary convex analysis, optimality conditions and duality for smooth problems, convex programming, algorithms and their convergence.

Prerequisites: MATH 5820 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 7820 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8190 Infinite Dimensional Optimization

[3 credit hours]

Introduction to nonlinear analysis, abstract optimization problems on abstract spaces, applications to calculus of variations, optimal control theory and game theory.

Prerequisites: MATH 6150 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 6810 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8150 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8810 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8300 Algebra I

[3 credit hours]

Group actions, Sylow's theorems, permutation groups, nelpotent and solvable groups, abelian groups, rings, unique factorization domains, fields.

Prerequisites: MATH 5340 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 7340 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8310 Algebra II

[3 credit hours]

Field extensions, Galois theory, modules, Noetherian and Artinian rings, tensor products, primitive rings, semisimple rings, and modules, the Wedderburn-Artin theorem.

Prerequisites: MATH 6300 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8300 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8320 Ring Theory I

[3 credit hours]

Radical theory, rings of quotients, Goldie's Theorem, chain conditions, dimensions of rings, module theory, topics in commutative rings.

Prerequisites: MATH 6310 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8310 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8330 Ring Theory II

[3 credit hours]

Advanced topics in ring theory. Possible topics include group rings, enveloping algebras, almost split sequences, PI-rings, division rings, self-injective rings, and ordered rings.

Prerequisites: MATH 6310 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8310 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8340 Group Theory I

[3 credit hours]

Fundamental topics in group theory. Possible topics include free groups, presentations, free products and amalgams, permutation groups, abelian groups, nilpotent and solvable groups, subnormality, extensions, the Schur-Zassenhaus theorem, the transfer homomorphism, linear methods, local analysis.

Prerequisites: MATH 6310 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8310 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH8350 Group Theory II

[3 credit hours]

Advanced topics in group theory. Possible topics include cohomolgy of groups, locally finite groups, character theory, modular representation theory, representation theory of symmetric and classical groups, finite simple groups, geometric group theory.

Prerequisites: MATH 6310 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8310 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH8400 Topology I

[3 credit hours]

Topological spaces, continuous functions, compactness, product spaces, Tychonov's theorem, quotient spaces, local compactness, homotopy theory, the fundamental group, covering spaces.

Prerequisites: MATH 7450 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 4450 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 5450 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH8410 Topology II

[3 credit hours]

Homology theory, excision, homological algebra, the Brouwer fixed point theorem, cohomology, differential manifolds, orientation, tangent bundles, Sard' theorem, degree theory.

Prerequisites: MATH 6400 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8400 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH8440 Differential Geometry I

[3 credit hours]

Introduction to differential geometry. Topics include differentiable manifolds, vector fields, tensor bundles, the Frobenius theorem, Stokes' theorem, Lie groups.

Prerequisites: MATH 6410 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8410 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH8450 Differential Geometry II

[3 credit hours]

Topics include connections on manifolds, Riemannian geometry, the Gauss-Bonnet theorem. Further topics may include: homogeneous and symmetric spaces, minimal surfaces. Morse theory, comparison theory, vector and principal bundles.

Prerequisites: MATH 6440 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8440 FOR LEVEL GR WITH MIN. GRADE OF D-

MATH8500 Ordinary Differential Equations

[3 credit hours]

Existence, uniqueness and dependence on initial conditions and parameter, nonlinear planar systems, linear systems, Floquet theory, second order equations, Sturm-Liouville theory.

MATH8510 Partial Differential Equations

[3 credit hours]

First order quasi-linear systems of partial differential equations, boundary value problems for the heat and wave equation, Dirichlet problem for Laplace equation, fundamental solutions for Laplace, heat and wave equations.

MATH8520 Dynamical Systems I

[3 credit hours]

Topic include the flow-box theorem, Poincare maps, attractors, w-limit sets, Lyapunov stability, invariant submanifolds, Hamiltonian systems and symplectic manifolds.

Prerequisites: MATH 6500 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8500 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8540 Partial Differential Equations I

[3 credit hours]

Possible topics may include: the Cauchy-Kovalevskaya Theorem, nonlinear partial differential equations of the first order, theory of Sobolev spaces, linear second order PDE's of elliptic, hyperbolic and parabolic type.

Prerequisites: MATH 6510 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8510 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8550 Partial Differential Equations II

[3 credit hours]

Selected topics in Partial Differential Equations of current interest emphasizing nonlinear theory. Possible topics may include: Minimal surfaces, applications of the Hopf maximum principle, free boundary value problems, harmonic maps, geometric evolution equations and the Navier-Stokes equation.

Prerequisites: MATH 6540 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8540 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8600 Statistical Consulting

[1-5 credit hours]

Real data applications of various statistical methods, project design and analysis including statistical consulting experience. May be repeated for credit.

MATH8610 Statistical Consulting I And II

[2 credit hours]

Real data applications of various statistical methods, project design and analysis including statistical consulting experience.

MATH8620 Categorical Data Analysis

[3 credit hours]

Important methods and modeling techniques using generalized linear models and emphasizing loglinear and logit modeling.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 7680 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8630 Nonparametric Statistics

[3 credit hours]

Statistical methods based on counts and ranks; methods designed to be effective in the presence of contaminated data or error distribution misspecification.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF C- OR MATH 7680 FOR LEVEL GR WITH MIN. GRADE OF C-

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MATH8640 Topics In Statistics

[3 credit hours]

Topics selected from an array of modern statistical methods such as survival analysis, nonlinear regression, Monte Carlo methods, etc.

MATH8650 Statistical Inference

[3 credit hours]

Estimation, hypothesis testing, prediction, sufficient statistics, theory of estimation and hypothesis testing, simultaneous inference, decision theoretic models.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 7680 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8670 Measure Theoretic Probability

[3 credit hours]

Real analysis, probability spaces and measures, random variables and distribution functions, independence, expectation, law of large numbers, central limit theorem, zero-one laws, characteristic functions, conditional expectations given a s-algebra, martingales.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 7680 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8680 Theory Of Statistics

[3 credit hours]

Exponential families, sufficiency, completeness, optimality, equivariance, efficiency. Bayesian and minimax estimation. Unbiased and invariant tests, uniformly most powerful tests. Asymptotic properties for estimation and testing. Most accurate confidence intervals.

MATH8690 Multivariate Statistics

[3 credit hours]

Multivariate normal sampling distributions, T tests and MANOVA, tests on covariance matrices, simultaneous inference, discriminant analysis, principal components, cluster analysis and factor analysis.

Prerequisites: MATH 5690 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 6650 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8650 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8720 Methods Of Mathematical Physics I

[3 credit hours]

Analytic functions, residues, method of steepest descent, complex differential equations, regular singularities, integral representation, real and complex vector spaces, matrix groups, Hilbert spaces, coordinate transformations.

MATH8730 Methods Of Mathematical Physics II

[3 credit hours]

Self-adjoint operators, special functions, orthogonal polynomials, partial differential equations and separation of variables, boundary value problems, Green¿s functions, integral equations, tensor analysis, metrics and curvature, calculus of variations, finite groups and group representations.

Prerequisites: MATH 6720 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8720 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8800 Real Analysis I

[3 credit hours]

Completeness, connectedness and compactness in metric spaces, continuity and convergence, Stone-Weierstrass Theorem, Lebesgue measure and integration on the real line, convergence theorems, Egorov's and Lusin's theorems, derivatives, functions of bounded variation.

Prerequisites: MATH 7830 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 4830 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 5830 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8810 Real Analysis II

[3 credit hours]

The Vitali covering theorem, absolutely continuous functions, Lebesgue-Stieltjes integration, the Reisz representation theorem, Banach spaces, Lp-spaces, abstract measures, the Radon-Nikodym theorem, measures on locally compact Hausdorff spaces.

Prerequisites: MATH 6800 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8800 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8820 Functional Analysis I

[3 credit hours]

Topics include Topological vector spaces, Banach spaces, convexity, the Hahn-Banach theorem, weak and strong topologies, Lp spaces and duality.

Prerequisites: MATH 6810 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8810 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8830 Functional Analysis II

[3 credit hours]

Topics include the Mackey-Ahrens Theorem, Banach algebras, spectra in Banach algebras, commutative Banach algebras, unbounded operators, the spectral theorem, topics in functional analysis.

Prerequisites: MATH 6820 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8820 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8840 Complex Analysis I

[3 credit hours]

Elementary analytic functions, complex integration, the residue theorem, infinite sequences of analytic functions, Laurent expansions, entire functions.

Prerequisites: MATH 6800 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8800 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8850 Complex Analysis II

[3 credit hours]

Meromorphic functions, conformal mapping, harmonic functions and the Dirichlet problem, the Riemann mapping theorem, monodromy, algebraic functions, Riemann surfaces, elliptic functions and the modular function.

Prerequisites: MATH 6840 FOR LEVEL GR WITH MIN. GRADE OF D- OR MATH 8840 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8870 Measure Theoretic Probability II

[3 credit hours]

Focus on stochastic processes.Conditional expectations, martingales, random walks, markov chains, ergodic theorem, brownian motion.

Prerequisites: MATH 5680 FOR LEVEL GR WITH MIN. GRADE OF D- AND MATH 6860 FOR LEVEL GR WITH MIN. GRADE OF D- AND MATH 8860 FOR LEVEL GR WITH MIN. GRADE OF D-

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MATH8930 Colloquium

[1 credit hour]

Lectures by visiting mathematicians and staff members on areas of current interest in mathematics.

MATH8940 Proseminar

[1-5 credit hours]

Problems and techniques of teaching elementary college mathematics, supervised teaching, seminar in preparation methods.

MATH8980 Topics In Mathematical Sciences

[3 credit hours]

Special topics in Mathematics or Statistics.

MATH8990 Readings In Mathematics

[1-5 credit hours]

Readings in areas of Mathematics of mutual interest to the student and the professor.

MBA604 Supply Chain Management

[3 credit hours]

Focuses on how supply chains create value for organizations, their suppliers and customers. Explores supply, operations, and logistics processes and how they are integrated with other functions within the firm and across organizations. Examines supply chain strategy; product, process, and service design; quality and lean; planning, control, and measurement systems; and ethical and environmental decisions. Prerequisite: MBA students only or with permission of Graduate and Executive Studies in Business. Approved for Distance Ed

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MBA608 Leading Organizational Success

[3 credit hours]

Understanding the effective functioning of individuals, groups and teams in organizations. Emphasizes application of behaviorial science knowledge to major organizational issues such as performance, decision making, communication, conflict, and leadership. Employs a cross-cultural perspective. Prerequisite: M.B.A. students only or consent of Graduate Studies in Business. Not open to students with credit for ORGD 6080.

MBC2960 Undergraduate Research

[1-6 credit hours]

Development and pursuit of undergraduate research in Medicinal and Biological Chemistry.

MBC3100 Practices in Pharmaceutical Research

[1 credit hour]

Consideration of the scientific, ethical, and legal obligations expected in the conduct of academic and industrial pharmaceutical research.

MBC3310 Medicinal Chemistry I: Drug Action And Design

[2 credit hours]

An introductory course presenting the basic chemical principles governing the behavior of drugs and the design of new therapeutics.

Prerequisites: CHEM 2420 FOR LEVEL UG WITH MIN. GRADE OF D-

MBC3320 Medicinal Chemistry II: Endocrine, Reproductive, and Cardiology Drugs

[2 credit hours]

A course presenting basic chemical principles governing the design and behavior of therapeutics targeted to receptors in physiologic systems which are key to the integrated control of human metabolism.

Prerequisites: (MBC 3310 FOR LEVEL UG WITH MIN. GRADE OF D- AND MBC 3550 FOR LEVEL UG WITH MIN. GRADE OF D-)

MBC3330 Techniques in Pharmaceutical and Medicinal Chemistry

[2 credit hours]

A consideration and application of analytic and chemistry techniques useful for pharmaceutical and medicinal chemistry students.

MBC3340 Techniques in Pharmaceutical and Medicinal Chemistry Laboratory

[1 credit hour]

A laboratory course that fosters development of analytical and chemistry techniques useful for pharmaceutical and medicinal chemistry students.

MBC3550 Physiological Chemistry I: Structure And Function Of Biological Macromolecules

[3 credit hours]

An examination of the levels of structure of proteins, nucleic acids, other biomolecules and biomolecular assemblies.

MBC3560 Physiological Chemistry II: Chemical Regulation Of Cells And Organisms

[3 credit hours]

An examination of the chemistry and regulation of metabolic processes in cells, interacting cells and tissues.

Prerequisites: MBC 3550 FOR LEVEL UG WITH MIN. GRADE OF D-

MBC3800 Microbiology And Immunology

[3 credit hours]

A lecture course with emphasis on how the immune system protects the body against bacterial, viral and parasitic invaders. Medically important human infectious diseases are described as well as chemotherapeutic intervention.

Prerequisites: MBC 3550 FOR LEVEL UG WITH MIN. GRADE OF D-

MBC3850 Microbiology And Immunology Laboratory

[1 credit hour]

A laboratory course that follows the course material presented in MBC 3800. Both immunology and microbiology experiments that are medically useful and clinically important will be performed.

MBC3880 Medicinal And Biological Chemistry Laboratory

[3 credit hours]

Laboratory and lecture teaching fundamental laboratory skills in synthetic medicinal chemistry.

MBC4300 MEDICINAL CHEMISTRY III: INFECTIOUS DISEASE CHEMOTHERAPY

[2 credit hours]

The chemical basis for the action of drugs and immune system products that counter infectious disease.

Prerequisites: MBC 3800 FOR LEVEL UG WITH MIN. GRADE OF C

MBC4380 Medicinal Plants

[3 credit hours]

A lecture/field course emphasizing medicinal and poisonous plants of this locale.

MBC4470 Advanced Immuno-Therapeutics

[2 credit hours]

This course emphasizes the development of methods for immunotherapeutic intervention in cancer and autoimmune and infectious disease. The course has a seminar/discussion/student presentation format.

Prerequisites: MBC 4300 FOR LEVEL UG WITH MIN. GRADE OF D-

MBC4710 Targeted Drug Design

[3 credit hours]

A survey of novel macromolecular targeting approaches to drug design in important human disorders. The course has a seminar/discussion/student presentation format.

Prerequisites: MBC 3320 FOR LEVEL UG WITH MIN. GRADE OF D-

MBC4720 Advances In Drug Design

[3 credit hours]

A survey of novel approaches to drug design and development. The course has a seminar/discussion/student presentation format.

Prerequisites: MBC 3320 FOR LEVEL UG WITH MIN. GRADE OF D-

MBC4780 Internship in Medicinal Chemistry

[6-12 credit hours]

An experiential course in which students acquire practical knowledge through hands-on experience in an area of medicinal and biological chemistry by working in an academic, private or government laboratory or professional site.

Prerequisites: MBC 3320 FOR LEVEL UG WITH MIN. GRADE OF D- AND MBC 3560 FOR LEVEL UG WITH MIN. GRADE OF D-

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MBC4850 Advanced Immunology And Tissue Culture Laboratory

[1-10 credit hours]

Research experience in medicinally related immunology including literature investigations, tissue culture, cell sorting and sterile biotechniques and culminating with a seminar and written report.

MBC4870 Biomedicinal Chemistry Laboratory

[1-10 credit hours]

Research experience in biomedicinal chemistry including literature investigations and chemical synthesis of medicinally important compounds and culminating with a seminar and written report.

MBC4900 Honors Seminar In Medicinal And Biological Chemistry

[1-3 credit hours]

An examination of a specific question in the context of the primary literature in medicinal or biological chemistry.

MBC4910 Problems In Biomedicinal Chemistry

[1-3 credit hours]

Selected study of topics in biomedicinal chemistry. New chemical and biochemical strategies in drug design are examined in detail.

MBC4950 Research In Medicinal Chemistry

[3-8 credit hours]

Selected research and study in medicinal chemistry.

MBC4960 Honors Thesis In Medicinal And Biological Chemistry

[2-5 credit hours]

An examination of a specific research question in medicinal or biological chemistry that can be answered through experimental work.

MBC4980 Special Topics In Drug Design

[1-4 credit hours]

A detailed examination of new chemical and biochemical strategies in drug design.

Prerequisites: (MBC 3320 FOR LEVEL UG WITH MIN. GRADE OF D- AND MBC 3560 FOR LEVEL UG WITH MIN. GRADE OF D-)

MBC5100 Ethical Conduct Research

[1 credit hour]

Consideration of the scientific, ethical and legal obligations of the graduate student researcher.

MBC5300 Molecular Basis of Cancer Chemotherapy

[1 credit hour]

Discussion of molecular properties and mechanisms of action that form the basis of current and emergent cancer chemotherapies.

MBC5380 Medicinal And Poisonous Plants

[3 credit hours]

Lecture/field course examining medicinal and harmful properties of herbals and plants using pharmacognosy, clinical trials and local plant examples.

MBC5620 Biochemical Techniques

[2 credit hours]

A detailed study of biochemical laboratory techniques necessary for the development of novel therapeutics, including bioassays and data analysis.

MBC5900 Medicinal Chemistry Seminar

[1 credit hour]

Presentation and discussion of advanced research topics in medicinal chemistry, with an emphasis on evaluating and criticizing emerging data as a way of testing hypotheses.

MBC6100 Advanced Immunology

[2 credit hours]

Readings in and critical analysis of the recent literature in immunology and basic immunologic responses, especially as considered in immunotherapy.

MBC6190 Advanced Medicinal Chemistry

[4 credit hours]

Discussion of the qualitative and quantitative aspects of the design of new therapeutic agents. Approaches to the design of drugs and new therapeutic modalities directed at enzymes, receptors, membrane transport proteins and nucleic acids are examined.

MBC6200 Biomedicinal Chemistry

[4 credit hours]

Examination of the primary literature on approaches to the design of new therapeutic agents. Recent novel directions in the design of drugs will be examined and compared.

Prerequisites: MBC 6190 FOR LEVEL GR WITH MIN. GRADE OF D-

MBC6300 Biomedicinal Chemistry Laboratory I

[1 credit hour]

Experimental research problems in biomedicinal chemistry.

Prerequisites: (MBC 6190 FOR LEVEL GR WITH MIN. GRADE OF D- AND MBC 6550 FOR LEVEL GR WITH MIN. GRADE OF D-)

MBC6310 Biomedicinal Chemistry Laboratory II

[3 credit hours]

Additional experimental research problems in biomedicinal chemistry (see MBC 6300/8300).

Prerequisites: (MBC 6190 FOR LEVEL GR WITH MIN. GRADE OF D- AND MBC 6550 FOR LEVEL GR WITH MIN. GRADE OF D-)

MBC6320 NEUROLOGICAL AND PSYCHIATRIC DRUGS

[1 credit hour]

A course analyzing the chemical and mechanistic basis for the modulation of neurologically based attributes and disorders.

MBC6420 Protein Chemistry

[4 credit hours]

A detailed analysis of the structure and function of proteins: current methodology for the analysis of structure, the basis for molecular associations, and relationships between structure and biological function.

Prerequisites: MBC 6550 FOR LEVEL GR WITH MIN. GRADE OF D-

MBC6430 Nucleic Acid Chemistry

[4 credit hours]

The chemical basis for storage and transmission of genetic information.

Prerequisites: MBC 6550 FOR LEVEL GR WITH MIN. GRADE OF D-

MBC6440 Enzymology

[4 credit hours]

The principles of chemical catalysis applied to molecular enzymology.

MBC6450 Advanced Synthetic and Medicinal Chemistry

[2 credit hours]

Readings in and critical analysis of recent literature in synthetic and medicinal chemistry research.

MBC6550 Biochemistry

[4 credit hours]

A consideration of the structure and function of biological macromolecules as well as the basic and regulated metabolism of cells.

MBC6960 M.s. Thesis Research In Medicinal Chemistry

[1-15 credit hours]

Development and pursuit of research leading to an M.S. thesis in medicinal chemistry.

MBC6980 Special Topics In Biomedicinal Chemistry

[1-5 credit hours]

Selected study of topics in medicinal chemistry. New chemical and biochemical strategies in drug design are examined in detail.

MBC7100 Ethnical Conduct of Research

[1 credit hour]

Consideration of the scientific, ethical and legal obligations of the graduate student researcher.

MBC7620 Biochemical Techniques

[2 credit hours]

A detailed study of biochemical laboratory techniques necessary for the development of novel therapeutics, including bioassays and data analysis.

MBC7900 Medicinal Chemistry Seminar

[1 credit hour]

Presentation and discussion of advanced research topics in medicinal chemistry, with an emphasis on evaluating and criticizing emerging data as a way of testing hypotheses.

MBC8100 Advanced Immunology

[2 credit hours]

Readings in and critical analysis of the recent literature in immunology and basic immunologic responses, especially as considered in immunotherapy.

MBC8190 Advanced Medicinal Chemistry

[4 credit hours]

Discussion of the qualitative and quantitative aspects of the design of new therapeutic agents. Approaches to the design of drugs and new therapeutic modalities directed at enzymes, receptors, membrane transport proteins and nucleic acids are examined.

MBC8200 Biomedicinal Chemistry

[4 credit hours]

Examination of the primary literature on approaches to the design of new therapeutic agents. Recent novel directions in the design of drugs will be examined and compared.

Prerequisites: MBC 8190 FOR LEVEL GR WITH MIN. GRADE OF D-

MBC8300 Biomedicinal Chemistry Laboratory I

[1 credit hour]

Experimental research problems in biomedicinal chemistry.

Prerequisites: (MBC 6190 FOR LEVEL GR WITH MIN. GRADE OF D- AND MBC 8550 FOR LEVEL GR WITH MIN. GRADE OF D-)

MBC8310 Biomedicinal Chemistry Laboratory II

[3 credit hours]

Additional experimental research problems in biomedicinal chemistry (see MBC 6300/8300).

Prerequisites: (MBC 6190 FOR LEVEL GR WITH MIN. GRADE OF D- AND MBC 8550 FOR LEVEL GR WITH MIN. GRADE OF D-)

MBC8420 Protein Chemistry

[4 credit hours]

A detailed analysis of the structure and function of proteins: current methodology for the analysis of structure, the basis for molecular associations, and relationships between structure and biological function.

MBC8430 Nucleic Acid Chemistry

[4 credit hours]

The chemical basis for storage and transmission of genetic information.

MBC8440 Enzymology

[4 credit hours]

The principles of chemical catalysis applied to molecular enzymology.

MBC8450 Advanced Synthetic and Medicinal Chemistry

[2 credit hours]

Readings in and critical analysis of recent literature in synthetic and medicinal chemistry research.

MBC8550 Biochemistry

[4 credit hours]

A consideration of the structure and function of biological macromolecules as well as the basic and regulated metabolism of cells.

MBC8960 Ph.d. Dissertation Research In Medicinal Chemistry

[1-15 credit hours]

Development and pursuit of research leading to a Ph.D. dissertation in medicinal chemistry.

MBC8980 Special Topics In Biomedicinal Chemistry

[1-5 credit hours]

Selected study of topics in medicinal chemistry. New chemical and biochemical strategies in drug design are examined in detail.

MC5040 Communication and Conflict

[3 credit hours]

Fall, Spring. Communication skills in conflict situtations in dyadic, group, and organizational settings; negotiation, mediation, and arbitration processes. Credit cannot be earned in both this course and COMM 4040. Approved for Distance Education. Offered as part of the UT/BGSU consortium.

MED1000 Music Education Lab

[0- credit hours]

Experiential learning for music education majors. All music education majors must register for this course when enrolled in the following classes: MUS 1500, 1510, 1530, 1550, 1560, 3500, 3510, 3520, or any MED course. A total of 5 semesters is required. Offered as P/NC only. - 0 hours.

MED3000 Foundations Of Music Education

[2 credit hours]

General overview of music education. Addresses history and philosophy of music education, music in a diverse society, classroom observation skills, analysis of music teaching, classroom communication and educational theories.

MED3030 Music For The Early Childhood Teacher

[2 credit hours]

Topics: Children's voices, music literacy, appreciation, creativity, classroom instruments. Analysis of music books, comparative methodology, curriculum integration. May include field experience.

Prerequisites: MUS 2200 FOR LEVEL UG WITH MIN. GRADE OF C

MED3300 Elementary And Secondary School Instrument Methods For Music Majors

[3-4 credit hours]

Choral/Gen cluster 3 cr.; Inst cluster 4 cr. A study of the techniques and teaching procedures used in the presentation of the instrumental music program in elementary and secondary schools. Field experience required. Includes participation in MUS 1000:002.

MED3310 Music For Children

[3 credit hours]

Topics: Children's voices, music reading readiness and music reading, appreciation, creativity, use of classroom instruments. Projects: Analysis of music books for children, a comparative review of Orff, Kodaly, Dalcroze, & Gordon. Field experience required.

MED3320 Secondary School Vocal Methods For Music Majors

[3-4 credit hours]

Choral/General cluster 4 cr.; Instrumental cluster 3 cr. An overview of secondary school problems of vocal music education. Field experience required. Includes participation in MUS 1000:002.

MED3330 Early Childhood Music Methods For Music Majors

[3 credit hours]

Topics include children's voices, music readiness skills, appreciation, creativity, use of classroom instruments. Projects include keyboard technology, analysis of basic series, a comparative review of Orff, Kodaly, Dalcroze and Gordon. Includes computer and keyboard technology and field experience.

MED4230 Integrating Aesthetic Experience

[3 credit hours]

This course will provide students majoring in education an overview of the role of music and art in educational curriculum development. Students will learn about the history of art and music through lecture, discussion and participation in art and music activities and develop methods of teaching art and music in the classroom. Interdisciplinary teaching and curriculum planning methods will be a focus of the course, affording students methods of incorporating the historical, cultural and social aspects of art and music in a general curriculum. (Students may enroll in either the Music or Art Education Sections)

MED4900 Student Teaching Seminar

[2 credit hours]

This course is required for all music education majors. This course focuses reflectivity on common experiences in student teaching. Attention is also given to resume preparation, portfolio use and job interviews.

MED4930 Student Teaching

[6-12 credit hours]

This course is required for all music education majors. Planned field experiences in public school classrooms under the direction of University supervisors. Observation of teaching of experienced teachers; gradual acceptance of full teaching responsibility by student teacher. Must register for 6 hours elementary and 6 hours secondary.

Prerequisites: UPDV FOR MIN. SCORE OF 1

MED4990 Individual Study In Music Education For Undergraduate Students

[1-3 credit hours]

Individual study is designed to provide a student with the opportunity to work individually on professional interests and concerns under the direction of the faculty of the Department of Music.

MED5340 Curriculum Development In Music Education

[3 credit hours]

The impact of historical, sociological and philosophical influences on various music curricula, past and present. Integration of skill development and content learning for designing comprehensive and sequential objectives for school music programs.

MED5360 Pedagogy Of Aural Perception

[3 credit hours]

Theory and techniques for teaching of musical skills. Sequences for development of tonal and rhythm skills, techniques and materials for instruction plus measurement and evaluation of music learning.

MED5370 Psychology Of Music

[3 credit hours]

Study of theories of musical behavior and pattern perception.

MED5990 Independent Study In Music Education

[1-3 credit hours]

Individual study is designed to provide a student the opportunity to work independently on professional problems under the direction of the faculty of the Department of Music.

MED6920 Master's Research Project In Music Education

[1-3 credit hours]

Open to the graduate student who elects a research project to fulfill the research requirement of the master's degree program.

MED6930 Seminar - Selected Topics In Music Education

[1-3 credit hours]

Critical inquiry into specific topics through lectures, class seminar reports and discussion. Seminar topics announced in schedule of classes.

MED6960 Master's Research Thesis In Music Education

[1-3 credit hours]

Open to the graduate student who elects a master's thesis to fulfill the research requirement of the master's degree program.

MED6980 Music Education: Special Topics

[1-3 credit hours]

The area of study will be announced at the time the course is offered.

MEDI6050 Advanced Biostatistics

[1-3 credit hours]

Application of advanced statistical techniques with particular emphasis on problems in the biomedical sciences. Multiple regression, methods of analysis of variance, categorical data analysis including logistic regression, nonparametric and survival analysis. Problems whose solutions involve using a statistical program (SAS or SPSS).

MEDI6200 Managed Health Care

[2 credit hours]

This course will enable the health care professional to understand those forces driving change in the managed care era and will help prepare them for the future.

MEDI6720 Current Topics in Medicine

[0-4 credit hours]

A lecture and/or seminar course on topics of current interest in medicine with special emphasis on the fundamentals of human life under normal, experimental, or pathological conditions. May be repeated for credit.

MEDI6730 Research in Medicine

[0-4 credit hours]

Student will participate in selected ongoing research programs of members of the staff. May be repeated for credit.

MEDI6890 Independent Study in Medicine

[0-12 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit.

MEDI703 Medicine

[15 credit hours]

Internal Medicine Clerkship (10 weeks)

MEDI704 Acting Internship in Medicine

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P (MAY BE TAKEN CONCURRENTLY) OR MEDI 740 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI705 Cardiology

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

MEDI706 Dermatology

[0-6 credit hours]

Students will see outpatients: 10 half days in Ambulatory Private Patient Care at UTMC. Additional responsibilities include taking histories & physicals, assisting in minor surgeries, as well as consultation rounds. Reading of selected dermatologic textbooks during the clerkship is also expected.

MEDI707 Endocrinology

[6 credit hours]

The students will have the opportunity to expand their knowledge of endocrinology by actively participating in the initial evaluation, diagnosis, and management of patients with endocrine and metabolic problems under the supervision of a faculty member.The clerk is expected to attend and participate in the diabetic and endocrine clinics. Also they will participate in the care of inpatients with endocrine and metabolic disorders and patients seen in consultation.The clerk is expected to attend the Endocrinology Conference held once monthly and the weekly medical Mortality & Morbidity Conference and Medical Grand Rounds.In addition, the clerks will be given the opportunity to participate in the performance of endocrine function tests (pituitary function tests, adrenal function tests, etc.).At the end of the rotation, the student is expected to be able to:1. Recognize the symptoms and signs of the most common endocrine and metabolic disorders.2. List the indications, contraindications, and be able to interpret commonly used endocrine function tests.3. Analyze the clinical and laboratory data and identify the most likely diagnosis.4. Submit proper therapeutic recommendations.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI708 CVM Clerkship

[6 credit hours]

Under supervision, students take on the responsibility of first year residents for a limited number of patients with primarily acute problems including myocardial infarction, heart failure, and arrhythmias. Teaching work rounds are held seven times a week and attending conferences are held three times a week. Students will not be permitted to elect two 4 week periods in Intensive Care Units as part of the required Subinternship. After this offering is elected, a decision to drop will require approval of the responsible agent.

MEDI709 Gastroenterology

[6 credit hours]

This course provides a focused opportunity for the senior student to study gastroenterologic and hepatologic diseases in both inpatient and outpatient settings.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI710 General Internal Medicine

[0-6 credit hours]

This is an elective that serves to strengthen basic science experiences and clerkship experiences. It also serves to provide further knowledge and clinical base necessary for transition to residency program.

MEDI711 Geriatric Medicine

[0-6 credit hours]

This is an elective designed to give the student a broad exposure to types of health problems faced by older adults as well as settings in which Geriatric Medicine is practiced. Weekly or biweekly discussion sessions complement clinical experiences in outpatient, long term care and home based sites.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI712 Heart Station

[0-6 credit hours]

The primary goal is to expand the student¿s fund of knowledge in electrocardiography. This elective will also give the student an opportunity to investigate a particular topic in some depth and present his/her findings to the cardiology staff at a house staff/student conference.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI713 Hematology/Oncology

[0-6 credit hours]

The student will perform histories and physical exams on inpatients and outpatients, participate in daily hospital rounds, lab and microscope use and interpretation. The student will observe bone marrow aspiration and biopsy.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI714 Infectious Disease

[0-6 credit hours]

The student is expected to know how to evaluate patients who present with possible infectious diseases including, but not restricted to, fevers of unknown origin, acute febrile episodes, urinary tract infections, pneumonia, endocarditis, parasitic infestation, postoperative fever, AIDS. Decide upon the appropriate therapeutic and diagnostic approach for each patient evaluated; follow all patients on a daily basis; review the medical literature on diseases seen on service. The student, by the end of the clerkship, should be able to perform and identify organisms on Gram stain and according to source, make a reasonable estimate of what the organisms are. Be familiar with the general microbiology laboratory and how it can be useful in patient management; know the appropriate means of obtaining cultures from various sites.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI715 Nephrology

[0-6 credit hours]

This elective consists of a mixture of acting internship inpatient consultation, and outpatient experiences. The student will have primary and/or consultative responsibility for patients who have a variety of acid-base and electrolyte disorders and problems in clinical nephrology and renal transplantation. The principal method of learning will be problem-based case analysis on inpatient/consultative rounds. The student will be directed to do in depth reading regarding his patients and selected topics. In addition, ad hoc seminars on relevant topics will be scheduled for the members of the Nephrology Service. To optimize the students efficiency and ability to utilize library, radio pager is furnished.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI716 Pulmonary Medicine

[0-6 credit hours]

Student(s) will assist in consultations and management of a wide variety of patients with pulmonary diseases. This will include In-patient and outpatient consultations, hospital ward, and SICU patients. Participation in procedures including bronchoscopies. intubations, lung and chest wall biopsies, cardiopulmonary exercise testing and pulmonary function testing will occur throughout the month. A didactic and bedside lecture course related to the pathophysiology of pulmonary diseases and pulmonary disease will be presented.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI717 Rheumatology

[0-6 credit hours]

The intent of the clerkship is to make students skillful in the differential diagnosis of the common rheumatic disorders, the collagen vascular diseases and chronic pain syndromes. All students will be provided with a core packet of materials that form the scientific basis for the practice of rheumatology. The students make rounds on the consultative rheumatology service as well as participate in taking care of in-house hospital patients. Monday, Wednesday, Thursday and Friday mornings and Tuesday and Wednesday afternoons will be spent in the clinic evaluating new clinic patients with rheumatic diseases and return visits from patients previously seen in the rheumatology clinic. The clinic experience will hopefully provide the opportunity for the student to gain experience in the art of arthrocentesis as well as the soft tissue injection. Emphasis will also be placed on the radiologic interpretation of rheumatic disease and rheumatology/radiology rounds constitute an important part of the rotation. During the rotation, the student will work closely with the resident or residents on the service.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI722 Endocrinology

[3 credit hours]

The students will have the opportunity to expand their knowledge of endocrinology by actively participating in the initial evaluation, diagnosis, and management of patients with endocrine and metabolic problems under the supervision of a faculty member.The clerk is expected to attend and participate in the diabetic and endocrine clinics. Also they will participate in the care of inpatients with endocrine and metabolic disorders and patients seen in consultation.The clerk is expected to attend the Endocrinology Conference held once monthly and the weekly medical Mortality & Morbidity Conference and Medical Grand Rounds.In addition, the clerks will be given the opportunity to participate in the performance of endocrine function tests (pituitary function tests, adrenal function tests, etc.).At the end of the rotation, the student is expected to be able to:1. Recognize the symptoms and signs of the most common endocrine and metabolic disorders.2. List the indications, contraindications, and be able to interpret commonly used endocrine function tests.3. Analyze the clinical and laboratory data and identify the most likely diagnosis.4. Submit proper therapeutic recommendations.

MEDI723 Medical Intensive Care Unit

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 740 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI724 Clinical Laboratory Hematology

[6 credit hours]

This elective is designed to provide the students with an opportunity to gain the knowledge, skills and attitude required to diagnose and manage hematologic disorders. In addition, the student will have opportunities to gain the fundamental skills in the laboratory aspects of hematology, to include routine hematology laboratory, hemostasis and blood banking. Safety in handling of blood and blood products will be learned.

MEDI725 Cardiology Consults

[6 credit hours]

Students will be assigned new patients, and will also be exposed to some out-patient cardiology. They will work directly with the cardiac consult service under the supervision of the cardiology attending and medical residents assigned to this service. They will be expected to work up and present patients they have evaluated on this service. There is no call required. Students will participate in Morning Report, Noon Conferences, Grand Rounds, and other lectures.

MEDI728 Sleep Medicine Elective - UTMC

[6 credit hours]

This 4 week elective will provide a general overview of sleep medicine. Students will be exposed to many different sleep disorders and how they can affect a person's general health or be caused by other medical diseases or medications.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI729 Nephrology AI - Riverside

[6 credit hours]

Clinical: The student works with house staff and attending physicians in caring for patients on the nephrology ward. A variety of both acute and chronic renal disorders are seen. Experience with dialysis patients in obtained. The student has primary responsibility for 2 ¿ 4 patients, including initial evaluation, admission disorders, H&P, procedures (with supervision), daily management/order writing, communication with consultants and discharge planning. The student is expected to function as an intern on a team. In-house call 5 times per month. Didactic: As assigned, as well as attendance at and/or participation in Morning Report, Noon Conference, Grand Rounds and student lectures.

MEDI730 Dermatology

[0-3 credit hours]

Students will see outpatients: 10 half days in Ambulatory Private Patient Care at UTMC. Additional responsibilities include taking histories & physicals, assisting in minor surgeries, as well as consultation rounds. Reading of selected dermatologic textbooks during the clerkship is also expected.

MEDI731 Gastroenterology

[3 credit hours]

This course provides a focused opportunity for the senior student to study gastroenterologic and hepatologic diseases in both inpatient and outpatient settings.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI732 Rheumatology

[3 credit hours]

The intent of the clerkship is to make students skillful in the differential diagnosis of the common rheumatic disorders, the collagen vascular diseases and chronic pain syndromes. All students will be provided with a core packet of materials that form the scientific basis for the practice of rheumatology. The students make rounds on the consultative rheumatology service as well as participate in taking care of in-house hospital patients. Monday, Wednesday, Thursday and Friday mornings and Tuesday and Wednesday afternoons will be spent in the clinic evaluating new clinic patients with rheumatic diseases and return visits from patients previously seen in the rheumatology clinic. The clinic experience will hopefully provide the opportunity for the student to gain experience in the art of arthrocentesis as well as the soft tissue injection. Emphasis will also be placed on the radiologic interpretation of rheumatic disease and rheumatology/radiology rounds constitute an important part of the rotation. During the rotation, the student will work closely with the resident or residents on the service.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI734 Nephrology

[3 credit hours]

A four week rotation for fourth year medical students interested in pursuing Nephrology as a specialty. There is a great opportunity for dialysis observation and management, and most of the rotation relates to etiology and management of chronic renal failure.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI735 Cardiology

[3 credit hours]

Exposure to EKGs, Echocardiography and stress testing, cardiac catherization and critical care of cardiac patients. Inpatient and outpatient histories and physical exams. Observation if appropriate in cardiac surgery.

MEDI736 Inpatient Hematology/Oncology

[3 credit hours]

This elective is designed to provide the students with an opportunity to gain the knowledge, skills and attitude required to diagnose and manage hospitalized patients hematologic and oncologic disorders.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI737 Outpatient Hematology/Oncology

[3 credit hours]

This elective is designed to provide the students with an opportunity to gain the knowledge, skills and attitude required to diagnose and manage hematologic and oncologic disorders through evaluating patients, students will complete supervised history & physicals, diagnostic plan, differential diagnosis, treatment plan and follow-up and discharge planning.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI738 Hematology/Oncology

[3 credit hours]

This elective is designed to provide the student with an opportunity to gain the knowledge, skills and attitudes required to diagnose and manage hematologic and oncologic disorders through the evaluation of patients. Students will complete supervised histories and physicals, diagnostic plans, differential diagnoses and follow-up plans.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI739 Infectious Disease

[3 credit hours]

The student is expected to know how to evaluate patients who present with possible infectious diseases including, but not restricted to, fevers of unknown origin, acute febrile episodes, urinary tract infections, pneumonia, endocarditis, parasitic infestation, postoperative fever, AIDS. Decide upon the appropriate therapeutic and diagnostic approach for each patient evaluated; follow all patients on a daily basis; review the medical literature on diseases seen on service. The student, by the end of the clerkship, should be able to perform and identify organisms on Gram stain and according to source, make a reasonable estimate of what the organisms are. Be familiar with the general microbiology laboratory and how it can be useful in patient management; know the appropriate means of obtaining cultures from various sites.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI745 MD/PhD Medicine Elective

[1-2 credit hours]

In the summer after the second year of medical school, MD/PhD students will identify a clinical mentor. This faculty member will be responsible for the clinical training program of the student, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The mentor may change during the course of the student¿s graduate school years, but any change should occur after the end of a semester. Although students may choose a clinical mentor from any department, the following specialties are particularly suited to training MD/PhD students with limited prior clinical training and restricted hours of availability: Internal Medicine: Students may schedule sessions in General Medicine or subspecialty clinics according to interest, or in the hospital setting (though the latter may be more difficult to arrange). Contact: Dr. Christopher Lynn, Clerkship Director. Student time commitment: Students are expected to spend 8 hours per month in clinical training. This can be divided into weekly 2 hour session, biweekly 4 hour sessions or an 8 hour day per month. Students are encouraged to discuss the most appropriate schedule with their laboratory mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. The program should be formalized in writing, and submitted to the MD/PhD Director for approval. Students should see about one patient per hour of training. Students should keep a log of their patients, their diagnoses, and any procedures performed. An electronic logging system for patient experiences will be developed. Credit: Upon completion of 3 years of graduate training, assuming 40 weeks per year of participation, students will have accumulated about 300 hours of clinical experience. This is approximately equivalent to 2 months of clinical electives (8 h/d X 5 d/w X 4 weeks = 160 h/mo), and students will be awarded 2 months of 4th year elective credit for this training upon re-enrolling in the College of Medicine. This credit should allow further flexibility in 4th elective scheduling, enabling additional research months, off site rotations, etc. If students require more than 3 years of graduate work, continued participation in the clinical training program is strongly encouraged, but no more than 2 months of elective time will be awarded.

MEDI760 Hematology Oncology Elective

[6 credit hours]

This elective is designed to provide the student with an opportunity to gain the knowledge, skills and attitudes required to diagnose and manage hematologic and oncologic disorders through the evaluation of patients. Students will complete supervised histories and physicals, diagnostic plans, differential diagnoses and follow-up plans.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI761 Endocrinology Elective

[6 credit hours]

The students will have the opportunity to expand their knowledge of endocrinology by actively participating in the initial evaluation, diagnosis, and management of patients with endocrine and metabolic problems under the supervision of a faculty member. Also they will participate in the care of inpatients with endocrine and metabolic disorders and patients seen in consultations.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI762 Gastroenterology Elective

[6 credit hours]

This course provides a focused opportunity for the senior student to study gastroenterologic and hepatologic diseases in both inpatient and outpatient settings.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI763 Infectious Disease Elective

[6 credit hours]

The student will be exposed to patients who present with possible infectious diseases including but not restricted to fevers of unknown origin, acute febrile episodes, urinary tract infections, pneumonia, endocarditis, parasitic infestation, postoperative fever and AIDS. The student will evaluate and decide upon the appropriate therapeutic and diagnostic approach for each patient. Students will follow all patients on a daily basis and review the medical literature on diseases seen on the service. By the end of the clerkship, the student should be able to perform a Gram stain and identify organisms on this basis. They should be able to describe how the general microbiology laboratory can be useful in patient management. Students will also be able to explain the appropriate means of obtaining cultures from various sites.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI764 Nephrology Elective

[6 credit hours]

A four week rotation for third year medical students interested in pursuing Nephrology as a specialty. There is a great opportunity for dialysis observation and management, and most of the rotation relates to etiology and management of chronic renal failure.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI765 Pulmonary Elective

[6 credit hours]

Clinical clerks will be exposed to critical care/intensive care units, including hemodynamic monitoring and ventilator management. Also evaluations including histories and physicals and care of patients with various lung diseases who had been admitted to the hospital by consultation or admitted on the medical teaching service. Other areas include: clinical application of respiratory physiology (pulmonary function testing), assistance in performance of invasive diagnostic procedures in evaluation of lung disease.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI766 Cardiology Elective

[6 credit hours]

Exposure to EKGs, Echocardiography and stress testing, cardiac catheterization and critical care of cardiac patients. Inpatient and outpatient histories and physical exams. Observation if appropriate in cardiac surgery.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI771 Hospitalist Elective

[3 credit hours]

Students will be exposed to critical care unit in small community hospital. This will include hemodynamic monitoring and ventilator management. Evaluations including histories and physicals and care of patients with various critical care diseases who have been admitted to the hospital. Also, assistance of invasive diagnostic procedures in evaluation of critical care diseases.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI772 Hospitalist Elective

[6 credit hours]

Students will be exposed to critical care unit in small community hospital. This will include hemodynamic monitoring and ventilator management. Evaluations including histories and physicals and care of patients with various critical care diseases who have been admitted to the hospital. Also, assistance of invasive diagnostic procedures in evaluation of critical care diseases.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI773 Cardiovascular Laboratory

[3 credit hours]

The student will have exposure to invasive diagnostic and/or therapeutic procedures performed in the cardiac catheterization lab, electrophysiology lab, as well as the performance of transesophageal echocardiography.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI774 Cardiology - ProMedica TOledo Hospital

[6 credit hours]

Students will evaluate both new admissions and new consults. The student will be expected to follow these patients longitudinally throughout their hospital stay. Additionally students will participate in the reading of ECG's. The supervision and interpretation of stress tests, the interpretation of echocardiograms, the performance of procedures including transesophageal echocardiograms, cardioversions, and cardiac catheterizations. The primary teaching will be one on one and small group discussions related to individual patients. Students will be assigned topics to research and present on rounds. Additionally, during this rotation students will be expected to attend the Friday 7 AM cardiology didactic conference.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 740 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI775 Cardiology - The Toledo Clinic

[3 credit hours]

This clerkship provides the student with exposure to diverse cardiac problems in a setting of a community hospital. The student will be expected to do a history and physical exam on patients assigned to him or her during either admissions to the service or consultation. The student will present the case to the attending cardiologist during rounds. The cardiologist makes rounds on a daily basis and the student is expected to accompany the attending cardiologist on rounds. Students will also have the opportuity to observe various procedures and in appropriate settings may actually assist in doing some procedures. It is anticipated that the students will be allowed to evaluate and follow three to five patients per week.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 740 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI776 Palliative Med/Support Care

[6 credit hours]

This elective is designed to provide the student with an opportunity to understand the goals and objectives of Hospice and Palliative Medicine. Students will round with physicians, nurse practitioners, and nurses with the inpatient hospital service as well as in the inpatient hospice setting. Students will also work with the palliative physicians and nurse practitioners in the outpatient palliative medicine clinic and observe the Interdisciplinary Team process in the outpatient hospice setting.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI777 Ambulatory Internal Medicine

[6 credit hours]

The purpose of this rotation is to provide students with an overview of the clinical specialty of General Internal Medicine as well as provide outpatient exposure to a few medicine subspecialties. You will encounter a number of attending physicians as well as resident physicians during the month. Both will serve as your source of teaching. You will experience a good mix of didactic learning as well as clinical practice.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

MEDI8890 Independent Study in Medicine

[0-12 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit.

MEDT2010 Clinical Laboratory Techniques

[2 credit hours]

This course serves as an introduction to clinical laboratory practice, and should be taken prior to other courses in the MEDT clinical sequence. In addition, we plan to submit this course to match the OHL008 TAG, and it should be offered at the 2000 level.

Prerequisites: BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2180 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1290 FOR LEVEL UG WITH MIN. GRADE OF D-

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MEDT4020 Clinical Hematology

[5 credit hours]

Introduction to the theory, practical application, technical performance and evaluation of hematological procedures. Correlation of clinical laboratory data with the diagnosis and treatment of blood cell diseases.

MEDT4030 Clinical Urinalysis, Body Fluids and Hemostasis

[3 credit hours]

Normal and pathological physiologic function of renal, synovial, seminal, cerebrospinal, serous and amniotic fluids. Comparision of normal and abnormal hemostatic coagulation and fibrinolytic systems and physiology.

MEDT4040 Clinical Chemistry

[5 credit hours]

Analysis of chemical constituents of blood and body fluids in normal and abnormal physiology, including assay performance, test interpretation, quality control and interpretation, and methodological principles.

MEDT4050 Clinical Microbiology

[5 credit hours]

Study of bacteria that are pathogenic or potentially pathogenic to humans with emphasis on principles of testing methodologies, techniques for isolation, identification, and clinical relevance by body site.

Prerequisites: BIOL 4030 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 4040 FOR LEVEL UG WITH MIN. GRADE OF D-

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MEDT4060 Clnical Immunology

[3 credit hours]

Theory and pratical applications of immunodiagnostics and immunopathology, and of molecular diagnostics. Principles of methodologies in relationship to clinical diagnosis and correlation with human disease are stressed.

Prerequisites: BIOL 4050 FOR LEVEL UG WITH MIN. GRADE OF D-

MEDT4070 Clinical Parasitology

[2 credit hours]

Lecture/laboratory sessions cover the major groups of medically important parasites, including amoebae, helminthes and blood protozoa. Morphologic identification of pathogenic organisms and the ability to distinguish from non-pathogenic genera.

MEDT4080 Clinical Immunohematology

[5 credit hours]

Theory of immunohematology, with emphasis on erythrocyte antigen systems and antibodies detection and identification. Overview of regulations governing blood banks, methodologies used, importance and hazards of human blood components transfusion.

Prerequisites: MEDT 4020 FOR LEVEL UG WITH MIN. GRADE OF C

MEDT4090 Clinical Mycology

[2 credit hours]

Study of the medically important fungi including yeast, dermatophytes and opportunistic and dimorphic fungi, including morphologic identification of pathogenic organisms and saprophytes which are commonly encountered in clinical specimens.

Prerequisites: MEDT 4050 FOR LEVEL UG WITH MIN. GRADE OF C

MEDT4100 Clinical Virology

[2 credit hours]

Discussion of the epidemiology and pathogenesis of viruses implicated in human disease. Emphasis on diagnostic tools used in the clinical laboratory to isolate, culture, and identify these organisms.

MEDT4500 Clinical Research and Clinical Correlations

[3 credit hours]

Correlate clinical, technical and analytical proficiencies that comprise medical laboratory science practice. Analyze and interpret case studies through selection, application, and interpretation of clinical laboratory protocols.

MEDT4950 Clinical Externship: Management

[1 credit hour]

Clinical practicum experience in a Clinical Sciences Laboratory setting focused on management of laboratory services, including role and responsibilities of supervision, laboratory scheduling/workflow, and financial management.

MEDT4951 Clinical Externship: Microbiology

[4 credit hours]

Clinical laboratory experience in an affiliated Clinical Sciences Laboratory setting focused on microbiological culture and asay techniques and methods, May also include an immunology system.

Prerequisites: MEDT 4050 FOR LEVEL UG WITH MIN. GRADE OF C

MEDT4952 Clinical Externship: Chemistry

[4 credit hours]

Clinical laboratory experience in an affiliated Clinical Sciences Laboratory focused on clinical chemistry procedures, techniques, principles, and relationship to disease states. May also include an immunology practicum.

Prerequisites: MEDT 4040 FOR LEVEL UG WITH MIN. GRADE OF C

MEDT4953 Clinical Externship: Hematology

[3 credit hours]

Clinical laboratory experience in an affiliated Clinical Sciences Laboratory focused on analytical hematological methodologies, correlation of tests with disease state, hematopoiesis and hemostatis, quality control and instrumentation and manual methods.

Prerequisites: MEDT 4020 FOR LEVEL UG WITH MIN. GRADE OF C

MEDT4954 Clinical Externship: Immunohematology

[3 credit hours]

Clinical laboratory experience in an affiliated Clincial Sciences Laboratory focused on methodologies and problem-solving in immunohematology, including crossmatching, antibody identification, blood component preparation, and transfusion and quality assurance.

Prerequisites: MEDT 4020 FOR LEVEL UG WITH MIN. GRADE OF C

MET1020 Technical Drawing

[3 credit hours]

Essentials of dimensioning, size, position and form tolerancing and their application in shop processes. Pictorial drawings are created freehand and with the use of drawing instruments.

MET1050 Computers for Engineering Technology

[3 credit hours]

Concepts and techniques on the application of computers to the solution of manufacturing and engineering technology problems. Provides an introduction to computer operating systems, programming language and technical software.

MET1110 Metal Machining And Processes

[3 credit hours]

Material and machining processes dealing with production methods, machining capabilities, tolerances. Metal working with lathe, mill, etc., along with processes such as molding, stamping, forging, etc.

MET1120 Metal Machining & Processes Lab

[1 credit hour]

Provides students with an opportunity to gain hands-on experience with machine tools and gauging measurement instruments.

Prerequisites: MET 1020 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) AND MET 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

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MET1250 Computer Aided Drafting and Design

[3 credit hours]

Introduction to two-dimensional and three-dimensional Computer Aided Drafting. Laboratory based experiences with creating and dimensioning working drawings, part libraries, entity insertion, graphics manipulation and customization.

Prerequisites: MET 1020 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 1050 FOR LEVEL UG WITH MIN. GRADE OF D-

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MET2050 Fluid And Hydraulic Mechanics

[0-4 credit hours]

Application of physical principles for the design of systems to transport liquids in closed hydraulic or process piping systems; friction, pumping, flow meters and gauges.

Prerequisites: PHYS 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

MET2100 Statics For Technology

[3 credit hours]

Review and extension of static force analysis: free-body diagrams, forces, moments, dry friction and static equilibrium applied to machines, mechanisms, trusses and frames.

Prerequisites: PHYS 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

MET2120 Strength Of Materials For Technology

[0-4 credit hours]

Introduction to the study of stress distribution and deformation of elastic materials due to applied loads. Consideration of stress, strain, compression, tension, shear, torsion, moments and combined loading in basic machine elements.

Prerequisites: MET 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

MET2150 Numerical Control Applications

[0-3 credit hours]

Survey of tooling and production activities adaptable to numerical control equipment and processes. Includes terminology, definitions and functions. Students will learn how to create part programs for CNC machinery.

MET2210 Technical Thermodynamics

[4 credit hours]

Analysis of thermodynamic concepts as they apply to heating and power production; conservation of energy, work and heat, engines and refrigeration. Includes laboratory experiences.

Prerequisites: (PHYS 2010 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 1050 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2450 FOR LEVEL UG WITH MIN. GRADE OF D-)

MET2310 Materials Science

[3 credit hours]

Study of the relationships between structures and properties for common engineering materials, including metals, polymers, ceramics and composites. Mechanical behavior, temperature effects, heat treatment, corrosion and electrical properties are covered.

Prerequisites: ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1280 FOR LEVEL UG WITH MIN. GRADE OF D-

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MET2320 Materials Science Laboratory

[0-1 credit hours]

Laboratory based study of the relationships between structures and properties for common engineering materials, including metals, polymers, ceramics and composites. Mechanical behavior, temperature effects, heat treatment, corrosion and electrical properties are covered.

Prerequisites: ENGT 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1280 FOR LEVEL UG WITH MIN. GRADE OF D-

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MET2350 Advanced Computer Aided Drafting and Design

[3 credit hours]

Continuation of MET 1250. Topics covered include attributes, with attention to geometric tolerancing and true dimensioning. Application of three-dimensional modeling techniques and the preparation of detail drawings from the model.

Prerequisites: MET 1250 FOR LEVEL UG WITH MIN. GRADE OF D-

MET2980 Special Topics

[1-4 credit hours]

Student performs work on a specialized project of an advanced nature under the supervision of a Mechanical Engineering Technology faculty member.

MET3100 Applied Thermodynamics

[0-4 credit hours]

Basic principles and laws of classical thermodynamics, equations of state, reversibility and entropy applied to processes and cycles for ideal and non-ideal substances. Special attention will be given to gas power cycles, vapor and combined power cycles, refrigeration cycle. Air conditioning processes. Mechanics of heat transfer.

Prerequisites: (MET 2210 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2460 FOR LEVEL UG WITH MIN. GRADE OF D-)

MET3200 Mechanical Design I

[3 credit hours]

Introduction to the engineering design process. Analysis of stress, strain, deflection and fatigue in mechanical design. Design of beams, columns, springs and machine elements.

Prerequisites: (MET 3400 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2120 FOR LEVEL UG WITH MIN. GRADE OF D-)

MET3400 Applied Dynamics

[3 credit hours]

Static force and moment analysis using vector methods. Applications of dry friction. Analysis of structures and machines. Dynamic analysis using force and acceleration, energy and momentum methods.

Prerequisites: MATH 2460 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

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MET4100 Applied Fluid Mechanics

[0-4 credit hours]

Fundamentals of fluid statics and dynamics including differential analysis, dimensional analysis and similitude, laminar and turbulent flow, viscosity and boundary layer concepts, and compressible flow. Application of these principles to practical, applied problems. Flow of fluids in pipes and conduits. Pump selection and application. The design and analysis of HVAC ducts. Drag and Lift.

Prerequisites: (MET 2050 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2460 FOR LEVEL UG WITH MIN. GRADE OF D-)

MET4200 Mechanical Design II

[3 credit hours]

Design and application of mechanical components and machine elements including shafts, gears, gear drives, belt drives, chain drives, fasteners, power screws, clutches, brakes and machine frames.

Prerequisites: MET 3200 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2310 FOR LEVEL UG WITH MIN. GRADE OF D- AND MET 2320 FOR LEVEL UG WITH MIN. GRADE OF D-

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MET4600 Engineering Safety

[3 credit hours]

Application of human factors and engineering practices toward accident prevention and elimination of hazards. Topics include liability, standards, OSHA, hazard control, accident investigation and safety management.

MFGM8480 Management of Technology

[3 credit hours]

This seminar covers conceptual framework and relevant research studies on technology management. The literature from Technology Management as it relates to the management of product, manufacturing and supply chain technologies will be discussed.

MFGM8490 Supply Chain and E-Business Issues in Manufacturing

[3 credit hours]

This seminar focuses broadly on key issues relating effective management of product, information and financial flows in supply chains. It also relates to E-business practices, and their impact on supply chain design and management.

MFGM8510 Supply Chain and Technology Management Analytics

[3 credit hours]

This course focuses on advanced analytical methods and applications in supply chain and technology management. The first part of the course focuses on mathematical modeling and algorithms in supply chain management, while the second part focuses on how to use data to develop business insights and predictive capabilities.

MFGM8630 Management Science

[3 credit hours]

This course is an applied study of deterministic and stochastic methods of management science. A variety of applications with emphasis on manufacturing and technology management are introduced.

MFGM8640 Advanced Management Science

[3 credit hours]

The course introduces students to advanced theory, algorithms, and applications of management science techniques, including dynamic programming, nonlinear programming, game theory, etc. The methods have applications to supply chain management, manufacturing, transportation, marketing, and economics.

MFGM8650 Stochastic Modeling

[3 credit hours]

This course covers basic principles and methods in applied probability and stochastic modeling. The topics covered in this course include advanced probably theory, stochastic processes, Markov chains, Markov Decision Processes, queuing theory, computer simulation, etc. Applications of these techniques in supply chain management, manufacturing, transportation, and finance are introduced.

MFGM8660 Qualitative Research Methodology

[3 credit hours]

This course explores the use of qualitative methods within the fields of Information Systems and Operations Management. The seminar discusses the different qualitative methods that include Case Study, Ethnography, and Grounded Theory. In addition, we examine the differences between interpretive and positivist approaches using qualitative methods. This course covers research design and the various techniques in analyzing qualitative data. The course includes a discussion about mitigating bias in the areas of data collection and analysis.

MFGM8670 Special Topics in Research Methods

[3 credit hours]

This course focuses on contemporary research methods within the fields of manufacturing and technology management, including Operations and Supply Chain Management, Information Systems, etc. The specific topic on contemporary research methods will change each time.

MFGM8810 Seminar/Colloqkuia

[1 credit hour]

One credit hour requirement of these courses will be met by requiring the students to attend a reasonable number (10) of research seminars and colloquia in and outside the college, doctoral dissertation proposal and defenses at the college, etc., during one academic year.

MFGM8840 Manufacturing Strategy

[4 credit hours]

The seminar examines the theory and research related to the formulation and implementation of manufacturing strategy including the strategic planning process and techniques for industry and competitive analysis.

Prerequisites: MGMT 5110 FOR LEVEL GR WITH MIN. GRADE OF D- OR ORGD 7110 FOR LEVEL GR WITH MIN. GRADE OF D-

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MFGM8850 Readings And Research In Manufacturing Management

[1-12 credit hours]

This individually designed course will provide advanced readings in areas needed by a doctoral student.

MFGM8860 Advanced Statistics

[3 credit hours]

This course discusses multivariate data analysis. Topics include: principal components analysis, factor analysis, multidimensional scaling, cluster analysis, multiple regression analysis and multivariate analysis of variance. Statistical software packages are used.

Prerequisites: OPMT 5510 FOR LEVEL GR WITH MIN. GRADE OF D-

MFGM8870 Seminar in Statistics/ Research Method

[3 credit hours]

This is an advanced second course in Statistical methods or management science or research methods. This course is designed for individual needs of the student to provide more depth in the research method as required.

MFGM8880 Research Methods And Theory Building

[3 credit hours]

The course seeks to frame and discuss key issues that arise as social scientists conduct theoretically-relevant empirical research. In the course, the theory building in manufacturing management as well as research process and the literature, tools and techniques associated with each phase of the process will be introduced.

MFGM8890 Advanced Manufacturing Systems

[3 credit hours]

This seminar provides an understanding of the design and management of manufacturing systems. This begins with an understanding of how manufacturing has evolved over time, continues with descriptions of current trends and ideas in manufacturing system design and concludes with discussion of future changes,

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MFGM8900 Field Research

[1-8 credit hours]

This course provides students with the opportunity to experience a realistic manufacturing problem and to develop approaches to solving that problem under the supervision of a faculty member.

MFGM8960 Dissertation

[1-8 credit hours]

Dissertation

MFGM8980 Special Topics Seminar

[3 credit hours]

This seminar focuses on current topics relating to manufacturing and technology management. The specific seminar topic will change each semester.

MGMT3630 Conflict Management: Mediation & Negotiations

[3 credit hours]

Course is designed to develop negotiation and conflict management skills. Students will learn to apply these skills in distributive and integrative negotiation situations using cases, role-plays and exercises.

MGMT3700 Best Practices in Diversity Leadership

[3 credit hours]

Organizations must be able to draw on their most important resource -- the skills of the workforce. With the increasing richness of diversity in the world and in the workforce, organizational leaders need to expand their outlook and use creative strategies to effectively leverage diversity in the workplace.

MGMT3770 Ethics In Leadership And Management

[3 credit hours]

The ethical dilemmas faced by organizational leaders are explored and a four-lens model of ethical decision-making is presented. Students will practice using the model to resolve common ethical dilemmas for new and experienced managers.

MGMT3910 Research In Management

[3 credit hours]

In-depth independent research work under the supervision of a faculty member.

MGMT4210 Leading And Managing Organizational Improvement

[3 credit hours]

Covers theory, practice, and techniques in identifying major organizational problems and issues and leading the organization through change efforts.

MGMT4250 Performance Management For Individuals And Teams

[3 credit hours]

Course examines the process and implementation of performance management systems at both individual and group levels. Performance appraisal, coaching, development planning, and performance problems will be discussed.

Prerequisites: HURM 3220 FOR LEVEL UG WITH MIN. GRADE OF D-

MGMT4330 Organizational Leadership And Management Practicum

[3 credit hours]

Advanced study of the methods and evaluation of planned change. Includes needs analysis, applied measurement and evaluation, and development of process consultation skills required in change.

Prerequisites: MGMT 4210 FOR LEVEL UG WITH MIN. GRADE OF D-

MGMT4780 Leading and Managing People

[3 credit hours]

This course focuses on concepts and experiences for developing leadership skills that facilitate organizational development and change. Writing, cases, videos and exercises are used extensively.

MGMT4880 Sports Leadership

[3 credit hours]

The intent of this course is to provide the opportunity for the student to gain information and a better understanding of the various practices associated with sports leadership and management. Through cases, experiential exercises, teamwork, discussion, and exams, students will develop the skills needed to be effective leaders in the sports industry.

MGMT4900 Seminar On Contemporary Issues In Management

[3 credit hours]

This seminar is designed to facilitate applications of managerial skills, tools and techniques in meeting contemporary challenges in organizations.

Prerequisites: BUAD 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

MGMT4910 Research In Human Resource Management

[1-3 credit hours]

Students have the opportunity to conduct an intensive investigation in a Human Resource Management area, supervised by a departmental faculty member. A formal paper is expected at the study's end.

Prerequisites: (HURM 3220 FOR LEVEL UG WITH MIN. GRADE OF D- AND BLAW 3550 FOR LEVEL UG WITH MIN. GRADE OF D-)

MGMT4940 Management Internship

[1-3 credit hours]

A supervised work experience for outstanding students. The internship involves practical experience. A written report is required of the student.

MGMT5110 Introduction To Management

[3 credit hours]

Course is designed to provide a comprehensive, accurate and up-to-date picture of the field of management. This course focuses on organizational behavior (individual and small group) and organizational theory (large group and total organization). Also included is a review of the key functions of management; (1) planning, (2) organizing, (3) leading, (4) staffing and (5) controlling.

MGMT6100 Leading Through Ethical Decision-Making

[3 credit hours]

This course seeks to challenge students to discover their core values and how they shape beliefs and actions. Students will learn how to apply four theoretical perspectives to issues facing them as business persons.

MGMT6150 Leading and Developing Yourself

[3 credit hours]

The course explores how one's own leadership competencies can be developed and applied most effectively in a variety of situations. This course explores how one’s own leadership competencies can be developed and applied most effectively in a variety of situations. Contemporary theories and trends in leadership and leadership development are examined, and opportunities to improve leadership capabilities are provided. Self-assessments, as well as written and video cases, are used extensively.

MGMT6160 Leading With Power and Influence

[3 credit hours]

Students will develop an understanding of the strategic use of power and influence to exercise leadership in organizations. Skill development in the diagnosis and practical use of power and influence to mobilize action, to negotiate, and to resolve conflicts will be emphasized.

MGMT6190 Leading change and Organizational Improvement

[3 credit hours]

Students will learn and apply the key theories and practices of change management and organizational development processes.

MGMT6930 Independent Research

[1-3 credit hours]

Independent research opportunities are provided to advanced students for pursuing topics in depth under the faculty supervision.

MICB6200 Microbiology Human Infections

[3 credit hours]

A series of lectures describing the classification, replication strategics and structural composition of the major families of animal viruses that infect humans.

MICB6210 Advanced Virology

[3 credit hours]

An in-depth analysis of current research in virology including the reading and analysis of recently published papers on the replication and molecular biology of animal viruses, particularly viruses belonging to the Togaviridiae and coronaviridae and the bacterial and plant viruses that are homologous to these two families of animal viruses.

MICB6220 Laboratory Molecular Virology

[4 credit hours]

A laboratory course in which the students will learn to grow tissue culture cells and grow, quantify, purify, and analyze animal viruses. The student will complete a research project on a problem concerning the molecular biology of animal virus replication.

MICB6890 Independent Study Microbiology

[0-15 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit

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MICB8200 Microbiology Human Infections

[3 credit hours]

A series of lectures describing the classification, replication strategics and structural composition of the major families of animal viruses that infect humans.

MICB8210 Advanced Virology

[3 credit hours]

An in-depth analysis of current research in virology including the reading and analysis of recently published papers on the replication and molecular biology of animal viruses, particularly viruses belonging to the Togaviridiae and coronaviridae and the bacterial and plant viruses that are homologous to these two families of animal viruses.

MICB8220 Laboratory Molecular Virology

[4 credit hours]

A laboratory course in which the students will learn to grow tissue culture cells and grow, quantify, purify, and analyze animal viruses. The student will complete a research project on a problem concerning the molecular biology of animal virus replication.

MICB8890 Independent Study Microbiology

[0-15 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit

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MIME1000 Orientation To Me & Ie

[0-3 credit hours]

The mechanical engineering profession is discussed with emphasis on career opportunities. Orientation to the university campus, study skills and time management. Word processing, spreadsheets, e-mail, design projects, and MATLAB programming are studied.

MIME1010 Professional Development

[1 credit hour]

Social protocol and ethics in industry are reviewed. Resume writing and interview skills are developed. Course assists in preparing the student for the co-op experience in industry.

Prerequisites: MIME 1000 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME1100 Introduction To Cad

[0-2 credit hours]

Techniques for visualization and representation of machine components using solid modeling and projection. Section views, orthographic projection, dimensioning and tolerancing. CAD techniques for solving vector problems.

MIME1650 Materials Science & Engineering

[0-3 credit hours]

Engineering properties of materials, the effect of atomic bonding and crystalline structure on the mechanical properties of metals, ceramics and polymers. Common measurement, testing and comparison techniques to aid in selection of materials. Laboratory experiences include compressive and tensile strength testing, the effects of heat upon strength, hardness and micro-structure, the effects of combining certain materials in a composite to improve overall mechanical properties.

Prerequisites: CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME2000 Measurements Laboratory

[0-2 credit hours]

How to write engineering laboratory reports. Statistical analysis of experimental data, uncertainty analysis, general characteristics of measurement systems, static and dynamic measurements, computer data acquisition, applications to thermal, mechanical and electrical systems.

Prerequisites: EECS 2340 FOR LEVEL UG WITH MIN. GRADE OF D- AND (ENGL 1930 FOR LEVEL UG WITH MIN. GRADE OF D- OR ENGL 2950 FOR LEVEL UG WITH MIN. GRADE OF D-)

MIME2300 Engineering Dynamics

[3 credit hours]

Kinematics of particles and rigid bodies. Thorough study of kinetics of particles and rigid bodies using Newton's laws of motion, work-energy methods, and impulse and momentum methods.

Prerequisites: CIVE 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME2600 Engineering Economics

[3 credit hours]

The study of micro-economic and macro-economic theories. Methods of economic analysis, including the time value of money, are described. Economic decision criteria are used to select best alternatives with emphasis in engineering. Impact of economic decisions on various sectors of society are discussed.

MIME2650 Manufacturing Processes

[0-3 credit hours]

Manufacturing processes discussed include metal casting and forming such as forging, rolling, extrusion, stamping and drawing. Metal cutting processes such as turning, boring, drilling, milling, sawing and broaching are discussed. Polymer processes including injection molding and extrusion as well as ceramic part production are covered. Laboratory experiences include creating parts using many of these processes.

Prerequisites: MIME 1650 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME2920 Special Projects

[1-3 credit hours]

A special project by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for students interested in mechanical, industrial or manufacturing engineering early in their undergraduate program. Instructor will specify scope of project to correspond to credit hours.

MIME2980 Special Topics

[1-3 credit hours]

A special topic at the undergraduate level in Mechanical, Industrial or Manufacturing Engineering to be offered as a course during a term by a faculty member. Credits will correspond to regular class meetings of one lecture hour per week per credit hour.

MIME2990 Independent Study

[1-3 credit hours]

An independent study by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for engineering students early or midway through their program of study. Instructor will specify scope of project to correspond to credit hours.

MIME3200 Introduction to Project Engineering

[3 credit hours]

Topics include: engineering economics; societal, legal and ethical concerns; project scheduling; and designing for quality as well as matching client desires with product attributes.

MIME3300 Design And Analysis Of Mechanical Systems

[3 credit hours]

Design and analysis of mechanisms, gear trains, planetary gear trains, cam-and-follower devices with application to mechanical systems. Motion, force, torque and vibration analysis. Balancing of rotating and reciprocating components in machines.

Prerequisites: MIME 2300 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

MIME3310 Mechanical Design I

[3 credit hours]

Applications of mechanics of materials to analysis and design of mechanical components; introduction to fracture mechanics; applications of failure theories to design of machine elements subjected to static and cyclic loadings.

Prerequisites: (CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 1650 FOR LEVEL UG WITH MIN. GRADE OF D-)

MIME3320 Mechanical Design II

[3 credit hours]

Application of failure theories in static and fatigue loading to the design and analysis of mechanical elements including fasteners, power screws, welded joints, springs, bearings, gears, clutches, brakes and shafts.

Prerequisites: MIME 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME3330 Mechanics Laboratory

[0-1 credit hours]

This laboratory course consists of experiments in strength of materials and stress analysis. Experiments include stress analysis of straight and curved beams, analysis of torsion and combined stresses in shafts, stress concentrations, and determination of mechanical properties from tension tests and fatigue tests.

MIME3360 Vibration Laboratory

[0-1 credit hours]

This laboratory course will be taken concurrently with Mechanical Vibration and consists of experiments to determine the natural frequency of one degree of freedom systems, free and forced vibrations of lumped parameter systems, mode shapes and natural frequencies of multidegree of freedom systems, and mode shapes and natural frequencies of torsional vibration systems.

MIME3370 Mechanical Vibration

[3 credit hours]

Modeling mechanical systems, mechanical elements, equations of motion for single-DOF and multi-DOF systems, linearization of equations of motion, free and forced response, electrical systems, frequency response, feedback control systems.

Prerequisites: MIME 2300 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-

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MIME3380 Modeling and Control of Engineering Systems

[3 credit hours]

Physical modeling and feedback principles are applied for control of mechanical systems. Transient response, root locus and frequency response principles are applied to the control of basic mechanical and electrical systems.

Prerequisites: MIME 3370 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 2000 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 2340 FOR LEVEL UG WITH MIN. GRADE OF D-

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MIME3400 Thermodynamics I

[3 credit hours]

Introduction to thermal sciences with an emphasis on the first and second law of thermodynamics. Topics include conservation of energy for closed and open systems, thermodynamic properties and cycles and entropy production.

Prerequisites: MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D-

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MIME3410 Thermodynamics II

[3 credit hours]

Review of open and closed systems in thermodynamics, the Carnot principle and cycle efficiency concepts. Application to gas and vapor power cycles and refrigeration cycles. Thermodynamic property relations, gaseous mixtures and combustion.

Prerequisites: MIME 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME3420 Fluids Laboratory

[0-1 credit hours]

This laboratory course is to be taken with Fluid Mechanics and Thermodynamics II to illustrate the concepts in those courses. Experiments include fluid statics, forces on a submerged surface, center of pressure, manometers, surface tension, flow visualization, Bernoulli's equation, control volume analysis, viscous flow in pipes, flow over bodies, turbomachinery, and thermodynamic cycles.

MIME3430 Fluid Mechanics

[3 credit hours]

Fluid mechanics for mechanical engineers. Topics include fluid statics and dynamics, equations of motion, dimensional analysis, boundary layer theory, flow in pipes, turbulence, fluid machinery, potential flow, CFD and aerodynamics.

Prerequisites: MIME 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME3440 Heat Transfer

[3 credit hours]

A comprehensive study of conduction, convection and radiation. Derivation and solution of differential equations related to heat transfer. Analysis of forced and free convection and heat exchangers. Dimensional analysis related to heat transfer.

Prerequisites: MIME 3430 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME3450 Energy Laboratory

[0-1 credit hours]

This laboratory course is to be taken with Heat Transfer to illustrate the concepts in this course. Experiments include Fourier's Law, cooling of fins/rods, determination of free and forced convection heat transfer coefficients, heat exchangers, Stefan Boltzmann Law, surface emission, surface reflection.

MIME3780 Engineering Management

[3 credit hours]

The development of the fundamentals required in an engineering and manufacturing environment where technical competency is considered standard and an appreciation of the human behavioral responses to managerial policies and rules is essential. This course covers the basics of planning organizing, leading and control from the subordinates' as well as the manager's perspective.

MIME3940 Co-Op Experience

[1 credit hour]

Students in the Industrial and Mechanical Engineering programs are to enroll in this course during each of their approved Co-Op experiences.

Prerequisites: MIME 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME3950 Co-op Experience

[1 credit hour]

Approved co-op work experience beyond third required co-op experience. Course may be repeated.

Prerequisites: MIME 3940 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4000 Engineering Statistics I

[3 credit hours]

This course introduces the student to the areas of probability theory and statistical inferences. Topics include sample spaces, the concepts of random variables, probability distributions; functions of random variables, transformation of variables, moment generating functions, sampling and estimation theory; T, F and chi-square distribution.

Prerequisites: MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2950 FOR LEVEL UG WITH MIN. GRADE OF D-

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MIME4040 Modern Manufacturing Methods

[3 credit hours]

This course provides an overview of the philosophy, design and management of production factories throughout the world. This course explores the evolution and revolution of manufacturing since the 1960's and the numerous philosophical changes that have shaped the factory of today. The course examines the fundamental design of the factory in an effort to meet the demands of customers, culture of the organization, competitive situation, and pressures of marketing and management.

MIME4060 Manufacturing Engineering

[3 credit hours]

Students apply machine tools and fabrication processes to optimize the manufacture of a product. Emphasis is on engineering design integrated with economic principles and fabricating methods.

Prerequisites: MIME 2650 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-

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MIME4070 Computer-Aided Manufacturing

[3 credit hours]

The study of machining processes using numerical control machine tools and controllers. Development of programs to machine parts on mills and lathes. Conversion of CAD models to programs through software interfaces.

Prerequisites: MIME 2650 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4100 Manufacturing Systems Simulation

[3 credit hours]

Discrete and continuous simulation models are used to study queuing, networks, manufacturing and related engineering systems. Simulation languages and animation are covered. Statistical inference is used to draw conclusions and to identify the best system.

Prerequisites: MIME 2650 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-

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MIME4180 Legal Aspects of Engineering

[3 credit hours]

This course offers an introduction to legal topics for engineers. Topics include: contracts, negligence, products liability, patents and copyright, employment law, criminal law, environmental law, and business law.

MIME4200 Senior Design Projects

[3 credit hours]

Students work in teams using knowledge gained in earlier courses to solve real design, manufacturing and operational problems relevant to industry. Oral and written communications with participating companies as well as teamwork are stressed. Other topics include patents, product liability, safety, ethics and design for manufacturing.

Prerequisites: (MIME 3320 FOR LEVEL UG WITH MIN. GRADE OF D- OR MIME 3710 FOR LEVEL UG WITH MIN. GRADE OF D-) AND (MIME 4020 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR MIME 3440 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONC

MIME4230 Dynamics Of Human Movement

[3 credit hours]

The goal of this course is for students to be able to describe motions of the human body. Three-dimensional analysis and measurements of human body movements including kinematics, kinetics and energetics of human gait, anthropometry and application to bioengineering and orthopedics will be presented. Euler angles and the screw axis method will be used to describe three-dimensional motions.

Prerequisites: MIME 2300 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4280 Cad-Finite Element Methods

[3 credit hours]

An introduction to the basic concepts of the finite element method. Topics include engineering analysis of continuous systems, numerical solutions of boundary value problems, method of weighted residuals and the principle of minimum potential energy, applications of commercially available finite element programs.

Prerequisites: MIME 3320 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4300 Advanced Mechanics Of Materials

[3 credit hours]

Theory of elasticity, plane stress and plane problems, yield criteria and failure theories, bending of beams, energy methods, curved flexural members, unsymmetric bending, torsion, shear center and axisymmetrically loaded members.

Prerequisites: CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3860 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 3820 FOR LEVEL UG WITH MIN. GRADE OF D-

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MIME4310 Mechanics Of Composite Materials

[3 credit hours]

Review of elasticity of anisotropic solids, determination of mechanical properties of fiber-reinforced lamina, analysis and performance of laminated composites.

Prerequisites: (CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 1650 FOR LEVEL UG WITH MIN. GRADE OF D-)

MIME4320 Fatigue Of Materials & Structures

[3 credit hours]

Fatigue design methods; fatigue fracture mechanisms; cyclic deformation behavior and material cyclic properties; stress-based, and fracture mechanics-based methodologies to fatigue life prediction of smooth and notched members subjected to constant or variable amplitude loadings.

Prerequisites: CIVE 1160 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4410 Alternative Energy

[3 credit hours]

This course focuses on the technical aspects of sustainable energy technologies, such as wind, solar, biomass, ocean waves/tides, geothermal, and hydropower; it also covers issues and applications related to storage, transportation, distribution, industrial usage, and buildings. The course investigates the progress, challenges, and opportunities of each technology to be both technically feasible and economically viable.

MIME4510 Turbomachinery

[3 credit hours]

Theory of energy transfer between fluid and rotor in turbomachines. Design of turbomachine components. Applications to pumps, compressors and turbines.

Prerequisites: (MIME 3410 FOR LEVEL UG WITH MIN. GRADE OF D- AND MIME 3430 FOR LEVEL UG WITH MIN. GRADE OF D-)

MIME4520 Heating, Ventilating And Air Conditioning

[3 credit hours]

Control of the thermal environment within enclosed spaces including psychometric properties of air heating and cooling, loads and factors affecting human comfort. Analysis of basic heating and refrigeration systems, heat pumps, heaters, utilization of solar energy, humidifiers, energy conservation and controls for systems.

Prerequisites: MIME 3410 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4530 Internal Combustion Engines

[3 credit hours]

Study of Carnot, Otto, Diesel and Brayton Cycles, performance characteristics, combustion engines and construction details of internal combustion engines. Analysis of problems associated with carburetion, fuel injection, combustion, cooling, supercharging, emissions and emission control.

Prerequisites: MIME 3410 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4540 Jet Propulsion

[3 credit hours]

Mechanics and thermodynamics of jet propulsion. Fundamentals of high-speed flow. Analysis of gas turbine engine components: diffuser, compressor, turbine and nozzle. Investigation of characteristics of ramjets, turbojets, turbofans and turboprops. Introduction to solid and liquid rockets.

Prerequisites: MIME 3410 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4550 Aerodynamics

[3 credit hours]

Fundamentals of aerodynamics, potential flow theory, aerodynamic forces and moments, introduction to numerical analysis, application to internal flows, theory of lift for infinite and finite wings, induced drag.

Prerequisites: MIME 3430 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4560 Gas Dynamics

[3 credit hours]

Analysis of compressible flow phenomena including shock and detonation waves. Internal flow with friction and heat addition. Analysis and application to supersonic airfoil theory, inlet nacelles, nozzles to generate supersonic thrust and jet engine combustors.

Prerequisites: MIME 3430 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4690 Reliability

[3 credit hours]

Reliability of components and multicomponent systems. Static and dynamic reliability models for both independent and dependent failures. Effects of hot and cold redundancy. Reliability testing consideration and renewal theory.

Prerequisites: MIME 4010 FOR LEVEL UG WITH MIN. GRADE OF D-

MIME4820 Sustainability Analysis and Design

[3 credit hours]

The course is intended to introduce students to sustainability analysis and design in manufacturing and service settings as related to mechanical and industrial engineering. It will cover solid waste minimization for manufacturers, life cycle analysis, and environmentally conscious design.

MIME4920 Special Projects

[1-3 credit hours]

A special project by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for students interested in mechanical, industrial or manufacturing engineering nearing completion of their undergraduate degree. Instructor will specify scope of project to correspond to credit hours.

MIME4980 Special Topics

[1-3 credit hours]

A special topic at the undergraduate level in Mechanical, Industrial or Manufacturing Engineering to be offered as a course during a term by a faculty member. This is intended for students nearing graduation. Credits will correspond to regular class meeting of one lecture hour per week per credit hour.

MIME4990 Independent Study

[1-3 credit hours]

An independent study by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for engineering students nearing graduation. Instructor will specify scope of study to correspond to credit hours.

MIME5060 Manufacturing Engineering

[3 credit hours]

Students integrate machine tools and fabrication processes to optimize the manufacture of a product. Emphasis is on engineering design integrated with economic principles and fabricating methods.

MIME5070 Computer-Aided Manufacturing

[3 credit hours]

The study of machining processes using numerical control machine tools and controllers. Development of programs to machine parts on mills and lathes. Conversion of CAD models to programs through software interfaces.

MIME5080 Operations Research I

[3 credit hours]

This course focuses on the mathematical methods of Operations Research and their applications in engineering. Topics include the optimal solution of deterministic and stochastic mathematical models, modeling process, linear programming, the simplex method, duality theory and sensitivity analysis.

MIME5100 Manufacturing Systems Simulation

[3 credit hours]

Discrete and continuous simulation models are used to study queuing networks, manufacturing and related engineering systems. Simulation languages and animation are covered. Statistical inference is used to draw conclusions and to identify the best system.

MIME5230 Dynamics Of Human Movement

[3 credit hours]

The goal of this course is for students to be able to describe motions of the human body. Three-dimensional analysis and measurements of human body movements including kinematics, kinetics and energetics of human gait, anthropometry and application to bioengineering and orthopedics will be presented. Euler angles and the screw axis method will be used to describe three-dimensional motions.

MIME5280 Cad - Finite Element Methods

[3 credit hours]

Numerical solutions of boundary value problems, variational calculus and the principle of minimum potential energy, finite element formulation of two dimensional field and elasticity problems, axisymmetric elements, finite element programming.

MIME5300 Advanced Mechanics Of Materials

[3 credit hours]

Theory of elasticity, plane stress and plane strain problems, yield criteria and failure theories, bending of beams, energy methods, curved flexural members, unsymmetric bending, torsion, shear center and axisymmetrically loaded members.

MIME5310 Mechanics Of Composite Materials

[3 credit hours]

Review of elasticity of anisotropic solids, determination of mechanical properties of fiber-reinforced lamina, analysis and performance of laminated composites.

MIME5320 Fatigue Of Materials & Structures

[3 credit hours]

Fatigue design methods; fatigue mechanisms; cyclic deformation behavior and material cyclic properties; stress-based and fracture mechanics-based methodologies to fatigue life prediction of smooth and notched members subjected to constant or variable amplitude loadings.

MIME5510 Turbomachinery

[3 credit hours]

Theory of energy transfer between fluid and rotor in turbomachines. Design of turbomachine components, axial flow compressors and fans, centrifugal compressors and pumps, axial flow turbines. Design theory and principles, performance analysis, and computational methods

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MIME5520 Heating, Ventilating & Air Conditioning

[3 credit hours]

Control of the thermal environment within enclosed spaces including psychometric properties of air heating and cooling, loads and factors affecting human comfort. Analysis of basic heating and refrigeration systems, heat pumps, heaters, utilization of solar energy, humidifiers, energy conservation and controls for systems.

MIME5530 Internal Combustion Engines

[3 credit hours]

Study of Otto, Diesel, and Miller Cycles, performance characteristics, and construction details of internal combustion engines. Analysis of problems associated with air flow, fuel injection, combustion, cooling, supercharging, friction, lubrication, emissions, testing, and control.

MIME5540 Jet Propulsion

[3 credit hours]

Aerothermodynamic analysis of jet propulsion systems and components: diffuser, compressor, combuster, turbine and nozzle. Investigation of characteristics of ramjets, turbojets, turbofans and turboprops. Design theory and principles, performance analysis, and computational methods

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MIME5550 Aerodynamics

[3 credit hours]

Fundamentals of aerodynamics, potential flow theory, aerodynamic forces and moments, introduction to numerical analysis, application to external and internal flows, theory of lift for infinite and finite wings, induced drag.

MIME5560 Gas Dynamics

[3 credit hours]

Analysis of compressible flow phenomena including shock and detonation waves. Topics include wave propagation, isentropic flow, normal shock waves, oblique shock waves, Prandtl-Meyer flow, and analysis and application to supersonic airfoil theory, inlet, and nozzle.

MIME5690 Reliability

[3 credit hours]

Reliability of components and multicomponent systems. Static and dynamic reliability models for both independent and dependent failures. Effects of redundancy. Reliability testing consideration.

MIME5820 Sustainability Analysis and Design

[3 credit hours]

The course is intended to introduce students to sustainability analysis and design in manufacturing and service settings as related to mechanical and industrial engineering. It will cover solid waste minimization for manufacturers, life cycle analysis, and environmentally conscious design.

MIME5920 Special Projects

[1-6 credit hours]

A special project by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for graduate students interested in mechanical, industrial or manufacturing engineering.

MIME5980 Special Topics

[1-6 credit hours]

A special topic at the graduate level in Mechanical, Industrial or Manufacturing Engineering to be offered as a course during a term by a faculty member.

MIME6000 Advanced Engineering Mathematics I

[3 credit hours]

An advanced course in mathematical analysis for engineers. Topics include matrix methods, eigenvalues and eigenvectors, systems of equations, series representations including FFT, ordinary differential equations and Bessel functions. This course will make use of computer-aided-mathematics techniques and include engineering applications.

MIME6100 Advanced Engineering Mathematics II

[3 credit hours]

Partial differential equations for engineering applications including elliptic, parabolic, hyperbolic differential and non-linear systems of equations. Solution procedures include separation of variables, Laplace transform methods, solutions using complex analysis including conformal mapping and numerical methods.

Prerequisites: MIME 6000 FOR LEVEL GR WITH MIN. GRADE OF D-

MIME6200 Advanced Dynamics

[3 credit hours]

Study of dynamics of a system of particles and rigid bodies using Newtonian and Lagrangian Mechanics including multi-body systems. Principles of nonlinear system dynamics and stability.

MIME6210 Advanced Mechanical Vibrations

[3 credit hours]

Advanced concepts in normal mode theory for discrete systems and vibration of continuous systems such as bars, beams and plates.

MIME6300 Continuum Mechanics

[3 credit hours]

A unified approach to the study of the mechanics of continuous media; analysis of tensors; kinematics of material media; analysis of deformation and stress; the mathematical statement of the laws of conservation of mass, momentum and energy; formulation of the mechanical constitutive equations for various classes of solids and fluids.

MIME6350 Elasticity

[3 credit hours]

Review of tensor analysis, analysis of stress and strain, three dimensional equations of elasticity, plane problems in rectangular Cartesian and polar coordinates.

MIME6360 Plasticity

[3 credit hours]

Review of elastic stress-strain relations, analysis of strain rate and concept of stress rate, criteria of yielding and rules of plastic flow, elastoplastic bending and torsion, theory of slipline fields, mechanics of metal forming processes.

MIME6380 Fracture Mechanics

[3 credit hours]

Principles of fracture mechanics and its applications to the prevention of fractures in components and structures, linear elastic and elastic-plastic fracture mechanics, fracture mechanisms, fracture toughness, applications to fatigue crack propagation.

MIME6440 Computational Fluid Dynamics I

[3 credit hours]

Properties of various partial differential equations. Basics of finite difference methods. Governing equations of fluid mechanics and heat transfer. Numerical solution of inviscid flow equations. Methods for solving Euler equations. Treatment of shock waves. Applications to simple compressible flows. Numerical methods for boundary-layer type equations.

MIME6450 Experimental Fluid Mechanics

[3 credit hours]

Digital data acquisition and analysis; limitations and interpretation of physical measurements; sources of errors and difficulties in experimental technique; advanced experimental methods for static and dynamic measurements in thermal systems and fluid flow.

MIME6540 Computational Fluid Dynamics II

[3 credit hours]

Finite difference procedures applied to the solution of reduced forms of the Navier-Stokes equations. Numerical solution of compressible and incompressible forms of the Navier-Stokes equations for laminar and turbulent flows. Fundamental turbulence models. Solution enhancement methods including multi-grid schemes and the use of preconditioning. Grid generation procedures using algebraic and differential equation methods. Structured versus unstructured grid methods. Grid adaptation procedures. Computer program applications.

Prerequisites: MIME 6440 FOR LEVEL GR WITH MIN. GRADE OF D-

MIME6720 Design Of Experiments

[3 credit hours]

Design and analysis of experiments including analysis of variance and regression analysis. Factorial, blocked and nested models are considered together with appropriate estimation and post ANOVA tests.

MIME6810 Assembly And Joining Processes

[3 credit hours]

This course is comprised of two parts: joining processes and assembly systems. Commonly used joining methods, such as welding, mechanical fastening and adhesion are discussed. General principles of assembly are presented with extensive use of automobile assembly as an example.

MIME6900 Independent Research

[1-16 credit hours]

Research credit hours toward the Master of Science degree in Mechanical, Industrial and Manufacturing Engineering Department. Students are to use the section number of their thesis/dissertation adviser.

MIME6910 Engineering Analysis of Smart Material Systems

[3 credit hours]

In this course the students will study the fundamental concepts behind different types of active materials. The course emphasizes current research topics and engineering applications of active materials.

MIME6920 Special Projects

[1-6 credit hours]

A special project by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for graduate students interested in mechanical, industrial or manufacturing engineering.

MIME6930 Graduate Seminar

[0- credit hours]

This is a seminar for graduate students in Mechanical, Industrial and Manufacturing Engineering. Topics include orientation to the graduate program and special topics by speakers from industry and other universities. Credit does not apply toward a graduate degree.

MIME6960 Graduate Research and Thesis

[1-9 credit hours]

Masters thesis research.

MIME6980 Special Topics

[1-6 credit hours]

A special topic at the graduate level in Mechanical, Industrial or Manufacturing Engineering to be offered as a course during a term by a faculty member.

MIME6990 Independent Study

[1-6 credit hours]

An independent study by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for graduate students in mechanical, industrial or manufacturing engineering.

MIME8000 Advanced Engineering Mathematics I

[3 credit hours]

An advanced course in mathematical analysis for engineers. Topics include matrix methods, eigenvalues and eigenvectors, systems of equations, series representations including FFT, ordinary differential equations and Bessel functions. This course will make use of computer-aided-mathematics techniques and include engineering applications.

MIME8100 Advanced Engineering Mathematics II

[3 credit hours]

Partial differential equations for engineering applications including elliptic, parabolic, hyperbolic differential and non-linear systems of equations. Solution procedures include separation of variables, Laplace transform methods, solutions using complex analysis including conformal mapping and numerical methods.

Prerequisites: MIME 8000 FOR LEVEL GR WITH MIN. GRADE OF D-

MIME8120 Advanced Measurement Systems

[3 credit hours]

Sensor selection, data acquisition system selection, evaluation of system response, digital sampling theory, statistical data analysis, space-time correlations, spectral analysis, analog and digital signal conditioning, and static and dynamic measurements.

MIME8200 Advanced Dynamics

[3 credit hours]

Study of dynamics of a system of particles and rigid bodies using Newtonian and Lagrangian Mechanics including multi-body systems. Principles of nonlinear system dynamics and stability.

MIME8210 Advanced Mechanical Vibrations

[3 credit hours]

Advanced concepts in normal mode theory for discrete systems and vibration of continuous systems such as bars, beams and plates.

MIME8300 Continuum Mechanics

[3 credit hours]

A unified approach to the study of the mechanics of continuous media; analysis of tensors; kinematics of material media; analysis of deformation and stress; the mathematical statement of the laws of conservation of mass, momentum and energy; formulation of the mechanical constitutive equations for various classes of solids and fluids.

MIME8350 Elasticity

[3 credit hours]

Review of tensor analysis, analysis of stress and strain, three dimensional equations of elasticity, plane problems in rectangular Cartesian and polar coordinates.

MIME8360 Plasticity

[3 credit hours]

Review of elastic stress-strain relations, analysis of strain rate and concept of stress rate, criteria of yielding and rules of plastic flow, elastoplastic bending and torsion, theory of slipline fields, mechanics of metal forming processes.

MIME8380 Fracture Mechanics

[3 credit hours]

Principles of fracture mechanics and its applications to the prevention of fractures in components and structures, linear elastic and elastic-plastic fracture mechanics, fracture mechanisms, fracture toughness, applications to fatigue crack propagation.

MIME8440 Computational Fluid Dynamics I

[3 credit hours]

Properties of various partial differential equations. Basics of finite difference methods. Governing equations of fluid mechanics and heat transfer. Numerical solution of inviscid flow equations. Methods for solving Euler equations. Treatment of shock waves. Applications to simple compressible flows. Numerical methods for boundary-layer type equations.

MIME8450 Experimental Fluid Mechanics

[3 credit hours]

Digital data acquisition and analysis; limitations and interpretation of physical measurements; sources of errors and difficulties in experimental technique; advanced experimental methods for static and dynamic measurements in thermal systems and fluid flow.

MIME8540 Computational Fluid Dynamics II

[3 credit hours]

Finite difference procedures applied to the solution of reduced forms of the Navier-Stokes equations. Numerical solution of compressible and incompressible forms of the Navier-Stokes equations for laminar and turbulent flows. Fundamental turbulence models. Solution enhancement methods including multi-grid schemes and the use of preconditioning. Grid generation procedures using algebraic and differential equation methods. Structured versus unstructured grid methods. Grid adaptation procedures. Computer program applications.

Prerequisites: MIME 8440 FOR LEVEL GR WITH MIN. GRADE OF D-

MIME8720 Design Of Experiments

[3 credit hours]

Design and analysis of experiments including analysis of variance and regression analysis. Factorial, blocked and nested models are considered together with appropriate estimation and post ANOVA tests.

MIME8810 Assembly And Joining Processes

[3 credit hours]

This course is comprised of two parts: joining processes and assembly systems. Commonly used joining methods, such as welding, mechanical fastening and adhesion are discussed. General principles of assembly are presented with extensive use of automobile assembly as an example.

MIME8900 Independent Research

[1-16 credit hours]

Research credit hours toward the doctoral degree for students in the Mechanical, Industrial and Manufacturing Engineering Department. Students are to use the section number of their dissertation adviser.

MIME8910 Engineering Analysis of Smart Material Systems

[3 credit hours]

In this course the students will study the fundamental concepts behind different types of active materials. The course emphasizes current research topics and engineering applications of active materials.

MIME8920 Special Projects

[1-6 credit hours]

A special project by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for graduate students interested in mechanical, industrial or manufacturing engineering.

MIME8930 Graduate Seminar

[0- credit hours]

This is a seminar for graduate students in Mechanical, Industrial and Manufacturing Engineering. Topics include orientation to the graduate program and special topics by speakers from industry and other universities. Credit does not apply toward a graduate degree.

MIME8960 Dissertation

[1-16 credit hours]

Doctoral dissertation research credit hours for students in the Mechanical, Industrial and Manufacturing Engineering Department. Students are to use the section number of their dissertation adviser.

MIME8980 Special Topics

[1-6 credit hours]

A special topic at the graduate level in Mechanical, Industrial or Manufacturing Engineering to be offered as a course during a term by a faculty member.

MIME8990 Independent Study

[1-6 credit hours]

An independent study by the student to investigate or solve an acceptable problem in industrial or mechanical engineering. This course is primarily intended for graduate students in mechanical, industrial or manufacturing engineering.

MKTG3130 Supply Chain Management

[3 credit hours]

Examination of the role of logistics and supply chain management in creating value and as sources of competitive advantage. Analysis of transportation, warehousing, inventory management and materials management.

Prerequisites: BUAD 2080 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3140 International Marketing

[3 credit hours]

Course focuses on developing an international marketing plan. Foreign country target market selection and development of a plan of action are explored in hands-on learning experience.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3170 Marketing For Non-Profit Organizations

[3 credit hours]

An introduction to marketing for non-business students. Focus is on planning and executing marketing programs in not-for-profit organizations. No credit for CBA students.

MKTG3260 Mobile Marketing

[3 credit hours]

A study on how firms can capitalize on the Internet as well as emerging digital and mobile marketing tools to conduct business internationally, assess e-commerce readiness in key regions, localize Web presence and contents and build business service infrastructures.

Prerequisites: BUAD 2080 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3280 Internet Marketing

[3 credit hours]

A study of Internet-based marketing management, including market opportunity and environmental assessment, Web presence and value propositions, and special issues concerning marketing mix design and implementation.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3690 Principles Of Marketing Communications

[3 credit hours]

Focuses on communication tools in marketing: advertising, sales promotion, specialty advertising, packaging, publicity, direct marketing and personal selling. Attention to managerial decision making, legal and ethical aspects of promotion.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3850 Buyer Behavior And Relationship Marketing

[3 credit hours]

Utilization of the behavioral sciences for the analysis of both consumer and business markets. Designing marketing programs to build strong seller-buyer relationships.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3870 Advertising Strategy

[3 credit hours]

Project-oriented course providing hands-on experience in advertising campaign design. Emphasis on strategy and application involved in advertising.

Prerequisites: MKTG 3690 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3880 Marketing Research And Data-Based Management

[3 credit hours]

This course addresses the fundamentals of marketing information system, marketing research and data-based marketing. Emphasis is on searching, developing and providing customer information for marketing decision making.

Prerequisites: BUAD 2070 FOR LEVEL UG WITH MIN. GRADE OF D- AND BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

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MKTG3910 Direct Marketing

[3 credit hours]

Techniques used and problems encountered in direct marketing. Analysis of the various marketing strategies, with an emphasis on promotions and media employed. Analysis of the social issues of direct marketing is included.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG3920 Sports Marketing

[3 credit hours]

This course examines the world of sports as a business and will focus on attracting the ultimate customer-sports fans in an increasingly competitive, fragmented and global service. The course will discuss the management of sports at the professional, collegiate and special event levels focusing on the role marketing plays in planning and decision-making in attracting fans and other major customer—sponsors.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG4130 Marketing Analysis And Decision Making

[3 credit hours]

This capstone course, which focuses on small and global firms, is designed to sharpen students' integrative decision-making abilities through case analysis and a simulation or project-based analysis experience.

Prerequisites: (MKTG 3880 FOR LEVEL UG WITH MIN. GRADE OF D- AND MKTG 3850 FOR LEVEL UG WITH MIN. GRADE OF D-)

MKTG4220 International Sourcing, Logistics And Transportation

[3 credit hours]

Physical supply, logistics and transportation functions are discussed within the context of a global marketplace, global business operations and international trade.

Prerequisites: BUAD 2080 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG4540 Business Marketing

[3 credit hours]

Analysis of business markets and development of programs to market industrial business-to-business products/services.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG4940 Marketing Internship

[1-3 credit hours]

Receive practical business experience working in an organization.

MKTG4980 Special Topics

[3 credit hours]

Analysis of current issues in Marketing, International Business, or Business Economics.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

MKTG4990 Independent Study

[1-3 credit hours]

Independent study in marketing, international business, or business economics. Student must submit a proposal to be approved by a department faculty member prior to enrolling in the course.

MKTG5170 Marketing For Non-Profit Organizations

[3 credit hours]

This course is an introduction to marketing for non-business students. Focus is on planning and excuting marketing programs in not-for-profit organization. It is an accelerated look into marketing principles which focuses on the opportunities, challenges, and constraints confronting managers in not-for-profit settings – health care institutions, schools, churches, arts and community service organizations in the governmental and private sectors.

MKTG5410 Marketing Systems

[3 credit hours]

Examines the areas of marketing management, marketing functions and institutions, and the role of marketing in the organization. The course explores the relationship between marketing and the environment.

MKTG6140 Customer Relationship Marketing

[3 credit hours]

Course will examine the theoretical and managerial development of relationship marketing as an organizational strategy to build and maintain profitable customer relationships.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C OR MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C

MKTG6220 Integrated Marketing Communications

[3 credit hours]

Course focuses on the integration of marketing communication tools in achieving desired changes in consumer attitudes and behaviors. This involves analyzing the competitive environment, defining the communications strategy and selecting media and vehicles to ensure consistency of messages and complementary use of media in order to maximize the impact on consumers.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C

MKTG6230 Digital Marketing Processes and Virtual Value Networks

[3 credit hours]

Course will examine how marketing processes can leverage e-commerce opportunities to create greater customer value in relational and transactional exchanges, and to build virtual value networks spanning functional, organizational and geographical boundaries.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C

MKTG6240 Sales Force Leadership and Strategy

[3 credit hours]

The purpose of this course is to expose students to the functions, problems, and strategies encountered by managers of a sales organization. Primarily, course material will be studied from the perspectives of the leader or manager whose responsibility it is to direct, supervise, motivate, and evaluate direct reporting sales people (i.e., “the salesforce”). This will be done using a variety of learning techniques tailored to the graduate level student studying in an online or blended learning environment.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C

MKTG6250 Global Sales and Strategic Customer Management

[3 credit hours]

In today's global business environment, it has become a strategic necessity for salespeople to take an approach centered on developing customer relationships. This course examines the roles and functions of the business-to-business salesperson in managing customers in a global environment and considered strategic to meeting organizational goals. Students will participate in critical thinking exercises, case study, and role play to develop skills in relationship selling, and strategic customer management of global firms.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C

MKTG6310 Managing Innovation and Product Commercialization

[3 credit hours]

Course will provide an understanding of how new products and services are designed and commercialized, and will take a strategic and managerial perpective in defining how to best plan, lead, and develop the processes of managing innovation and new products/services.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C OR MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C

MKTG6320 Strategic Brand Management

[3 credit hours]

Course will address the strategic importance of branding and will focus on the design and implementation of marketing Programs and activities to build, measure, and manage brand equity.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C

MKTG6400 International Marketing

[3 credit hours]

This course focuses on identifying (via screening) and servicing foreign market opportunities via the export modality. Skills in research, strategic and tactical analysis, and adaptation are developed.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF C OR MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF C

MKTG6980 Special Topics

[3 credit hours]

Current issues/developments in marketing, international business, or business economics are discussed.

MKTG6990 Independent Study

[1-3 credit hours]

Independent study in marketing, international business, or business economics. A proposal for the independent study must be approved by faculty member and department chair.

MKTG8240 Sale Force Leadership and Strategy

[3 credit hours]

The purpose of this course is to expose students to the functions, problems, and strategies encountered by managers of a sales organization. Primarily, course material will be studied from the perspectives of the leader or manager whose responsibility it is to direct, supervise, motivate, and evaluate direct reporting sales people (i.e., “the salesforce”). This will be done using a variety of learning techniques tailored to the graduate level student studying in an online or blended learning environment.

MKTG8250 Strategic Account Management

[3 credit hours]

The purpose of this course is to expose students to the functions, problems, and strategies encountered by managers of a sales organization. Primarily, course material will be studied from the perspectives of the leader or manager whose responsibility it is to direct, supervise, motivate, and evaluate direct reporting sales people (i.e., “the salesforce”). This will be done using a variety of learning techniques tailored to the graduate level student studying in an online or blended learning environment.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF D-

MKTG8290 Business Marketing

[3 credit hours]

Nature, structure, and managerial problems and processes in the field of business-to-business marketing.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF D- OR MKTG 7410 FOR LEVEL GR WITH MIN. GRADE OF D-

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MKTG8310 Managing Innovation and Product Commercialization

[3 credit hours]

Course will provide an understanding of how new products and services are designed and commercialized, and will take a strategic and managerial perpective in defining how to best plan, lead, and develop the processes of managing innovation and new products/services.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF D-

MKTG8320 Strategic Brand Management

[3 credit hours]

Course will address lthe strategic importance of branding and will focus on the design and implementation of marketing Programs and activities to build, measure, and manage brand equity.

Prerequisites: MKTG 5410 FOR LEVEL GR WITH MIN. GRADE OF D-

MKTG8400 International Marketing

[3 credit hours]

This course focuses developing an eclectic knowledge of the literature on identifying and servicing foreign market opportunities. Research skills dealing with literature synthesis, concept development, testing , data collection and academic paper writing are developed.

Prerequisites: BUAD 6500 FOR LEVEL GR WITH MIN. GRADE OF D-

MKTG8790 Integrated Marketing/CRM Seminar

[3 credit hours]

A seminar in selected topics in Marketing. Ph.D. students are assigned readings from the Marketing academic literature. They will complete several research papers focusing on specific topics that advance the field and that are suitable for submission to an academic journal or conference.

MLS6010 MLS Seminar in Humanities

[3 credit hours]

Introduction to the concerns and methods of graduate study in the Humanities. This course will demonstrate, through readings from different eras, the interrelated nature of literature, philosophy and history.

MLS6020 Mls Seminar In Social Sciences

[3 credit hours]

Drawing from major principles and concepts in the social sciences, this course examines issues of the individual and society from a range of disciplinary approaches. Special topics vary.

MLS6030 Mls Seminar In Natural Sciences

[3 credit hours]

This course discusses the major ideas of the natural sciences in terms of their impact upon the human species. Specific topics vary.

MLS6040 Mls Seminar In The Visual And Performing Arts

[3 credit hours]

An examination of the concept of creativity in the fields of visual art, theater, dance and music. Topics covered vary with instructor.

MLS6100 Interdisciplinary Research Methods

[3 credit hours]

Exploration of what it means to use interdisciplinary approaches to research and writing. The course focuses on the logic of interdisciplinary research and how to use disciplinary research epistemologies in interdisciplinary projects. The course also discusses institutional Review Boards and ethical treatment of human subjects in research.

MLS6400 Studies In Humanities

[1-6 credit hours]

Individually supervised study in the humanities. Permission of the Director required. May be repeated for additional credit.

MLS6500 Studies In Social Sciences

[1-6 credit hours]

Individually supervised study in the social sciences. Permission of the Director required. May be repeated for additional credit.

MLS6600 Studies In Natural Sciences

[1-6 credit hours]

Individually supervised study in the natural sciences. Permission of the Director required. May be repeated for additional credit.

MLS6700 Studies In The Visual And Performing Arts

[1-6 credit hours]

Individualized or small-group study in the visual and performing arts.

MLS6970 Masters of Liberal Studies Project

[1-6 credit hours]

Creative or applied capstone project supervised by faculty advisor and committee.

MLS6990 Mls Thesis

[1-6 credit hours]

Permission of the Director required. May be repeated for additional credit.

MMIM6020 Advanced Immunology

[1 credit hour]

Student led discussion of recent literature supporting key concepts in the human immune response. Discussions will focus on how current research impacts our understanding of specific responses.

MMIM6030 Current Topics MMI

[1 credit hour]

This course includes attendance at biweekly seminars given by invited speakers and, on an alternating biweekly basis, the presentation of papers related to the seminar topics. May be repeated for credit.

MMIM6040 Advanced Microbiology

[1 credit hour]

Student led discussion of recent literature supporting key concepts in the microbiology field, with an emphasis on bacteria and viruses. Discussions will focus on how current research impacts our understanding of specific pathogens.

MMIM8020 Advanced Immunology

[1 credit hour]

Student led discussion of recent literature supporting key concepts in the human immune response. Discussions will focus on how current research impacts our understanding of specific responses.

MMIM8030 Current Topics in MMI

[1 credit hour]

This course includes attendance at biweekly seminars given by invited speakers and, on an alternating biweekly basis, the presentation of papers related to the seminar topics. May be repeated for credit.

MMIM8040 Advanced Microbiology

[1 credit hour]

Student led discussion of recent literature supporting key concepts in the microbiology field, with an emphasis on bacteria and viruses. Discussions will focus on how current research impacts our understanding of specific pathogens.

MOME6300 Seminars in Molecular Medicine

[1 credit hour]

Seminars presented by invited speakers expose CVMD graduate students to the latest advancements in basic research related to cardiovascular and metabolic diseases. Informal discussions sessions are organized which enable students to meet with speakers invited from other institutions.

MOME6400 Principles of Pharmacology

[1 credit hour]

This is a one credit course in which students learn the fundamental principles of pharmacodynamics and pharmacokinetics, which are the basis for understanding the actions of drugs and the use of drugs in research and medicine.

MOME6500 Advanced Topics in Molecular Medicine

[1 credit hour]

An advanced course focusing on the physiology and pathophysiology of the cardiovascular and metabolic systems. This course will provide a multidisciplinary view of the processes leading to cardiovascular and metabolic diseases through lectures focused on current concepts of the genetic, molecular and cellular biology bases of cardiovascular and metabolic function, dysfunction and responsiveness to therapeutic interventions. The course explores the complex interrelationship between cardiovascular and metabolic diseases covering current research topics in metabolic diseases and endocrine dysfunction such as diabetes, obesity and metabolic syndrome in addition to current research topics in cardiovascular diseases such as hypertension, heart failure and atherosclerosis. Eligibility: Students who have satisfactorily completed the Core Curriculum are qualified for this course.

MOME6600 Journal Paper Review in Molecular Medicine

[1 credit hour]

Presentation and in depth discussion of original papers to give students an opportunity to assess and report on recent advances in cardiovascular and metabolic diseases. May be repeated for credit.

MOME6890 Independent Study in Molecular Medicine

[1-9 credit hours]

This is a variable credit course in which a student caries out independent study in MOME directed by their major advisor.

MOME8300 Seminar in Molecular Medicine

[1 credit hour]

Seminars presented by invited speakers expose CVMD graduate students to the latest advancements in basic research related to cardiovascular and metabolic diseases. Informal discussions sessions are organized which enable students to meet with speakers invited from other institutions.

MOME8400 Principles of Pharmacology

[1 credit hour]

This is a one credit course in which students learn the fundamental principles of pharmacodynamics and pharmacokinetics, which are the basis for understanding the actions of drugs and the use of drugs in research and medicine.

MOME8500 Advanced Topics in Molecular Medicine

[1 credit hour]

An advanced course focusing on the physiology and pathophysiology of the cardiovascular and metabolic systems. This course will provide a multidisciplinary view of the processes leading to cardiovascular and metabolic diseases through lectures focused on current concepts of the genetic, molecular and cellular biology bases of cardiovascular and metabolic function, dysfunction and responsiveness to therapeutic interventions. The course explores the complex interrelationship between cardiovascular and metabolic diseases covering current research topics in metabolic diseases and endocrine dysfunction such as diabetes, obesity and metabolic syndrome in addition to current research topics in cardiovascular diseases such as hypertension, heart failure and atherosclerosis.

MOME8600 Journal Paper Review in Molecular Medicine

[1 credit hour]

Presentation and in depth discussion of original papers to give students an opportunity to assess and report on recent advances in cardiovascular and metabolic diseases. May be repeated for credit.

MOME8890 Independent Study in Molecular Medicine

[1-9 credit hours]

This is a variable credit course in which a student caries out independent study in MOME directed by their major advisor.

MPHY6010 Survey of Diagnostic Medical Imaging I

[3 credit hours]

This course provides a survey of diagnostic imaging modalities including the physical principles and instrumentation of diagnostic imaging equipment. Radiographic and fluoroscopic imaging systems, x-ray computed tomography, Ultrasound, MRI, and basics of Nuclear Medicine will be covered. The course builds upon basic reviews of atomic and nuclear properties, production of x-rays, and interaction or radiation with matter.

MPHY6020 Survey of Diagnostic Medical Imaging II

[3 credit hours]

This course builds on the materials taught in MPHY 6010/8010, and discusses advanced concepts in medical imaging including functioning MRI, SPECT, and PET imaging. Details of radioactivity and nuclear transformation, radionuclide production and radiopharmaceutics, radiation detection and measurement and scintillation camera will be covered. Advanced discussions on CT and US will also be presented.

MPHY6040 Diagnostic Radiological Physic

[0-5 credit hours]

This course considers the physical principles and instrumentation of diagnostic image formation including radiography, fluoroscopy, computed tomography, ultrasound, nuclear medicine and magnetic resonance imaging.

MPHY6060 Nuclear Medicine

[3 credit hours]

Course covers the physical aspects of diagnostic and therapeutic applications of radionuclides. This includes radiation detectors and imaging systems, emission tomography, counting statistics, equipment testing, radiopharmaceuticals and internal radiation dosimetry.

MPHY6100 Clinical Imaging Review

[0-4 credit hours]

Review of the clinical aspect of diagnostic imaging of clinical modalities and anatomy as approved by instructor. Review typically will include reading, discussion, and clinical image review covering radiological anatomy, physiology, disease states, and considerations for diagnostic interpretation of images. May be repeated for credit.

MPHY6110 Survey Clinical Radi Therapy

[2 credit hours]

A series of lectures on various topics in radiation therapy give an overview of radiation therapy in the clinical care of patients and familiarize students with a variety of options for treatment of cancer patients.

MPHY6120 Radiation Dosimetry I

[3 credit hours]

Series of lectures covering basic concepts of radiation physics, interactions of ionizing radiation physics, interactions of ionizing radiation with matter, and fundamentals of radiation dosimetry techniques and instrumentation. An overview of principles of radiation therapy, radiation protection, nuclear medicine, and diagnostic radiology is given.

MPHY6130 Radiation Dosimetry II

[3 credit hours]

Series of lectures covering interactions of ionizing radiation with matter and radiation dosimetry physics fundamentals in-depth. Cavity theories, integrating and pulse-mode dosimeters, dosimetry and calibration of photon and electron beams, and neutron dosimetry are considered in details.

MPHY6160 Radiation Biology

[3 credit hours]

A series of introductory lectures on radiation biology with emphasis on the effects of radiation on cells and cellular components, tissues, and organisms. Dose-response relationships, dose-effect modifiers, and considerations applicable to radiation therapy treatments are among covered topics.

MPHY6180 Physics of Radiation Therapy

[3 credit hours]

Basic radiation physics and physical aspects of treatment planning, using photon and electron beams as well as brachytherapy sources will be taught.

MPHY6190 Brachytherapy

[3 credit hours]

Fundamental information about the physical characteristics of the sources used in brachytherapy, the methods used for implant planning and evaluation of plans.

MPHY6200 Radiatn Protect and Regulation

[3 credit hours]

Course considers the hazards associated with radioactivity and electromagnetic radiation, including types and sources of radiation, radiation measurement and units, dosimetry, radiation protection practices required by governmental regulation and medical facility accrediting bodies.

MPHY6240 Physics of Medicine and Biol

[3 credit hours]

Overview of physics as applied to physiological and biological systems, including body mechanics, osmosis, respiratory and cardiovascular mechanisms, electric signals, speech, hearing, and sight.

MPHY6260 Computers Radiation Therapy

[2 credit hours]

Computer fundamentals and problem solving through programming. Typical problems include PDD, TAR, TMR, MU calculations, scatter summation, TMR for arc and dose distributions.

MPHY6280 Electronics for Med Physicists

[2 credit hours]

Basics of electronics circuit design to perform specific tasks as it relates to medical physics applications.

MPHY6300 Radiation Detection/Measuremen

[3 credit hours]

Introduces the student to the various equipment and methods used in radiation detection and measurement. Introduces advanced concepts in error analysis, energy spectra unfolding, fit results with function, etc. The lab portion of this course, PHYS6180, is taught through the University of Toledo.

MPHY6310 Anatomy/Physiology

[4 credit hours]

The course will cover an overview of physiology at a cellular, and organ system levels. This will include normal function of human body and some clinical manifestations of human diseases. There will also be some introduction to basic skeletal system.

MPHY6320 Practical Measurements in Rad

[2 credit hours]

Basic practical considerations in measurements of photon and electron beam parameters of the linear accelerator.

MPHY6400 Intro to LINAC in Radiation Th

[3 credit hours]

The electron linear accelerator will be described in theory and operation as it relates to medical physics and cancer patients. The physics aspect of particle acceleration and x-ray and electron generation using these units as well as dose delivery to the patient is considered.

MPHY6500 Medical Physics Seminar

[1 credit hour]

Recent developments, special topics, critical analysis of recent publications, and literature reviews in specific areas of medical physics. May be repeated for credit.

MPHY6520 Radiation Safety and Measremnt

[3 credit hours]

Review of fundamentals of radiation safety and protection, instrumentation, radioactivity, radiation interaction with matter, and biological effects of radiation. Also, measurement methods, safety practices and regulations for use of radiation in research and medicine is presented.

MPHY6610 Clin Trng Radi Oncol Physics I

[4 credit hours]

This course offers clinical training in radiation oncology physics to graduate students. This will include clinical dosimetry concepts, anatomy & physiology, clinical radiobiology, and overview of special procedures including SRS, SBRT, IORT, HDR, LDR, Rad Safety and Regulations. QA of equipment and clinical responsibilities; review of TG 142, 51, 66 and other related reports.

MPHY6620 Clin Trng Radi Oncol Physcs II

[4 credit hours]

This course offers advanced clinical training in radiation oncology physics to senior level graduate students. Advanced dosimetry concepts, Brachytherapy, IMRT, IGRT, adaptive IGRT. Other special procedures are covered. Also, lectures and hands-on training are provided so that students can fine Tone their techniques in Treatment Planning, QA Issues, daily clinical responsibilities and operation as a medical physicist are taught.

MPHY6630 Clin Trng Radi Oncol Physc III

[5 credit hours]

Clinical training in radiation therapy physics to graduate students who have obtained an MS or Ph.D. degree in the field of medical physics or related area. May be repeated for credit

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MPHY6730 Medical Physics Research

[0-4 credit hours]

Students will participate in selected ongoing research programs of members of the department faculty. May be repeated for credit.

MPHY6840 Independent Study: Med Physics

[0-12 credit hours]

Combination of reading, lecture and discussion within a defined area of medical physics. Defined topics are: dosimetry, internal dosimetry, radiobiology, monte carlo analysis, image processing, topical study. May be repeated for credit.

MPHY6860 Independent Study in Radiology

[0-12 credit hours]

Combination of reading, lecture and discussion within a defined area of radiology. Defined topics are: radiographic imaging, computed tomography, magnetic resonance imaging, nuclear medicine, diagnostic ultrasound, diagnostic quality control, digital imaging. May be repeated for credit.

MPHY6880 Independent Study: Rad Therapy

[0-12 credit hours]

Combination of reading, lecture, and discussion within a defined area of radiation therapy. Defined topics are: 3-D conformal treatment planning, 3-D dose compensators, stereotactic radiosurgery, electron arc therapy, photon and electron algorithms, treatment planning dosimetry verification, total body irradiation, total body skin. May be repeated for credit.

MPHY6970 Scholarly Project

[3 credit hours]

Develop an in-depth scholarly project in radiation therapy to fulfill the requirements for the MSBS degree. May be repeated for credit.

MPHY8010 Survey of Diagnostic Medical Imaging I

[3 credit hours]

This course provides a survey of diagnostic imaging modalities including the physical principles and instrumentation of diagnostic imaging equipment. Radiographic and fluoroscopic imaging systems, x-ray computed tomography, Ultrasound, MRI, and basic of Nuclear Medicine will be covered. The course builds upon basic review of atomic and nuclear properties, production of x-rays, and interaction or radiation with matter.

MPHY8020 Survey of Diagnostic Medical Imaging II

[3 credit hours]

This course builds on the material taught in MPHY 6010/8010, and discusses advanced concepts in medical imaging including functional MRI, SPECT, and PET imaging. Details of radioactivity & nuclear transformation, radionuclide production & radiopharmaceuticals, radiation detection and measurement and scintillation camera will be covered. Advanced discussions on CT and US will also be presented.

MPHY8040 Diag Radiological Physics

[0-5 credit hours]

This course considers the physical principles and instrumentation of diagnostic image formation including radiography, fluoroscopy, computed tomography, ultrasound, nuclear medicine and magnetic resonance imaging.

MPHY8060 Nuclear Medicine

[3 credit hours]

Course covers the physical aspects of diagnostic and therapeutic applications of radionuclides. This includes radiation detectors and imaging systems, emission tomography, counting statistics, equipment testing, radiopharmaceuticals and internal radiation dosimetry.

MPHY8110 Survey Clinical Radi Therapy

[2 credit hours]

A series of lectures on various topics in radiation therapy give an overview of radiation therapy in the clinical care of patients and familiarize students with a variety of options for treatment of cancer patients.

MPHY8120 Radiation Dosimetry I

[3 credit hours]

Series of lectures covering basic concepts of radiation physics, interactions of ionizing radiation with matter, and fundamentals of radiation dosimetry techniques and instrumentation. An overview of principles of radiation therapy, radiation protection, nuclear medicine, and diagnostic radiology is given.

MPHY8130 Radiation Dosimetry II

[3 credit hours]

Series of lectures covering interactions of ionizing radiation with matter and radiation dosimetry physics fundamentals in-depth. Cavity theories, integrating and pulse-mode dosimeters, dosimetry and calibration of photon and electron beams, and neutron dosimetry are considered in details.

MPHY8160 Radiation Biology

[3 credit hours]

A series of introductory lectures on radiation biology with emphasis on the effects of radiation on cells and cellular components, tissues, and organisms. Dose-response relationships, dose-effect modifiers, and considerations applicable to radiation therapy treatments are among covered topics.

MPHY8180 Physics of Radiation Therapy

[3 credit hours]

Basic radiation physics and physical aspects of treatment planning, using photon and electron beams as well as brachytherapy sources will be taught.

MPHY8190 Brachytherapy

[3 credit hours]

Fundamental information about the physical characteristics of the sources used in brachytherapy, the methods used for implant planning and evaluation of plans.

MPHY8200 Radiatn Protect and Regulation

[3 credit hours]

Course considers the hazards associated with radioactivity and electromagnetic radiation, including types and sources of radiation, radiation measurement and units, dosimetry, radiation protection practices required by governmental regulation and medical facility accrediting bodies.

MPHY8240 Physics of Medicine and Biol

[3 credit hours]

Overview of physics as applied to physiological and biological systems, including body mechanics, osmosis, respiratory and cardiovascular mechanisms, electric signals, speech, hearing, and sight.

MPHY8260 Computer in Radiation Therapy

[2 credit hours]

Computer fundamentals and problem solving through programming. Typical problems include PDD, TAR, TMR, MU calculations, scatter summation, TMR for arc and dose distributions.

MPHY8280 Electronics for Med Physicists

[2 credit hours]

Basics of electronics circuit design to perform specific tasks as it relates to medical physics applications.

MPHY8300 Radiation Detection/Measuremen

[3 credit hours]

Introduces the student to the various equipment and methods used in radiation detection and measurement. Introduces advanced concepts in error analysis, energy spectra unfolding, fit results with function, etc. The lab portion of this course, PHYS6180, is taught through the University of Toledo.

MPHY8310 Anatomy & Physiology

[4 credit hours]

The course will cover an overview of physiology at a cellular, and organ system levels. This will include normal function of human body and some clinical manifestations of human diseases. There will also be some introduction to basic skeletal system.

MPHY8320 Practical Measurements in Rad

[2 credit hours]

Basic practical considerations in measurements of photon and electron beam parameters of the linear accelerator.

MPHY8400 Intro to LINAC in Radiation Th

[3 credit hours]

The electron linear accelerator will be described in theory and operation as it relates to medical physics and cancer patients. The physics aspect of particle acceleration and x-ray and electron generation using these units as well as dose delivery to the patient is considered.

MPHY8500 Medical Physics Seminar

[1 credit hour]

Recent developments, special topics, critical analysis of recent publications, and literature reviews in specific areas of medical physics. May be repeated for credit.

MPHY8520 Radiation Safety and Measremnt

[3 credit hours]

Review of fundamentals of radiation safety and protection, instrumentation, radioactivity, radiation interaction with matter, and biological effects of radiation. Also, measurement methods, safety practices and regulations for use of radiation in research and medicine is presented.

MPHY8610 Clin Trng Radi Oncol Physics I

[4 credit hours]

This course offers clinical training in radiation oncology physics to graduate students. This will include clinical dosimetry concepts, anatomy & physiology, clinical radiobiology, and overview of special procedures including SRS, SBRT, IORT, HDR, LDR, Rad Safety and Regulations. QA of equipment and clinical responsibilities; review of TG 142, 51, 66 and other related reports.

MPHY8620 Clin Trng Radi Oncol Physcs II

[4 credit hours]

This course offers advanced clinical training in radiation oncology physics to senior level graduate students. Advanced dosimetry concepts, Brachytherapy, IMRT, IGRT, adaptive IGRT, other special procedures are covered. Also, lectures and hands-on training are provided so that students can fine tone their techniques in Treatment Planning, QA Issues, daily clinical responsibilities and operations as a medical physicist are taught.

MPHY8630 Clin Trng Radi Oncol Physc III

[5 credit hours]

Clinical training in radiation therapy physics to graduate students who have obtained an MS or Ph.D. degree in the field of medical physics or related area. May be repeated for credit

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MPHY8730 Medical Physics Research

[0-4 credit hours]

Students will participate in selected ongoing research programs of members of the department faculty. May be repeated for credit.

MPHY8840 Independent Study: Med Physics

[0-12 credit hours]

Combination of reading, lecture and discussion within a defined area of medical physics. Defined topics are: dosimetry, internal dosimetry, radiobiology, monte carlo analysis, image processing, topical study. May be repeated for credit.

MPHY8860 Independent Study in Radiology

[0-12 credit hours]

Combination of reading, lecture and discussion within a defined area of radiology. Defined topics are: radiographic imaging, computed tomography, magnetic resonance imaging, nuclear medicine, diagnostic ultrasound, diagnostic quality control, digital imaging. May be repeated for credit.

MPHY8880 Independent Study: Rad Therapy

[0-12 credit hours]

Combination of reading, lecture, and discussion within a defined area of radiation therapy. Defined topics are: 3-D conformal treatment planning, 3-D dose compensators, stereotactic radiosurgery, electron arc therapy, photon and electron algorithms, treatment planning dosimetry verification, total body irradiation, total body skin. May be repeated for credit.

MPHY8960 Dissertation Research

[0-15 credit hours]

Disciplinary or interdisciplinary investigation of significant problems at the doctoral level leading to the preparation of a scientific project for presentation as a dissertation.

MSL1010 Foundations Of Officership

[3 credit hours]

Introduces students to issues and competencies that are central to a commissioned officer's responsibilities. Establishes a framework for understanding leadership, officership, Army values, physical fitness and time management. Leadership Lab required.

MSL1020 Basic Leadership

[3 credit hours]

Builds upon the basic leadership fundamentals introduced in MSL 1010 and includes lessons in goal setting, problem solving, critical thinking, values clarification, leadership and followership, and introduces techniques for improving listening and speaking skills. Leadership Lab required.

MSL1030 Introduction To Physical Fitness

[1 credit hour]

Students participate in the U.S. Army's physical fitness program three days each week. The sessions include running, strength exercises, agility exercises and organized sports.

MSL1040 Physical Fitness

[1 credit hour]

Students participate in the U.S. Army's physical fitness program three days each week. The sessions build upon the fitness level previously achieved.

MSL2010 Individual Leadership Studies

[3 credit hours]

Identifies successful leadership characteristics through observation of others and self, using experiential learning exercises designed to teach students how to communicate, how to build teams and how to plan and organize effectively. Leadership Lab required.

MSL2020 Leadership And Teamwork

[3 credit hours]

Students examine how to build successful teams, including methods for influencing action and achieving goals, effective communication techniques, values and ethics, problem solving and physical fitness. Leadership Lab required.

MSL2030 Physical Training I

[1 credit hour]

Students participate in physical training three times each week. Students learn how to conduct and lead a military physical training session.

MSL2040 Physical Training II

[1 credit hour]

Students participate in physical training three times each week. The sessions build upon the training level previously achieved.

MSL2200 Leader's Training Course

[3 credit hours]

This training is a six week course in leadership management and interpersonal skills taught at Ft. Knox, Kentucky. The training compresses the Military Science 1000 and 2000-level courses. Camp graduates are eligible to enter the Army ROTC Advanced course.

MSL2990 Independent Study In Military Science

[1-3 credit hours]

Students will study an appropriate subject mutually agreed upon between the student and instructor.

MSL3010 Leadership And Problem Solving

[3 credit hours]

Students assess leadership abilities, plan and conduct individual and small unit training, and apply basic tactical principles and reasoning skills. Leadership Lab required

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MSL3020 Leadership And Ethics

[3 credit hours]

Examines the role that communications, values and ethics play in effective leadership. Topics include ethical decision making, consideration of others and Army Leadership Doctrine. Leadership Lab required.

MSL3030 Physical Fitness Planning I

[1 credit hour]

Students design and implement weekly physical training sessions. In addition, they learn how to supervise a group training session.

MSL3040 Physical Fitness Planning II

[1 credit hour]

Students design and implement weekly physical training sessions. The sessions build upon the skill level previously achieved.

MSL3600 Airborne Operations

[1 credit hour]

Three weeks of intensive field training conducted at Ft. Benning, Georgia. Combines the study of military airborne operations, strenuous physical conditioning, military parachute techniques and culminates with five parachute jumps from military aircraft.

MSL3700 Cadet Troop Leadership Training (ctlt)

[2 credit hours]

Three weeks of practical experience serving as a platoon leader with U.S. Army soldiers. This training puts the student in leadership situations and allows them to practice and hone their leadership skills in a real world environment.

MSL3800 Air Assault Operations

[1 credit hour]

Two weeks of intensive field training conducted at an Army installation. Combines the study of Military Heliborne Operations, strenuous physical conditioning and advanced rappelling. Culminates with 4 rappels from a military helicopter.

MSL3850 Leaders Development And Assessment Course

[3 credit hours]

This is an intense five-week course conducted between the junior and senior year. This concentrated practical training provides an opportunity to evaluate the student's application of academic knowledge over a myriad of leadership situations and tasks.

MSL3990 Independent Study In Military Science

[1-3 credit hours]

Students will study an appropriate subject mutually agreed upon between the student and instructor.

MSL4010 Leadership And Staff Management

[3 credit hours]

Develops student proficiency in planning and executing complex operations, functioning as a member of a staff and mentoring subordinates. Students explore the Army's training management system, methods of effective staff collaboration and developmental counseling techniques.

MSL4020 Officership

[3 credit hours]

Course includes a case study analysis of military law and practical exercises on establishing an ethical command climate. Students complete a semester-long Senior Leadership Project that requires them to plan, organize, analyze and demonstrate their leadership skills.

MSL4030 Advanced Pt Planning I

[1 credit hour]

Students design and implement a physical training program for the entire semester. They supervise and critique implementation of the MS 3030 students' weekly training plans.

MSL4040 Advanced Pt Planning II

[1 credit hour]

Students design and implement a physical training program for the entire semester. The sessions build upon the skill level previously achieved.

MSL4800 Gettysburg: A Military History

[3 credit hours]

An in-depth study of the battle and its place in American history, examining combat leadership and the decision making process at both the operational and tactical level.

MSL4990 Independent Study In Military Science

[1-3 credit hours]

Students will study an appropriate subject mutually agreed upon between the student and instructor.

MUS1000 Performance Laboratory

[0- credit hours]

Required of music majors and minors. Weekly departmental student recitals. Offered as P/NC only.

MUS1010 Concert Attendance

[0- credit hours]

Required of music majors and minors. Attend 8 department concerts and 2 non-department concerts. Offered as P/NC only.

MUS1100 Introduction To Music Technology

[1 credit hour]

This course introduces students to music applications for sound recording, music notation, and virtual sound design. Students also discover basic tools of the trade such as microphones, speaker monitors, portable recording devices, and current trends within social media relating to self-promotion in music.

MUS1200 Group Guitar For The Non-Major

[2 credit hours]

Basic guitar skills: note reading, chords, accompaniment, variety of musical styles. Includes rhythmic and aural training, theory and ensemble playing. Each student must provide their own guitar.

MUS1250 Group Piano For The Non-Major I

[2 credit hours]

Classical and popular literature in a variety of styles and period will be explored. May be repeated for credit. Students may take P/NC.

MUS1280 Group Voice For The Non-Major

[2 credit hours]

Develops basic vocal techniques with attention to the principles of voice production, vowel formation, breathing, articulation and flexibility. May be repeated for credit. Open to all students regardless of major. Students may take P/NC.

MUS1500 String Class

[2 credit hours]

Principles, concepts, difficulties typical of stringed instruments and pedagogy addressed through performance.

MUS1510 Percussion Class

[2 credit hours]

Principles, concepts, difficulties typical of percussion instruments and pedagogy addressed through performance.

MUS1530 Brass Class

[2 credit hours]

Principles, concepts, difficulties typical of brass instruments and pedagogy addressed through performance.

MUS1550 Woodwinds Class

[2 credit hours]

Principles, concepts, difficulties typical of woodwind instruments and pedagogy addressed through performance.

MUS1560 Instrumental Class

[3 credit hours]

An overview of principles, concepts and difficulties typical of string, brass, woodwind and percussion instruments.

MUS1570 Piano Class For Music Majors I

[1 credit hour]

Progressive sequence of keyboard skills courses stressing technique, repertoire, sight reading, harmonization, improvisation and transposition. Includes keyboard technology.

MUS1580 Piano Class For Music Majors II

[1 credit hour]

Provides instruction in keyboard skills required for the various degree programs. Progressive sequence of courses stressing technique, repertoire, sight reading, harmonization, transposition. Includes keyboard technology.

Prerequisites: MUS 1570 FOR LEVEL UG WITH MIN. GRADE OF C

MUS1590 Jazz Piano Class

[1 credit hour]

Provides instruction in jazz keyboard skills, including jazz techniques, voicings, repertoire, sight reading and harmonization.

Prerequisites: MUS 1570 FOR LEVEL UG WITH MIN. GRADE OF C

MUS1610 Music Theory And Ear Training I

[4 credit hours]

Dictation, ear training and sight singing skills in rhythm, melody and harmony. Basic theoretical skills include key signatures, clefs, notation of scales, chords and rhythm patterns. Includes computer technology.

MUS1620 Music Theory And Ear Training II

[4 credit hours]

Continuation of 1610. Emphasis on melody dictation and sight singing. Additional skill development in harmonizations, figured bass and study of basic forms. Includes computer technology.

Prerequisites: MUS 1610 FOR LEVEL UG WITH MIN. GRADE OF C

MUS1700 Jazz Fundamentals

[2 credit hours]

Introduction to jazz performance practices, nomenclature, chord and music notation, analysis and improvisation.

Prerequisites: MUS 1610 FOR LEVEL UG WITH MIN. GRADE OF C

MUS1800 Applied Music

[1-4 credit hours]

Private music lessons for first-year music majors and minors. Must be taken twice, and a grade of B or better is required in each semester.

MUS1810 Applied Music For The Non-Major

[1-2 credit hours]

Private music lessons for provisional and non-music majors. May be repeated for credit. Limited by instructor availability.

MUS2200 Music Theory For The Non-Major

[3 credit hours]

Introduction to the fundamentals of music, including notation, key, time signatures, rhythm, intervals, triads and chords, dominant 7th chords, cadences, and introduction to elementary aural skills. Students may take P/NC. Not for major credit.

MUS2210 Introduction To Music

[3 credit hours]

The study of vocal and instrumental music from the standard repertoire primarily through listening. Previous music training is not required, but regular listening is part of the course. Not for major credit. Students may take P/NC.

MUS2220 History Of Jazz

[3 credit hours]

A study of the development of jazz styles, including listening skills and historical perspectives. Because the major innovations and styles of jazz are a result of contributions from African Americans and other ethnicities, the course includes a study of how different time periods influenced the development of jazz and our culture. Students may take P/NC.

MUS2240 History Of Rock And Roll

[3 credit hours]

A study of the styles, techniques and history of rock and roll. Students may take P/NC. Not for major credit.

MUS2250 Musical Diversity In The United States

[3 credit hours]

The cultures of various ethnic groups (Native Americans, African-American, Mennonite, Moravian, Creole and others) are examined, especially as they relate to the development of folk, popular and art music styles in the United States. This course includes listening. Students may take P/NC. Not for major credit.

MUS2260 Electronic Music

[2 credit hours]

Both lecture sessions and creative lab assignments. Students start with a basic introduction to the physics of music and sound, professional applications for sound design, MIDI, music-recording, and current personal music-publishing within the internet at large.

MUS2270 Recording Techniques

[2 credit hours]

Both lecture sessions and creative lab assignments. Students examine the physical aspects of sound and hearing. Recording transducers from microphones to monitors, mixing consoles, MIDI and music rechnology in the contemporary recording studio are all examined. Current personal music-publishing within the internet at large are presented.

MUS2280 Survey Of The Music Business

[3 credit hours]

An indepth study of the music business nationally and internationally. Music making, publishing, copyright law, management, broadcast in radio and film, and business affairs are examined.

MUS2410 Music History And Literature I: World Music And Jazz

[3 credit hours]

A study of music from various world cultures and jazz. A special emphasis is placed on developing listening skills.

MUS2420 Cultures And Music Of Non-Western Styles

[3 credit hours]

An introduction to world music. The course provides overviews of the geography, the social and political environments, the religious practices and spiritual beliefs, and the cultural heritages of people and countries, such as Central Asia, South Asia, Africa, Caribbean, Korea, Japan, Latin America, Native American, Jazz in America, and American Pop, and American Country. Student may take P/NC

MUS2530 Diction For Singers I

[1 credit hour]

International Phonetic Alphabet mastery; pronunciation of English, German, Latin, Italian and French in relation to art song and aria form, emphasis on the sound of the language. Meets two hours per week.

MUS2540 Diction For Singers II

[1 credit hour]

Continuation of MUS 2530. IPA; pronunciation of German and English in relation to art song and aria form; emphasis on the sound of the language. Meets two hours per week.

Prerequisites: MUS 2530 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2550 Voice Class For Music Majors

[1 credit hour]

For instrumental and keyboard majors. Develops basic vocal techniques with attention to the principles of voice production, vowel formation, breathing, articulation and flexibility. May be repeated for credit.

Prerequisites: MUS 1620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2570 Piano Class For Music Majors III

[1 credit hour]

Provides instruction in keyboard skills required for the various degree programs. Progressive sequence of courses stressing technique, repertoire, sight reading, harmonization, improvisation and transposition. Includes keyboard technology.

Prerequisites: MUS 1580 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2580 Piano Class For Music Majors IV

[1 credit hour]

Provides instruction in keyboard skills required for the various degree programs. Progressive sequence stressing technique, repertoire, sight reading, harmonization, improvisation and transposition. Includes keyboard technology.

Prerequisites: MUS 2570 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2590 Class Piano For Piano Majors

[2 credit hours]

MUS-2590 KEYBOARD FUNDAMENTALS for PIANO MAJORS, to be taken in conjunction with music theory. Fundamental keyboard skills including harmony, technique, transposition, improvisation, sight reading, score reading, and ensemble playing.

MUS2610 Music Theory And Ear Training III

[4 credit hours]

Continuation of 1620. Students develop proficiency in all musical elements through analytical, written and aural studies. Primary materials are the common practice period literature and small formal units. Includes computer technology.

Prerequisites: MUS 1620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2620 Music Theory And Ear Training IV

[4 credit hours]

Continuation of 2610. Students are introduced to contemporary topics, styles and music through analysis and creative assignments. Dictation and sightsinging studies will also develop topics from MUS 2610. Includes computer technology.

Prerequisites: MUS 2610 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2700 Jazz Improvisation I

[2 credit hours]

Practical application of beginning jazz improvisation techniques as applied to modal, blues and simple jazz standards. Basic chord-scale relationships, ear training, and style analysis is presented.

Prerequisites: MUS 1700 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2710 Jazz Improvisation II

[2 credit hours]

Practical application of intermediate jazz improvisation techniques as applied to jazz standards and bebop playing.

Prerequisites: MUS 2700 FOR LEVEL UG WITH MIN. GRADE OF C

MUS2800 Applied Music

[1-4 credit hours]

Private music lessons for sophomore music majors.

Prerequisites: MUS 1800 FOR LEVEL UG WITH MIN. GRADE OF B

MUS2990 Special Projects

[1-3 credit hours]

Designed to meet the needs of individual students who wish to pursue projects in the area of music.

MUS3010 University Band

[1 credit hour]

Band ensembles include Wind Ensemble, Symphonic Band, Marching Band, and Varsity Pep Band. Ensembles open to all students. Contact the instructor for audition information.

MUS3020 Jazz Ensemble

[1 credit hour]

Students rehearse and perform a diverse repertoire for large jazz ensemble. Open to all students by audition in the first week of each semester and/or permisison of instructor.

MUS3030 Brass Choir

[1 credit hour]

Open to a limited number of qualified students.

MUS3050 Chamber Music Ensembles

[1 credit hour]

The study and performance of chamber music literature in classical or jazz Styles. By permission of instructor.

MUS3090 University Orchestra

[1 credit hour]

Performs a variety of symphonic repertoire. Open to all students through audition.

MUS3130 University Chorus

[1 credit hour]

This non-auditioned mixed (SATB) choral ensemble is open to any student. Performing music in a variety of styles, this ensemble places a primary focus on developing musicianship and basic vocal technique.

MUS3140 Concert Chorale

[1 credit hour]

This auditioned mixed (SATB) choral ensemble is the premiere choral ensemble at the University of Toledo. With a focus on advanced vocal techniques and performance, this ensemble requires an audition and instructor approval.

MUS3150 Jazz Vocalstra

[1 credit hour]

Students rehearse and perform traditional vocal Jazz literature and Vocalese. Open to qualified students by audition at the beginning of each semester and/or permission of instructor.

MUS3160 Women's Chorus

[1 credit hour]

This non-auditioned treble voice (SSAA) choral ensemble is open to any student. Performing music in a variety of styles, this ensemble places a primary focus on developing musicianship and basic vocal technique.

MUS3170 Madrigal Singers

[1 credit hour]

Open to a limited number of qualified students.

MUS3180 Men's Chorus

[1 credit hour]

This non-auditioned Tenor/Bass voiced (TTBB) choral ensemble is open to any student. Performing music in a variety of styles, this ensemble places a primary focus on developing musicianship and basic vocal technique.

MUS3190 Opera Workshop

[1 credit hour]

Performs both contemporary and classic Opera. Open to a limited number of qualified students.

MUS3260 Advanced Electronic Music

[3 credit hours]

Both lecture sessions and creative lab assignments. Pre-requisite is MUS 2260 or by permission of the instructor. In particular, the current computer application Reason is examined and put to test in fine detail. Students will use the application in both sound-recording and virtual, MIDI instrument production. Lab productions are published.

Prerequisites: MUS 2260 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3270 Advanced Recording Techniques

[2 credit hours]

Both lecture sessions and creative lab assignments. Pre-requisite is MUS 2270 or by permission of the instructor. Material emphasizes music production in a professional recording studio. Students collaborate in the tracking, mixing, and mastering of complete song titles both originals and covers. Students will self-publish completed songs.

Prerequisites: MUS 2270 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3410 Music History And Literature II

[3 credit hours]

A study of the literature, composers, theorists, trends and musical style of Western Music from Plainchant through Early Classic.

MUS3420 Music History And Literature III

[3 credit hours]

An intensive study of the music of the Late Classic period to the present day through the examination of major trends and styles.

MUS3450 Jazz History And Literature

[3 credit hours]

An in-depth study of jazz styles, trends, performers and composers geared for music majors.

MUS3470 Theatre Sound

[3 credit hours]

Students study the methods and techniques of sound production and design used in the theatre. Tools and techniques of audio production are used in laboratory recording and mixdown. (Alternate years.)

Prerequisites: MUS 2270 FOR LEVEL UG WITH MIN. GRADE OF C OR THR 1040 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3500 Conducting

[2 credit hours]

Basic baton techniques and rehearsal routine applicable to both vocal and instrumental conducting. Preparation of scores and opportunity for conducting experience with student groups. Includes MUS 1000:002 and video recording technology.

Prerequisites: MUS 1620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3510 Choral Conducting

[2 credit hours]

Conducting techniques and rehearsal routine especially concerned with choral groups. Opportunities to direct choral groups. Includes MUS 1000:002 and video recording technology.

MUS3520 Instrumental Conducting

[2 credit hours]

Conducting techniques and rehearsal routine especially concerned with instrumental ensembles. Opportunities to direct student instrumental groups. Includes MUS 1000:002 and video recording technology.

Prerequisites: MUS 3500 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3530 Marching Band Techniques

[1 credit hour]

The pedagogy and administration of marching bands in secondary schools. Includes practical laboratory experiences and use of relevant technology and software.

MUS3540 Jazz Synthesis

[1 credit hour]

Instruction in the art of improvisation in the jazz style. A study of jazz harmony, melodic construction, keyboard voicings and practice materials. Lab instruction in combo performance techniques and repertoire. May be repeated for credit.

Prerequisites: MUS 2620 FOR LEVEL UG WITH MIN. GRADE OF D-

MUS3550 Vocal Pedagogy

[2 credit hours]

Intended for classroom music teachers, school choral directors, and private voice teachers. A study of anatomy and acoustics of the vocal instrument and techniques for developing the singing voice, with a survey of materials for class and individual instruction, including appropriate solo and ensemble repertoire for singers in elementary and secondary schools.

Prerequisites: MUS 2410 FOR LEVEL UG WITH MIN. GRADE OF D-

MUS3560 Jazz Pedagogy And Conducting

[2 credit hours]

An in-depth study of Jazz pedagogical materials and methods as well as rehearsal and conducting techniques.

Prerequisites: MUS 2620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3580 Functional Piano Techniques

[2 credit hours]

Designed for keyboard majors to develop functional skills and harmonization, improvisation, transposition, sight reading, score reading, etc. Successful completion of this course fulfills the piano requirement for student teaching and Licensure.

Prerequisites: MUS 2590 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3590 Piano Pedagogy

[2 credit hours]

Exploration of techniques and materials for comprehensive, private and group instruction.

MUS3610 Form And Analysis

[3 credit hours]

The study of musical structures: the theme, the motive, the phrase and analysis of homophonic and polyphonic forms and procedures.

Prerequisites: MUS 2620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3630 Instrumentation

[3 credit hours]

A study of wind, percussion and string instrumentation; scoring for small ensembles, band and orchestra. Opportunities for performances of student scores by university organizations. Includes computer technology.

Prerequisites: MUS 2620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3650 Jazz Arranging And Composition I

[3 credit hours]

Scoring for contemporary jazz ensembles. A study of jazz notations, voicing, orchestration and composition for small jazz groups and the rhythm section.

Prerequisites: MUS 2620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3660 Jazz Arranging And Composition II

[3 credit hours]

Advanced scoring for contemporary jazz ensembles. A study of notations, voicing, orchestration and composition for large jazz groups.

Prerequisites: MUS 3650 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3700 Jazz Improvisation III

[2 credit hours]

Practical application of advanced jazz improvisation techniques as applied to post-bop, fusion and avant-garde playing.

Prerequisites: MUS 2710 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3710 Jazz Improvisation IV

[2 credit hours]

Practical application of jazz improvisation techniques as applied to contemporary and chromatic jazz composition and performance.

Prerequisites: MUS 3700 FOR LEVEL UG WITH MIN. GRADE OF C

MUS3800 Applied Music

[1-4 credit hours]

Private music lessons for junior music majors.

Prerequisites: MUS 2800 FOR LEVEL UG WITH MIN. GRADE OF B

MUS3810 Recital

[1 credit hour]

A juried public performance of no more than 25-minutes of musical compositions selected from repertoire studied in MUS 3800 and in consultation with the student's major applied professor.

Prerequisites: MUS 2800 FOR LEVEL UG WITH MIN. GRADE OF C

MUS4410 Instrumental Music Literature

[3 credit hours]

Course will examine the development of the orchestral and chamber repertoire, from their origins to the present day.

Prerequisites: (MUS 2410 FOR LEVEL UG WITH MIN. GRADE OF C AND MUS 2420 FOR LEVEL UG WITH MIN. GRADE OF C)

MUS4420 Vocal Music Literature

[2 credit hours]

A study of the vocal literature of western music, including art song, choral and operatic work.

Prerequisites: MUS 2410 FOR LEVEL UG WITH MIN. GRADE OF D-

MUS4450 Keyboard Literature

[3 credit hours]

A survey of piano or organ/harpsichord literature from earliest publications to the present. Emphasis on a particular period or genre at the discretion of the instructor.

MUS4620 Counterpoint: Introduction

[3 credit hours]

The study of counterpoint in modal, tonal, and contemporary styles. Studies include contrapuntal techniques such as imitation, canon, invertible counterpoint, non-harmonics and the balance of consonance and dissonance. Formal constructions studied include motets, canons, inventions, and fugues.

Prerequisites: MUS 2620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS4690 Seminar In Music Composition

[2 credit hours]

May be repeated, but maximum accumulated credit is six hours toward graduation. Beginning composition including writing in the smaller musical forms. Opportunity for performance of original student compositions.

Prerequisites: MUS 2620 FOR LEVEL UG WITH MIN. GRADE OF C

MUS4800 Applied Music

[1-4 credit hours]

Private music lessons for seniors.

Prerequisites: MUS 3800 FOR LEVEL UG WITH MIN. GRADE OF B

MUS4810 Recital

[1 credit hour]

A juried public performance of no more than 50-minutes of musical compositions selected from repoertoire studied in MUS 4800 and in consultation with a student's major applied professor.

Prerequisites: MUS 4800 FOR LEVEL UG WITH MIN. GRADE OF B

MUS4980 Seminar: Special Topics

[1-3 credit hours]

Critical inquiry into specific topics through lectures, class seminar reports and discussion. Seminar topics announced in semester schedule of classes.

MUS4990 Special Projects

[1-3 credit hours]

Designed to meet the needs of individual students who wish to pursue projects in the area of music.

MUS5010 University Band

[1 credit hour]

Students will perform a wide variety of band literature.

MUS5020 Jazz Ensemble

[1 credit hour]

Students rehearse and perform a diverse repertoire for large jazz ensemble. Open to qualified students by audition in the first week of each semester and/or permission of instructor.

MUS5030 Brass Choir

[1 credit hour]

Open to a limited number of qualified students.

MUS5050 Chamber Music Ensembles

[1 credit hour]

The study and performance of chamber music literature in classical or jazz styles. Groups are determined by audition at the beginning of each semester, and are open to a limited number of qualified students upon sufficient demand and with the permission of the instructor.

MUS5090 University Orchestra

[1 credit hour]

Open to any qualified student.

MUS5130 University Chorus

[1 credit hour]

This non-auditioned mixed (SATB) choral ensemble is open to any student. Performing music in a variety of styles, this ensemble places a primary focus on developing musicianship and basic vocal technique.

MUS5140 Concert Chorale

[1 credit hour]

This auditioned mixed (SATB) choral ensemble is the premiere choral ensemble at the University of Toledo. With a focus on advanced vocal techniques and performance, this ensemble requires an audition and instructor approval.

MUS5150 Jazz Vocalstra

[1 credit hour]

Students rehearse and perform traditional vocal jazz literature. Open to qualified students by audition at the beginning of each semester and/or permission of instructor.

MUS5160 Women's Chorus

[1 credit hour]

This non-auditioned treble voice (SSAA) choral ensemble is open to any student. Performing music in a variety of styles, this ensemble focuses on developing musicianship and basic vocal technique.

MUS5180 Men's Chorus

[1 credit hour]

This non-auditioned Tenor/Bass voiced (TTBB) choral ensemble is open to any student. Performing music in a variety of styles, this ensemble focuses on developing musicianship and basic vocal technique.

MUS5190 Opera Workshop

[1 credit hour]

Open to any qualified student.

MUS5410 Music History And Literature: World Music

[3 credit hours]

Explores the function and styles of music in various cultures.

MUS5440 Music History And Literature: Special Topics

[3 credit hours]

The area of study will be announced at the time the course is offered.

MUS5490 Music History And Literature: The Twentieth Century

[3 credit hours]

An intensive study of the literature, composers, theorists, trends and musical styles during the 20th century.

MUS5510 Choral Conducting

[2 credit hours]

Conducting techniques and rehearsal routine, especially concerned with choral groups. Opportunities to direct student choral groups.

Prerequisites: MUS 3500 FOR LEVEL UG WITH MIN. GRADE OF C

MUS5520 Instrumental Conducting

[2 credit hours]

Conducting techniques and rehearsal routine especially concerned with instrumental ensembles. Opportunities to direct student instrumental groups.

Prerequisites: MUS 3500 FOR LEVEL UG WITH MIN. GRADE OF C

MUS5590 Piano Pedagogy

[3 credit hours]

Exploration of techniques and materials for comprehensive, private and group instruction.

MUS5610 Analytical Techniques

[3 credit hours]

Application of various analytical theories of music to selected works from different style periods to further the understanding of musical forms and works.

Prerequisites: MUS 3500 FOR LEVEL UG WITH MIN. GRADE OF C

MUS5630 Counterpoint: Comparison Of Styles

[3 credit hours]

A study of 16th, 18th and 20th century polyphony. Analysis of selected works and composition exercises will be the basis for comparing and contrasting these three styles.

Prerequisites: MUS 3500 FOR LEVEL UG WITH MIN. GRADE OF C

MUS5800 Applied Music

[1-2 credit hours]

Private studio music lessons intended primarily for music education graduate students or for music performance graduate students on a secondary instrument. 1 or 2 credit hours.

MUS5900 Graduate Studies In Music

[3 credit hours]

The study of sources and bibliographical materials in music.

MUS6000 Master's Recital

[0- credit hours]

Required for the Master of Music Performance degree. A passing grade documents successful completion of the recital requirement. Must be taken during the semester in which the recital is presented.

MUS6450 Jazz history, Style and Analysis

[3 credit hours]

An in-depth study of jazz styles, trends, performers and composers through historical and analytical research.

MUS6560 Jazz Pedagogy and Conducting

[2 credit hours]

An in-depth study of jazz pedagogical materials and methods as well as rehearsal and conducting techniques.

MUS6600 Jazz Composition and Arranging Seminar

[2 credit hours]

Examination and analysis of jazz scores with creative assignments in jazz orchestration and composition in traditional and contemporary styles. May be repeated one time.

MUS6650 Seminar In Music Arranging

[3 credit hours]

Examination and analysis of scores of varied composers and styles; creative assignments in orchestration exploring traditional and contemporary textures and timbres.

Prerequisites: MUS 3500 FOR LEVEL UG WITH MIN. GRADE OF C

MUS6690 Seminar In Music Composition

[2 credit hours]

May be repeated, but maximum accumulated credit is six hours. Beginning composition, including writing in the smaller musical forms, to advanced compositions for large.

MUS6700 Jazz Improvisation Seminar

[2 credit hours]

Practical application and analysis of jazz improvisation methods and techniques as applied to contemporary jazz composition and performance. May be repeated one time.

MUS6800 Applied Music

[2-5 credit hours]

Private studio music lessons for music performance graduate students, including the study of performance methods and literature of the highest levels. Preparation for professional-level performance. May be repeated for credit with permission of the instructor.

MUS6980 Seminar: Special Topics

[1-3 credit hours]

Selected subjects in music in areas of special interest to the advanced master's degree student. The seminar topic will be announced in the semester schedule of classes.

MUS6990 Independent Study

[1-3 credit hours]

Designed to meet the needs of individual students who wish to pursue projects in the area of music.

NASC1100 Our Physical World

[3 credit hours]

Elementary study of motion and gravity, thermodynamics, wave phenomena, light, electricity, magnetism, models of the atom, the solar system, stars and galaxies.

NASC1110 Physical World Laboratory

[1 credit hour]

Quantitative measurements and predictions concerning the physical universe in a laboratory environment. Motion, electric and magnetic fields, properties of matter, temperature and heat, radioactive decay. Two hours of laboratory per week.

NERS5810 Neuroscience

[6 credit hours]

The content of the medical neuroscience course includes not only the basic science concepts introduced in more traditional neuroanatomy courses, it also incorporates neurohistology, neuroembryology, neurophysiology, neuropathology, and neuroradiology. The usefulness of these concepts are reinforced by numerous clinically-based lectures which emphasize the importance of integrating basic neuroanatomical knowledge with the clinical symptoms presented by a neurological deficit. Other clinically-based lectures present current medical concepts concerning neuroimmunology, neurodegenerative diseases, pain, sleep, epilepsy, substance abuse, and memory and learning.

NERS701 Research in Neurosciences

[6 credit hours]

Students will participate in a mentored research project that includes laboratory work involving the direct application of the scientific method involving biochemical, physiological, anatomical, and/or molecular biological approaches. Students will be expected to test hypotheses and to collect data relevant to those hypotheses that pertain to important neuroscience issues.

NEUR701 Neurology:Adult

[7.5 credit hours]

Neurology (5 weeks)

NEUR704 Neurology Clinical Elective

[0-6 credit hours]

This elective is designed primarily for fourth year students who want additional experience in evaluation, diagnosis and management of neurological disorders. This elective is offered to students who have successfully completed three years of medical school as well as the required neurology clerkship. Responsibilities include evaluation and management of patients in the outpatient and inpatient settings as well as rotation through the neurophysiology laboratory (EEG and EMG). Additional experience in allied specialties such as Neuroradiology, PM& R and Neurosurgery can be arranged on an individual basis to complement neurological teaching.

Prerequisites: NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

NEUR705 Neurology Clinical Elective

[3 credit hours]

This elective is designed primarily for fourth year students who want additional experience in evaluation, diagnosis and management of neurological disorders. This elective is offered to students who have successfully completed three years of medical school as well as the required neurology clerkship (this requirement is waived for Class of 2011 due to change in curriculum). Responsibilities include evaluation and management of patients in the outpatient and inpatient settings as well as rotation through the neurophysiology laboratory (EEG and EMG). Additional experience in allied specialties such as Neuroradiology, PM& R and Neurosurgery can be arranged on an individual basis to complement neurological teaching.

Prerequisites: NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

NEUR707 Acting Internship Neurology

[1-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P

NEUR710 Neurology Research

[3-6 credit hours]

The elective is organized as a 4 week block. Students will identify a mentor for the rotation and plan on spending majority of time working with them on a clinical or basic science research project. The purpose of this elective is to provide students additional opportunity to work with faculty and provide additional exposure to neurological disorders. Students will have opportunity to work in clinics once to twice a week with faculty; additional clinical experience can be obtained in neurophysiology (EEG, EMG) laboratory. Most of the time will be spent on developing a research project that is student initiated such as a case report with literature review or working on a pre-existing research project with a faculty/mentor of the student¿s choosing. Developing a manuscript for publication or presentation at a national meeting is strongly encouraged.This elective is geared towards students interested in a career in neurology or related disciplines but is not limited to those students. Completion of required Neurology Clerkship is encouraged but is not a prerequisite for this elective.

NEUR711 Clinical Neurophysiology

[3 credit hours]

Students will attend EMG/NCS sutides with the attending physician and technologist as well as review the study results with the attending physicians. Students will also be assigned to EEG review sessions with attending physicians. Reading assignments will be given and students will be required to review clinical neurophysiological literature relevant to studies reviewed during the rotation. Students will also attend monthly EEG review conference if schedule permits.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS

NEUR712 Interventional Neurovascular

[3 credit hours]

This elective will allow the student to shadow neurovascular faculty in the interventional suite, and assist as appropriate with procedures including angiography, thrombolytic treatment of acute ischemic stroke, intracranial arterial stenting and aneurysm coiling. The enrolled student will participate in care of the patient from presentation to discharge.

Prerequisites: NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P

NEUR745 MD/PhD Neurology Elective

[1-2 credit hours]

In the summer after the second year of medical school, MD/PhD students will identify a clinical mentor. This faculty member will be responsible for the clinical training program of the student, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The mentor may change during the course of the student¿s graduate school years, but any change should occur after the end of a semester. Although students may choose a clinical mentor from any department, the following specialties are particularly suited to training MD/PhD students with limited prior clinical training and restricted hours of availability: Neurology: Students may schedule sessions in the clinic or on the inpatient/consult service. Contact: Dr. Imran Ali, Clerkship Director. Student time commitment: Students are expected to spend 8 hours per month in clinical training. This can be divided into weekly 2 hour session, biweekly 4 hour sessions or an 8 hour day per month. Students are encouraged to discuss the most appropriate schedule with their laboratory mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. The program should be formalized in writing, and submitted to the MD/PhD Director for approval. Students should see about one patient per hour of training. Students should keep a log of their patients, their diagnoses, and any procedures performed. An electronic logging system for patient experiences will be developed. Credit: Upon completion of 3 years of graduate training, assuming 40 weeks per year of participation, students will have accumulated about 300 hours of clinical experience. This is approximately equivalent to 2 months of clinical electives (8 h/d X 5 d/w X 4 weeks = 160 h/mo), and students will be awarded 2 months of 4th year elective credit for this training upon re-enrolling in the College of Medicine. This credit should allow further flexibility in 4th elective scheduling, enabling additional research months, off site rotations, etc. If students require more than 3 years of graduate work, continued participation in the clinical training program is strongly encouraged, but no more than 2 months of elective time will be awarded.

NEUR751 Neurology Away Elective

[3 credit hours]

This elective is designed primarily for fourth year students who want additional experience in evaluation, diagnosis and management of neurological disorders. This elective is offered to students who have successfully completed three years of medical school as well as the required neurology clerkship. Responsibilities include evaluation and management of patients in the outpatient and inpatient settings as well as rotation through the neurophysiology laboratory (EEG and EMG). Additional experience in allied specialties such as Neuroradiology, PM& R and Neurosurgery can be arranged on an individual basis to complement neurological teaching.

NEUS702 Neurosurgery

[6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

NEUS704 Neurological Surgery

[3 credit hours]

In the Advanced Neurological Surgery elective the student will be integrated into the Neurosurgery Service with appropriate responsibility for diagnosis and management of patients. The student will be assigned a specific Neuroscience topic for presentation.

Prerequisites: NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

NEUS760 Neurological Surgery

[6 credit hours]

In the Neurological Surgery elective the student will be integrated into the Neurosurgery Service with appropriate responsibility for diagnosis and management of patients. The student will be assigned a specific Neuroscience topic for presentation.

NNDP5810 Neuroscience

[5 credit hours]

A survey of medical neuroscience, taught as part of the medical school curriculum. It includes lectures, laboratories, and patient-presentation sessions.

NNDP6500 Seminar in Neuroscience

[1 credit hour]

Training and practice in presenting seminars on neuroscience research. May be repeated for credit.

NNDP6540 Jrnl Paper Review Neuroscience

[2 credit hours]

A weekly report on recent advances in neurobiology taken from original papers to give the students an opportunity to find, critically assess, and report on these studies. Students will develop skills for communicating scientific ideas in a seminar format. May be repeated for credit.

NNDP6560 Readings in Neuroscience

[1-4 credit hours]

Tutorial course between major advisor and student to acquaint student with important writings relevant to neuroscience concepts. May be repeated for credit.

NNDP6720 Current Topics in Neuroscience

[1-4 credit hours]

Tutorial course between major advisor and student to acquaint student with the range of topics of current major interest in neuroscience research. May be repeated for credit.

NNDP6890 Independ Study in Neuroscience

[1-12 credit hours]

Independent library and laboratory work under the supervision of the major advisor. May be repeated for credit.

NNDP7810 Neuroscience

[6 credit hours]

A survey of medical neuroscience, taught as part of the medical school curriculum. It includes lectures, laboratories, and patient-presentation sessions.

NNDP8010 Neurosci Neuro Diseases

[2 credit hours]

The objectives of the course are to study nervous system development, organization and structure and of nervous system-related diseases.

NNDP8500 Seminar in Neuroscience

[1 credit hour]

Training and practice in presenting seminars on neuroscience research. May be repeated for credit.

NNDP8540 Jrnl Paper Review Neuroscience

[2 credit hours]

A weekly report on recent advances in neurobiology taken from original papers to give the students an opportunity to find, critically assess, and report on these studies. Students will develop skills for communicating scientific ideas in a seminar format. May be repeated for credit.

NNDP8560 Readings in Neuroscience

[1-4 credit hours]

Tutorial course between major advisor and student to acquaint student with important writings relevant to neuroscience concepts. May be repeated for credit.

NNDP8720 Current Topics in Neuroscience

[1-4 credit hours]

Tutorial course between major advisor and student to acquaint student with the range of topics of current major interest in neuroscience research. May be repeated for credit.

NNDP8890 Independ Study in Neuroscience

[1-12 credit hours]

Independent library and laboratory work under the supervision of the major advisor. May be repeated for credit.

NNDP8990 Research in Neuroscience

[1-15 credit hours]

Training in neuroscience research techniques through laboratory experience. May be repeated for credit.

NSE1000 NSE - Study Abroad

[0-21 credit hours]

Placeholder Course

NSM1000 Natural Sciences & Mathematics

[2 credit hours]

THIS COURSE IS REQUIRED BY ALL UNDERGRADUATE PROGRAMS IN THE COLLEGE. Course will introduce new students to the University and college, provide information on requirements, regulations, campus resources and career exploration, and help students achieve their academic goals.

NURS1000 Professional Nursing Orientation

[1 credit hour]

Course provides opportunity for development of academic, personal, and interpersonal skills required to become a successful, independent learner, introduces student to professional nursing as a career.

NURS3040 Nursing to Promote Wellness Across the Lifespan

[5 credit hours]

Focus on wellness and primary prevention across the lifespan. Introduction to nursing as a discipline. Emphasis on concepts of wellness, communication, lifespan, clinical judgment and physiologic processes. Recognize individuals in context of family and community. Student experiences in community-based settings.

NURS3080 Fundamentals of Nursing and Assessment Across the Lifespan

[5 credit hours]

Focus on holistic assessment of individuals across the lifespan. Emphasis on assessment, skills, technology and professional nursing role. Experiential learning with peers in a simulated environment.

NURS3110 Nursing Agency II: Assessment

[3 credit hours]

Provides for acquisition of knowledge and development of skill in comprehensive nursing assessment.

NURS3120 Adult Health Nursing I

[7 credit hours]

Care of adults with common nursing problems using Orem's Self-Care Deficit Theory of Nursing.

Prerequisites: (NURS 3010 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3110 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3170 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 321

NURS3130 Gerontological Nursing

[3 credit hours]

Focus on theories and concepts of aging and health, based on Universal Self-Care Requisites from Orem's Self-Care Deficit Theory of Nursing.

Prerequisites: NURS 4030 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4020 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3620 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS3150 Pathopharmacology 1

[3 credit hours]

Focus on fundamental concepts in pathophysiology and pharmacology across the life span. Foundation for understanding disease processes and drugs [i.e. therapeutic outcomes and potential drug interactions.

NURS3170 Concepts Of Pathophysiology

[3 credit hours]

Basic science of pathophysiology of disease across the life span. Prepares for critical thinking in application of concepts to nursing practice.

NURS3180 Concepts Of Nursing Pharmacology

[3 credit hours]

Fundamental pharmacologic principles of physiological response to drugs, therapeutic outcomes and potential drug interactions. Prepares for critical thinking in application of pharmacotherapy principles to nursing.

Prerequisites: NURS 3010 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3110 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3210 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3170

NURS3190 Nursing Research 1

[2 credit hours]

Focus on introduction of concepts, issues, and processes in nursing research.

NURS3280 Advanced Fundamentals

[3 credit hours]

Focus on application of assessment skills and demonstrating safe procedures for high risk interventions in simulated experiences. Emphasis on the concepts of clinical judgment, professional behaviors, and collaboration.

Prerequisites: NURS 3040 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3190 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3150 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3080 FOR LEVEL UG WITH MIN. GRADE OF C

NURS3290 Nursing Research 2

[1 credit hour]

Introduction to evidence based practice. Emphasis is on learning how to evaluate research for evidence based practice in nursing as a baccalaureate nurse.

Prerequisites: NURS 3040 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3190 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3150 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3080 FOR LEVEL UG WITH MIN. GRADE OF C

NURS3300 Nursing Care of Persons with Health Challenges

[4 credit hours]

Focus on holistic care of adults and older adults in acute care settings experiencing health problems. Emphasis on the concepts of leadership, collaboration, and communication. Recognizes individuals in context of family and community.

Prerequisites: NURS 3040 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3190 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3080 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3150 FOR LEVEL UG WITH MIN. GRADE OF C

NURS3400 Family Health

[4 credit hours]

Focus on health, wellness and illness of child - bearing families and children across various settings. Emphasis on concepts of gas exchange, sexuality, reproduction, grief, mood and affect, family, safety, advocacy and family communication. Recognizes individuals in context of family and community.

Prerequisites: NURS 3040 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3190 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3150 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3080 FOR LEVEL UG WITH MIN. GRADE OF C

NURS3540 Pathopharmacology 2

[3 credit hours]

Focuses on selected alterations and related pharmacology across the life span. Foundation for understanding disease processes and drugs [i.e. therapeutic outcomes and potential drug interactions]. Basis for critical thinking in nursing to help clients cope with effects of illness and return to health. Emphasis on concepts of: clotting, elimination, gas exchange, intracranial regulation, mood & affect, nutrition, patient education, perfusion, reproduction, sensory perception, tissue integrity.

Prerequisites: NURS 3040 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3190 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3150 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3080 FOR LEVEL UG WITH MIN. GRADE OF C

NURS3620 Women's Health Nursing

[5 credit hours]

Provides didactic and clinical opportunities relevant to care of women across lifespan. Various clinical settings used in application of nursing system with a self-care framework.

Prerequisites: (NURS 3120 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3180 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3630 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY))

NURS3630 Mental Health Nursing

[5 credit hours]

Psychosocial influences on self-care agency are presented within the context of culturally competent nursing care. Concepts are interpreted within self-care deficit theory and applied in clinical experiences.

Prerequisites: (NURS 3010 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3110 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3210 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 317

NURS3640 Parent-Child Nursing

[5 credit hours]

Nursing care of infants, children, and adolescents within families and groups using Orem's Self Care Deficit Theory of Nursing. Clinical experiences in wellness, acute, and chronic care settings.

Prerequisites: (NURS 3620 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4020 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4030 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY))

NURS4010 Community Health Nursing

[5 credit hours]

Focuses on design and implementation of nursing care for aggregates and communities. Individual and family care is provided within the context of population health.

Prerequisites: (NURS 3620 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4030 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)) AND NURS 4020 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4020 Leadership And Management In Nursing

[3 credit hours]

Focus on principles and theories of management/leadership as a basis for provision of nursing care.

Prerequisites: (NURS 3120 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3180 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3630 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY))

NURS4030 Adult Health Nursing II

[7 credit hours]

Design and implementation of nursing systems for the adult population with complex health states. Includes application of nursing leadership principles in clinical settings.

Prerequisites: (NURS 3120 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3180 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 3630 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY))

NURS4120 Nursing Leadership And Management

[5 credit hours]

Focus on principles of management and leadership for the baccalaureate prepared nurse. Provision of professional care in a variety of settings.

Prerequisites: (NURS 4230 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4180 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4190 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY))

NURS4130 Nursing Care of Persons in Crisis 1

[4 credit hours]

This course facilitates the development and implementation of strategies to enable the synthesis of professional development for the baccalaureate nurse. The course enables the student to recognize and understand the critical role that nurses play in health care delivery. Students will analyze principles of professional practice and will explore strategies to model the professional practice role in current clinical situations. This course also assists the student in the online classroom environment. This course is online.

Prerequisites: NURS 3280 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3300 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3540 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3290 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3400 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4180 Theoretical And Professional Foundations In Nursing

[4 credit hours]

Focus on RN student's transition to professional higher education and theory-based practice. Current professional issues are explored. Political, socioeconomic, ethical and legal issues are critically examined and discussed.

NURS4190 Interpersonal Strategies In Nursing Of Older Individuals

[6 credit hours]

Focus on application of Self-Care Deficit Theory of Nursing and health maintenance for older individuals within the family and environment; emphasis on development of interpersonal skills for RNs.

Prerequisites: NURS 4180 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4200 Population Focused Care

[5 credit hours]

Focuses on the design and implementation of nursing care for aggregates and communities. Individual and family care is provided within the context of population focused care.

Prerequisites: (NURS 4190 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4230 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY))

NURS4210 Applied Nursing Research

[3 credit hours]

Emphasizes all phases of the research process. Analysis and application of research strategies for the professional nurse.

NURS4220 Applied Pathophysiology And Pharmacology

[4 credit hours]

Concepts of pathophysiology and pharmacology. Prepares for critical thinking in application of concepts to nursing practice.

NURS4230 Applied Health Assessment

[3 credit hours]

Nursing application of health history, physical and psychosocial assessment skills across the lifespan.

NURS4240 Nursing Care of Persons in Crisis 2

[8 credit hours]

Focus on changes in health in acute care settings across the lifespan. Emphasis on concepts related to oxygenation and hemostasis; homeostasis and regulation; protection and movement, and coping and stress tolerance.

Prerequisites: NURS 3280 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3300 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3400 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3290 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3540 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4250 Professional Nursing Competency

[2 credit hours]

This course provides an overview of NCLEX and practice in the application of knowledge required for the professional nursing examination. Required for passing of exam.

Prerequisites: (NURS 3620 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4020 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) AND NURS 4030 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY))

NURS4260 Professional Development

[3 credit hours]

Focus on wellness and primary prevention across the lifespan. Emphasis on concepts of wellness, communication, lifespan, and physiologic processes. Additional concepts include the role of the nurse in healthcare delivery as related to health promotion. This is an online course.

Prerequisites: NURS 3280 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3300 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3540 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3290 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 3400 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4270 Applied Health Assessment Across the Lifespan

[3 credit hours]

This course emphasizes the concepts and skills essential to the assessment parameter of the nursing process. The purpose of this course is to broaden the learners' knowledge base, to increase their assessment skills, and to facilitate their ability to apply these skills in a clinical setting. The knowledge from this course is immediately applicable to everyday patient care. This is an online course.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4290 Nursing Care of Older Adults

[4 credit hours]

Focus on the analysis and application of health and illness concepts with older adults. Concepts include healthcare delivery, attributes & roles of the nurse, and patient profile concepts. This is an online course.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4310 Research Methods and Evidence Based Practice

[3 credit hours]

Introduction to concepts, issues and processes in nursing research and evidence-based practice. Emphasis is on the use of research as a baccalaureate-prepared nurse, including critical analysis and evaluation of published research for use in evidence-based practice.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4320 Pathopharmacology Across the Lifespan

[4 credit hours]

Covers basic concepts of pathophysiology and pharmacology. Prepares the nurse for critical thinking in application of concepts to nursing practice.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4330 Nursing Leadership and Management

[5 credit hours]

Students focus on the professional nurse's role in applying the principles and theories of leadership and management as a basis for provision of nursing care across healthcare delivery systems. Emphasis will be on leadership concepts to achieve safe, high quality patient-centered nursing care.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4340 Population Focused Care

[5 credit hours]

This course facilitates the development and implementation of strategies to enable the synthesis of professional development for the baccalaureate nurse within the community. The course enables the student to recognize and understand the critical role that nurses play in community and public health care delivery. Students will analyze principles of public health and will explore strategies to model the professional practice role in current community clinical situations. This course also assists the student in the online classroom environment. This is an online course.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4350 Transition to BSN Practice

[2 credit hours]

This course facilitates the development and implementation of strategies to enable the synthesis of professional development for the baccalaureate nurse. The course enables the student to recognize and understand the critical role that nurses play in health care delivery. Students will analyze principles of professional practice and will explore strategies to model the professional practice role in current clinical situations. This course also assists the student in the online classroom environment. This course is online.

NURS4360 Theory and Collaborative Practice

[3 credit hours]

This course facilitates the development and implementation of strategies to enable the synthesis of nursing theory and collaborative practice for the baccalaureate nurse. The course enables the student to recognize and understand the critical role that nurses play in health care delivery collaboration. Students will analyze theories of nursing and will explore strategies to apply nursing theory in current clinical situations. This course also assists the student in the online classroom environment. This is an online course.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4390 Health Promotion and Wellness Across the Lifespan

[3 credit hours]

Focus on wellness and primary prevention across the lifespan. Emphasis on concepts of wellness, communication, lifespan, and physiologic processes. Additional concepts include the role of the nurse in healthcare delivery as related to health promotion. This is an online course.

Prerequisites: NURS 4350 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

NURS4510 Population Health

[4 credit hours]

Focuses on the design and implementation of nursing care for aggregates and communities across the lifespan. Emphasis on professional nursing and health care concepts.

Prerequisites: NURS 4130 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4240 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4260 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4620 Precepted Clinical Practicum

[5 credit hours]

Focus on partnering with clients (individuals. families, groups and/or communities) who are dealing with complex health problems of any age group and setting. Emphasis on concepts of health-care delivery, attributes and roles of nurse, and care competencies. Includes weekly seminars relevant to clinical issues.

Prerequisites: NURS 4130 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4240 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4260 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4700 Nursing Care of Persons and Families with Complex Care Needs

[3 credit hours]

Focus on nursing care of people with complex health issues across the lifespan. Emphasis on care coordination and Interprofessional collaborative teamwork.

Prerequisites: NURS 4130 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4240 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4260 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4760 Professional Nursing Competency

[3 credit hours]

Focus on preparation for the National Council Licensure Examination for Registered Nurses (NCLEX – RN). All concepts in the curriculum are included in comprehensive review.

Prerequisites: NURS 4130 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4240 FOR LEVEL UG WITH MIN. GRADE OF C AND NURS 4260 FOR LEVEL UG WITH MIN. GRADE OF C

NURS4990 Independent Study

[1-3 credit hours]

Independent study in nursing.

NURS5040 Hlth Assess and Nrs Prmng Hlth

[6 credit hours]

Using Orem's SCDT, students assess individuals and families and apply the nursing process in order to promote the health of individuals and families across the life span. Includes 90 clinical hours.

NURS5050 Integrative Hlth Science I

[3 credit hours]

Examines foundational chemical, physical, cellular biological, and microbiological principles of human physiology. Focuses on advanced physiologic and pathophysiologic mechanisms underlying human responses to genetic, defense, and nervous system disease.

NURS5060 Professional Socialization I

[3 credit hours]

Focuses on the development of the professional nursing role. Students explore the effects of historical, legal, and ethical influences on professional nursing. Cultural diversity also is examined.

NURS5070 Therapeutic Comm Skills Nurses

[3 credit hours]

Focuses on therapeutic communication skills at the intrapersonal and interpersonal levels. Explore nursing agency from a holistic perspective. Includes 30 clinical hours.

NURS5140 Design Nurs Sys Promote Slf Cr

[0-7 credit hours]

Apply Orem's SCDT in the design and implementation of nursing systems that assist individuals and families in achieving and maintaining optimal health. Includes 90 clinical hours.

NURS5160 Professional Socialization II

[3 credit hours]

Integrate nursing theory and models into professional nursing practice. Focuses on ethical, political, and economic issues that impact nursing practice. Differentiation of advanced practice and entry level roles are explored.

NURS5190 Adv Interpersonal Intervention

[2-3 credit hours]

Integrates interpersonal strategies and complementary modalities through peer counseling and supervision. Analyzes personal abilities and limitations in developing therapeutic relationships with individuals and groups. Includes 60 hours clinical.

NURS5220 Field Experience Seminar

[1-3 credit hours]

Program capstone experience that integrates nursing theory, research, and practice to fulfill the requirements of the MSN degree.

NURS5240 Desgn Nurs Sys Com Hlth Sts

[6 credit hours]

Using Orem's SCDT, students design and implement nursing systems that assist individuals and families with complex problems to achieve and maintain optimal health. End of life care is addressed. Includes 120 clinical hours.

NURS5250 Health Science II

[3 credit hours]

Focuses on advanced physiologic and pathophysiologic mechanisms underlying disease across the life span. Examines cardiovascular, respiratory, endocrine, muscular skeletal, nervous, genitourinary, hepatobiliary, renal, integumentary and gastrointestinal systems.

Prerequisites: (NURS 504 FOR LEVEL GR WITH MIN. GRADE OF D- OR NURS 5040 FOR LEVEL GR WITH MIN. GRADE OF D-) AND (NURS 505 FOR LEVEL GR WITH MIN. GRADE OF D- OR NURS 5050 FOR LEVEL GR WITH MIN. GRADE OF D-) AND (NURS 506 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS5330 Health Assessments

[3 credit hours]

Focuses on acquisition of graduate level skills in collection and documentation of assessment data across the life-span. Differentiates normal from abnormal findings. Supervised laboratory practice is required.

NURS5400 Theoretical and Ethical Found

[3 credit hours]

Explores roots of nursing as a science and art. Examines personal and professional values in the context of ethical decision-making. Emphasis is on analysis and evaluation of selected nursing and ethical theories. Course Enrollment is Limited.

NURS5440 Population Focused Care

[6 credit hours]

Students apply epidemiological principles and Orem's SCDT to improve the health status of aggregates, vulnerable populations and communities. Includes 90 clinical hours.

NURS5500 Family and Cultural Diversity

[3 credit hours]

Explores family and cultural diversity theories and processes. Examines assessment, analysis and evaluation of family function. Analyzes cultural competence of advanced practice nursing. Course Enrollment is Limited.

NURS5510 Adv Clinical Seminar:Nursing

[3-4 credit hours]

Application of nursing theory and research with clients in wellness promotion or complex care states. Emphasis is on the assessment and analysis of human responses and outcomes of care.

NURS5530 Public Policy and Health Care

[2-3 credit hours]

Explores the public policy process from agenda setting through program evaluation. Focus is on how health problems are brought to the attention of government and solutions are obtained. Some field work is expected.

NURS5540 Adv Practicum Nurs Sys Design

[12 credit hours]

Students demonstrate integration of nursing knowledge and skill in designing and implementing nursing systems in a capstone clinical experience. Includes 300 clinical hours.

NURS5610 Psychiatric-Mental Health Nurse Practitioner Theory and Clinical I Adults

[7 credit hours]

The first course in the Psychiatric-Mental Health Nurse Practitioner track focuses on preparing the student in the advanced practice role of assessment, diagnosis, and treatment planning of select acute and chronic psychiatric disorders and mental health care needs of individuals across the lifespan.

Prerequisites: NURS 5740 FOR LEVEL GR WITH MIN. GRADE OF D-

NURS5620 Psychiatric-Mental Health Nurse Practitioner Theory and Clinical II Child, Adolescent, Family

[7 credit hours]

The course explores the major group and family psychotherapeutic approaches. Theories and models of group and family psychotherapy are examined as they can be applied across the lifespan, with diverse populations, and in traditional and non-traditional settings.

Prerequisites: NURS 5610 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 5690 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS5630 Psychiatric-Mental Health Nurse Practitioner Theory and Clinical III Older Adults

[9 credit hours]

Focuses on the role of the advanced practice nurse in management of children, adolescents, adults, older adults with acute or chronic psychiatric or mental health concerns.

Prerequisites: NURS 5610 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS5670 Pharmacology

[3 credit hours]

Focuses on fundamental pharmacological principles. Prepares for critical thinking in application of pharmacotherapy principles to nursing. Emphasizes physiological responses to drugs, expected outcomes, and potential drug interactions.

Prerequisites: (NURS 504 FOR LEVEL GR WITH MIN. GRADE OF D- OR NURS 5040 FOR LEVEL GR WITH MIN. GRADE OF D-) AND (NURS 505 FOR LEVEL GR WITH MIN. GRADE OF D- OR NURS 5050 FOR LEVEL GR WITH MIN. GRADE OF D-) AND (NURS 506 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS5680 Advanced Physiology and Pathophysiology

[3 credit hours]

Focuses on advanced physiologic and pathophysiologic mechanisms underlying human responses to disease illness across the life-span. Students will build on existing knowledge of human anatomy and physiology. Course Enrollment is Limited.

NURS5690 Adv Pharmacotherapeutics

[3 credit hours]

Focuses on advanced pharmacologic principles in decision-making for pharmacotherapy. Emphasizes responses to drugs, expected outcomes, and potential drug interactions. Discusses professional responsibilities of prescriptive privileges.

NURS5740 Advanced Health Assessments

[4 credit hours]

Focuses on acquisition of advanced skills in collection and documentation of assessment data across the life span. Differentiates normal from abnormal findings. Supervised laboratory practice is required. Course Enrollment is Limited. Includes 60 hours laboratory.

NURS5810 PNP I: Care of Children - Well

[6 credit hours]

Focuses on the health care needs of children and adolescents and principles of health promotion and wellness. Students will have an opportunity to begin development of skills in primary and specialty care settings. Includes 180 hours clinical.

NURS5820 PNP Clin II: Acute/Chronic

[6 credit hours]

Focuses on the care of children and adolescents with an emphasis on the management of common acute and stable chronic illnesses. Includes 180 hours clinical.

NURS5830 PNP Clinical III: Complex

[6 credit hours]

Focuses on management of common and complex acute and chronic conditions of children and adolescents. Issues of disability and developmental conditions are addressed. Emphasis is on integration of the advanced practice role.

Prerequisites: (NURS 582 FOR LEVEL GR WITH MIN. GRADE OF D- OR NURS 5820 FOR LEVEL GR WITH MIN. GRADE OF D-)

NURS5910 Advanced Nursing Research

[3 credit hours]

Critically evaluate published research for clinical relevance, identify a research problem, select a conceptual framework, review selected literature, and prepare a quantitative or qualitative research proposal.

NURS5980 Comprehensive Exam in Nursing

[3 credit hours]

Program capstone emphasizes independent comprehensive review preparation for exams with synthesis of knowledge from the total graduate nursing curriculum and review of relevant literature in selected field of study.

NURS6070 Adv Comm Skils Grp Dynamics

[3 credit hours]

Focuses on advanced therapeutic communication skills in the nurse-client relationship and analysis of Self-care agency. Complementary modalities are explored. Includes 45 clinical hours.

NURS6140 Adv Pract Nurs: Role and Issue

[2 credit hours]

Focuses on the issues and role of the advanced practice nurse, including historical and current perspectives of the advanced role. Examines health care system issues pertaining to advanced practice.

NURS6210 FNP Cln I:Adolescent and Adult

[6-7 credit hours]

Focuses on primary care of common and chronic illness of adolescents and adults. Clinical experiences will continue to incorporate women and children, adults, and target populations. Includes 180 clinical hours.

NURS6220 FNP Clin II:Women and Children

[6-7 credit hours]

Focuses on the primary care of children and women's health and includes normal prenatal care. Emphasis is on health promotion and common acute illness. Includes 180 clinical hours.

NURS6230 FNP Clin III:Adults/Older Adul

[6-8 credit hours]

Focuses on primary care management of acute and chronic conditions of adults and older adults. Urgent care issues are addressed. Emphasizes integration of primary care concepts across the life span. Includes 240 clinical hours.

NURS6310 Adult Gerontology Nurse Practitioner Theory and Clinical I Adolescents and Young Adults

[7 credit hours]

Holistic care of culturally diverse adolescents and young adults in multiple care settings. Assessment and management of common acute and chronic health problems with emphasis on health promotion and risk reduction.

Prerequisites: NURS 5740 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 5680 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS6320 Adult Gerontology Nurse Practitioner Theory and Clinical II Adults

[7 credit hours]

Holistic care of culturally diverse adults in multiple care settings with emphasis on gender specific health care needs and principles of health promotion and wellness.

Prerequisites: NURS 6310 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 5690 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS6330 Adult Gerontology Nurse Practitioner Theory and Clinical III Older Adults

[8 credit hours]

Holistic care of culturally diverse older adults in multiple care settings with emphasis on care management of acute and chronic conditions, emergent issues and end of life concerns.

Prerequisites: NURS 6320 FOR LEVEL GR WITH MIN. GRADE OF D-

NURS6710 Develop Instruc Progrm Nursing

[3 credit hours]

Focuses on skills to develop curricular components for nursing instructional programs. Examines the relationships among mission, philosophy, goals, and outcomes for various learning environments.

NURS6720 Tchg, Lrng and Evaluation Nurs

[4 credit hours]

Focuses on teaching-learning theories, processes, strategies, and styles. Examines evaluation principles and strategies in the classroom and clinical setting.

NURS6730 Practicum/Seminar in Teaching

[3-4 credit hours]

Applies knowledge of learning and evaluation theories in the development and implementation of a program of instruction. Within a seminar format, emphasizes significant issues in healthcare education.

NURS6890 Independent Study in Nursing

[0-4 credit hours]

The student and faculty member agree on a course of study that will enable the student to achieve his/her objectives. An Independent Study Contract and Evaluation Form are submitted to the Associate Dean of the Graduate Nursing Program. May be repeated for credit.

NURS6990 Thesis Research

[1-3 credit hours]

Research in nursing to fulfill the research requirement of the Nursing Master's Program. The (required) 2 credit hours may be divided and repeated across semesters. Only 2 credit hours are applicable for the degree. May be repeated for credit.

NURS7000 BSN-DNP Orientation

[1 credit hour]

Focuses on pertinent information needed by incoming students in the BSN-DNP Program. Empasis on requirements of The University of Toledo and the College of Nursing to matriculate in the Program

NURS7020 Org Systems Leadership in Hlth

[3 credit hours]

This course examines the application of organizational and leadership theories and strategies to assess process and outcomes in a variety of health care settings. Focus is on the role of the advanced practice nurse in analyzing clinical patterns and issues in complex practice settings, health care organizations, and communities.

NURS7030 Qual Mgmt/Perf Improve Hlth Or

[3 credit hours]

Examines principles/practice of quality management/clinical performance in care delivery and outcomes. Focuses on role and accountability of the advanced practice nurse/collaborative team for maintaining safety and improving quality of care.

NURS7040 Applied Nursing Research

[3 credit hours]

This course builds on knowledge of research and clinical practice with emphasis on evidence-based practice. Students learn to critically examine and apply nursing research within the practice setting.

NURS7050 Inf Tech Nsg & Hlth Care Syst

[3 credit hours]

Systematic assessment of clinical and administrative information needs of health care systems. Examines the technology and strategies needed to support patients, nurses, and health care delivery in dynamic environmental systems.

NURS7060 Population Health

[3 credit hours]

This course uses epidemiologic models to analyze and construct interventions for health care delivery systems. The focus is on safe, quality, culturally-appropriate advanced nursing practice activities to meet emerging world needs.

Prerequisites: INDI 6000 FOR LEVEL GR WITH MIN. GRADE OF C OR INDI 8000 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7070 Mktg/Entrep Act Cmplx Hlth Cr

[3 credit hours]

This course examines marketing and entrepreneurial strategies for advanced nursing practice in complex health care systems. The focus is on creating and evaluating marketing plans and entrepreneurial activities.

NURS7080 Evidence Based Nursing Practice in Direct Care

[3 credit hours]

This course examines diagnostic laboratory and imaging methods as foundational evidence for assessment and intervention in the care of patient populations. The focus is on examing the basis for diagnosis using laboratory and imaging procedures, assessing the quality and reliability/sensitivity of diagnostic test results, understanding the technology used in diagnostic testing, and utilizing cost-benefit data in ordering diagnostic testing.

NURS7090 Project Seminar

[1-3 credit hours]

This course provides a forum to articulate and explore advanced nursing practice roles and responsibilities. The focus will be on leading nursing practice in patient advocacy, teaching, collaboration, and the design and provision of care.

NURS7100 Doctoral Project

[1-3 credit hours]

This course is guided, independent project utilizing research to improve patient outcomes, health care delivery, or nursing practice.

Prerequisites: (NURS 7040 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7010 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7090 FOR LEVEL GR WITH MIN. GRADE OF C) OR (NURS 704 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 701 FOR LEVEL GR WITH MIN. GRADE OF C AND

NURS7180 Evdnc Base Admin Comp Hlth Sys

[3 credit hours]

This course examines evidence practices in administrative health care settings. The focus is on examing current status and creating and evaluating innovative administrative practices based on best practices. Competencies include model application for finance and clinical outcomes.

NURS7210 Family Nurse Practitioner Clinical I: Primary Care of Adolescents and Adults

[7 credit hours]

Focuses on primary care of common/chronic illness of adolescents, adults includes beginning understanding of role of APN in primary care includes development of therapeutic relationships. Clinical experiences include populations across the lifespan.

Prerequisites: NURS 7740 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7400 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7410 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7220 Family Nurse Practitioner Clinical II: Primary Care of Women and Children

[7 credit hours]

Focuses on primary care of children/women's health. Emphasis on health promotion and common acute illness, role development,

Prerequisites: NURS 7210 FOR LEVEL GR WITH MIN. GRADE OF D-

NURS7230 Family Nurse Practitioner Clinical III: Primary Care of Adults and Older Adults

[8 credit hours]

Focuses on primary care management of acute/chronic conditions of adults/older adults. Urgent care issues are addressed. Emphasizes holistic care across the lifespan integrating primary care concepts. Explores professional APN leadership role.

Prerequisites: NURS 7220 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7310 Adult Gerontology Nurse Practitioner Theory and Clinical 1 Adolescents and Young Adults

[7 credit hours]

Holistic care of culturally diverse adolescents and young adults in multiple care settings. Assessment and management of common acute and chronic health problems with emphasis on health promotion and risk reduction.

Prerequisites: NURS 7740 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7680 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS7320 Adult Gerontology Nurse Practitioner Theory and Clinical II Adults

[7 credit hours]

Holistic care of culturally diverse adults in multiple care settings with emphasis on gender specific health care needs and principles of health promotion and wellness.

Prerequisites: NURS 7310 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7690 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS7400 Theoretical Foundations of Advanced Nursing Practice

[2 credit hours]

Explores nursing as science and art. Identifies practice theory in the context of the nursing metaparadigm, grand and middle range theory with emphasis on analysis/evaluation of selected nursing theories.

NURS7410 Ethical Foundations of Advanced Nursing Practice

[2 credit hours]

Examines the inter-relationship between theory, research, practice in ethical decision-making. Focuses on critical analysis/evaluation of selected ethical theories, values, professional codes of ethics related to evidence-based practices.

NURS7500 Family and Cultural Diversity Theories

[3 credit hours]

Explores family and cultural diversity theories and process. Examines assessment, analysis, and evaluation of family function. Analyzes cultural competence of advanced practice nursing.

NURS7530 Public Policy and Health Care

[3 credit hours]

This course explores the public policy process from agenda setting through program evaluation. The focus is on how health problems are brought to the attention of government and solutions are obtained. Some field work is required.

NURS7610 Psychiatric-Mental Health Nurse Practitioner Theory and Clinical I Adult

[7 credit hours]

Focuses on preparing the student in the advanced practice role for assessment, diagnosis, and treatment planning of select acute and chronic psychiatric disorders and mental health care needs of individuals across the lifespan.

Prerequisites: NURS 7050 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7400 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7410 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7680 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7740 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS7620 Psychiatric-Mental Health Nurse Practitioner Theory and Clinical II Child Adolescent Family

[7 credit hours]

Emphasis on increasing ability to assess, diagnose, and treat more complex mental health care needs of individuals and families with particular attention paid to those disorders found in childhood and adolescence.

Prerequisites: NURS 7610 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7690 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS7630 Psychiatric-Mental Health Nurse Practitioner Theory and Clinical III Older Adult

[9 credit hours]

Focus on acute or chronic psychiatric or mental health issues faced by older adults and their families- dementia, delirium, and depression.

Prerequisites: NURS 7610 FOR LEVEL GR WITH MIN. GRADE OF D- AND NURS 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

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NURS7680 Advanced Physiology and Pathophysiology

[3 credit hours]

Focuses on advanced physiologic and pathophysiologic mechanisms underlying human responses to illness across ther life-span. Students will build on existing knowledge of human anatomy and physiology.

NURS7740 Advanced Health Assessment

[5 credit hours]

Focuses on acquisition of advanced skills in collection and documentation of assessment data across the life-span. Differentiates normal, abnormal physiologic/psychosocial findings. Analyzes abilities/limitations in developing therapeutic relationships. Supervised laboratory practice.

Prerequisites: NURS 7680 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7810 Pediatric Nurse Practitioner Clinical I:Care of Children and Concepts of Wellness

[6 credit hours]

Health care for children/adolescents, principles of health promotion/wellness. Understanding of APN role in primary care, development of therapeutic relationships. Competencies in primary care for children from birth to 21 years and families.

Prerequisites: NURS 7400 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7410 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7740 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7820 Pediatric Nurse Practitioner Clinical II: Common Acute, and Stable Chronic Illnesses

[6 credit hours]

Care of children/adolescents with an emphasis on the management of common acute and stable chronic illnesses and APN role development. Includes therapeutic communication skills development with individuasls and groups.

Prerequisites: NURS 7810 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7830 Pediatric Nurse Practitioner Clinical III: Complex Chronic Illnesses or Disabilities

[6 credit hours]

Management of complex acute/chronic conditions in children/adolescents. Holistic care for children and families including developmental concerns and disability. Explores APN leadership role. Integration of the advanced practice role.

Prerequisites: NURS 7820 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7890 Independent Study

[1-4 credit hours]

NURS 7890 is an academic course completed outside of the required classroom, clinical or college laboratory experiences that provide the learner with an opportunity to pursue an area of interest in depth. This course may not be used to substitute for required courses. The course is supervised by a faculty member and approved by the Program director. A contract must be completed by the student and approved by the faculty member and the program director prior to the semester in which the Independent Study is to be conducted. Faculty approval is required before the student can register for this course.

NURS7910 Advanced Nursing Research

[3 credit hours]

Students will identify a research problem and develop an appropriate conceptual framework. They will critically review published research in the area of interest and identify appropriate design, methods and statistical analysis. Major aproaches of qualitative and quantitative methodologies will be explored.

Prerequisites: INDI 8000 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7400 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7920 Outcomes Methods for Advanced Practice Nurses

[3 credit hours]

Emphasis on stastical merhods associated with outcome measurement, experimental and quasi-experimental designs, meta-analysis and meta-synthesis. Evaluates nursing evidence in support of evidence-based practice protocol, development and evaluation.

Prerequisites: INDI 8000 FOR LEVEL GR WITH MIN. GRADE OF C AND NURS 7910 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7970 Final Practicum (Direct Care)

[1-6 credit hours]

Individually precepted practicum that requires advanced nursing practice with individuals and groups. Includes seminar that facilitates synthesis and application of all prior learning for evidence-based practice.

Prerequisites: NURS 7010 FOR LEVEL GR WITH MIN. GRADE OF C OR NURS 7011 FOR LEVEL GR WITH MIN. GRADE OF C OR NURS 701 FOR LEVEL GR WITH MIN. GRADE OF C

NURS7980 Final Practicum (Indirect Care)

[1-6 credit hours]

Individually precepted practicum that requires leadership and practice at the aggregate/systems/organizational level of health care. Includes required seminar that facilitates application, synthesis, and evaluation of prior learning in applied practice.

OBGY701 Obstetrics/Gynecology

[7.5 credit hours]

Obstetrics and Gynecology (5 weeks)

OBGY710 Gynecologic Oncology Research

[6 credit hours]

A four-week research elective can be structured to involve investigation into gynecologic oncology, according to the interest of the particular student.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

OBGY711 Gynecologic Oncology AI

[6 credit hours]

The student will have the opportunity to participate in the field of gynecologic oncology and care for women with gynecologic cancer. The student will be integrated in to the gyn oncology service as an acting intern on the team and be involved with outpatient clinics, inpatient care, and surgery. The student will be exposed to all areas of gynecologic oncology: outpatient and inpatient care of patients, oncologic surgery, chemotherapy, pathology, radiology, and radiation oncology.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY713 Maternal Fetal Medicine

[6 credit hours]

Student will be integrated in to the MFM service as a member of the team, participating in all aspects of the practice of Maternal Fetal Medicine both inpatient and outpatient. The student will be exposed to the care of high risk pregnant women and their fetus in the prenatal, intrapartum and postpartum period. This experience will be obtained at the Toledo Hospital. The student is required to carry out a literature review of a relevant MFM topic and make 15 minute presentation to the MFM team. Students are required to have and carry a pager.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY716 Gynecologic Oncology

[0-6 credit hours]

The student will have the opportunity to observe the practice of gynecologic oncology and care for women with gynecologic cancer. The student will be integrated in to the gyn oncology service as a member of the team and be involved with outpatient clinics, inpatient care, and surgery. The student will be exposed to all areas of gynecologic oncology; pelvic examinations, hospital care of high-risk patients, oncologic survey, chemotherapy, pathology, radiology, and radiation oncology.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY717 Maternal Fetal Medicine AI

[6 credit hours]

Student will be integrated in to the MFM service as a member of the team, participating in all aspects of the practice of Maternal Fetal Medicine both inpatient and outpatient. The student will be exposed to the care of high risk pregnant women and their fetus in prenatal, intrapartum and postpartum period. The student is required to carry out a literature review of a relevant MFM topic and make a 30 minute presentation to the MFM Tema. Students are required to have and carry a pager.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY718 Gyn Onc and Integrated Med AI

[6 credit hours]

The student will have the opportunity to participate in the field of gynecologic oncology and care for women with gynecologic cancer as well as participate in the connection between gyn oncology and integrative medicine. The student will be exposed to all outpatient areas of gynecologic oncology and integrative medicine including: new patient visits, follow-up visits, chemotherapy, acupuncture/acupressure, integrative medicine, clinical research. As an Acting Intern student will have graded responsibilites of independent evaluations, writing notes and orders with appropriate supervision.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY

OBGY719 Gyn Onc and Integrated Med

[6 credit hours]

The student will have the opportunity to participate in the field of gynecologic oncology and care for women with gynecologic cancer as well as fully participate in the connection between gyn oncology and integrative medicine including: new patient visits, follow-up visits, chemotherapy, acupuncture/acupressure, integrative medicine and clinical research.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY720 Gynecology Acting Internship

[6 credit hours]

The student will have the opportunity to participate in the field of gynecology, minimally invasive surgery, and urogynecology. The student will be integrated in to the gynecology service as an acting intern on the team and be involved with outpatient clinics, inpatient care, and surgery. The student will be exposed to all areas of gynecology: surgery, pathology, radiology, and emergency room consultations.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P OR FMMD 740 FOR LEVEL MD WITH MIN. GRADE OF P OR SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P OR SURG 740 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 740 F

OBGY721 High Risk Obstetrics

[3 credit hours]

The student will have the opportunity to participate in the field of high-risk obstetrics. The student will be integrated into the high-risk obstetrics service and will be involved with outpatient clinics, inpatient care, and surgery. The student will be exposed to all areas of obstetrics, including labor and delivery, outpatient clinic at CHS providing antenatal care of mother & fetus, intrapartum management and deliveries and postpartum follow-up.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY722 High Risk Obstetrics AI

[6 credit hours]

The student will have the opportunity to participate in the field of high-risk obstetrics. The student will be integrated into the high-risk obstetrics service as an acting intern on the team and be involved with outpatient clinics, inpatient care, and surgery. The student will be exposed to all areas of obstetrics, including labor and delivery, outpatient clinic at CHS providing antenatal care of mother & fetus, intrapartum management and deliveries and postpartum follow-up.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY760 Gynecology Oncology Elective

[6 credit hours]

The student will have the opportunity to observe the practice of gynecologic oncology and care for women with gynecologic cancer. The student will be integrated in to the gyn oncology service as a member of the team and be involved with outpatient clinics, inpatient care, and surgery. The student will be exposed to all areas of gynecologic oncology; pelvic examinations, hospital care of high-risk patients, oncologic survey, chemotherapy, pathology, radiology, and radiation oncology.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

OBGY761 Gyn Onc and Integrative Med

[6 credit hours]

The student will have the opportunity to participate in the field of gynecologic oncology and care for women with gynecologic cancer as well as fully participate in the connection between gyn oncology and integrative medicine including: new patient visits, follow-up visits, chemotherapy, acupuncture/acupressure, integrative medicine and clinical research.

Prerequisites: OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

OCCT2550 PURPOSEFUL LIVING ROLE OF OCCUPATIONAL THERAPY

[3 credit hours]

Introduces the occupational therapy profession and occupational therapy¿s role in maintaining functional daily living. Explore your daily occupations through self-reflection and develop strategies for personal growth.

OCCT7000 Foundations of Occupational Therapy

[3 credit hours]

This course introduces students to the history, philosophy, core concepts, ethics, and the domain and process of occupational therapy. Students also explore the basic tenets of therapeutic occupation and investigate the role that chosen occupations play within an individual’s daily life. Professional skills in occupational analysis and professional communication are introduced and applied. Students also complete concurrent lab experiences with students from other health care professions as part of the university-wide Interprofessional Education Program. Prerequisite: Admission to OTD Program

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OCCT7010 OT Models of Practice I

[5 credit hours]

Examines the biomechanical model of practice including its musculoskeletal and kinesiological foundations. Includes assessments and interventions for prevention, adaptation, and compensation. Includes Level I fieldwork experience (12 hours). Fall Prerequisite: Admission to OTD Program

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OCCT7020 OT Models of Practice II

[5 credit hours]

Part I: Continues OCCT701. Part II: An introduction to the nervous system, with emphasis on the neurological basis of human occupation and the effects of neurological conditions (disease, injury, and mental illness) on occupational performace. Examines a model of practice based on functions of the nervous system. Spring Prerequisite:Occupational Therapy Models of Practice I Co-requisite: Occupational Therapy Models of Practice III

OCCT7030 OT Models of Practice III

[4 credit hours]

Explores historical and alternative conceptual frameworks of occupation and therapeutic occupation. Examines cognitively based and general models of practice. Presents related assessments and interventions for prevention, adaptation, and compensation. Includes two Level I fieldwork experiences (24 hours and 9 hours). Spring Prerequisite: Occupational Therapy Models of Practice I Co-requisite: Occupational Therapy Models of Practice II

OCCT7040 OT Models of Practice IV

[5 credit hours]

Examines models of practice specific to pediatric population with neurological impairments. Intervention strategies focus on neurodevelopment, neurorehabilitation, sensory intergration, motor learning, and motor control impairments. Includes two Level I fieldwork experiences (12 hours and 16 hours). Summer Prerequisite: Occupational Therapy Models of Practice II

OCCT7110 Research in OT I

[4 credit hours]

Examines quantitative and qualitative research methodologies. Includes critical analysis of occupational therapy research. Explores areas of possible research interest with guidance from potential major advisors. Fall Prerequisite: Admission to the OTD Program

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OCCT7210 OT Advocacy I

[2 credit hours]

Explores the role of occupational therapist as educator. Examines educational theory, instructional methods and technology, and evaluation of teaching effectiveness with patients, families, peers, supervisees, and community groups. Fall Prerequisite: Admission to OTD Program

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OCCT7220 OT Advocacy II

[2 credit hours]

Applies teaching principles as students assume the role of educators to the community. Explores the role of the therapist in design, development, implementation, and evaluation of occupational therapy curricula. Integrates presentation of self and professionalism. Summer Prerequisite: Occupational Therapy Advocacy I

OCCT7310 FW and Professional Dev I

[1 credit hour]

Introduces Level I and Level II Fieldwork, and the Capstone Experience, including policy, procedures, and documentation and the portfolio assignment. Defines professional behavior and health care communication. Encourages discussion of Level I fieldwork experiences. Fall Prerequisite: Admission to the OTD Program

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OCCT7320 FW and Professional Dev II

[1 credit hour]

Emphasizes interviewing clients for an occupational profile. Encourages discussion of Level I fieldwork experiences. Introduces the course sequence of the Capstone Experience. Spring Prerequisite: Fieldwork and Professional Development Seminar I

OCCT7330 FW and Professional Dev III

[1 credit hour]

Introduces Capstone Seminar opportunities in teaching, research, program development, or clinical practice. Introduces Capstone Manual and structure for planning the individualized Capstone Experience. Provides a forum for discussion fieldwork experiences. Summer Prerequisite: Fieldwork and Professional Development Seminar II

OCCT7400 Conditions in OT

[2 credit hours]

Reviews the physical and mental health conditions that challenge successful and satisfying occupational performance, with an emphasis on the aspects of medical management and rehabilitation relevant to the role of the occupational therapist. Spring Prerequisite: Occupational Therapy Advocacy I

OCCT7610 Orientation to Interprofessional Teaming

[1 credit hour]

Orientation to the Graduate Certificate in Teaming in Early Childhood. Focus on individual competencies needed to work collaboratively to meet the needs of young children with disabilities and their families.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

OCCT7620 Leadership and Advocacy in Interprofessional Teaming

[1 credit hour]

This second seminar in the Graduate Certificate in Teaming in Early Childhood focuses on skills and policies that promote best practices in teaming to support young children with disabilities.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D- AND OCCT 7610 FOR LEVEL GR WITH MIN. GRADE OF D-

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OCCT7630 Evidence-Based Practice and Innovation in Interprofessional Teaming

[1 credit hour]

This third seminar in the Graduate Certificate in Teaming in Early Childhood provides students the opportunity to reflect on their practicum experiences in teaming to support young children with disablities.

Prerequisites: OCCT 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

OCCT7640 Practicum in Interprofessional Teaming

[2 credit hours]

The practicum is provides an opportunity to engage in interprofessional teaming in order to provide integrated services to young children with special needs in an inclusive setting.

Prerequisites: OCCT 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

OCCT8050 OT Models of Practice V

[5 credit hours]

Examines occupational therapy models of practice that support occupational performance throughout the lifespan, including prevention of occupational impairment. Examines the psychosocial aspects of disease and disability. Includes Level I fieldwork experience (56 hours). Fall Prerequisite: Occupational Therapy Models of Practice IV Co-requisite: Occupational Therapy Models of Practice VI

OCCT8060 OT Models of Practice VI

[4 credit hours]

Examines compensation-oriented models of practice including assistive technology, positioning, patient handling, and mobility. Presents occupational and non-occupational assessments and interventions for prevention, adaptation, and compensation. Includes Level I fieldwork experience (2 hours). Fall Prerequisite: Occupational Therapy Models IV Co-requisite: Occupational Therapy Models V

OCCT8070 OT Models of Practice VII

[4 credit hours]

Examines contemporary and possible models of practice emphasizing wellness, health promotion, community care, population-based intervention and other emerging trends. Provides students with leadership experiences in program development. Includes two Level I fieldwork experiences (20 hours). Spring Prerequisite: Occupational Therapy Models of Practice VI Corequisite: Occupational Therapy Models of Practice VIII

OCCT8080 OT Models of Practive VIII

[3 credit hours]

Models of practice emphasizing group occupational forms, group process, and therapeutic use of self in groups. Involves practice in assessment and intervention with persons experiencing both physical and mental health conditions. Includes Level I fieldwork experience at mental health sites (10 hours). Spring Prerequisite: Occupational Therapy Models of Practice VI Co-requisite: Occupational Therapy Models of Practice VII

OCCT8120 Research in OT II

[3 credit hours]

Provides structure for student, guided by faculty mentor, to define a research question, investigate the literature, explore the site(s) for data collection, and prepare preliminary research proposal. Involves individual faculty contact. Spring Prerequisite: Research in Occupational Therapy I

OCCT8130 Research in Occ Therapy III

[3 credit hours]

Provides structure for student to begin data collection after obtaining official approval of project by major advisor and institutional review board. Involves individual faculty contact. Fall, Spring, Summer Prerequisite: Research in Occupational Therapy II

OCCT8140 Research in OT IV

[3 credit hours]

Includes completion of data collection, analysis of results, submission of approved final project in journal article format, and formal presentation of the research project. Involves individual faculty contact. Fall, Spring, Summer Prerequisite: Research in Occupational Therapy III

OCCT8230 OT Advocacy III

[2 credit hours]

Identifies advocacy issues relevant to occupational therapy and introduces community resources that can enhance successful and satisfying reintegration back into home, school, work, and/or community. Explores legislation and ethical issues that influence health care provision. Fall Prerequisite: Occupational Therapy Advocacy II

OCCT8240 OT Advocacy IV

[3 credit hours]

Examines leadership, management, and supervision of occupational therapy services in a dynamic health care system. Addresses legislative, regulatory, and payment issues affecting program development. Encourages leadership development. Spring Prerequisite: Occupational Therapy Advocacy III

OCCT8340 FW and Professional Dev IV

[1 credit hour]

Addresses communication with children, family members, and health care professionals; ethics and safety; and cultural diversity. Students identify Capstone Practicum sites, site mentor(s), and the faculty mentor. Encourages discussion of Level I fieldwork experiences. Fall Prerequisite: Fieldwork and Professional Development Seminar II

OCCT8350 FW and Professional Dev V

[3 credit hours]

Addresses issues of clinical supervision; Level II fieldwork policy, procedures, and documentation; and professional development. Provides a forum for discussion of fieldwork occupational analysis. Students develop a comprehensive Capstone Proposal. Includes Level I fieldwork experience (40 hours). Spring Prerequisite: Fieldwork and Professional Development Seminar IV

OCCT8360 Fieldwork Level II

[3 credit hours]

Provides a 12-week, full-time, supervised fieldwork experience where students refine entry-level abilities to integrate occupational therapy theory, research, and practice under supervision and with collaboration of the academic institution. Summer, Fall Prerequisite: Completion of academic content except research, which may be taken concurrently

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OCCT8370 Fieldwork Level II

[6 credit hours]

Provides a 12-week, full-time, supervised fieldwork experience where students refine entry-level abilities to integrate occupational therapy theory, research, and practice under supervision and with collaboration of the academic institution. Fall Prerequisite: OCCT836 and completion of academic content except research, which may be taken concurrently

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OCCT8380 Capstone Practicum

[6 credit hours]

Students develop skills in teaching, research, program development, advocacy or clinical practice with mentorship by faculty and on-site practitioners. This course, in combination with OCCT890 and 891 requires documentation of 640 hours. Spring Prerequisite: Level II fieldwork, competency exam, and completion of academic content except research, which may be taken concurrently. Co-requisites: Mentored Studies in Capstone Area or approved elective and Mentored Capstone Dissemination

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OCCT8400 Phys Agent Mod and Non Occ Met

[2 credit hours]

Addresses non-occupational methods including physical agent modalities and technology used with medically complex patients. Covers scientific underpinnings and regulatory guidelines for appropriate use of physical agent modalities in occupational therapy. Summer Prerequisite: Occupational Models of Practice VI

OCCT8800 Independent Study OT

[0-12 credit hours]

Intensive study in a field of interest, including theoretical and experimental work. May be repeated for credit. Prerequisite: Admission to OTD program or consent of instructor Fall, Spring, Summer

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OCCT8900 Mentored Capstone Dissemination

[3 credit hours]

Focuses on individualized issues arising in the Capstone Practicum. Involves mentorship by site and faculty practitioners and culminates in a paper and a presentation dealing with a specific area within occupational therapy. Spring Prerequisite: Level II fieldwork and completion of academic content except research, which may be taken concurrently Co-requisites: Mentored Studies in Capstone Area or approved elective and Capstone Practicum

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OCCT8910 Mentored Studies:Capstone Area

[3 credit hours]

Focuses on mastery of literature and in-depth knowledge of an area within occupational therapy through exploration of library, electronic, and clinical resources. Lends theoretical and research support to the Capstone Practicum. Spring Prerequisite: Level II fieldwork and completion of academic content except research, which may be taken concurrently Co-requisites: Mentored Capstone Dissemination and Capstone Fieldwork Practicum

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OPMT6510 Project Management

[3 credit hours]

This course deals with managing of projects in research and development, manufacturing, construction and service organizations. Students will discuss cases and use extensively a project management software.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF C

OPTH708 Ophthalmology

[6 credit hours]

The student will have the opportunity to learn different techniques for examining the eye including slit lamp examination and indirect ophthalmoscopy. The student will evaluate patients with eye disorders in an outpatient setting. Students will obtain clinical experience in evaluating patients with diabetic retinopathy, macular degeneration, cataract, glaucoma as well as areas of Neurophthalmology and Pediatric Ophthalmology. Rotation will be organized by the faculty members based on student¿s level of training and area of interest.

OPTH709 Ophthalmology-Alliance Retina

[6 credit hours]

The elective is designed to introduce elective medical students to the clinical diagnosis, management and treatment of common eye disorders that may be seen in family medicine, emergency rooms and ophthalmology offices. Students will learn different techniques of examining the eye. Students will spend time in all private practice offices in order to be exposed to a wide variety of conditions such as: glaucoma, strabimus, cataract, cornea/external diseases, laser surgery, retinal diseases, anterior segment diseases as well as pediatric disorders.

OPTH730 Ophthalmology

[3 credit hours]

The student will have the opportunity to learn different techniques for examining the eye including slit lamp examination and indirect ophthalmoscopy. The student will evaluate patients with eye disorders in an outpatient setting. Students will obtain clinical experience in evaluating patients with diabetic retinopathy, macular degeneration, cataract, glaucoma as well as areas of Neurophthalmology and Pediatric Ophthalmology. Rotation will be organized by the faculty members based on student¿s level of training and area of interest.

OPTH731 Ophthalmology Combined Elect

[3 credit hours]

Elective designed to introduce students to common ears, nose and throat problems along with evaluating patients with eye disorders. This elective will include 2 weeks of inpatient and 2 weeks of outpatient otolaryngology at UTMC and outpatient ophthalmology experience at Vision Associates. Students will be introduced to patients with tonsillitis/adenoidectomy, swallowing problems, hoarsness, chronic ear disease, sinusitis, macular degeneration, cataract, glaucoma, diabetic retinopathy and various ENT/Ophthalmology related diseases. Must register for respective ENTS 709 elective.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

OPTH732 Ophthamology-Alliance Retina

[3 credit hours]

This elective is designed to intorduce elective medical students to the clinical diagnosis, management and treatment of common eye disorders that may be seen in family medicine, emergency rooms and ophthalmology offices. Students will learn different techniques of examining the eye. Students will spend time in all private practice offices in order to be exposed to a wide variety of conditions such as glaucoma, strabismus, cataract, corea/external diseases, laser surgery, retinal diseases, anterior segment diseases as well as pediatric disorders.

OPTH760 Ophthalmology Elective

[6 credit hours]

The student will have the opportunity to evaluate eye disorders in the outpatient setting. Techniques for eye examination will be stressed with special emphasis on diagnosis of diabetic retinopathy, macular degeneration, cataract, and glaucoma.

OPTH761 Ophthalmology Combined Elect

[3 credit hours]

Elective designed to introduce students to common ears, nose and throat problems along with evaluating patients with eye disorders. This elective will include 2 weeks of inpatient and outpatient otolaryngology at UTMC and 2 weeks of outpatient ophthalmology experience at Vision Associates. Students will be introduced to patients with tonsillitis/adenoidectomy, swallowing problems, hoarsness, chronic ear disease, sinusitis, macular degeneration, cataract, glaucoma, diabetic retinopathy and various ENT/Ophthalmology related diseases. Must register for respective ENTS 761 elective.

OPTH762 Ophthalmology-Alliance Retina

[6 credit hours]

This elective is designed to introduce elective medical students to the clinical diagnosis, management and treatment of common eye disorders that may be seen in family medicine, emergency rooms and ophthalmology offices. Students will learn different techniques of examining the eye. Students will spend time in all private practice offices in order to be exposed to a wide variety of conditions such as: glaucoma, strabismus, cataract, cornea/external diseases, laser surgery, retinal diseases, anterior segment diseases as well as pediatric disorders.

ORTH5600 Phys Exam Musculoskeletal Sys

[1 credit hour]

Students will be taught to do a complete physical exam of the musculoskeletal system and how to identify common clinical pathologies. A quick review of anatomy is helpful before taking this course. May be repeated for credit.

ORTH5700 Orthopaedic X-Ray Conference

[2 credit hours]

Weekly discussion of interesting and challenging clinical orthopaedic cases through X-ray conference discussion. Management and treatment options of each case presented also are discussed. May be repeated for credit.

ORTH5800 Ortho Bone Physiology

[3 credit hours]

Lecture topics will include the physiology of bone fracture healing process, bone adaptation, molecular genetics of the musculoskeletal system, bone tumor process, etc. This course serves to provide the student with a good general knowledge of bone physiology and its function.

ORTH5850 Introduction to Clinical Orthopaedics

[3 credit hours]

Introduction to Clinical Orthopaedics provides an overview of the various sub-specialties within Orthopaedic Surgery. Students are familiarized to the clinic and operating room setting. They will be taught the importance of common physical exam findings, interpretation of radiographic studies and the importance of routine laboratory tests as they relate to conditions of the musculoskeletal system.

ORTH5900 Orthopaedic Biomechanics I

[3 credit hours]

Introduction to the basic biomechanics concept in orthopaedics. Lectures will include statistics and dynamics analysis of forces as applied to the musculoskeletal system. Topics to be covered will also include biomechanics of fixation devices, modeling effects of bone, stress shielding, micro- and macroscopic analysis of bone mechanics, etc.

ORTH5910 Thesis Research Neurosci Neuro

[3 credit hours]

This course concentrates on the studies of body joint mechanics and the dynamics of joint motion. Lectures also will include artificial joint prosthesis designs, including new orthopaedic devices and implants.

ORTH5920 Orthopaedic Biomechanics III

[3 credit hours]

This course will cover principally motion analysis, gait, and rehabilitation biomechanics as they apply to the orthopaedic patient. Lectures will include 3-D motion analysis as well as a force plate quantification of gait and movement.

ORTH6500 Orthopaedic Basic Science Sem

[3 credit hours]

Weekly lectures on various orthopaedic topics ranging from bone histology to biomechanics. The lectures focus on the basic science of orthopaedics, including the physiology, biochemistry, genetics, anatomy, etc. of the musculoskeletal system. May be repeated for credit.

ORTH6550 Jrnl Rev Orthopaedic Science

[1 credit hour]

Orthopaedic Grand Rounds is a conference format where nationally known authorities on orthopaedic topics present a talk, followed by discussion of challenging clinical cases presented to the speaker. Usually the topics involve the latest state-of-the-art orthopaedic treatments or breakthroughs. The Journal Club meetings are seminar discussions of the latest scientific research articles from professionally recognized journals. May be repeated for credit.

ORTH6730 Research in Orthopaedic Sci

[0-4 credit hours]

Students will participate in ongoing research programs of the members of the department faculty. Research could be clinical, theoretical, or experimental in nature. May be repeated for credit.

ORTH6750 Biomaterials in Medicine

[3 credit hours]

Biomaterials use in wide variety range of applications in medicine including drug delivery carriers and replacement of tissues.

ORTH6910 Orthopaedic Trauma

[1 credit hour]

Topics could include the trauma of musculoskeletal system, the pathogenesis, treatment options and clinical outcomes; may involve theoretical and/or experimental work. May be repeated for credit.

ORTH6920 Orthopaedic Spine

[1 credit hour]

Focus will be on spine mechanics, anatomy, spine fixation devices, clinical outcome of spine surgeries, etc. May involve theoretical and/or experimental work. May be repeated for credit.

ORTH6930 Orthopaedic Biomechanics

[0-3 credit hours]

Topics could range from fracture mechanics to study of different fixation devices or new prosthetic implant designs; may involve theoretical and/or experimental work. May be repeated for credit.

ORTH6940 Adult Reconstruction & Tumor

[1-3 credit hours]

ORTH 6940 is a clinical elective in Audit Reconstruction and Orthopaedic Oncology. Students will gain familiarity with concepts in joint replacement and the problems associated with it. Students will have the opportunity to observe hip and knee replacement surgeries. There is also exposure to tumors of the musculoskeletal system and reconstructive options for their treatment. Students will spend 1 – 3 hours per week with a physician in those specialties.

ORTH6950 Foot and Ankle

[1-3 credit hours]

ORTH 6950 is a clinical elective in Foot and Ankle Surgery. Students will gain familiarity with common problems associated with the foot and ankle and how they affect a person's gait and function. Students will have the opportunity to observe surgical procedures including fracture care, fusions of the foot or ankle and correction of deformities of the toes. Students will spend 1 – 3 hours per week with a physician in this sub- specialty.

ORTH6960 Upper Extremity and Hand

[3 credit hours]

Topics will include (but are not limited to) study of the biomechanics of the upper extremity and hand, brachial plexus injuries, treatment options, surgical exposures, detail anatomy, etc. May involve theoretical and/or experimental work. May be repeated for credit.

ORTH6990 Thesis Research

[3-6 credit hours]

Each student is required to work with a mentor on a research project that may include laboratory and/or clinical research on a project of interest to Orthopaedics……. Each student will be expected to have a committee consisting of no less than 3 faculty members, including the student's mentor as the chair of the committee. Regular meetings will be scheduled to review the thesis project and ensure progress towards completion of the thesis research in a timely manner. The student will be expected to write a thesis at the completion of their project and defend this to their committee and give a public presentation.

ORTH701 Orthopaedic Surgery

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

ORTH702 Orthopaedic Surgery Research

[0-6 credit hours]

A four-week research elective can be structured to involve investigation into most areas of orthopaedics, according to the interest of the particular student.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

ORTH704 Orthopaedic Surgery - Toledo Orthopaedic Surgeons

[3 credit hours]

Clinical and operating room experiences for students are structured to provide exposure to a wide range of orthopaedic conditions including foot and ankle, hand surgery, joint replacement, sports medicine, and spine surgery in a high volume practice. The rotation is based in an orthopaedic surgeon's office, the operating room, and inpatient hospital setting. This elective is structured to student's requests as availability allows.

Prerequisites: (FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ORTH705 Orthopaedic Surgery - Toledo Orthopaedic Surgeons

[6 credit hours]

Clinical and operating room experiences for students are structured to provide exposure to a wide range of orthopaedic conditions including foot and ankle, hand surgery, joint replacement, sports medicine, and spine surgery in a high volume practice. The rotation is based in an orthopaedic surgeon's office, the operating room, and inpatient hospital setting. This elective is structured to student's requests as availability allows.

Prerequisites: (FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

ORTH710 Orthopaedic Surgery

[6 credit hours]

Clinical experiences for the student can be structured to involve exposure to adult general orthopaedics, trauma, pediatric orthopaedics, sports medicine and hand surgery. Experience will be in a hospital-based clinic and the orthopaedic floor of the hospital. The elective can also be structured to include only one or two of these areas. An ambulatory experience is also available upon request, and would not involve operating room exposure. For the fourth year student interested in a career in Orthopaedics, we encourage the student to read ¿Essentials of Musculoskeletal Care¿ which is published by the American Association of Orthopaedic Surgeons.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY

ORTH760 Orthopaedic Surgery Elective

[6 credit hours]

Clinical experiences for the student can be structured to involve exposure to adult general orthopaedics, trauma, pediatric orthopaedics, sports medicine and hand surgery. Experience will be in a hospital-based clinic and the orthopaedic floor of the hospital. The elective can be structured to include only one or two or these areas. An ambulatory experience is also available upon request, and would not involve operating room exposure.

ORTH8750 Biomaterials in Medicine

[3 credit hours]

Biomaterials use in wide variety range of applications in medicine including drug delivery carriers and replacement of tissues.

OSCM3310 Computer And Model Based Business Decision Making

[3 credit hours]

An introduction to quantitative methods of decision making including linear programming, transportation, simulation, waiting line analysis, advanced decision theory and Markov chains. Computer packages and creative thinking will be emphasized.

Prerequisites: BUAD 2070 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM3340 Quality Management and Process Improvement

[3 credit hours]

Covers major aspects of lean processes and managing total quality functions in manufacturing/service operations. Includes: quality assurance, process control techniques, product liability and organization of the quality function as well as process improvement tools such as lean principles, process analysis.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM3600 Facility Planning

[3 credit hours]

The study of the design and planning of new facilities. Topics include product and process design, the application of CIM, FMS, capacity planning, facility location and layout, and job design.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM3610 Operations Planning and Scheduling

[3 credit hours]

A study of operations planning and its relation to organizational goals. Students learn concepts of developing materials and resources requirement plans, capacity management, just-in-time, resource scheduling in manufacturing and service organizations. Emerging concepts in the discipline will also be discussed.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM3660 Strategic Sourcing

[3 credit hours]

Relationship between supply management and firm's strategic goals, state-of-the-art supplier management, competing through effective supplier relationships, commodity strategy development, supplier negotiations, supplier selection and quality management, managing the RFP/RFQ process, cost management, and latest trends in sourcing and covered in the course.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM3750 Applied Regression Analysis

[3 credit hours]

This course emphasizes model formulation, tests of goodness-of-fit and significance of parameters for the traditional linear regression model. Business applications/cases and computer packages will be emphasized.

Prerequisites: BUAD 2070 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM3760 Management Science: Cases And Applications

[3 credit hours]

A study of business applications emphasizing model formulation, identification and validation. The course includes linear programming, critical path methods, queuing and various modeling techniques using computer packages.

Prerequisites: OPMT 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4020 Statistics For Administrative Services

[3 credit hours]

An introduction to statistical methods, including measures of central tendency and dispersion, probability and probability distributions, sampling theory, decision theory, regression and correlation. Specifically designed for the Administrative Services program.

Prerequisites: MATH 1270 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4150 Supply Chain Analytics and Cases

[3 credit hours]

This course focuses on developing skills in using techniques and software tools for the design and operational control of supply chains. Students will investigate issues relating to configuring supply chain networks (distribution systems), inventory deployment, planning and routing of transportation systems, warehouse and plant location and contract design etc. The focus will be on applications to practical situations. Necessary skills will be developed using cases, projects and presentations.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4210 Project Management

[3 credit hours]

This course covers planning, organizing and controlling projects. Topics such as project selection, scheduling, budgeting, resource management, project control, time-based competition and concurrent engineering will be discussed.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4250 Business Analytics-Techniques and Cases

[3 credit hours]

This course provides an introduction to the analytical tools and techniques used in business for decision making with focus on using data visualization, and data mining techniques. It also familiarizes and equips students with prescriptive and evaluative techniques. Industrial grade software along with case studies will be used.

Prerequisites: BUAD 2070 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4420 Service Operations Management

[3 credit hours]

The service sector is the dominant sector of the economy. Students will study various aspects of Operations Management as applied to service industries. Services for manufacturing will be emphasized.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4450 Buasiness Forcasting

[3 credit hours]

A study of qualitative and quantitative forecasting techniques. The course will cover appplications of these analysis techniques to various functions such as finance, operations and supply chain management, marketing and economics. Students will also gain experience in using statistical software packages for forecasting.

Prerequisites: BUAD 2070 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4750 Analysis of Variance

[3 credit hours]

Analysis of variance and related topics such as factorial design and Latin squares. Experimental designs including repeated measures, factorial and nested designs.

OSCM4760 Sim Mod/Anlys Spply Chn Systm

[3 credit hours]

This course provides an introduction to the use of computer simulation for business decision making. Students are introduced to modeling uncertainty in supply chain systems using various techniques including Monte Carlo simulation, waiting ine analysis, discrete event simulation and other emerging techniques using simulation software (such as @Risk, Simul8 and ARENA) and business cases.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM4940 Internship

[3 credit hours]

A prearranged work study program where students specializing in OPMT or SCM optain on the job experience while learning and applying the basic concepts and techniques of their respective discipline.

OSCM4980 Contemporary Topics In Operations and Supply Chain Management

[3 credit hours]

Selected current topics in Operations Management practice, trends and technology.

Prerequisites: BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

OSCM5510 Business Statistics With Computer Applications

[3 credit hours]

The application of statistics to business problem solving. Topics include descriptive statistics, probability theory, confidence intervals, hypothesis testing, sampling, ANOVA, chi-square tests, regression and correlation analysis, and concepts of business analytics.

OSCM5520 Analysis of Manufacturing and Service Systems

[3 credit hours]

Concepts, methods, tools and techniques for designing and managing manufacturing and service systems in the context of a supply chain are discussed. Topics include creating flexible and efficient systems for producing services and goods, total quality management, inventory management, and scheduling.

Prerequisites: OPMT 5510 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5510 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM6250 Essentials of Business Analytics

[3 credit hours]

This course provides a broad understanding of tools, techniques and business issues in using business analytics. It introduces the students to data visualization, descriptive and predictive data analytics tools and techniques. It also provides problem formulation and solving skills in prescriptive and evaluative analytical tools (Mathematical Programming, Monte Carlo Analysis). Skills in analysis and communication of the results will be developed through use of cases and software.

OSCM6270 Simulation and Waiting Lines

[3 credit hours]

Students are introduced to modeling uncertainty in supply chain systems using simulation. Simulation will be introduced through spread sheet as well as simulation software (e.g. , @Risk, Simul8, ARENA). Topics such as fitting distributions, validation, verification, confidence intervals, experimental design as well an introduction to waiting line models and comparison of simulation with analytical models will be covered.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3020 FOR LEVEL UG WITH MIN. GRADE OF C

OSCM6680 Quality Management and Six Sigma

[3 credit hours]

The course introduces students to the TQM philosophy, concepts and statistical theory behind the tools will be discussed. It also addresses process improvement, lean, six sigma and related topics. Provides students with an overall approach for the design of a system to manage quality and reliability along the entire value chain.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3020 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM6690 Supply Chain Resources Management

[3 credit hours]

Study of operations planning, scheduling, and inventory systems with tools such as MRP, JIT and bottleneck approaches in the context of supply chains through business cases where appropriate.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 3020 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM6960 Masters Thesis

[1-6 credit hours]

Master's thesis: To study a research problem in depth and solve the problem and write an academic or scholarly paper or develop a teaching instrument such as case or game based on the research.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM6980 Special Topics in Operations and Supply Chain Management

[3 credit hours]

The goal of this course is to present an emerging or new topic in Operations and Supply Chain Management for which we do not have a regular course.

Prerequisites: OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM7520 Analysis of Manufacturing and Service Systems

[3 credit hours]

Concepts, methods, tools and techniques for designing and managing manufacturing and service systems in the context of a supply chain are discussed. Topics include creating flexible and efficient systems for producing services and goods, total quality management, inventory management, and scheduling.

Prerequisites: OPMT 5510 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5510 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM8270 Simulation and Waiting Lines

[3 credit hours]

Students are introduced to modeling uncertainty in supply chain systems using simulation. Simulation will be introduced through spread sheet as well as simulation software (e.g. , @Risk, Simul8, ARENA). Topics such as fitting distributions, validation, verification, confidence intervals, experimental design as well an introduction to waiting line models and comparison of simulation with analytical models will be covered.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM8680 Quality Management and Six Sigma

[3 credit hours]

The course introduces students to the TQM philosophy, concepts and statistical theory behind the tools will be discussed. It also addresses process improvement, lean, six sigma and related topics. Provides students with an overall approach for the design of a system to manage quality and reliability along the entire value chain.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C

OSCM8690 Supply Chain Resources Management

[3 credit hours]

Study of Operations planning, scheduling, and inventory systems with tools such as MRP, JIT and bottleneck approaches in the context of Supply Chains through business cases where appropriate.

Prerequisites: OPMT 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR OSCM 5520 FOR LEVEL GR WITH MIN. GRADE OF C OR BUAD 5520 FOR LEVEL GR WITH MIN. GRADE OF C

PATH6060 Intro Surgical Path and Cytolo

[0-4 credit hours]

Introduces students to surgical pathology and cytology including gross evaluation of tissues, tissue processing and microscopic evaluation of diseased human tissues to render a diagnosis, recommend treatment and evaluate prognosis. In addition, students will attend and/or present case materials at conferences.

PATH6070 Intro Clinical Lab Medicine

[0-4 credit hours]

An introductory course designed to acquaint students with the laboratory tests that are available in the clinical laboratory, prioritization of test ordering, how the tests are performed and their usefulness in clinical diagnosis and clinical investigation.

PATH6080 Intro Postmortem Pathology

[0-4 credit hours]

An introductory course designed to acquaint students with the autopsy. It consists of a series of lectures, demonstrations and readings pertaining to the human autopsy. Students will be involved in the actual performance of autopsies, the selection of appropriate tissues for microscopic examination, microscopic examination of tissues, rendering a diagnosis and completing autopsy reports. The autopsies are performed at MCO and the Lucas County Coroner's Office.

PATH6720 Current Topics in Pathology

[1-4 credit hours]

A lecture and/or seminar course in topics of current interest in pathology with special emphasis on the fundamentals of mammalian, especially human, life under normal, experimental, or pathological conditions. Students and department faculty will present and moderate the discussion of original research publications. May be repeated for credit.

PATH6730 Research in Pathology

[1-4 credit hours]

Students will participate in selected ongoing research programs of the department faculty. May be repeated for credit.

PATH6890 Independent Study in Pathology

[0-12 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit.

PATH712 Forensic Pathology

[0-6 credit hours]

Students are expected to spend a minimum of 4-5 hours per day in the Lucas County Coroner¿s Office. During that time they attend autopsies and assist in their performance, accompany investigators on field investigations, accompany pathologist to court and discuss the legal aspects of forensic pathology with pathologist and investigators.

PATH713 Pathology Case Studies

[0-6 credit hours]

Students meet daily; three clinical cases are presented by students; all students participate in discussion of cases as well as related learning issues.

PATH7130 Pathology Case Studies

[1-6 credit hours]

Present, discuss and provide clinical pathologic correlation on various disease process. Interpret lab tests related to various diseases. Utilize laboratory testing to diagnose and manage various disease. Interact professionally with peers in the discussion of the cases.

PATH717 Forensic Pathology

[0-3 credit hours]

Students are expected to spend a minimum of 4-5 hours per day in the Lucas County Coroner¿s Office. During that time they attend autopsies and assist in their performance, accompany investigators on field investigations, accompany pathologist to court and discuss the legal aspects of forensic pathology with pathologist and investigators.

PATH718 Pathology Case Studies

[0-3 credit hours]

Students meet daily; three clinical cases are presented by students; all students participate in discussion of cases as well as related learning issues.

PATH720 Pathology Clerkship

[0-6 credit hours]

Students will participate in all anatomic and clinical activities in the Department of Pathology including surgical pathology, cytology, hematology, chemistry, immunology, flow cytometry, histocompatibility & transplant immunology, and attend all departmental conferences and lectures provided during the rotation. Attend a postmortem examination and gross conferences related to cases. Attend various interdisciplinary conferences.

PATH730 Pathology Clerkship

[0-3 credit hours]

Students will participate in all anatomic and clinical activities in the Department of Pathology including surgical pathology, cytology, hematology, chemistry, immunology, flow cytometry, histocompatibility & transplant immunology, and attend all departmental conferences and lectures provided during the rotation. Attend a postmortem examination and gross conferences related to cases. Attend various interdisciplinary conferences.

PATH760 Pathology Clerkship Elective

[6 credit hours]

Students will participate in all anatomic and clinical activities in the Department of Pathology including surgical pathology, cytology, hematology, chemistry, immunology, flow cytometry, histocompatibility & transplant immunology, and attend all departmental conferences and lectures provided during the rotation. Attend a postmortem examination and gross conferences related to cases. Attend various interdisciplinary conferences.

PATH762 Radiology/Pathology Clerkship

[3 credit hours]

Students will spend 2 weeks in the Department of Radiology and 2 weeks in the Department of Pathology. The overall course will bridge radiology and pathology subspecialities to prepare students to best utilize departmental resources (i.e. testing, consultation, procedures) as they transition into clinical practice. Students will participate in a plethora of clinical activities in the Department of Radiology include 1/2 day subspeciality assignments in Cardiothoracic, Gastrointestinal, Genitourinary, Musculoskeletal, and Neuroradiolofy as well as 1/2 day modality based experiences in diagnostic radiography/mammography, CT, MRI, ultrasound and nuclear medicine. While in Pathology students will participate in all anatomic and clinical activities in the Department of Pathology including surgical pathology, cytology, hematology, chemistry, immunology, microbiology, molecular pathology, genomics and transplant immunology. Students will attend all radiology and pathology departmental case conferences provided during the rotation and various interdisciplinary conferences when available.

PATH789 Independent Study in Pathology

[0-6 credit hours]

Pre-rotation assignment will be agreed upon between Dr. Gohara and student to include review of recent literature related to student¿s chosen field of training and submission of a weekly manuscript related to the topic(s) agreed upon. Complete electronic submission of three clinical cases/week with full discussion of the disease processes related to the cases.

PATH8060 Intro Surgical Path and Cytolo

[1-4 credit hours]

Introduces students to surgical pathology and cytology including gross evaluation of tissues, tissue processing and microscopic evaluation of diseased human tissues to render a diagnosis, recommend treatment and evaluate prognosis. In addition, students will attend and/or present case materials at conferences.

PATH8070 Intro Clinical Lab Medicine

[1-4 credit hours]

An introductory course designed to acquaint students with the laboratory tests that are available in the clinical laboratory, prioritization of test ordering, how the tests are performed and their usefulness in clinical diagnosis and clinical investigation.

PATH8080 Intro Postmortem Pathology

[1-4 credit hours]

An introductory course designed to acquaint students with the autopsy. It consists of a series of lectures, demonstrations and readings pertaining to the human autopsy. Students will be involved in the actual performance of autopsies, the selection of appropriate tissues for microscopic examination, microscopic examination of tissues, rendering a diagnosis and completing autopsy reports. The autopsies are performed at MCO and the Lucas County Coroner's Office.

PATH8720 Current Topics in Pathology

[1-4 credit hours]

A lecture and/or seminar course in topics of current interest in pathology with special emphasis on the fundamentals of mammalian, especially human, life under normal, experimental, or pathological conditions. Students and department faculty will present and moderate the discussion of original research publications. May be repeated for credit.

PATH8730 Research in Pathology

[1-4 credit hours]

Students will participate in selected ongoing research programs of the department faculty. May be repeated for credit.

PATH8890 Independent Study in Pathology

[1-12 credit hours]

Intensive study in field of interest, including theoretical and experimental work. May be repeated for credit.

PED2000 Coaching Of Physical Activity

[1 credit hour]

Includes basic fundamentals, offensive and defensive team play, conditioning techniques, and scouting.

PED2100 Sport Skill And Strategy I

[3 credit hours]

Sport skill and strategy development for students who are in the physical education major sequence. Must earn minimum grade of C to pass the course.

PED2200 Sport Skill And Strategy II

[3 credit hours]

Sport skill and strategy development for students who are in the physical education major sequence. Stunts and tumbling, tennis, volleyball. Must earn minimum grade of C to pass the course.

PED2400 Physical Education In The Elementary School

[2 credit hours]

Emphasis on perceptual-motor programs, motor performance, physical fitness, movement activities, testing and evaluation in the K-6 curriculum. Designed for elementary education majors.

PED2450 Physical Education For Early Childhood Education

[2 credit hours]

In this course, physical education major students will discuss the integration learned in physical education classes and teaching. Course may be repeated twice for a maximum total credit of 2 hours.

PED2900 Physical Education Linking Seminar

[1 credit hour]

Developmentally appropriate activity for children in Pre-K-Grade 3. Includes fundamental motor skill development, assessment skills and evaluation techniques. Stress is on psychomotor, cognitive and affective development through movement.

PED2950 Introduction To Teaching In Physical Education

[3 credit hours]

Designed to provide students with knowledge of effective instruction, skills in systematic data collection for teacher evaluation, task and skill analysis and instructional design. Field experience included.

PED3000 Developmentally Appropriate Games And Activities

[3 credit hours]

Content for elementary school physical education programs including physical fitness, fundamental motor skill, manipulative skills, games, sport-related skills, educational gymnastics, movement activities, etc.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED3100 Physical Education Methods Pre-K - 5

[3 credit hours]

Methods of teaching pre-K - 5 physical education. Students will combine readings, discussions and field experience to learn about different strategies for working in the physical activity environment at these levels.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED3120 Rhythmic Activity And Dance

[3 credit hours]

Content for pre-school through high school education programs. Emphasis on fundamental motor skill, rhythmic activities, folk dance, square dance.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED3130 Understanding Games: Sport Concepts

[3 credit hours]

Techniques and concepts of team and individual sport activities in the middle and secondary school. Course will focus on teaching for understanding, game tactics, progressions, technique analysis, appropriate practice and safety procedures.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED3140 Physical Education Methods For Middle/Adolescent Levels

[3 credit hours]

Methods of teaching grades 6 - 12 physical education. Students will combine readings, discussions and field experience to learn about different strategies for working in the physical activity environment at these levels.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED3400 Adapted Physical Education

[3 credit hours]

Methods for teaching the atypical child. Evaluation and formulation of IEP. Exercise and activity prescription. Emphasis on disorders most prevalent within public school systems. Forty (40) hour field experience included.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED3740 Measurement, Analysis And Evaluation In Human Performance

[3 credit hours]

Lecture and discussion on assessment in human performance, both authentic and traditional. Computer analysis procedures in descriptive and inferential statistics through ANOVA. Designated lab time for specialty areas.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED3950 Senior Seminar

[1 credit hour]

Readings and discussion centering on concepts learned in the professional content sequence and their applicability to teaching in the physical education setting.

Prerequisites: (PED 3000 FOR LEVEL UG WITH MIN. GRADE OF D- AND PED 3100 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PED 3130 FOR LEVEL UG WITH MIN. GRADE OF D- AND PED 3140 FOR LEVEL UG WITH MIN. GRADE OF D-) AND UPDV FOR MIN. SCORE OF 1

PED4100 Design And Administration Of Physical Activity Programs

[3 credit hours]

Procedures for development of curriculum and program design. Administrative issues, problems and concerns for organization and direction of facilities and equipment.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED4700 The Law And Sport

[3 credit hours]

The purpose of this course is to describe the requirements of the law and sports governing bodies, potential problems, possible courses of action and ways to work with legal counsel in the administration of sports activities.

PED4920 Student Teaching Seminar: Physical Education

[1-3 credit hours]

This course will focus on reflection and feedback on student teaching, portfolio development, interviewing and resume writing.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED4930 Student Teaching In Physical Education

[6-12 credit hours]

Intensive field experience in school classrooms under the direction of university supervisors and master teachers. Observation of teaching of experienced teachers accompanied by full responsibility by student teacher. Student teachers will be expected to teach in two areas.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PED4950 Workshop In Physical Education

[1-5 credit hours]

Workshop developed around topics of interest and concern for preservice and inservice teachers and other professionals involved in health, wellness and physical activity.

PED4990 Independent Study In Exercise Science/Physical Education

[1-3 credit hours]

Directed individual study. Specialty title and seminar sheet required.

PED5170 Adapted Physical Education

[3 credit hours]

Study of disabling conditions as related to physical education. Assessment and consequent development of IEP. Exercise prescription analysis and technique. Program implications for inclusion.

PED5250 Curriculum In Physical Education

[3 credit hours]

Perspectives in curriculum theory and design for physical education. Procedures for development of curriculum K-12.

PED5610 Trends And Issues In Physical Education

[3 credit hours]

Analysis of contemporary trends and issues facing the physical educator. Content varies per semester: Children and Sport, Sport Sociology, Elementary/Secondary Teaching.

PED5620 Effective Supervision In Physical Education

[3 credit hours]

Procedures and methods appropriate for supervision of student teachers or inservice teachers in the area of physical education. Computer analysis, observation techniques, conferencing skills and evaluation procedures are stressed.

PED5950 Workshop In Exercise Science And Physical Education

[1-4 credit hours]

Topical workshops developed around areas of interest and concern to inservice teachers and/or exercise scientists. Credit cannot be applied towards a degree program without prior consent of adviser.

PED6920 Master's Project In Exercise Science/Physical Education

[1-4 credit hours]

A research project is required for the M.Ed. program for the culminating experience.

PED6940 Internship In Exercise Science

[1-12 credit hours]

A field internship designed to supplement classroom experience by providing participation in the area of exercise science through participant-observer experience.

PED6960 Master's Thesis In Exercise Science/Physical Education

[1-4 credit hours]

Research thesis is required for M.S. and M.Ed. programs for the culminating experience.

PED6990 Independent Study In Exercise Science/Physical Education

[1-4 credit hours]

The student will participate in independent readings, laboratory research, field experience and other activities not suited for class instruction. May be repeated for course credit.

PED7170 Adapted Physical Education

[3 credit hours]

Study of disabling conditions as related to physical education. Assessment and consequent development of IEP. Exercise prescription analysis and technique. Program implications for inclusion.

PED7250 Curriculum In Physical Education

[3 credit hours]

Perspectives in curriculum theory and design for physical education. Procedures for development of curriculum K-12.

PEDS701 Pediatrics

[7.5 credit hours]

Pediatrics (6 weeks)

PEDS703 Adolescent Medicine

[0-6 credit hours]

The rotation will focus primarily on assessing adolescent health in an outpatient setting. Appropriate educational materials will be provided and discussed in didactic sessions.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS704 Peds Allergy/Immunology

[0-6 credit hours]

During this elective, the student will acquire the clinical skills to identify and initiate appropriate management of patients with allergic disorders, asthma and immunodeficiencies. Because of the high frequency of patients with these disorders in the general population, this elective should be of considerable practical value to the student planning a career in primary care (Medicine, Pediatrics, Family Practice) and select specialties (e.g., Dermatology and Otolaryngology). Patient population is 50% adult, 50% pediatric. Rotation consists of 8 to 9 hours per day, 5 days per week. Four to six half days are spent in outpatient clinical activities; inpatient consults usually average 1 per week. There is ample time for reading, small group discussion regarding patients and allergy/asthma/immunology topics of interest, and self-directed learning opportunities. Rare consults on weekends, optional.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS706 Pediatric Cardiology

[0-6 credit hours]

The student will be required to participate in daily activities of the Division of Pediatric Cardiology, including inpatient and outpatient clinic settings. The student will observe echocardiography and heart catheterization procedures as well as participate in various teaching conferences. They will be asked to formally present all patients evaluated. Monday - Friday participating during daytime activities are required. There are no night calls or special requirements.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS708 Pediatric Endocrinology

[0-6 credit hours]

This elective will provide the student with an introduction to the evaluation and management of patients with endocrine and metabolic disorders. He/she should develop a general diagnostic approach to the endocrine system and gain knowledge of the use of laboratory determinations in these diseases.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS711 Peds Hematology/Oncology

[0-6 credit hours]

The student will participate actively in the inpatient and outpatient total medical and psychosocial care of pediatric general hematology and pediatric oncology patients. The student will answer consults and develop the diagnostic work-up for new patients under the mentoring of the hematology faculty.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS712 Pediatric Infectious Disease

[0-6 credit hours]

The student will acquire the clinical skills to identify, evaluate and initiate appropriate management of infectious diseases in both normal hosts and immune compromised patients. Because of the high frequency of infectious diseases in the pediatric population, this elective should be of considerable practical value to the student planning a career in primary care.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS713 Pediatric Intensive Care

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS714 Neonatal Medicine

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS715 Pediatric Nephrology

[6 credit hours]

Students will be expected to participate in all activities of the Division of Pediatric Nephrology including inpatient rounds, clinics, consultations, procedures, renal pathology seminars and case conferences. Students will also be exposed to the management of end-stage kidney disease in children (peritoneal dialysis, hemodialysis and transplantation).

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS717 Pediatric Pulmonology

[0-6 credit hours]

The pediatric pulmonary medicine elective is composed of both an outpatient and inpatient rotation. The inpatient rotation consists of the patients who are hospitalized at Mercy Children¿s Hospital under the primary pulmonary service or on a consultation basis. This also includes patients in the neonatal ICU. Consultations at other area hospitals are also provided. Students are encouraged to accompany the attending physician. The outpatient service at Children¿s Pulmonary Center and outreach clinics offer exposure to a wide variety of pediatric pulmonary problems, including asthma, BPD, GERD, pediatric sleep disorders, cystic fibrosis, infant apnea, etc. Pulmonary function tests and pulmonary physiology will be part of the daily rounds while on this elective. Monday through Friday, 7:30 a.m. to 5:00 p.m. Home call responsibility during month as arranged.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS718 Acting Internship Pediatrics

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS719 Child Abuse/Neglect

[0-6 credit hours]

The student will explore various subjects involved in child abuse, including sexual abuse, physical abuse, shaken baby syndrome, and Munchausen Syndrome by Proxy. Exposure will occur through direct clinical experience, inpatient consults, one-on-one discussions, and attendance at Children Services activities. Attendance at legal proceedings may be available.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS720 Pediatric Community Health Edu

[0-6 credit hours]

The student, with the aid of the AHEC Center Director will meet with the community and school leaders to determine what school needs are pertaining to health education. The student will focus on issues deemed most important by the schools, develop an appropriate educational program using available community resources, and present the program to the targeted population.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS722 Peds Emergency Medicine

[0-6 credit hours]

The student will become a part of the emergency team whose members handle all bases of emergency patient management ranging from triage to final disposition. The student will have the opportunity to examine patients and discuss their findings with the Emergency Medicine attendings and residents.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS723 Child Health Advocacy

[0-6 credit hours]

The goal of this rotation is to:1. Expose the student to various community experiences in which they have the opportunity to be an advocate for children. (elementary school, shelter for battered women, billing office, counseling services, Early Intervention office and daycare for medically fragile children)2. Prepare students to be advocates for the health of children in their own communities.Daytime hours are generally 8 am ¿ 5 pm. There are occasional activities offered at night from 5 ¿ 8:30 pm. These would not be more than once or twice during the rotation.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P OR PEDS 740 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS724 General Outpatient Pediatrics

[6 credit hours]

We are a small town pediatric practice, and as such see a wide variety in our patient population. We give care to children of migrant families, self insured farm families, factory workers and university professors. There is diversity in the medical problems presented.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS725 Pediatric Community Health Edu

[0-3 credit hours]

The student with the aid of the AHEC Center Director will meet with the community and school leaders to determine what school needs are pertaining to health education. The student will focus on issues deemed most important by the schools, develop an appropriate educational program using available community resources, and present the program to the targeted population.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS728 Pediatric Ophthalmology

[3 credit hours]

The student will learn to screen for strabismus, amblyopia, congenital cataracts and congenital glaucoma in the primary care setting. The student will learn diagnostic criteria for common eye diseases of childhood.

PEDS730 Peds Ethics Palliative Care

[3 credit hours]

The student with the aid of the AHEC Center Director will meet with the community and school leaders to determine what school needs are pertaining to health education. The student will focus on issues deemed most important by the schools, develop an appropriate educational program using available community resources, and present the program to the targeted population.

PEDS731 Peds Sleep Medicine Elective

[3 credit hours]

the student will acquire knowledge of the causees and treatment of pediatric sleep disorders. The major causes of sleep disruption including sleep apnea and periodic limb movements in sleep/Resltess Leg Syndrome will be discussed. The student will learn both the physiological and behavioral consequences of sleep disorders.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS732 Antimicrobial Steward & Vacc

[3 credit hours]

The student will be taught about the appropriate use of antimicrobials and antimicrobial resistance. The student will gain clinical skills on the management of antimicrobial therapy in the inaptient and outpatient setting. The student will develop an understanding on the use of vaccinations in children and adolescents. This elective should be of considerable practical value to the student planning a career in both primary care and sub-specialty care.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS733 Care of the Fragile Newborn

[3 credit hours]

The student will actively participate in the care of the newborns. The student will participate in neonatal resuscitation by attending deliveries of high-risk newborns. The student will develop an understanding of the problems associated with the sick newborn.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS734 General Outpatient Pediatrics

[3 credit hours]

We are a small town pediatric practice, and as such see a wide variety in our patient population. We give care to children of migrant families, self insured farm families, factory workers and university professors. There is diversity in the medical problems presented.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

PEDS745 Pediatrics Clinical Training for MD/PhD Students during Graduate Research Years

[1-2 credit hours]

In the summer after the second year of medical school, MD/PhD students will identify a clinical mentor who will be responsible for overseeing clinical training for the student during a portion of his/her graduate school phase of the program, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The mentor and clinical area of interest may change during the course of the student¿s graduate school years, but changes should occur after the end of a semester. Clinical Setting and Training: Students schedule specific hours (which may include evenings or weekends if appropriate) with their clinical mentor. Patients will be assigned to the student for evaluation, and students will be involved in all aspects of patient care, under direction of their clinical mentor or assigned Pediatrics attending. Either inpatient or outpatient experiences may be performed, though outpatient experiences will likely be easier to schedule. Students should see about one patient per hour of training. Students are expected to document their patient encounters as appropriate, and should be given feedback on these notes. Students should keep a log of their patients, their diagnoses, and any procedures performed. An electronic logging system for patient experiences will be developed. Student time commitment: Students are expected to spend 8 hours per month in clinical training. This can be divided into weekly 2 hour session, biweekly 4 hour sessions or an 8 hour day per month, as agreed between student and mentor. Students are encouraged to discuss the most appropriate schedule with their dissertation mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. If students wish to limit their commitment to 4 hours per month, with permission of the course director, they should only sign up for one credit for that semester. Student/Mentor Contract: The student/mentor relationship should be formalized in a brief contract in which both acknowledge their time commitment, as well as the student¿s research mentor (to ensure that the dissertation advisor understands that this is an essential part of the student¿s training). Completed contracts should be submitted to the MD/PhD Director and to Pat Munier. The clinical mentor is responsible for ensuring that the student has a high quality training experience, but need not be the attending physician for all patient experiences. The mentor is responsible for providing a grade (submitted through the clerkship director) and both formative and summative evaluations. Credit: MD/PhD Students enrolled in graduate school will sign up for 1 or 2 credit hours during the fall or spring term while enrolled in graduate school and 1 credit hour during the summer term, consistent with an average of 8 contact hours per month (2 per week). Students may earn a maximum of 4 credit hours per academic year. For every 6 hours of credit, 4 weeks of fourth year clinical elective credit will be granted. In the course of 3 years of graduate training, students may earn a maximum of 12 credits and thus be eligible for a maximum of 2 months of clinical elective credit. This credit should allow further flexibility in 4th elective scheduling, enabling additional research months, off site rotations, etc. If students require more than 3 years of graduate work, continued participation in the clinical training program is strongly encouraged, but no more than 2 months of elective time will be awarded. Prerequisites: Successful completion of all preclinical coursework and passing Step I of the USMLE examination

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PEDS760 Outpatient Pediatrics Elective

[6 credit hours]

We are a small town pediatric practice, and as such see a wide variety in our patient population. We give care to children of migrant families, self insured farm families, factory workers and university professors. There is diversity in the medical problems presented.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS761 Pediatric Allergy/Immunology

[6 credit hours]

During this elective, the student will acquire the clinical skills to identify and initiate appropriate management of patients with allergic disorders, asthma and immunodeficiencies. Because of the high frequency of patients with these disorders in the general population, this elective should be of considerable practical value to the student planning a career in primary care (Medicine, Pediatrics, Family Practice) and select specialties (e.g., Dermatology and Otolaryngology). Patient population is 50% adult, 50% pediatric. Rotation consists of 8 to 9 hours per day, 5 days per week. Four to six half days are spent in outpatient clinical activities; inpatient consults usually average 1 per week. There is ample time for reading, small group discussion regarding patients and allergy/asthma/immunology topics of interest, and self-directed learning opportunities. Rare consults on weekends, optional.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS762 Pediatric Cardiology Elective

[6 credit hours]

The student will be required to participate in daily activities of the Division of Pediatric Cardiology, including inpatient and outpatient clinic settings. The student will observe echocardiography and heart catheterization procedures as well as participate in various teaching conferences. They may be asked to present patients at the weekly cardiac catheterization conference. Monday - Friday participating during daytime activities are required. There are no night calls or special requirements.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS763 Pediatric Endocrinology

[6 credit hours]

This elective will provide the student with an introduction to the evaluation and management of patients with endocrine and metabolic disorders. He/she should develop a general diagnostic approach to the endocrine system and gain knowledge of the use of laboratory determinations in these diseases.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS764 Pediatric Infectious Diseases

[6 credit hours]

The student will acquire the clinical skills to identify, evaluate and initiate appropriate management of infectious diseases in both normal hosts and immune compromised patients. Because of the high frequency of infectious diseases in the pediatric population, this elective should be of considerable practical value to the student planning a career in primary care.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS765 Pediatric Pulmonary Elective

[6 credit hours]

The pediatric pulmonary medicine elective is composed of both outpatient and inpatient rotation. The inpatient rotation consists of the patients who are hospitalized at TCH under the primary pulmonary service or on a consultation basis. This also included patients in the neonatal ICU and pediatric ICU. The outpatient service at TCH offers exposure to a wide variety of pediatric pulmonary problems, including asthma, BPD, GERD, cystic fibrosis, infant apnea, etc. Pulmonary function tests and pulmonary physiology will be part of this elective. Monday through Friday, 8:30 am to 5 pm unless instructed otherwise.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PEDS766 Pediatric Hematology/Oncology

[6 credit hours]

During the Pediatric Hem/Onc elective, students will have the opportunity to participate in the outpatient care of children with cancer an hematologic problems. The elective complements the intensive inpatient PHO experience, and allow the students to recognize that many patients who are acutely ill at the time of diagnosis recover from their morbidities and resume normal activities of childhood and adolescence, even while continuing to receive therap. Students will have the opportunity to see a large number of oncology patients who have completed their treatment regimens and who are followed to monitor disease recurrence.

Prerequisites: PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P

PHCL2220 Drugs, Medicine And Society

[3 credit hours]

The course conveys a general knowledge of drugs, including how and where drugs act and the general pharmacology of specific classes of drugs, e.g., central nervous system active agents, bronchodilators, etc.

PHCL2600 Functional Anatomy And Pathophysiology I

[4 credit hours]

A study of functional anatomy, physiology and pathophysiology to serve as background for the understanding of the action of drugs.

Prerequisites: (CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1290 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2160 FOR LEVEL UG WITH MIN. GRADE OF D- AND BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D

PHCL2610 Introductory Physiology

[3 credit hours]

This class is designed to give students a thorough introduction to human physiology and prepare them for success in the Pharmacy/Pharmaceutical Science curriculum.

Prerequisites: BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF D-

PHCL2620 Functional Anatomy And Pathophysiology II

[4 credit hours]

A continuation of PHCL 2600.

Prerequisites: PHCL 2600 FOR LEVEL UG WITH MIN. GRADE OF D-

PHCL2900 Pharmacology Research Introduction

[1-3 credit hours]

The course will introduce the undergraduate student to research in pharmacology. Students will work with faculty members throughout the semester to learn a variety of fundamental laboratory procedures, including record keeping, pharmacological calculations, experimental design, set-up and conduct of assays, data analysis and research presentation.

PHCL3700 PHARMACOLOGY I: PRINCIPLES OF PHARMACOLOGY, AUTONOMIC PHARMACOLOGY AND RELATED PHARMACOLO

[3 credit hours]

An introduction to the principles of pharmacology and the pharmacology of the autonomic nervous system."

PHCL3720 PHARMACOLOGY II: ENDOCRINE, NSAID AND CARDIOVASCULAR PHARMACOLOGY

[2 credit hours]

The pharmacology of drugs acting upon the endocrine and reproductive systems will be discussed followed by a discussion of the non-steroidal antiinflammatory agents and the drugs used to treat hypertension and hyperlipidemia.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF C

PHCL3730 BSPS Pharmacology II: Endocrine and CNS Pharmacology

[3 credit hours]

The pharmacology of drugs acting upon the endocrine and reproductive systems as well as for the management of sleep disorders, anxiety, affective illness, schizophrenia and seizure disorders.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF D-

PHCL3810 Pharmacology And Toxicology Laboratory

[1 credit hour]

The course will teach undergraduate students current methods in pharmacology and toxicology with an emphasis on practical, hands-on experience. Students will learn a variety of techniques commonly used in the pharmaceutical and toxicology industries.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF D-

PHCL4700 Pharmacology III: Cns And Cardiovascular Pharmacology

[2 credit hours]

The pharmacology of central nervous system active agents. Continues from PHCL 3720. Agents acting on the cardiovascular and renal systems are also discussed.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF C

PHCL4720 Pharmacology IV: Chemotherapeutic Agents

[2 credit hours]

The pharmacology of anti-infective chemotherapeutic agents is presented. Issues such as the mechanism of antimicrobial action, disposition, resistance and problems attending the use of antimicrobial drugs will be discussed.

Prerequisites: (PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF C AND MBC 3800 FOR LEVEL UG WITH MIN. GRADE OF C)

PHCL4730 Toxicology I

[3 credit hours]

A synopsis of the basic elements of toxicology including dose-response, lethal dose-50, margin of safety, mechanisms of toxicity and nature of toxic injuries including mutagenesis , carcinogenesis, reproduction, and systemic toxicology. The toxicities of heavy metals and pesticides are also discussed.

PHCL4750 Toxicology II

[3 credit hours]

This course provides the students with an overview of environmental toxicology, which emphasizes both air and water pollution. It also reviews the applications of different areas of toxicology, such as food toxicology emphasizing the safety standards of food and methods of evaluation of food safety, analytic toxicology and its applications in forensic toxicology and occupational toxicology. It also discusses general methods for toxicity evaluation.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF D-

PHCL4760 Toxicokinetics

[3 credit hours]

The theory and practice of using kinetic principles to model the time course of toxic chemicals in the body and in the environment. Relation of the chemical time course to negative outcomes and application to risk assessment. Hands-on practice with kinetic analysis methods and software.

PHCL4780 Internship in Pharmacology/Toxicology

[6-12 credit hours]

In this experiential course, students will acquire practical knowledge through hands-on experience in the area of Pharmacology and /or Toxicology by working at an academic, private, or governmental laboratory or a professional site.

Prerequisites: (PHCL 3730 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHCL 3810 FOR LEVEL UG WITH MIN. GRADE OF D- AND MBC 3320 FOR LEVEL UG WITH MIN. GRADE OF D- AND MBC 3560 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHCL4810 BSPS Pharmacology III: CNS and Cardiovascular Pharmacology

[3 credit hours]

The pharmacology of central nervous system active agents and agents acting on the cardiovascular and renal systems.

Prerequisites: PHCL 3730 FOR LEVEL UG WITH MIN. GRADE OF D-

PHCL4820 BSPS Pharmacology IV: Chemotherapeutic Agents

[3 credit hours]

The pharmacology of anti-infective chemotherapeutic agents including their mechanism of antimicrobial action, disposition, resistance and issues related to use.

Prerequisites: PHCL 4810 FOR LEVEL UG WITH MIN. GRADE OF D-

PHCL4900 Honors Seminar In Pharmacology

[1-3 credit hours]

To examine a specific question in the context of the primary literature in pharmacology and be able to present that in a seminar

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PHCL4910 Problems In Pharmacology

[1-3 credit hours]

An examination of a specific question in pharmacology which can be answered through application of experimental work.

PHCL4960 Honors Thesis In Pharmacology

[2-5 credit hours]

An examination of a specific question in pharmacology which can be answered through application of experimental work, and a presentation in a thesis format.

PHCL5100 Experimental Therapeutics I

[3 credit hours]

The course will cover the application of basic principles of pharmacology to the development of new therapies for human disease. A primary focus will be the translation of laboratory discoveries into clinical applications.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL5140 Interpretation Of Pharmaceutical Data

[2 credit hours]

A course designed to emphasize the presentation, analysis and interpretation of data in the pharmaceutical sciences. The concepts of statistics will be discussed. Experimental design as well as appropriateness of analytical methodology and conclusions will be emphasized.

PHCL5200 Experimental Therapeutics II

[3 credit hours]

The course will expand upon material covered in Experimental Therapeutics I and focus on the drug development process. Practical applications include the design of in vitro and in vivo screens for drug activity, improvement of pharmacokinetic properties and integration of medicinal chemistry with pharmacology in a drug development paradigm.

Prerequisites: PHCL 5100 FOR LEVEL GR WITH MIN. GRADE OF B-

PHCL5440 Current Topics in Interpretation of Pharmaceutical Data

[1 credit hour]

The basic statistical techniques learned in PHCL 5140 will be further explored using research articles and real data sets to conduct statistical analyses. The use of different software programs will be used to provide students with hands-on practice in conducting statistical analyses.

Prerequisites: PHCL 5140 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL5460 Current Topics in Pharmacokinetics Toxicokinetics

[1 credit hour]

An advanced discussion of the theory and practice of using kinetic principles to model the time course of drugs and toxic chemicals in the body and in the environment. The student should understand the relationship between chemical time courses and outcomes and application to risk assessment. Additionally, students will gain hands-on practice using kinetic analysis methods and software.

Prerequisites: PHCL 4760 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5760 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL5500 From Experimental to Applied Therapeutics

[4 credit hours]

The course focuses on bridging the gap between experimental and clinical applications of drugs. It will discuss groups of structurally related drugs designed to treat certain conditions, their basic molecular pharmacological action and how that is applied clinically. The course will also include discussing toxicity of some drugs and xenobiotics manufactured for certain applications, their basic molecular actions and their clinical toxicity.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL5700 Pharmacology I -Principles Of Pharmacology, Autonomic Pharmacology And Non-steroidal Anti-inflammat

[3 credit hours]

An introduction to the principles of pharmacology and the pharmacology of the autonomic system. Non-steroidal anti inflammatory agents are also discussed.

PHCL5720 Pharmacology II: Endocrine And Cns Pharmacology

[3 credit hours]

The pharmacology of drugs acting upon the endocrine and reproductive systems will be discussed, followed by a treatment of drugs used in the management of sleep disorders, anxiety, affective illness, schizophrenia and seizure disorders.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF C

PHCL5730 Toxicology I

[3 credit hours]

This course reviews the basic elements of toxicology. It includes those principles most frequently involved in a full understanding of toxicologic events, such as dose-response, lethal dose-50 (LD50) and margin of safety. It also identifies toxic chemicals and their systemic sites and mechanisms of action. Finally, this course provides information about the kinds of toxic injuries produces in specific organs or systems and the toxic agents that produce these effects. Information about the possible management of some cases of intoxication or poisonings by some agents will be briefly reviewed.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

PHCL5750 Toxicology II

[3 credit hours]

This course provides the students with an overview of environmental toxicology, which emphasizes both air and water pollution. It also reviews the applications of different areas of toxicology, such as food toxicology emphasizing the safety standards of food and methods of evaluation of food safety, analytic toxicology and its applications in forensic toxicology, and occupational toxicology, emphasizing the health effects of industrial chemicals on workers. General methodologies for toxicity testing are also discussed.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF C

PHCL5760 Toxicokinetics

[3 credit hours]

The theory and practice of using kinetic principles to model the time course of toxic chemicals in the body and in the environment. Relation of the chemical time course to negative outcomes and application to risk assessment. Hands-on practice with kinetic analysis methods and software.

PHCL5770 Current Topics in Toxicology I

[1 credit hour]

The course focuses on the most recently published studies that cover advances in the field of toxicology, including risk assessment of toxic chemicals, toxicokinetics, chemically ¿induced mutations, cancer and developmental toxicity, toxic responses of various body systems to different chemicals and drugs, toxicity of pesticides and heavy metals.

Prerequisites: PHCL 4730 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5730 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL5990 Problems In Pharmacology

[1-6 credit hours]

Tutorial or directed individual research in pharmacology.

PHCL6300 Research Experience in Experimental Therapeutics

[2-6 credit hours]

The course is intended for laboratory rotations to familiarize students with research topics in various clinical/basic science laboratories. A primary focus is to allow students to shadow, learn, experience and perform specific laboratory techniques.

PHCL6320 NEUROLOGICAL AND PSYCHIATRIC PHARMACOLOGY

[1 credit hour]

A course analyzing the pharmacology of neurologically based attributes and disorders.

PHCL6390 Problems in Experimental Therapeutics

[1-6 credit hours]

The course will examine current topics and trends in the field of experimental therapeutics. The nature of the course will vary from student to student, depending on their background in the field, and the nature of their interest. For example, a new student may be assigned a literature search to identify papers that describe current approaches toward the treatment of human disease. A more advanced student might be given the task of researching and developing new laboratory techniques to initiate a research project. The overall goal will be to introduce students to current problems in experimental therapeutics, and help them identify an approach toward solving these problems.

PHCL6600 Seminar In Pharmacology

[1 credit hour]

Pharmacology students will attend seminar presentations offered in the departments of , and must present at least one seminar.

PHCL6650 Seminar in Experimental Therapeutics

[2 credit hours]

The course includes seminars presented by scientists from academia, industry and government who are invited by the department to speak about their research. Research subjects to be covered by the seminars are within the field of therapeutics and related areas, such as toxicology, molecular and genetic mechanisms in drug/chemical action, risk assessment, biomarkers and others.

PHCL6700 Pharmacology III: Cns And Cardiovascular/Renal Pharmacology

[3 credit hours]

The pharmacology of central nervous system active agents . Agents acting on the cardiovascular and renal systems are discussed.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

PHCL6720 Pharmacology IV; Chemotherapeutics

[3 credit hours]

The pharmacology of anti-infective chemotherapeutic agents is presented. Issues such as the mechanism of antimicrobial action, disposition, resistance and problems attending the use of antimicrobial drugs will be discussed.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF C

PHCL6900 M.s. Thesis Research In Pharmacology

[1-6 credit hours]

M.S. thesis research in pharmacology.

PHCL6920 M.s. Thesis Research In Pharmacology

[1-6 credit hours]

M.S. thesis research in pharmacology.

PHCL7100 Experimental Therapeutics I

[3 credit hours]

The course will cover the application of basic principles of pharmacology to the development of new therapies for human disease. A primary focus will be the translation of laboratory discoveries into clinical applications.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL7200 Experimental Therapeutics II

[3 credit hours]

The course will expand upon material covered in Experimental Therapeutics I and focus on the drug development process. Practical applications include the design of in vitro and in vivo screens for drug activity, improvement of pharmacokinetic properties and integration of medicinal chemistry with pharmacology in a drug development paradigm.

Prerequisites: PHCL 5100 FOR LEVEL GR WITH MIN. GRADE OF B- OR PHCL 7100 FOR LEVEL GR WITH MIN. GRADE OF B-

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PHCL7440 Current Topics in Interpretation of Pharmaceutical Data

[1 credit hour]

The basic statistical techniques learned in PHCL 4140/5140 will be further explored using research articles and real data sets to conduct statistical analyses. The use of different software programs will be used to provide students with hands-on practice in conducting statistical analyses.

Prerequisites: PHCL 5140 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL7460 Current Topics in Pharmacokinetics Toxicokinetics

[1 credit hour]

An advanced discussion of the theory and practice of using kinetic principles to model the time course of drugs and toxic chemicals in the body and in the environment. The student should understand the relationship between chemical time courses and outcomes and application to risk assessment. Additionally, students will gain hands-on practice using kinetic analysis methods and software.

Prerequisites: PHCL 4760 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5760 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL7500 From Experimental to Applied Therapeutics

[4 credit hours]

The course focuses on bridging the gap between experimental and clinical applications of drugs. It will discuss groups of structurally related drugs designed to treat certain conditions, their basic molecular pharmacological action and how that is applied clinically. The course will also include discussing toxicity of some drugs and xenobiotics manufactured for certain applications, their basic molecular actions and their clinical toxicity.

Prerequisites: PHCL 3700 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5700 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL7770 Current Topics in Toxicology I

[1 credit hour]

The course focuses on the most recently published studies that cover advances in the field of toxicology, including risk assessment of toxic chemicals, toxicokinetics, chemically ¿induced mutations, cancer and developmental toxicity, toxic responses of various body systems to different chemicals and drugs, toxicity of pesticides and heavy metals.

Prerequisites: PHCL 4730 FOR LEVEL UG WITH MIN. GRADE OF B- OR PHCL 5730 FOR LEVEL GR WITH MIN. GRADE OF B- (MAY BE TAKEN CONCURRENTLY)

PHCL8300 Research Experience in Experimental

[2-6 credit hours]

The course is intended for laboratory rotations to familiarize students with research topics in various clinical/basic science laboratories. A primary focus is to allow students to shadow, learn, experience and perform specific laboratory techniques.

PHCL8390 Problems in Experimental Therapeutics

[1-6 credit hours]

The course will examine current topics and trends in the field of experimental therapeutics. The nature of the course will vary from student to student, depending on their background in the field, and the nature of their interest. For example, a new student may be assigned a literature search to identify papers that describe current approaches toward the treatment of human disease. A more advanced student might be given the task of researching and developing new laboratory techniques to initiate a research project. The overall goal will be to introduce students to current problems in experimental therapeutics, and help them identify an approach toward solving these problems.

PHCL8650 Seminar in Experimental Therapeutics

[2 credit hours]

The course includes seminars presented by scientists from academia, industry and government who are invited by the department to speak about their research. Research subjects to be covered by the seminars are within the field of therapeutics and related areas, such as toxicology, molecular and genetic mechanisms in drug/chemical action, risk assessment, biomarkers and others.

PHCL8960 Dissertation Research in Experimental Therapeutics

[1-15 credit hours]

The course entails laboratory and/or clinical research focused on the development of experimental therapeutics directed toward human disease. Students engaged in PH.D. dissertation research will identify a significant research problem and develop a strategy for addressing an area of unmet need. Together with the major advisor and dissertation committee members, the student will develop a research plan that addresses major questions in the chosen field using an hypothesis driven approach.

PHIL1010 Introduction To Logic

[0-3 credit hours]

(not for major credit) An introduction to the symbolic analysis of argument components and structures. Topics include definition, syllogistic reasoning, semantics, sentential logic and probability.

PHIL1020 Critical Thinking

[0-3 credit hours]

(not for major credit) A study of principles and patterns of good reasoning and writing, including the evaluation and construction of arguments and the identification and avoidance of fallacies.

PHIL2200 Introduction To Philosophy

[3 credit hours]

An introduction to philosophical reflection on such issues as the existence of God, free will, knowledge and objectivity, social justice and moral responsibility. Humanities core course.

PHIL2400 Contemporary Moral Problems

[3 credit hours]

A study of topics such as abortion, euthanasia, environmental responsibility, famine relief, affirmative action and sexuality. Attention is paid to moral argument and the bases of moral decisions.

PHIL3000 Symbolic Logic

[3 credit hours]

A study of propositional and predicate logic, techniques used to evaluate deductive arguments. Topics may include computability, set theory, Bayesianism and other formal systems with philosophical and mathematical relevance.

PHIL3060 Philosophy Of Language

[3 credit hours]

A historical and critical examination of topics in the philosophy of language such as truth, reference, representation, metaphor and interpretation.

PHIL3120 Business Ethics

[3 credit hours]

An examination of the ethical dimensions of the relationships between a business and employees, consumers, other businesses, society, government, the law and the environment.

PHIL3140 Computers And Culture

[3 credit hours]

A study of the philosophical issues computers raise which affect and reflect human values. Topics include censorship and privacy on the internet, virtual reality and the possibility of artificial intelligence.

PHIL3180 Environmental Ethics

[3 credit hours]

An examination of our relation and responsibility to the natural environment. Topics include risk assessment, the value of non-human living things, resource use, economics, technology, environmental racism and ecology.

PHIL3210 Ancient And Medieval Philosophy

[3 credit hours]

A study of ancient and medieval philosophy from the pre-Socratics to Aquinas.

PHIL3230 Modern Philosophy

[3 credit hours]

A study of early modern philosophy from Descartes to Kant. Writing intensive course.

PHIL3240 Existentialism

[3 credit hours]

An examination of existentialist philosophy from the 19th Century to the present as represented in the works of Kierkegaard, Nietzsche, Heidegger, Camus, Sartre, de Beauvoir, Fanon and others. Topics may include anxiety, meaning and meaninglessness, freedom, and community.

PHIL3310 Science And Society

[3 credit hours]

A study of twentieth-century science and its relationships with government, industry, religion and medicine, including the emergence of Big Science and the future of science education and research.

PHIL3370 Medical Ethics

[3 credit hours]

The application of ethics to the practice of medical professionals. Topics include authority, paternalism, truth-telling, informed consent, health care reform, genetic manipulation, abortion, infanticide and euthanasia.

PHIL3400 Ethical Theory

[3 credit hours]

A examination of the assumptions, methods and content of major theories of ethics, with an emphasis on the nature of the good, moral obligations, rights and duties. Questions to be examined include: What is the best life for a human being? What is the foundation of the distinction between right and wrong? What motives do I have for acting morally?

PHIL3500 Eastern Thought

[3 credit hours]

An examination of major philosophies of Asia and the Far East, their specific concerns and their relevance to contemporary problems.

PHIL3540 Feminism And Philosophy

[3 credit hours]

An examination of feminist perspectives in philosophy, exploring the relevance of gender to central questions in ethics, political theory and epistemology.

PHIL3560 Aesthetics

[3 credit hours]

An analysis and evaluation of aesthetic topics such as the definition of art, truth in the arts, the role of representation, the nature of aesthetic value and the character of aesthetic experience.

PHIL3570 Philosophy Of Religion

[3 credit hours]

A critical, philosophical exploration of questions about the nature of religion, including the existence and nature of God, the problem of evil, and the relation between faith and knowledge. Other topics may include the relation of religion to science and morality, as well as the role of religious experience and miracles in religious belief.

PHIL3630 Philosophy Of Psychology

[3 credit hours]

A philosophical examination of problems concerning the nature of mind such as the relation between mind and body, consciousness, free will and personal identity.

PHIL3750 Social And Political Philosophy

[3 credit hours]

A study of classic and contemporary treatments of justice, authority, the relations between individual and community, the meaning of freedom and equality, power and violence, and race and gender.

PHIL3760 Crime And Punishment

[3 credit hours]

A philosophical study of topics such as crime, responsibility, justice and punishment. Special attention is paid to current practices in the criminal justice system.

PHIL3900 Seminar

[3 credit hours]

Topics vary.

PHIL4210 Ancient Philosophy Seminar

[3 credit hours]

An intensive study of the texts and arguments of Presocratic philosophers, Plato, Aristotle, or Hellenistic philosophers. Course may be repeated as topics vary.

PHIL4230 Modern Philosophy Seminar

[3 credit hours]

An intensive study of one or more Continental or British philosophers from the sixteenth through eighteenth centuries. Course may be repeated as topics vary.

PHIL4240 19th Century European Philosophy

[3 credit hours]

An intensive study of European philosophy after Kant, including Hegel, Marx, Kierkegaard and Nietzsche.

PHIL4250 Phenomenology

[3 credit hours]

An intensive study of major works from phenomenological philosophers, such as Husserl, Heidegger, Sartre, or Merleau-Ponty. Course may be repeated as topics vary.

PHIL4260 Recent European Philosophy

[3 credit hours]

An examination of texts and problems in the Frankfurt school, post-structuralism, deconstruction and post-modernism, or of such thinkers as Habermas, Foucault, Derrida and Lyotard. Course may be repeated as topics vary.

PHIL4270 American Philosophy

[3 credit hours]

A study of the development of American Philosophy, or one or more of Pierce, James, Dewey, or Mead. Course may be repeated as topics vary.

PHIL4280 20th Century Analytic Philosophy

[3 credit hours]

Selected readings from Frege, Russell, Wittgenstein, the Vienna Circle, the Ordinary Language school, and American neo-pragmatists such as Quine, Rorty and Davidson. Course may be repeated as topics vary.

PHIL4300 Philosophy Of Natural Science

[3 credit hours]

A study of scientific inquiry including the structure of scientific explanations, relations of evidence and confirmation, the metaphysics of theoretical entities, and the nature of scientific change and progress.

PHIL4400 Ethics Seminar

[3 credit hours]

Selected topics or philosophers in ethical theory. Course may be repeated as topics vary.

PHIL4650 Philosophy Of Mind

[3 credit hours]

Advanced study of issues in the philosophy of mind such as: intentionality and misrepresentation, rationality and interpretation, supervenience and reductionism, folk psychology and eliminative materialism. Course may be repeated as topics vary.

PHIL4750 Political Philosophy Seminar

[3 credit hours]

Selected topics or philosophers in political philosophy. Course may be repeated as topics vary.

PHIL4900 Advanced Seminar

[2-4 credit hours]

Topics vary.

PHIL5210 Ancient Philosophy Seminar

[3 credit hours]

An intensive study of the texts and arguments of Presocratic philosophers, Plato, Aristotle, or Hellenistic philosophers. Course may be repeated as topics vary.

PHIL5230 Modern Philosophy Seminar

[3 credit hours]

An intensive study of one or more Continental or British philosophers from the sixteenth through eighteenth centuries. Course may be repeated as topics vary.

PHIL5240 19th Century European Philosophy

[3 credit hours]

An intensive study of European philosophy after Kant, including Hegel, Marx, Kierkegaard and Nietzsche.

PHIL5250 Phenomenology

[3 credit hours]

An intensive study of major works from phenomenological philosophers, such as Husserl, Heidegger, Sartre, or Merleau-Ponty. Course may be repeated as topics and texts vary.

PHIL5260 Recent European Philosophy

[3 credit hours]

An examination of texts and problems in the Frankfurt School, post-structuralism, deconstruction, post-modernism, or of such thinkers as Habermas, Foucault, Derrida and Lyotard. Course may be repeated as topics vary.

PHIL5270 American Philosophy

[3 credit hours]

A study of the development of American philosophy, or of one or more of Pierce, James, Dewey, or Mead. Course may be repeated as topics vary.

PHIL5280 20th Century Analytic Philosophy

[3 credit hours]

Selected readings from Frege, the Russell, Wittgenstein, the Vienna Circle, the Ordinary Language school and American neopragmatists such as Quine, Rorty and Davidson. Course may be repeated as topics vary.

PHIL5300 Philosophy Of Natural Science

[3 credit hours]

A study of scientific inquiry including the structure of scientific explanations, relation of evidence and confirmation, the metaphysics of theoretical entities, and the nature of scientific change and progress.

PHIL5400 Ethics Seminar

[3 credit hours]

Selected topics or philosophers in ethical theory. Course may be repeated as topics vary.

PHIL5650 Philosophy Of Mind

[3 credit hours]

Advanced study of issues in the philosophy of mind such as: intentionality and misrepresentation, rationality and interpretation, supervenience and reductionism, folk psychology and eliminative materialism. Course may be repeated as topics vary.

PHIL5750 Political Philosophy Seminar

[3 credit hours]

Selected topics or philosophers in political philosophy. Course may be repeated as topics vary.

PHIL5920 Readings In Philosophy

[3 credit hours]

Critical inquiry into selected works of a particular philosopher or a specific philosophical problem.

PHIL5990 Independent Study

[1-3 credit hours]

Directed study in philosophy under supervision of a philosophy faculty member.

PHIL6000 Advanced Logic

[3 credit hours]

A study of propositional and predicate logic, as well as examination of issues in the philosophy of logic.

PHIL6800 Proseminar

[1-6 credit hours]

Participation in departmental faculty-graduate student colloquia and mentoring program. Credit will carry the grade of S or U, and will not count toward credit hour requirements for the M.A. degree.

PHIL6930 Seminar

[3 credit hours]

Advanced philosophy seminar open only to graduate students.

PHM6400 Physical and Mental Effects of Psychoactive Substances

[2 credit hours]

Pharmacology, pathophysiology, social impact of substance use, mis-use, and abuse and treatments available (pharmacological and non-pharmacological). Legal issues surrounding substance use, mis-use, and abuse will also be discussed.

PHPR1000 Orientation

[0-1 credit hours]

Lectures and small group discussions include University, Freshman Orientation, FYI subjects, plus introductory elements of Pharmacy professional culture.

PHPR2040 Intro to Cosmetic Science

[1 credit hour]

An overview of the cosmetic and personal care industry. Topics will include business factors driving the industry, legal considerations which govern the industry, marketing views and perspectives, and various jobs available within the industry for student consideration after their graduation. An individual project will be required and will be present to the entire class.

PHPR3010 Pharmaceutical Calculations

[2 credit hours]

This course is intended to present the principles involved in solving any mathematical problem which may be encountered in the practice of pharmacy-logical thought processes will be used.

PHPR3020 Pharmaceutical Technology I

[4 credit hours]

A lecture and laboratory introduction to the principles, theory, and processes involved in the manufacture and compounding of fundamental classes of dosage forms.

PHPR3030 Pharmaceutical Technology

[4 credit hours]

A continuation of PHPR 3020 as a lecture and laboratory to the principles, theory, and processes involved in the manufacture and compounding of fundamental classes of dosage forms.

Prerequisites: PHPR 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

PHPR3040 Cosmetic Raw Materials

[2 credit hours]

Physical, chemical and cosmetic properties, function and use of the varied raw materials used in cosmetics and personal care products. Students will learn how and why these ingredients are present and how to select them for a given formulation. Topics include moisturizers, peptides, surfactants, silicones, preservatives, antioxidants, chelating agents, flavors and sweeteners, color additives, fragrances, thickeners, functional materials, active ingredients and miscellaneous ingredients.

Prerequisites: CHEM 1230 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHPR3070 Pharmaceutics and Pharmaceutical Technology I

[4 credit hours]

Course considers the principles and thought processes involved in solving pharmacy-related mathematical problems and the theory and processes involved in the manufacture and extemporaneous compounding of dosage forms.

PHPR3080 PPD-2

[4 credit hours]

Further exploration of the principles, theory and processes involved in the development and preparation of parenteral, ophthalmic and other non-oral drug delivery systems.

PHPR3130 PPT-1

[2 credit hours]

Discussion of pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of attention deficit hyperactivity disorder, sleep disorders, acid-base, fluid & electrolytic imbalances, pain and substance abuse.

PHPR3140 PPT-2

[2 credit hours]

Discussion of pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of endocrine disorders and reproduction.

Prerequisites: PHPR 3130 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR3260 PHCAD-1

[2 credit hours]

Description and analysis of the organization, financing and delivery of healthcare in the U.S.. Development of communication skills for pharmacists to function optimally in the system is emphasized.

PHPR3670 Chemical Dependency and The Pharmacist

[3 credit hours]

Overview of chemical dependency and substance abuse, with emphasis on the neuropathophysiology of dependency and the pharmacology of drugs of abuse. Also includes extensive review of the impact of chemical dependency on the healthcare professional, with a focus on the impact of pharamacists.

PHPR3920 Introductory Pharmacy Practice Experience I

[1 credit hour]

First professional year course designed to enhance professional growth through an introduction to clinical skill development and direct patient care activities within institutional and community pharmacy practice settings. Prerequisite: Admission into the Pharm.D. Program.

PHPR3930 Introductory Pharmacy Practice Experience 2

[1 credit hour]

First professional year course designed to enhance professional growth through an introduction to clinical skill development and direct patient care activities within institutional and community pharmacy practice settings. Prerequisite: Admission into the Pharm.D Program.

PHPR4070 PPD-3

[3 credit hours]

Interpersonal communication with emphasis upon application of one-to-one communication and patient counseling. Instruction in the broad dimension of professional pharmacy practice and responsibility for providing pharmaceutical care, and use of drug information resources, and provision of drug information.

Prerequisites: PHPR 3070 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR4080 PPD-4

[3 credit hours]

Course enhances professional development to meet specific patient and health care practitioner needs. Instruction includes effective literature analysis, presentation of care plans, and pharmacy jurisprudence.

Prerequisites: PHPR 4070 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR4130 PPT-3

[4 credit hours]

Discussion of pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of immune, renal and rheumatologic disorders and transplantation.

Prerequisites: PHPR 3140 FOR LEVEL UG WITH MIN. GRADE OF C AND MBC 3800 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR4140 PPT-4

[4 credit hours]

Discussion of pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of immunology and infectious diseases

Prerequisites: MBC 3800 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR4160 Pharmacokinetics

[3 credit hours]

Theoretical basis and clinical application of pharmacokinetics as relates to drug dosing, absorption, distribution, biotransformation, and excretion.

PHPR4330 RESEARCH DESIGN AND DRUG LITERATURE EVALUATION 1

[2 credit hours]

Concepts of research design, statistical analysis, literature evaluation and evidence based medicine are introduced and integrated in a manner that depicts their practical relevance to pharmacy practice.

PHPR4520 PHCAD-2

[2 credit hours]

This course is to introduce students to the administrative sciences (marketing/management, etc.) and their respective roles in the provision of pharmaceutical care.

Prerequisites: PHPR 3260 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR4550 Analysis Of The Phrmaceutical Environment

[3 credit hours]

A theoretical and practical examination of the pharmaceutical environment and drug distribution system using the science of marketing as a tool for analysis.

PHPR4600 Seminar in Pharmacy Adminstration

[1 credit hour]

This course provides a global perspective on pharmacy administration and healthcare related issues, including economic, humanistic, clinical, and other aspects of disease management. Prerequisite: Enrollment in the BSPS in Pharmacy Administration program or permission of instructor

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PHPR4610 Pharmacoeconomics And Outcomes I

[3 credit hours]

This course emphasizes introductory concepts, methods, and practical procedures for pharmacoeconomic analysis and outcomes research. The student will understand and develop instruments for assessing patients' health status, quality of life, satisfaction and cost-effectiveness for pharmacoeconomic and health outcomes research. Prerequisite: Enrollment in the BSPS in Pharmacy Administration program or permission of instructor

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PHPR4640 Cosmetic Science Essentials

[3 credit hours]

The course will provide a brief overview of the basic definitions regarding cosmetics and over-the-counter/cosmetic combination products and the current FDA requirements. Topics will cover the structure and functions of skin, hair, lips, eye lashes, nails and teeth; disorders of the skin, hair and oral cavity as well as the formulation, manufacturing, safety testing and quality control issues of cosmetics and personal care preparations.

PHPR4680 Parenteral Manufacturing

[2 credit hours]

The theory and technology of parenteral and ophthalmic formulation design, production, sterilization, packaging and stability.

Prerequisites: (PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3070 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3080 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHPR4690 Dosage Form Design

[3 credit hours]

The utilization of pharmaceutical principles and practices for the design and manufacture of modern commercial dosage forms such as tablets, aerosols, emulsions, suspensions and solutions emphasizing biopharmaceutically efficacious products.

Prerequisites: (PHPR 3070 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3080 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHPR4710 Selected Topics In Pharmaceutical Technology

[3 credit hours]

Discussion, evaluation, experimentation and production of selected dosage forms. A forum for the discussion of new dosage form technology and advances.

Prerequisites: (PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3070 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHPR4720 Pharmaceutical Rate Processes

[3 credit hours]

A theoretical and practical application of kinetic principles applied to pharmaceutic and cosmetic systems in liquid and solid state. A mathematical treatment and development of the equations which support each reaction mechanism.

PHPR4730 Cosmetic Science I

[3 credit hours]

This course focuses on cosmetics and personal care products for both genders with an emphasis on ingredient selection, product design, formulation development, preparation, product testing, packaging and regulatory requirements. Topics discussed include makeup products for the lips, eyes, face and nails as well as oral care products and deodorants/antiperspirants. Guest speakers from the cosmetic and personal care industry are regularly invited to the classes.

Prerequisites: PHPR 3020 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3030 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHPR4740 Cosmetic Science Laboratory I

[1 credit hour]

A basic laboratory course in personal care cosmetics for both men and women with emphasis on the product design, formulation development, preparation and packaging of Lipsticks, lip balms, eye shadow, eye liners, foundation make-up, theatrical make-up, rogue, face powders, etc. Laboratory activities will also consider marketing, advertisement creation for radio, TV, bill boards, newspaper and magazines as well as other activities.

Prerequisites: PHPR 3030 FOR LEVEL UG WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHPR4750 Cosmetic Science II

[2 credit hours]

This course focuses on cosmetics and personal care products for both genders with an emphasis on ingredient selection, product design, formulation development, preparation, product testing, packaging and regulatory requirements. Topics discussed include skin cleanser, skin moisturizers, anti-acne and anti-aging products, shampoos and hair conditioners, hair styling products, hair coloring products, hair removal products, baby care products, sunscreens and sunless tanners. Guest speakers from the cosmetic and personal care industry are regularly invited to the classes.

Prerequisites: PHPR 4730 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 4740 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3020 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3030 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHPR4760 Cosmetic Science Laboratory II

[1 credit hour]

A basic course in personal care cosmetics for both men and women with emphasis on the theory, product design, formulation development, preparation and packaging of hair care and coloring, shampoos and rinses, skin care products, creams, lotions, sunscreens, oral care products including mouthwash tooth paste and powders, baby care products, etc. Consideration of marketing, ad creation for radio, TV, bill boards, newspapers and magazines will be incorporated as part of the laboratory activities.

Prerequisites: PHPR 4730 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 4740 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHPR4780 Internship In Pharmacy Administration

[6-12 credit hours]

Students will acquire practical knowledge and hands-on experience in the areas of pharmacy administration or industrial pharmacy/pharmaceutics by working in the pharmaceutical industry or with health care systems.

Prerequisites: MBC 3320 FOR LEVEL UG WITH MIN. GRADE OF D- AND MBC 3560 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHPR4810 Finance and Personal Planning for Pharmacists

[1 credit hour]

Practical topics on financial, professional, and personal situations to better prepare students to make knowledgeable decisions that affect future security and success.

PHPR4880 Internship in Pharmaceutics

[6-12 credit hours]

Students will acquire practical knowledge and hands-on experience in the areas of pharmacy administration or industrial pharmacy/pharmaceutics by working in the pharmaceutical industry or with health care systems.

Prerequisites: MBC 3320 FOR LEVEL UG WITH MIN. GRADE OF D- AND MBC 3560 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHPR4890 Internship in Cosmetic

[6 credit hours]

An experiential course in which students acquire practical knowledge through hands-on experience in an area of cosmetic science by working in an academic, private or government laboratory or professional site.

PHPR4900 Honors Seminar In Pharmacy Practice

[1-3 credit hours]

An examination of a specific question in the context of the primary literature in pharmacy practice for advanced students.

PHPR4910 Pharmacy Practice Problems

[1-5 credit hours]

Selected undergraduate research projects in pharmacy practice.

PHPR4920 Introductory Pharmacy Practice Experience 3

[1 credit hour]

The purpose of this course is to increase students' awareness and involvement in areas related to the contemporary practice of pharmacy. Students will participate in projects that nurture their professional growth.

Prerequisites: PHPR 3930 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR4930 Introductory Pharmacy Practice Experience 4

[1 credit hour]

The purpose of this course is to increase students' awareness and involvement in areas related to the contemporary practice of pharmacy. Students will participate in projects that nurture their professional growth.

Prerequisites: PHPR 4920 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR4960 Honors Thesis In Pharmacy Practice

[2-5 credit hours]

An examination of a specific research question in pharmacy practice which can be answered through application of experimental work.

PHPR5260 Pharmacy and Healthcare Administration

[2 credit hours]

Description and analysis of the organization, financing and delivery of healthcare in the U.S.

PHPR5300 DESIGN AND APPLICATIONS OF CANCER CHEMOTHERAPY

[1 credit hour]

In depth discussion of the principles of drug design and development within the framework of the pharmacotherapeutic management of cancer and cancer prevention.

PHPR5520 Pharmaceutical Marketing and Management

[3 credit hours]

Introduction to administrative sciences (marketing/management, etc.) in the provision of pharmaceutical care. Topics include multicultural communication, operation of various pharmacy practice settings, barriers to health care access, facilitation of patient access to pharmaceutical care.

PHPR5590 Readings in Access and Cultural Competence

[2 credit hours]

Examination of the literature related to access and cultural competence in the US health care system. Various types of readings will be used to analyze the relationships that exist between access, cultural competence and positive healthcare outcomes.

Prerequisites: PHPR 4520 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

PHPR5610 Pharmacoeconomics and Outcomes Research I

[2 credit hours]

This course emphasizes advanced concepts, methods, and practical procedures for pharmacoeconomic analysis and outcomes research. The student will learn through readings and experience assessment of patient health status, quality of life, satisfaction and cost-effectiveness for pharmacoeconomic and health outcomes research and interpretation of economic and outcomes data.

PHPR5620 Pharmacoeconomics and Outcomes Research II

[3 credit hours]

This course emphasizes advanced concepts, methods and practical procedures for pharmacoeconomic analysis and outcomes research. The student will learn through readings and experience assessment of patient health status, quality of life, cost-effectiveness for pharmacoeconomic and health outcomes research and interpretation of economic and outcomes data.

Prerequisites: PHPR 5610 FOR LEVEL GR WITH MIN. GRADE OF C

PHPR5680 Parenteral Manufacturing

[2 credit hours]

The theory and technology of parenteral and ophthalmic formulation design, production, sterilization, packaging and stability.

Prerequisites: (PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3070 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHPR5690 Dosage Form Design

[3 credit hours]

The utilization of pharmaceutical principles and practices for the design and manufacture of modern commercial dosage forms such as tablets, aerosols, emulsions, suspensions and solutions emphasizing biopharmaceutically efficacious products.

Prerequisites: (PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3070 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHPR5700 Equilibrium Phenomenon

[2 credit hours]

A theoretical and practical examination of the principles of chemical equilibrium and the techniques used in their calculation. Physical and chemical concepts focus on pharmaceutical systems as well as selected areas of chemistry.

PHPR5710 Selected Topics In Pharmaceutical Technology

[2-3 credit hours]

Discussion, evaluation, experimentation and production of selected dosage forms. A forum for the discussion of new dosage form technology and advances.

Prerequisites: (PHPR 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHPR 3070 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHPR5720 Pharmaceutical Rate Processes

[3 credit hours]

A theoretical and practical application of kinetic principles applied to pharmaceutic and cosmetic systems in liquid and solid state. A mathematical treatment and development of the equations which support each reaction mechanism.

PHPR5770 Advanced Drug Delivery Systems – I

[3 credit hours]

Special emphasis will be made on the role of various efflux and influx transporters in drug delivery. The course design is based on the premise that the student desires knowledge about the latest developments in formulation and drug delivery.

PHPR5810 FINANCE AND PERSONAL PLANNING FOR PHARMACISTS

[2 credit hours]

Practical topics on financial, professional, and personal situation to better prepare students to make knowledgeable decisions that affect future security and success. (Prerequisites: Third Professional Year PharmD or permission of instructor.)

PHPR5870 Compounding Boot Camp

[2 credit hours]

This course is a companion to the Professional Compounding Center of America Boot Camp held at the college every year. Students will complete the boot camp lab experience and work through cases and webinars and other problem solving exercises to master techniques for creating new dosage forms.

Prerequisites: PHPR 3080 FOR LEVEL GR WITH MIN. GRADE OF D-

PHPR5990 Problems In Pharmacy Practice

[1-6 credit hours]

Tutorial or directed, individual research problems in administrative pharmacy, or other related fields.

PHPR6070 PPD-5

[3 credit hours]

Laboratory course to enhance the application of knowledge gained in the PPT courses, the development of clinical skills and critical thinking required for the provision of patient centered pharmaceutical care.

Prerequisites: PHPR 4080 FOR LEVEL UG WITH MIN. GRADE OF D-

PHPR6080 PPD-6

[3 credit hours]

Application of knowledge gained in the PPT, drug literature evaluation, and self care courses and the development of clinical skills and critical thinking required for the provision of pharmaceutical care.

Prerequisites: PHPR 6070 FOR LEVEL GR WITH MIN. GRADE OF C

PHPR6120 PPT-5

[3 credit hours]

Discussion of pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of pulmonary and hematologic diseases.

PHPR6130 PPT-6

[4 credit hours]

Discussion of pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of cardiovascular disorders and nutrition.

Prerequisites: PHPR 6120 FOR LEVEL GR WITH MIN. GRADE OF C

PHPR6140 PPT-7

[4 credit hours]

Discussion of pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of psychiatric/neurologic disorders, pediatrics, and toxicology.

PHPR6160 Advanced Applied Pharmacokinetic

[3 credit hours]

Detailed discussion of pharmacokinetic characteristics of drugs which are commonly included in therapeutic drug monitoring including clinical application.

Prerequisites: PHPR 4160 FOR LEVEL UG WITH MIN. GRADE OF C

PHPR6210 Introduction To Research Methods

[2 credit hours]

General overview and introduction to research process as it pertains to clinical pharmacy practice. Special emphasis given to design issues, particularly those involving human subjects.

PHPR6230 Patient Care Rounds I

[3 credit hours]

The course will provide students with advanced experiences in applying and integrating biomedical, psychosocial and pharmacoeconomic principles to patient care. Students will present and discuss how they would identify, prevent and resolve the medication-related problems encountered by a diversity of patient populations.

PHPR6240 Patient Care Rounds II

[3 credit hours]

The course will provide students with advanced experiences in applying and integrating biomedical, psychosocial and pharmacoeconomic principles to patient care. Students will present and discuss how they would identify, prevent and resolve the medication-related problems encountered by a diversity of patient populations.

Prerequisites: PHPR 6230 FOR LEVEL GR WITH MIN. GRADE OF D-

PHPR6250 Self-Care

[4 credit hours]

The course will discuss issues surrounding the self-medication decision-making process. Special emphasis will be placed on how pharmacists should help patients safely and effectively treat common medical problems. The course will provide information about how pharmacists should educate and counsel patients about diagnostic tests that the public can purchase without a prescription.

PHPR6260 PHCAD-3

[1 credit hour]

The course will offer in depth teaching and discussions on human resource management, inventory control, and organizational financial management in the respective practice settings.

Prerequisites: PHPR 4520 FOR LEVEL UG WITH MIN. GRADE OF D-

PHPR6280 PHCAD-4

[2 credit hours]

This course focuses on developing, implementing, and evaluating Medication Therapy Management (MTM) and Disease State Management (DSM) programs.

Prerequisites: PHPR 6260 FOR LEVEL GR WITH MIN. GRADE OF D-

PHPR6290 Medication Therapy and Disease State Management for Masters Students

[2 credit hours]

Focuses on developing, implementing, and evaluating Medication Therapy Management and Disease State Management programs.

PHPR6310 Jurisprudence and Ethics

[1 credit hour]

Discussion of federal, state and local laws affecting the profession and practice of pharmacy. Ethical principles involved in patient care will be reviewed and applied.

PHPR6340 RESEARCH DESIGN AND DRUG LITERATURE EVALUATION 2

[2 credit hours]

Concepts of research design, statistical analysis, drug literature evaluation and evidence based medicine are expanded from PHPR 4330 to depict their practical relevance to pharmacy practice.

Prerequisites: PHPR 4330 FOR LEVEL UG WITH MIN. GRADE OF D-

PHPR6370 Nutrition

[1 credit hour]

An overview of the fundamental principles of nutritional support and the pharmacist's role in providing nutritional support services.

PHPR6380 Pathophysiology And Pharmacotherapy: Endocrinology

[2 credit hours]

Discussion of the pathophysiology, clinical presentation, etiologic causes, laboratory findings, diagnosis and therapy of endocrine disorders.

PHPR6400 Topics in Internal Medicine

[2 credit hours]

This course is designed to focus on complex and/or controversial pharmacotherapy topics and the evaluation of primary literature and guidelines to promote effective abilities in evaluating, selecting, and recommending pharmacotherapeutic regimens, and educating patients and health care professionals utilizing the principles of evidence based decision making.

PHPR6410 Leadership: Principles and Practice

[2 credit hours]

This course will facilitate student discovery of the concept of self-betrayal and how it impacts the different relationships in their lives. The course is meant to help students take a critical look at their relationships with others by answering the following questions; 1) how am I a problem for others? 2) how can I be more helpful to others? 3) how can I help things go right? The content will be facilitated by the instructor through student reading, self-reflection, and group discussion. Once we have discussed possible solutions to the 3 questions, we will also take a deeper look at how this material impacts some of the different pharmacy and healthcare related areas students will encounter.

PHPR6520 Analysis Of The Pharmaceutical Environment

[2 credit hours]

A theoretical and practical examination of the pharmaceutical environment and drug distribution system using administrative pharmacy sciences as a tool for analysis.

Prerequisites: PHPR 4520 FOR LEVEL UG WITH MIN. GRADE OF D-

PHPR6530 Research Methods In Pharmacy Practice

[2 credit hours]

An introduction to research methods and principles used in designing, planning, implementing, analyzing and interpreting research projects in pharmacy practice.

PHPR6550 Management Topics For Clinical Practice

[2 credit hours]

Description of nature of management, basic management concepts and tools and environmental concerns pertinent to pharmacy practice in all of its practice settings.

PHPR6600 Seminar In Administrative Pharmacy

[1 credit hour]

A critical analysis of current problems in pharmacy practice with individual case presentations.

PHPR6610 Seminar I

[1 credit hour]

Instruction on preparation and presentation of clinical and/or scientific seminars.

PHPR6670 Chemical Dependency And The Pharmacist

[3 credit hours]

Overview of chemical dependency and substance abuse, with emphasis on the neuropathophysiology of dependency and the pharmacologyof drugs of abuse. Also include extensive review of the impact of chemical dependency on the healthcare professional, with as focus on ther impact to pharmacists.

PHPR6700 Special Topics in Diabetes Care

[2 credit hours]

This course focuses on advanced and special poluation topics in the area of diabetes care and management through discussions, lecture-based teaching and group activities.

Prerequisites: PHPR 3140 FOR LEVEL UG WITH MIN. GRADE OF D-

PHPR6800 Monitoring Therapy

[1 credit hour]

An introduction to medical terminology and procedures with reference to physical exam, patient history, common diagnostic procedures and applications to drug and disease state monitoring.

PHPR6810 Hospital Pharmacy Administration

[3 credit hours]

An examination of the administrative and supervisory aspects of hospital pharmacy practice. Emphasis is placed on management techniques rather than functions performed.

PHPR6820 Selected Topics In Hospital Pharmacy

[3 credit hours]

A treatment of contemporary trends which influence the practice of hospital pharmacy such as drug distribution systems. Emphasis is placed upon these concepts in light of the resources present.

PHPR6830 Advanced Community Pharmacy Administration

[3 credit hours]

An advanced analysis of concepts, practices and issues related to retail pharmacy management.

PHPR6840 Selected Topics In Community Pharmacy

[3 credit hours]

Examination of contemporary trends influencing community pharmacy, such as home healthcare and prescription drug programs. Emphasis is placed on the impact of these trends on community pharmacy management.

PHPR6850 Product Development Laboratory

[2 credit hours]

A study of various stages of development of pharmaceutical products. The student will develop formulations, using stability data and production technology for three products.

Prerequisites: PHPR 5690 FOR LEVEL GR WITH MIN. GRADE OF D-

PHPR6890 M.s. Project In Administrative Pharmacy

[1-4 credit hours]

Development of a practical project in the pharmacy environment on a practicum basis. A written, bound report and oral presentation are required.

PHPR6920 Introductory Pharmacy Practice Experience 5

[1 credit hour]

Third professional year course designed to enhance professional growth through application of skills and knowledge gained in IPPE-1 and IPPE-2 to various areas of pharmacy practice to provide the best possible patient care.

Prerequisites: PHPR 4920 FOR LEVEL GR WITH MIN. GRADE OF D-

PHPR6940 Early Practice Exposure

[2 credit hours]

Supervised instruction and participation in pharmacy practice at actual practice sites such as community, hospital, managed care, long-term care and nuclear pharmacies.

PHPR6950 Seminar In Industrial Pharmacy

[1 credit hour]

A seminar course composed of graduate student presentations on their research and special topics as well as outside speakers from both the community and pharmaceutical industry.

PHPR6960 M.s. Thesis Research In Pharmacy

[1-6 credit hours]

Advanced and in-depth study of an issue pertinent to contemporary pharmacy practice. Part of degree requirement for M.S. in Pharmaceutical Sciences.

PHPR6980 Special Topics

[1-5 credit hours]

Selected study of topics in Pharmacy Practice. New pharmacy and healthcare strategies are examined in detail.

PHPR8260 Jurisprudence & Ethics For Pharmacy

[1 credit hour]

Discussion of federal, state and local laws affecting the profession and practice of pharmacy. Ethical principles involved in patient care will be reviewed and applied.

PHPR8540 Patient Monitoring Principles

[3 credit hours]

Application of didactic geriatric drug therapy principles in a geriatric patient care environment. Emphasis will be placed on geriatric drug monitoring skills.

Prerequisites: PHPR 4140 FOR LEVEL UG WITH MIN. GRADE OF D-

PHPR8620 Seminar II

[2 credit hours]

Discussion of current topics relating to pharmacy practice.

Prerequisites: PHPR 6610 FOR LEVEL GR WITH MIN. GRADE OF D-

PHPR8630 Longitudinal Drug Information

[2 credit hours]

Presentation of clinical and/or scientific seminar and completion of in-depth pharmacy practice related paper.

PHPR8940 Clinical Clerkship

[4 credit hours]

Advanced clinical experience in various specialties of medicine and pharmacy. This course will consist of 340 practicum/internship hours for each section (2 months).

PHPR8980 Special Topics

[1-5 credit hours]

Selected study of topics in Pharmacy Practice. New Pharmacy and healthcare strategies are examined in detail.

PHRM8200 Read Mechanism Hormone Actio

[0-4 credit hours]

The properties of hormone receptors and the biochemical consequences of hormone-receptor interactions. May be repeated for credit.

PHSL5050 Human Physiology

[3 credit hours]

This course addresses cellular, regulatory and organ system physiology including blood and immune system, cardiovascular, respiratory, gastrointestinal, renal reproductive and endocrine physiology

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PHYA5010 Introduction to PA Profession

[1 credit hour]

An overview of the history and philosophy of the physician assistant profession. Includes a review of current professional issues relevant to the PA profession.

PHYA5100 Principle Interview/Medical History

[3 credit hours]

An introduction to the art of patient/practitioner communication and effective interviewing for the purpose of establishing a health database and follow-up care.

PHYA5130 Patient Evaluation

[3 credit hours]

Students will develop the knowledge and skills to competently perform a complete physical examination, recognizing normal and abnormal findings and communicating their findings verbally and in written form.

PHYA5140 Health Care Teams and Systems

[2 credit hours]

Introduction to issues and systems related to the delivery of health care in the U.S. to include settings, costs, and reimbursement issues and the evaluation of health care quality.

PHYA5210 Diagnostic and Therapeutic Skills I

[2 credit hours]

Introduction to the use and interpretation of commonly used diagnostic and therapeutic tools, including laboratory studies, radiographic studies, and electrocardiography.

PHYA5220 Diagnostic and Therapeutic Skills II

[1 credit hour]

Introduction to the use and interpretation of commonly used diagnostic and therapeutic tools, including laboratory studies, radiographic studies, and electrocardiography.

PHYA5230 Diagnostic and Therapeutic Skills III

[2 credit hours]

Introduction to the use and interpretation of commonly used diagnostic and therapeutic tools, including laboratory studies, radiographic studies, and electrocardiography.

PHYA5310 Clinical Medicine I

[4 credit hours]

An intensive, three semester sequence of study which examines human diseases and disorders from the perspectives of etiology, epidemiology, clinical manifestations, diagnosis, management, potential complications and prognosis.

PHYA533 Clinical Medicine III

[6 credit hours]

An intensive, three semester sequence of study which examines human diseases and disorders from the perspectives of etiology, epidemiology, clinical manifestations, diagnosis, management, potential complications, and prognosis.

PHYA5330 Clinical Medicine III

[6 credit hours]

An intensive, three semester sequence of study which examines human diseases and disorders from the perspectives of etiology, epidemiology, clinical manifestations, diagnosis, management, potential complications, and prognosis.

PHYA5340 Clinical Medicine II

[3 credit hours]

An intensive, three semester sequence of study which examines human diseases and disorders from the perspectives of etiology, epidemiology, clinical manifestations, diagnosis, management, potential complications and prognosis.

PHYA5400 Pathophysiology I

[2 credit hours]

An overview of physiological and pathologic processes that influence the human organism at the cellular, organ and systemic levels.

PHYA5410 Pathophysiology II

[2 credit hours]

An overview of physiological and pathologic processes that influence the human organism at the cellular, organ and systemic levels.

PHYA5430 Pathophysiology III

[1 credit hour]

An overview of physiological and pathologic processes that influence the human organism at the cellular, organ and systemic levels.

Prerequisites: PHYA 5400 FOR LEVEL GR WITH MIN. GRADE OF D- AND PHYA 5410 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYA5510 Fundamentals of Pharmacology I

[2 credit hours]

A study of the general principles of pharmacotherapeutics and the rational use of drugs for the diagnosis, prevention and treatment of diseases.

PHYA5520 Fundamentals of Pharamacology II

[2 credit hours]

A study of the general principles of pharmacotherapeutics and the rational use of drugs for the diagnosis, prevention and treatment of diseases.

PHYA5530 Fundamentals of Pharmacology III

[2 credit hours]

A study of the general principles of pharmacotherapeutics and the rational use of drugs for the diagnosis, prevention and treatment of diseases.

PHYA6010 Basic Genetics

[1 credit hour]

This course will provide an introduction to human genetics with an emphasis on medical aspects including common genetic disorders, cytogenetics, molecular genetics, cancer genetics, prenatal diagnosis, and genetic counseling.

PHYA6040 Introduction to Clinical Radiology

[1 credit hour]

Introducing the student to clinical medicine by providing the student with practical experience in radiology.

PHYA6050 Ethics for PA Profession

[2 credit hours]

This course provides the foundation for ethics in the primary care clinical setting. Analyze common bioethical issues confronting physician assistants, and give the student the opportunity to share their experiences with peers.

PHYA6110 Health Promo Disease Prevention

[1 credit hour]

An introduction to basic concepts of health promotion and disease prevention, analysis of risk factors for disease, and an emphasis on strategies to modify lifestyles to promote health in the individual and community.

PHYA6130 Principle of Research and Statistics

[2 credit hours]

Presentation of methods of research and their application to clinical research in clinical practice. Present useful knowledge and understanding of the basic language, logic and methods of research design and statistical analysis.

PHYA6150 Behavorial Science

[2 credit hours]

Study of concepts and practices related to evaluation and management of psychiatric diseases and conditions as well as behavioral issues which impact upon the health and well-being of patients.

PHYA6310 Clinical Rotation I

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

PHYA6320 Clinical Rotation II

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

Prerequisites: PHYA 6500 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR PHYA 650 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHYA6330 Clinical Rotation III

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

Prerequisites: PHYA 6500 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR PHYA 650 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHYA6340 Clinical Rotation IV

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

Prerequisites: PHYA 6500 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR PHYA 650 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHYA6350 Clinical Rotation V

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

Prerequisites: PHYA 6500 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR PHYA 650 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHYA6360 Clinical Rotation VI

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

Prerequisites: PHYA 6500 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR PHYA 650 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHYA6370 Clinical Rotation VII

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

Prerequisites: PHYA 6500 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR PHYA 650 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHYA6380 Clinical Rotation VIII

[2 credit hours]

A three semester practicum, covering eight 4-week clinical rotations, which provides supervised long term care, inpatient, emergency services and ambulatory primary care clinical experiences for physicial assistant students. Students will demonstrate the ability to integrate knowledge and skiil in the evaluation and treatment of patients and their families. Emphasis will also be placed on assimilation of the physician assistant professional role. Students will be required to return to campus for an End of Rotation Day (EOR Day) on the last day of each clinical rotation.

Prerequisites: PHYA 6500 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR PHYA 650 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

PHYA6410 Clinical Practice - ER

[1 credit hour]

To provide the students with the opportunity to gain medical knowledge, develop proficiency and directed practical experience working directly with patients and health care personnel.

PHYA6420 Clinical Practice - Family Medicine

[2 credit hours]

To provide the students with the opportunity to gain medical knowledge, develop proficiency and directed practical experience working directly with patients and health care personnel.

PHYA6430 Clinical Practice - Internal Medicine

[2 credit hours]

To provide the students with the opportunity to gain medical knowledge, develop proficiency and directed practical experience working directly with patients and health care personnel.

PHYA6440 Clinical Practice - Pediatrics

[2 credit hours]

To provide the students with the opportunity to gain medical knowledge, develop proficiency and directed practical experience working directly with patients and health care personnel.

PHYA6450 Clinical Practice-Surgery

[2 credit hours]

To provide the students with the opportunity to gain medical knowledge, develop proficiency and directed practical experience working directly with patients and health care personnel.

PHYA6500 Introduction to Clinical Practice

[1 credit hour]

Students will review history taking and patient interview skills and patient evaluation skills. Clinical orientation will consist of clinical assignments and review of clinical manual. Students will acquire ACLS certification.

PHYA6600 Research Practicum

[1 credit hour]

Students will develop and implement a scholarly project under the supervision of the student's major advisor.

PHYA6610 Scholarly Project I

[1 credit hour]

Students will develop and implement a scholarly project related to their professional goals. The project is negotiated between the student and the student's advisory committee.

PHYA6630 Scholarly Project III

[1 credit hour]

Students will develop and implement a scholarly project related to their professional goals. The project is negotiated between the student and the student's advisory committee.

PHYA6890 PA Independent Study

[0-4 credit hours]

The student and instructor will agree on a program of study that will enable the student to achieve his/her objectives. Requires approval of the Program Director. May be repeated for credit.

PHYS1050 The World Of Atoms

[3 credit hours]

The atomic structure of matter and the ideas of quantum physics. The sizes of objects from galaxies to nucleons. Molecules, solids, the wave nature of the electron, quarks and gluons.

PHYS1300 Physics In Everyday Life

[3 credit hours]

Not for major credit. Selected subjects of current interest, with their relation to the principles and concepts of physics. Content may vary from year to year. No special science or mathematics background needed.

PHYS1310 Physics Of Music And Sound

[3 credit hours]

Not for major credit. Physics of waves and vibration. Human sound perception. Physics principles of wind, string and percussion instruments. Analog and digital reproduction of sound.

PHYS1320 Jurassic Physics

[3 credit hours]

Not for major credit. Mechanics, energy, sound and thermodynamics of dinosaurs. The physics of vision and hearing. Fluids and flight. Radioactivity. Climate and the effects of an asteroid collision with the Earth.

PHYS1330 Physics Of Light And Color

[3 credit hours]

Not for major credit. Physics of light and human vision. Atmospheric phenomena, images, depth perception, color analysis, pigments and dyes, color perception, the physics of art, the reproduction of color, thin film interference and holography.

PHYS1340 The Nature Of Science

[3 credit hours]

An interdisciplinary course that discusses major scientific discoveries, the role of hypothesis testing in science, the use of mathematics in science; data presentation; and moral and ethical issues that stem from science.

PHYS1750 Introduction To Physics

[4 credit hours]

Not for major credit. High school mathematics including plane geometry, trigonometry and two years of algebra is strongly recommended. Fundamental laws of nature pertaining to mechanics, thermodynamics, waves, electricity, magnetism, optics, atoms and particles.

PHYS1910 Frontiers Of Physics And Astronomy

[3 credit hours]

An examination of our current understanding of the physical world at the conceptual level. Topics may include the ultimate structure of matter, quantum theory, relativity, astrophysics, cosmology and contemporary applications.

PHYS2010 Technical Physics I

[0-5 credit hours]

Topics include measurement, statics, Newton's laws, friction, work, energy, power, impulse and momentum, and simple machines. Includes integrated laboratory.

Prerequisites: MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS2020 Technical Physics II

[0-5 credit hours]

Topics include thermodynamics, electricity, and magnetism, electromagnetic radiation, optics, atomic and nuclear physics. Includes integrated laboratory.

Prerequisites: MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS2070 General Physics I

[0-5 credit hours]

Calculus not required. Mechanics of energy and motion, gravitation, harmonic motion, fluids, heat, entropy and the laws of thermodynamics. Four hours lecture and discussion, two hours laboratory per week.

Prerequisites: (MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D-) OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS2080 General Physics II

[0-5 credit hours]

Calculus not required. Electricity and magnetism, capacitors and inductors, electromagnetic waves, optics, atomic physics, nuclear physics, and elementary particles. Four hours lecture and discussion, two hours laboratory per week.

Prerequisites: PHYS 2070 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS2100 Physics With Calculus

[2 credit hours]

A bridge course for students wishing to continue in physics after taking PHYS 2070-2080. The application of calculus and elementary differential equations in various physical contexts. No credit for students who take PHYS 2130-2140.

Prerequisites: (PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF

PHYS2130 Physics For Science And Engineering Majors I

[0-5 credit hours]

Calculus based general physics. Mechanics of motion and energy, rotation, gravitation, harmonic motion, waves, fluids and the laws of thermodynamics. Five hours lecture and discussion, two hours laboratory per week.

Prerequisites: MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) OR MATH 1850 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY) OR MATH 1920 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

PHYS2140 Physics For Science And Engineering Majors II

[0-5 credit hours]

Calculus based general physics. Electricity and magnetism, capacitors and inductors, electromagnetic oscillations, Maxwell's equations and electromagnetic radiation, optics, images, interference, and diffraction. Five hours lecture and discussion, two hours laboratory per week.

Prerequisites: PHYS 2130 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS3150 Methods Of Theoretical Physics

[3 credit hours]

Basic theoretical methods of physics. Topics include mechanical oscillations, wave propagation, electromagnetic fields, symm and eigenfunctions. Emphasis is on techniques that are common to many areas of physics and astrophysics.

Prerequisites: (MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2850 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHYS3180 Intermediate Laboratory

[3 credit hours]

Physical measurements laboratory related to the development of modern physics, emphasizing techniques such as electronics, computer-aided experimental control and data acquisition, and data analysis. May be offered as writing intensive.

Prerequisites: PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- OR PHYS 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS3310 Modern Physics I

[3 credit hours]

Quantum mechanics: atomic and molecular structure and spectra.

Prerequisites: (PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF

PHYS3320 Modern Physics II

[3 credit hours]

Quantum statistics, applications of quantum mechanics and quantum statistics in laser physics and solid state physics, nuclear physics.

PHYS3400 Physical Principles Of Energy Sources For Humans

[3 credit hours]

This course will involve the study of various conventional and unconventional sources of energy for human consumption. Past, present, and future energy sources will be examined on scientifically established principles and data.

Prerequisites: PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- OR PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF D- AND CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS3410 Thermal Physics

[3 credit hours]

Statistical mechanics, kinetic theory and thermodynamics from a unified microscopic point of view, with applications to a variety of topics from different areas of physics.

Prerequisites: PHYS 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS3610 Optics And Lasers

[3 credit hours]

Electromagnetic theory, ray and wave optics including matrix methods, polarization, interference, diffraction, basic laser physics and survey of current laser systems.

Prerequisites: PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4130 Computational Physics

[3 credit hours]

Working knowledge of computer operations and programming required. Numerical accuracy, advanced programming, graphics and spreadsheet packages, numerical techniques for differentiation, integration, matrices, solving differential equations and eigenvalue problems.

PHYS4210 Theoretical Mechanics

[3 credit hours]

Statics and dynamics of particles, work, energy, Lagrange equations of motion, small oscillations, dynamics of rigid bodies.

Prerequisites: (PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF

PHYS4230 Electricity And Magnetism I

[3 credit hours]

Mathematical formulation of electrostatic and magnetostatic fields, potential theory solution of boundary value problems, method of images, dielectric and magnetic materials.

Prerequisites: (PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF

PHYS4240 Electricity And Magnetism II

[3 credit hours]

Maxwell's field equations, production and propagation of electromagnetic waves, solution of boundary value problems with application to the laws of optics and guided waves.

Prerequisites: PHYS 4230 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4310 Quantum Mechanics

[3 credit hours]

Formalism and applications of quantum mechanics: Hilbert space, time-independent and time-dependent perturbation theories, atomic and molecular structure and spectra, and scattering theory.

Prerequisites: (PHYS 3310 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2860 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 1890 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PHYS 3320 FOR LEVEL UG WITH MIN. GRADE OF D- AND MATH 2890 FOR LEVEL UG WITH MIN. GRADE OF

PHYS4400 Principles and Varieties of Solar Energy

[3 credit hours]

Types and extent of solar energy used in human society including photosynthesis, photovoltaic, solar thermal, and concentrating solar electric; scope of the necessary energy storage and long distance electricity transmission.

Prerequisites: CHEM 1240 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS4430 Physics Applications in Medicine I

[3 credit hours]

Physical concepts as applied to medicine including: mechanics, exponential growth, statistical physics, fluid transport, and electricity and magnetism. This is a companion course to PHYS 4440.

Prerequisites: (PHYS 2080 FOR LEVEL UG WITH MIN. GRADE OF D- OR PHYS 2140 FOR LEVEL UG WITH MIN. GRADE OF D-) AND (MATH 1760 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1840 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1860 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS4440 Physics Applications in Medicine II

[3 credit hours]

Physical concepts as applied to medicine including: detectors, feedback and control, signal analysis, atomic physics, high energy particles, nuclear medicine, treatment and imaging devices. Prerequisite: PHYS 4430.

Prerequisites: PHYS 4430 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4510 Physics Of Condensed Matter

[3 credit hours]

Crystal lattices and structures, reciprocal lattice and kinematical diffraction theory, binding in crystals, lattice dynamics and phonons, thermodynamic, electronic, and optical properties of insulators, semiconductors, metals and alloys.

Prerequisites: (PHYS 3310 FOR LEVEL UG WITH MIN. GRADE OF D- AND PHYS 3410 FOR LEVEL UG WITH MIN. GRADE OF D-)

PHYS4580 Molecular And Condensed Matter Laboratory

[3 credit hours]

Experiments in molecular and condensed matter physics. Measurements and analysis based on techniques such as film thickness and surface morphology, X-ray diffraction, optical absorption, four-point probe and Hall measurements. One four-hour lab and one-hour lecture per week. May be offered as writing intensive.

Prerequisites: PHYS 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4620 The Physics Of Lasers

[3 credit hours]

Longitudinal and transverse coherence, stimulated emission, optical pumping, resonator structures, Q-switching, mode-locking and laser systems (gas, dye, diode, doped insulator and free electron lasers).

Prerequisites: PHYS 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4780 Atomic And Nuclear Physics Laboratory

[3 credit hours]

Detectors and electronics, gamma-ray and X-ray spectroscopies, beta and alpha particle spectroscopies, nuclear magnetic resonance, grating and interferometric spectroscopy, laser applications, and solar atomic spectroscopy. One four-hour lab and one-hour lecture per week. May be offered sd writing intensive.

Prerequisites: PHYS 3310 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4910 Research Problems-Physics And Astronomy

[1-3 credit hours]

Individual experimental or theoretical projects selected with the approval of the department.

PHYS4920 Senior Capstone Project

[1 credit hour]

Required senior capstone project for all physics and astronomy majors. The topics may involve physics/astronomy research, physics/astronomy education, research in a related field with an emphasis on physics/astronomy, internships with companies or other institutions with an emphasis on physics/ astronomy. Students should register for this course in the closest spring semester prior to graduation.

Prerequisites: PHYS 4950 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4940 Internship in Renewable Energy

[1-4 credit hours]

Experential learning in an advisor-approved business, non-profit, or academic organization. Maximum of three hours may count toward minor.Credit hours 1-4; may be repeated once for credit

Prerequisites: PHYS 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

PHYS4950 Undergraduate Professional Development Seminar

[1 credit hour]

Selected topics on professional development as it applies to junior / senior level physics or astronomy major undergraduates. Specific emphasis will be on topics relevant to near-term professional goals of students (graduate school applications, job interviews, career pathways, CV/resume, professional presentation skills, and ethical research).

PHYS4980 Special Topics In Physics

[1-4 credit hours]

Individual or small group study of selected topics not covered in regular undergraduate courses.

PHYS5210 Theoretical Mechanics

[3 credit hours]

Kinematics and dynamics of particles and rigid bodies. Lagrangian and Hamiltonian equations of motion.

PHYS5230 Classical Electricity And Magnetism I

[3 credit hours]

Electrostatics: the equations of Laplace and Poisson-Maxwell's equations and their solutions.

PHYS5240 Electricity And Magnetism II

[3 credit hours]

Maxwell's equations and their solutions; electromagnetic radiation.

Prerequisites: PHYS 5230 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS5310 Quantum Mechanics

[3 credit hours]

Formalism and applications of quantum mechanics: Hilbert space, time independent and time-dependent perturbation theories, atomic and molecular structure and spectra, and scattering theory.

PHYS5510 Condensed Matter Physics

[3 credit hours]

Crystal lattices and structures, reciprocal lattice and kinematical diffraction theory. Survey of binding in crystals. Lattice dynamics and phonons. Thermodynamic, electronic, and optical properties of insulators, semiconductors, metals and alloys.

PHYS5620 The Physics Of Lasers

[3 credit hours]

Longitudinal and transverse coherence, stimulated emission, optical pumping, resonator structures, Q-switching, mode-locking and laser systems (gas, dye, diode, doped insulator and free electron lasers).

PHYS5800 Astronomy In The Planetarium

[3 credit hours]

Theory and practice of astronomical outreach programming. Sky and calendar, mythology, constellations, astrophysics, buying and using small telescopes, operating and maintaining planetarium projectors, sky simulation software, projects and program production.

PHYS5810 Astrophysics I

[3 credit hours]

Spherical coordinate systems, astronomical time, celestial mechanics, the solar system and planetary physics, photometry, radiative transfer, stellar spectra and classification, binary stars and stellar masses.

PHYS5820 Astrophysics II

[3 credit hours]

Stellar structure and evolution, close binaries, origin of the elements, the sun, variable stars, star clusters, the interstellar medium, the Milky Way Galaxy, stellar statistics, galaxy structure and evolution, cosmology.

Prerequisites: PHYS 5810 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS5880 Astrophysics Laboratory

[3 credit hours]

Astronomical, optical and electronic principles of operation of a modern astronomical observatory. Observing with the 1-meter telescope of Ritter Observatory, reduction, analysis and interpretation of astronomical spectra, Six hours laboratory per week.

PHYS5900 Research Techniques In Physics And Astronomy

[1-6 credit hours]

Research work under the guidance of a member of the graduate faculty. Designed to prepare the student to propose and carry out the thesis research required for the M.S. degree.

PHYS5950 Education Workshop In The Physical Sciences

[1-4 credit hours]

For teachers in grades K-12. Introduction to modern physical science concepts suitable for classroom use; lecture and laboratory. Not acceptable for physics degree program.

PHYS6010 Physics And Astronomy Colloquium

[2 credit hours]

Topical lectures by visiting and local professionals.

PHYS6020 Physics And Astronomy Journal Seminar

[1 credit hour]

Literature review seminar.

PHYS6130 Computational Physics For Research

[3 credit hours]

Software packages for display and analytic manipulation, numerical methods for linear and non-linear systems of differential equations, matrix algebra, and the Schrodinger equation. Vector and parallel processing.

PHYS6140 Fundamentals Of Modern Physics

[3 credit hours]

An intensive course which reviews the fundamentals of atomic, statistical and condensed matter physics. Provides a common foundation for entering graduate students for succeeding courses in physics and astronomy.

PHYS6180 Advanced Atomic And Nuclear Physics Laboratory

[2-3 credit hours]

Experiments in nuclear, atomic, and condensed matter physics, such as gamma-ray and X-ray spectroscopies, beta and alpha particle spectroscopics, NMR, ESR, Mossbauer effect, neutron shielding, detectors and electronics, and atomic emission spectroscopy. One four-hour lab and one hour lecture per week.

Prerequisites: PHYS 6140 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS6220 Classical Mechanics

[3 credit hours]

Advanced classical mechanics, including the variational principles, Lagrange and Hamilton mechanics, and linear and nonlinear systems.

PHYS6250 Classical Electrodynamics I

[3 credit hours]

Solutions to Poisson's equation in Cartesian, spherical and cylindrical coordinates with Dirichlet, Neuman and mixed boundary conditions. Maxwell's equations and their solutions applied to waveguides and nonlinear materials.

PHYS6260 Classical Electrodynamics II

[3 credit hours]

Solutions to the wave equation with time dependent source terms, energy loss from high energy charged particles in dense materials, special relativity, classical field theory, invariant Lagrangians and conserved quantities.

Prerequisites: PHYS 6250 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS6280 Photovoltaic Materials And Device Physics Laboratory

[3 credit hours]

Fabrication and characterization of solar cell materials and devices, addressing materials science and physics of substrate preparation, absorber and window deposition processes, metal contact formation, and measurement of physical properties. One four-hour lab and one-hour lecture per week.

Prerequisites: PHYS 6140 FOR LEVEL GR WITH MIN. GRADE OF D- AND PHYS 7140 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYS6320 Quantum Mechanics I

[3 credit hours]

Quantum theory and its application to physical problems. Topics include dynamics in the Schrodinger and Heisenberg pictures, invariance principles and angular momentum theory, perturbation theory, the variational method.

PHYS6330 Quantum Mechanics II

[3 credit hours]

The quantum theory of scattering, electromagnetic interactions, quantization of the electromagnetic field and introduction to the Dirac equation.

PHYS6450 Statistical Mechanics

[3 credit hours]

A fundamental quantum-mechanical development of statistical thermodynamics. Non-interacting and weakly interacting many-particle systems in the classical and quantum regimes, with applications to various fields of physics.

PHYS6490 Current Issues In Theoretical Physics

[3 credit hours]

Problems in theory relative to the research programs pursued at the University.

PHYS6520 Condensed Matter Physics I

[3 credit hours]

A study of the electromagnetic, thermal and elastic properties of condensed matter through the quantum-mechanical treatment of the electrons and elementary excitations.

Prerequisites: PHYS 6330 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS6530 Condensed Matter Physics II

[3 credit hours]

A survey of condensed matter phenomena of interest to experimentalists, as elucidated by theory.

Prerequisites: PHYS 6330 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS6540 Structure, Defects And Diffusion

[4 credit hours]

A generic materials science approach to the study of crystalline structure, defects (point, line and planar) in crystalline materials, and the mechanisms and kinetics of diffusion in the condensed state.

PHYS6550 Thermodynamics And Phase Transformations In Condensed Systems

[4 credit hours]

A materials science approach to the thermodynamics of condensed state equilibria and phase transformation kinetics.

Prerequisites: PHYS 6450 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS6630 Semiconductors I

[3 credit hours]

Review of modern theory of solids. Semiconducting and metallic materials. Semiconductor devices including p-n junctions and solar cells.

Prerequisites: PHYS 4510 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 4400 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS6640 Fundamentals of Solar Cells

[3 credit hours]

Worldwide status of Photovoltaics, Semiconductors. P-n junction diodes. Ideal solar cells. Efficiency losses. Single crystals and thin films technologies. PV systems.

Prerequisites: PHYS 4510 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 4400 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS6690 Current Issues In Optics

[3 credit hours]

Current research in optics and the optical excitation of material modes.

PHYS6710 Atomic Physics

[3 credit hours]

A study of the fundamental properties of atoms, their theoretical description and experimental measurement. Topics include atomic structure, radiative transitions, external field interactions and atomic collisions.

PHYS6720 Atomic & Molecular Spectroscopy

[3 credit hours]

Theory and experimental methods of atomic and molecular spectroscopy. Topics include the theory of interpretation of atomic and molecular spectra and the experimental means to measure the spectra.

Prerequisites: PHYS 6710 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS6770 Accelerator Physics

[3 credit hours]

Basic electrodynamic functioning of charged-particle accelerators, particle dynamics of non-relativistic and relativistic accelerators, accelerator applications, static field and dynamic field accelerator designs.

PHYS6810 Stellar Astrophysics I

[3 credit hours]

Stellar atmospheres and their emergent spectra. Physics of radiation, matter and their interaction. Radiative transfer, hydrostatic and radiative equilibrium, convection, line formation and spectral signatures of atmospheric physics.

PHYS6820 Stellar Astrophysics II

[3 credit hours]

Stellar structure and evolution. Equation of state, nuclear reactions and nucleosynthesis, stellar formation, evolution and death, enrichment of the interstellar medium, formation of planetary systems, solar physics and helioseismology.

PHYS6830 Galactic Astronomy I

[3 credit hours]

Stellar spectra, colors, compositions and ages; star clusters; pulsating stars; calibration of distance indicators. Interstellar dust, interstellar extinction, interstellar gas, nebulae; structure of the interstellar medium.

PHYS6840 Galactic Astronomy II

[3 credit hours]

Structure and dynamics of the Galaxy, shocks and explosions, stellar kinematics, galactic rotation, and dynamical and chemical evolution.

PHYS6940 Industrial Internship

[1-6 credit hours]

Experiential learning in an academic advisor-approved business, industry, or non-profit. Six credits are required for the PSM degree.

PHYS6960 M.s. Thesis Research

[1-15 credit hours]

Thesis research required for the M.S. degree.

PHYS6980 Special Topics

[1-4 credit hours]

Course reserved for visiting lecturers and topics not covered otherwise.

PHYS7130 Computational Physics For Research

[3 credit hours]

Software packages for display and analytic manipulation, numerical methods for linear and non-linear systems of differential equations, matrix algebra, and the Schrodinger equation. Vector and parallel processing.

PHYS7140 Fundamentals Of Modern Physics

[3 credit hours]

An intensive course which reviews the fundamentals of atomic, statistical and condensed matter physics. Provides a common foundation for entering graduate students for succeeding courses in physics and astronomy.

PHYS7180 Advanced Atomic and Nuclear Physics Laboratory

[2-3 credit hours]

Experiments in nuclear, atomic, and condensed matter physics, such as gamma-ray and X-ray spectroscopies, betas and alpha parrticle spectroscopies, NMR, ESR, Mossbauer effect, neutron shielding, detectors and electronics, and atomic emission spectroscopy. One four-hour lab and one hour lecture per week.

Prerequisites: PHYS 6140 FOR LEVEL GR WITH MIN. GRADE OF D- OR PHYS 7140 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYS7220 Classical Mechanics

[3 credit hours]

Advanced classical mechanics, including the variational principles, Lagrange and Hamilton mechanics, and linear and nonlinear systems.

PHYS7250 Classical Electrodynamics I

[3 credit hours]

Solutions to Poisson's equation in Cartesian, spherical and cylindrical coordinates with Dirichlet, Neuman and mixed boundary conditions. Maxwell's equations and their solutions applied to waveguides and nonlinear materials.

PHYS7260 Classical Electrodynamics II

[3 credit hours]

Solutions to the wave equation with time dependent source terms, energy loss from high energy charged particles in dense materials, special relativity, classical field theory, invariant Lagrangians and conserved quantities.

Prerequisites: PHYS 6250 FOR LEVEL GR WITH MIN. GRADE OF D- OR PHYS 7250 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYS7280 Photovoltaic Materials And Device Physics Laboratory

[3 credit hours]

Detailed fabrication and characterization of solar cell materials and devices, addressing materials science and physics of substrate preparation, absorber and window deposition processes, metal contact formation, and measurement of physical properties. One four-hour lab and one-hour lecture per week.

Prerequisites: PHYS 6140 FOR LEVEL GR WITH MIN. GRADE OF D- AND PHYS 7140 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYS7320 Quantum Mechanics I

[3 credit hours]

Quantum theory and its application to physical problems. Topics include dynamics in the Schrodinger and Heisenberg pictures, invariance principles and angular momentum theory, perturbation theory, the variational method.

PHYS7330 Quantum Mechanics II

[3 credit hours]

The quantum theory of scattering, electromagnetic interactions, quantization of the electromagnetic field and introduction to the Dirac equation.

PHYS7450 Statistical Mechanics

[3 credit hours]

A fundamental quantum-mechanical development of statistical thermodynamics. Non-interacting and weakly interacting many-particle systems in the classical and quantum regimes, with applications to various fields of physics.

PHYS7520 Condensed Matter Physics I

[3 credit hours]

A study of the electromagnetic, thermal and elastic properties of condensed matter through the quantum-mechanical treatment of the electrons and elementary excitations.

Prerequisites: PHYS 6330 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS7530 Condensed Matter Physics II

[3 credit hours]

A survey of condensed matter phenomena of interest to experimentalists, as elucidated by theory.

Prerequisites: PHYS 6330 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS7710 Atomic Physics

[3 credit hours]

A study of the fundamental properties of atoms, their theoretical description and experimental measurement. Topics include atomic structure, radiative transitions, external field interactions and atomic collisions.

PHYS7720 Atomic & Molecular Spectroscopy

[3 credit hours]

Theory and experimental methods of atomic and molecular spectroscopy. Topics include the theory of interpretation of atomic and molecular spectra and the experimental means to measure the spectra.

Prerequisites: PHYS 6710 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS7810 Stellar Astrophysics I

[3 credit hours]

Stellar atmospheres and their emergent spectra. Physics of radiation, matter and their interaction. Radiative transfer, hydrostatic and radiative equilibrium, convection, line formation, and spectral signatures of atmospheric physics.

PHYS7820 Stellar Astrophysics II

[3 credit hours]

Stellar structure and evolution. Equation of state, nuclear reactions and nucleosynthesis, stellar formation, evolution and death, enrichment of the interstellar medium, formation of planetary systems, solar physics and helioseismology.

PHYS7830 Galactic Astronomy I

[3 credit hours]

Stellar spectra, colors, compositions, and ages; star clusters; pulsating stars; calibration of distance indicators. Interstellar dust, interstellar extinction, interstellar gas, nebulae; structure of the interstellar medium.

PHYS7840 Galactic Astronomy II

[3 credit hours]

Structure and dynamics of the Galaxy, shocks and explosions, stellar kinematics, galactic rotation, and dynamical and chemical evolution.

PHYS7910 Advanced Research In Physics And Astronomy

[1-15 credit hours]

Research work under the guidance of a member of the graduate faculty. Designed to prepare the student to propose and carry out the thesis research required for the Ph.D. degree.

PHYS8010 Physics And Astronomy Colloquium

[2 credit hours]

Topical lectures by visiting and local professionals.

PHYS8020 Physics And Astronomy Journal Seminar

[1 credit hour]

Literature review seminar.

PHYS8490 Current Issues In Theoretical Physics

[3 credit hours]

Problems in theory relative to the research programs pursued at the University.

PHYS8540 Structure, Defects And Diffusion

[4 credit hours]

A generic materials science approach to the study of crystalline structure, defects (point, line and planar) in crystalline materials, and the mechanisms and kinetics of diffusion in the condensed state.

PHYS8550 Thermodynamics And Phase Transformations In Condensed Systems

[4 credit hours]

A materials science approach to the thermodynamics of condensed state equilibria and phase transformation kinetics.

Prerequisites: PHYS 6540 FOR LEVEL GR WITH MIN. GRADE OF D- OR PHYS 8540 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYS8590 Current Issues In Condensed Matter And Material Science

[3 credit hours]

A survey of various areas in the physics of condensed matter and materials. Content will vary with instructor and from year to year.

PHYS8630 Semiconductors I

[3 credit hours]

Review of modern theory of solids. Semiconducting and metallic materials. Semiconductor devices including p-n junctions and solar cells.

Prerequisites: PHYS 4510 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 4400 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS8640 Fundamentals of Solar Cells

[3 credit hours]

Worldwide status of Photovoltaics, Semiconductors. P-n junction diodes. Ideal solar cells. Efficiency losses. Single crystals and thin films technologies. PV systems.

Prerequisites: PHYS 4510 FOR LEVEL UG WITH MIN. GRADE OF D- AND EECS 4400 FOR LEVEL UG WITH MIN. GRADE OF D-

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PHYS8690 Current Issues In Optics

[3 credit hours]

Current research in optics and the optical excitation of material modes.

PHYS8860 General Relativity

[3 credit hours]

Differential geometry, exterior calculus of tensors, the stress-energy tensor and Einstein field equation, stellar evolution and black holes, gravitational lensing, tests of the theory, and gravitational wave detection.

Prerequisites: PHYS 7260 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS8870 Cosmology

[3 credit hours]

Cosmological solutions for Einstein's field equation, the standard cosmological model, particle physics, nucleosynthesis and the cosmic background radiation. Inflation, dark matter and mass distribution, gravitational evolution, and formation of galaxies.

Prerequisites: PHYS 8860 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYS8960 Ph. D. Thesis Research

[1-15 credit hours]

Thesis research required for the Ph.D. degree.

PHYS8980 Special Topics

[1-4 credit hours]

Course reserved for visiting lecturers and topics not covered otherwise.

PHYT5000 Gross Anatomy

[4 credit hours]

Students will study the structure of the human body using the struction-function relationship as the course paradigm. Musculoskeletal, vascular, and peripheral nervous system natomy will be emphasized, as will the coordinated role of these structures, both locally and regionally, in producing movement of the axial skeleton and extremities. Competencies serve as a foundation for clinical science coursework, particularly in the musculoskeletal and neuromuscular areas of practice.

PHYT5020 Lifespan I

[2 credit hours]

The first of two, this course examines typical lifespan development from birth to adolescence. Emphasis is on theoretical constructs, gross motor development, physical therapy examination, diagnosis, prognosis and evaluation of findings. Also includes an overview of fine motor development, cognitive development, reflex development, interaction with families, public laws and child abuse.

PHYT5050 Analysis of Movement

[4 credit hours]

This course is an integrated study of applied biomechanics, kinesiology, and anatomy as they relate specifically to the analysis of human movement. Observational skills will be emphasized for analysing human movement, although students will be introduced to the use of other evaluation tools such as EMG motion analysis, and videography. Progressing from simple movements to those that are more complex and from normal to pathological, students will learn to integrate observational skills with an understanding of musculoskeletal function and neuromuscular control. Using cases of pathological conditions student will practice hypothesis generation and identification of examination data necessary for effective clinical reasoning. PhyT500 Gross Anatomy is a prequisite and provides a foundation for the objectives this course hopes to achieve.

Prerequisites: PHYT 5000 FOR LEVEL GR WITH MIN. GRADE OF D- OR PHYT 500 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYT5070 Neuroscience

[3 credit hours]

An integrated study of structure-function relationship in the central and peripheral nervous systems, emphasizing the neuromuscular control of movement. Content serves as the foundation for discussion in PHYT508.

PHYT5080 Neuroscience Seminar

[1 credit hour]

Principles of neurophysiological and neuropathological sensory and motor function will be applied to clinical manifestations of neurological impairments commonly seen in PT settings. Procurement of basic assessment skills for clients with neuromuscular impairments will provide the clinical focus for integration of foundation neuroscience information with clinical practice.

PHYT5110 Clinical Pathophysiology I

[1 credit hour]

Integrated study of physiological and pathophysiological processes that influence the human body at the cellular, organ and systemic levels. Emphasis on mechanisms of and clinical manifestations of common diseases with discussion of potential impact on the delivery of PT services. Content to serve as the basis for discussion of pharmacology in subsequent courses.

PHYT5120 Clinical Pathophysiology II

[3 credit hours]

Second of 2 courses that address the integrated study of normal physiological and pathophysiological processes in human body at cellular, organ, and systemic levels - emphases on clinical manifestastions and impact on PT plan of care.

PHYT5170 Evidence Based Practice I

[2 credit hours]

Introduction to the principles of measurement and research design, with an emphasis on critically evaluating the design of research studies relevant to clinical practice.

PHYT5180 Applied Biostatistics

[2 credit hours]

Builds on PHTY517. Topics include descriptives, correlation, linear regression, comparison of means, and categorical data analysis (chi-square and logistic regression). Statistics for comparison of results across studies will be discussed (e.g., effect size, odds ratio). Knowledge and skills gained from completion of a clinical practice guideline will assist students in choosing a focus for a scholarly project.

PHYT5270 Applied Exercise Physiology

[3 credit hours]

Exploration of exercise physiology principles as related to promotion of PT patients/clients' health and wellness. Emphasizes physiological and biochemical changes with exercise/training and exercise testing and prescription for PT patients/clients.

PHYT5280 Therapeutic Interventions I

[2 credit hours]

The theory and practice of physical therapy in the acute care setting as it relates to improvement of functional mobility, prevention of complications, and preparation for next level of care.

PHYT5290 Therapeutic Interventions II

[2 credit hours]

Study of the theoretical basis for, and the application of thermal, mechanical, and electrical modalities used for the PT management of clients. Emphasis is on evidence-based practice, critical thinking, and clinical decision-making using a case-based format, and review of the scientific literature will be used in determining the most appropriate use of modalities within a comprehensive PT plan of care.

PHYT5300 Principles of Therapeutic Exer

[2 credit hours]

Application of scientific principles in anatomy, applied biomechanics, and exercise physiology to develop sound therapeutic exercise procedures. Emphasis on development of skills associated with therapeutic exercise for patients with musculoskeletal and/or general movement dysfunction. Students will learn how to use and apply a variety of common fitness and rehabilitation exercise apparatus and develop appropriate PT treatment plans that include exercise for a given patient problem.

PHYT5350 Intro to Examination

[2 credit hours]

Introduction to the physical examination process, including history-taking, systems review and screening. Emphasis on basic PT examination skills of the cardiovascular, musculoskeletal, and integumentary systems. Skills include: assessment of tolerance to functional activity (vital signs), posture, pain, peripheral pulses and edema; goniometry; and strength testing.

PHYT5450 Foundations of PT

[2 credit hours]

Addresses the professional socialization process. Professional codes and guides of behavior will be discussed in relation to delivery of competent, ethical, legal and compassionate PT services. Topics include: therapeutic communication, cultural competency, stress management and conflict resolution. Introduction to basic principles of teaching and learning for the role of educator is included.

PHYT5610 Orientation to Interprofessional Teaming

[1 credit hour]

Orientation to the Graduate Certificate in Teaming in Early Childhood. Focus on individual competencies needed to work collaboratively to meet the needs of young children with disabilities and their families.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYT5620 Leadership and Advocacy in Interprofessional Teaming

[1 credit hour]

This second seminar in the Graduate Certificate in Teaming in Early Childhood focuses on skills and policies that promote best practices in teaming to support young children with disabilities.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D- AND PHYT 5610 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYT5630 Evidence-Based Practice and Innovation in Interprofessional Teaming

[1 credit hour]

This third seminar in the Graduate Certificate in Teaming in Early Childhood provides students the opportunity to reflect on their practicum experiences in teaming to support young children with disabilities.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D- AND PHYT 5610 FOR LEVEL GR WITH MIN. GRADE OF D- AND PHYT 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYT5640 Practicum in Interprofessional Teaming

[2 credit hours]

The practicum is provides an opportunity to engage in interprofessional teaming in order to provide integrated services to young children with special needs in an inclusive setting.

Prerequisites: PHYT 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

PHYT5650 Pharmacology of PT

[1 credit hour]

Integrated study of pharmacology that presents the pharmacodynamics and pharmacotherapeutics of common classes of drugs. Drugs covered include: anti-inflammatory, analgesic, muscle relaxant, psychotropic, anti-microbial, and diabetic medications. Emphasis on indications, contraindications, adverse drug reactions, and the implications for physical therapy care.

PHYT5750 Clinical Reasoning

[1 credit hour]

Introduction to theoretical models that guide clinical decision making, including patient management, clinical reasoning, disablement, and evidence-based practice models. Documentation will be discussed as a tool to aid clinical reasoning.

PHYT5850 Integrated Clinical Experience I

[2 credit hours]

The first of two full-time, integrated clinical education experiences. Students are engaged in clinical observation and supervised practice in a 4 week clinical education experience completed at the end of the first year of the DPT program. This course emphasizes the development of beginning skills in patient management, safety, clinical reasoning, and professional conduct in various clinical practice settings.

PHYT5860 Clinical Practicum II

[1 credit hour]

Clinical observation and supervised application of advancing physical therapy skills at the same clinical facility as Clinical Practicum I. An emphasis will be on continued progression in the generic abilities and a more focused approach toward the development of specific technical, cognitive or affective areas in need of improvement as identified during Clinical Practicum I.

PHYT6020 Lifespan II

[2 credit hours]

The principles of normal aging including the physiological, functional, and psychosocial changes associated with aging, and a review of diseases and disorders common to the aging population.

PHYT6050 Hlth Care Policy and Delivery

[1 credit hour]

Overview of the origins and components of the American health care system and major policy initiatives that influence it. Access, cost, and quality factors in health care delivery will be explored. Serves as a starting point for the student's study of the continuously expanding sector of the American economy in which they will practice.

PHYT6100 Health Promotion

[2 credit hours]

Discussion and application of the elements of health and wellness as described by Healthy People 2010. Emphasis on health assessment, obesity, physical activity, nutrition, complementary/alternative management, and behavior modification strategies.

PHYT6170 Scholarly Project I

[2 credit hours]

The student will initiate the formal research process through refinement of a research/scholarly project proposal and, if necessary, submission of the proposal to the Institutional Review Board for human subjects for approval.

PHYT6180 Scholarly Project II

[2 credit hours]

Includes completion of data collection, analysis of the data, and initial preparation of a scholarly paper, in accordance with specific manuscript guidelines.

PHYT6190 Scholarly Project III

[1 credit hour]

Includes the final preparation of a scholarly paper which must meet the guidelines established by the College of Graduate Studies, and the oral defense/presentation of the scholarly project as required by the College of Graduate Studies.

PHYT6260 Cardiovascular-Pulmonary PT

[3 credit hours]

Integrative study of the role of PT in interdisciplinary management of patients with cardiovascular and/or pulmonary dysfunction. Application of skills associated with PT examination, evaluation, diagnosis, prognosis and interventions for patients with CV-P dysfunction.

PHYT6460 Teaching and Learning

[2 credit hours]

Study of a physical therapist's role as educator of peers, patients and families, community members, and students in the clinical setting. Emphasis on instructional design, instructional strategies, teaching methods, and evaluation of learning.

PHYT6500 Musculoskeletal Rehab I

[3 credit hours]

First of two courses, focused on the synthesis of principles of pathophysiology and screening and examination of musculoskeletal system. Emphasis on pertinent special examination techniques, principles of evaluation, PT diagnosis and prognosis, and intervention for the upper and lower extremities. Case-based discussion of role of common M-S pharmacological management, radiographic procedures and findings, and interpretation of special tests for diagnostic purposes.

PHYT6510 Musculoskeletal Rehab II

[3 credit hours]

Second of two courses, continued discussion of the principles of pathophysiology and musculoskeletal examination, evaluation, PT diagnosis and prognosis, and intervention. Emphasis on spine and lower quarter biomechanical examination and evaluation as it relates to lumbopelvic dysfunction. Includes discussion of: pharmacological management of inflammation and pain, and synthesis of radiological findings (radiographs, MRI, CT scans), as they relate to rendering PT diagnosis and prognosis.

PHYT6600 Neuromuscular Rehab I

[3 credit hours]

Theories and principles of client examination, evaluation, PT diagnosis, prognosis, and therapeutic intervention for clients with stroke and spinal cord injury. Historic and modern evidence-based treatment approaches for the neurologic patient, in general, will be discussed with emphasis on the approach's influence in the design of a PT plan of care.

PHYT6610 Neuromuscular Rehab II

[3 credit hours]

Principles of rehabilitation for clients with chronic neuromuscular impairments and long-term disability. Emphasis on theories, philosophies, and the PT plan of care including examination, evaluation, and intervention strategies. Includes pediatric module.

PHYT6700 Professional Issues

[1 credit hour]

Prerequisite: PHYT685 Discussion of current events and issues faced by the profession of physical therapy as identified by the APTA and other pertinent sources, and as encountered during clinical education experiences.

PHYT6720 Special Topics in PT

[2 credit hours]

Intensive exploration of a topic related to the profession of physical therapy and designed to meet the student's special interest and professional goals. Subject matter will vary depending upon student interest.

PHYT6740 Clinical Seminar I

[1 credit hour]

First of a series of two courses, this course emphasizes the application of clinical skills learned in didactic coursework and begins to develop problem-solving and critical thinking for a variety of diagnoses and practice settings using a variety of patient scenarios. An emphasis is placed on evidence-based decision-making, basic evaluation, intervention planning, as well as beginning evaluation of one’s own clinical reasoning processes and skills.

PHYT6750 Clinical Seminar II

[1 credit hour]

The second of a series of two courses, this course emphasizes the application of clinical skills and the integration of problem-solving and critical thinking for a variety of diagnoses and practice settings using a variety of patient scenarios. An emphasis is placed on evidence-based decision-making, comprehensive evaluation, progressive intervention planning, and evaluation of one's own clinical reasoning processes and skills.

PHYT6850 Integrated Clinical Experience II

[5 credit hours]

The second of two full-time, integrated clinical education experiences. Students are engaged in clinical observation and supervised practice in a 10 week clinical education experience completed at the end of the second year of the DPT program. This course emphasizes the development of intermediate skills in patient management, safety, clinical reasoning, and professional conduct in an inpatient or outpatient practice setting.

PHYT6990 Independent Study in PT

[0-4 credit hours]

In-depth exploration and study of clinically related problems or topic of interest. May be repeated for credit.

PHYT7050 Practice Management

[2 credit hours]

Examination of management and supervisory issues encountered in contemporary physical therapy practice. Discussion will include identification, analysis, and resolution of issues that compromise the delivery of effective and efficient PT services in a variety of practice settings. Topics include: organizational structure and behavior, human resources, finance and operations management, and marketing.

PHYT7100 Integrated Patient Management

[4 credit hours]

This course emphasizes an integrated and comprehensive approach to patient care for the management of complex cases with clinical ambiguity and that involve multi-system pathology or psychosocial dynamics. Patient cases will be presented to the students who are then expected to differentiate signs and symptoms of pathologies, determine patient “readiness” for PT management, develop and conduct a patient screen, design a PT plan of care, and determine a plan for discharge.

Prerequisites: PHYT 685 FOR LEVEL GR WITH MIN. GRADE OF D- OR PHYT 6850 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYT7200 Scholarly Project IV

[1 credit hour]

The course includes the final preparation of a scholarly paper including the oral defense/presentation and submission of the final paper to the Department of Physical Therapy.

Prerequisites: PHYT 617 FOR LEVEL GR WITH MIN. GRADE OF D- OR PHYT 6170 FOR LEVEL GR WITH MIN. GRADE OF D-

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PHYT7620 Trauma Rehab

[2 credit hours]

Integrated study of the principles of rehabilitation for clients who have sustained substantial trauma including, but not limted to: TBI, multiple fractures and burns. Students will be asked to integrate previous coursework in making decisions regarding the role of PT in the interdisciplinary management throughout the continuum of care for clients who have multi-system impairments due to physical trauma.

Prerequisites: UPDV FOR MIN. SCORE OF 1

PHYT7890 Internship I

[5 credit hours]

The first of two full-time, supervised internships completed following the culmination of the didactic portion of the DPT program. Students are engaged in supervised practice in a 10 week internship that emphasizes development toward entry-level PT competencies in all the components of professional practice and patient management in an inpatient or outpatient practice setting.

PHYT7900 Internship II

[6 credit hours]

The final full-time, supervised internship completed following the culmination of the didactic portion of the DPT program. Students are engaged in supervised practice in a 12 week internship that emphasizes development of entry-level PT competencies in all the components of professional practice and patient management in various clinical practice and specialty settings.

PHYT7990 Specialty Internship

[4 credit hours]

Extended period of supervised, advanced clinical practice and/or formal experience in administrative or professional organizational environments, which is designed to meet the student's special interests and professional goals.

PJS1000 Introduction to Peace and Justice Studies

[3 credit hours]

This survey course provides an overview to fundamental peace knowledge: theories of peace, ethics, violence, conflict and change in the context of historical and 21st century issues and events.

PJS2000 Nonviolence and Conflict Transformation Theory and Practice

[3 credit hours]

This course provides an overview of theories and principles of nonviolence, ethics of conflict, and conflict transformation; it engages students in the application of practical methods and skills of peacebuilding through the lenses of these theories and principles.

PJS2500 Peace Education Facilitating Learning for Change in Schools and Beyond

[3 credit hours]

The purpose of this course is to introduce the basic concepts, theories, and approaches to peace education. The course explores the theories of peace education, including pedagogical approaches to peace-learning for formal, informal, and non-formal learning settings. The course also introduces the substantive areas of peace education.

Prerequisites: PJS 1000 FOR LEVEL UG WITH MIN. GRADE OF D- AND PJS 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

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PJS3000 Peace Lab Issues and Practices in Peace

[3 credit hours]

Peace Lab is an experiential, issue-focused laboratory that introduces students to practical skills of research or program design for applied peacebuilding in a variety of settings. The project developed by the student is informed by and demonstrates understanding of their core peace studies knowledge. Students present their projects to the public in a scholarly fair/ conference organized by the course.

Prerequisites: PJS 1000 FOR LEVEL UG WITH MIN. GRADE OF D- AND PJS 2000 FOR LEVEL UG WITH MIN. GRADE OF D- AND PJS 2500 FOR LEVEL UG WITH MIN. GRADE OF D-

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PJS4000 Senior Capstone Seminar

[3 credit hours]

The Capstone Seminar provides the opportunity for the student to develop a formal, independent study culminating in a written discourse that advances our understanding of peace studies or a formal, independent project applying principles of peace studies to analyze a particular problem and culminating in a written discourse. The course builds on the work projects formulated in the Peace Lab (PJS 3000).

Prerequisites: PJS 1000 FOR LEVEL UG WITH MIN. GRADE OF D- AND PJS 2000 FOR LEVEL UG WITH MIN. GRADE OF D- AND PJS 2500 FOR LEVEL UG WITH MIN. GRADE OF D- AND PJS 3000 FOR LEVEL UG WITH MIN. GRADE OF D-

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PMED1000 Hospital Field Experience

[1-3 credit hours]

Supervised independent study designed to provide pre-medical students with volunteer experiences in a health care institution. To receive 1 hr credit, students must complete 4 hrs of volunteer work per week. May be taken only as PS/NC.

PMNR701 Physical Medicine & Rehab

[2-6 credit hours]

The PM&R clinical elective focuses on the impairments and disabilities which may accompany a variety of illnesses. The student in a two-week rotation may choose to focus in musculoskeletal or neurological rehabilitation. Students in the 4-week rotation will have the opportunity to experience the breadth of physical medicine and rehabilitation. The educational experience will occur Monday through Friday. The hours each day for training will average 8, but may be more depending upon the attending, clinic schedules, and student interest. The student will be assigned to a specific faculty member as their primary teaching attending, but will also interact with PM&R residents and other PM&R faculty. Faculty contact will average six hours per day. At the end of the rotation, with the help of their teaching attending, students will give a brief presentation on a rehab topic of interest.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P OR MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P

PMNR705 Physical Medicine and Rehab

[0-3 credit hours]

The PM&R clinical elective focuses on the impairments and disabilities which may accompany a variety of illnesses. The student in a two-week rotation may choose to focus in musculoskeletal or neurological rehabilitation. Students in the 4-week rotation will have the opportunity to experience the breadth of physical medicine and rehabilitation. The educational experience will occur Monday through Friday. The hours each day for training will average 8, but may be more depending upon the attending, clinic schedules, and student interest. The student will be assigned to a specific faculty member as their primary teaching attending, but will also interact with PM&R residents and other PM&R faculty. Faculty contact will average six hours per day. At the end of the rotation, with the help of their teaching attending, students will give a brief presentation on a rehab topic of interest.

PMNR760 Physical Med & Rehab Elec

[6 credit hours]

The Physical Medicine and Rehabilitation elective focuses on the impairments and disabilities which may accompany a variety of illnesses. The student in a two-week rotation may choose to focus in musculoskeletal or neurological rehabilitation. Students will have the opportunity to experience the breadth of physical medicine and rehabilitation. The educational experience will occur Monday through Friday. The hours each day for training will average 8, but may be more depending upon the attending, clinic schedules and student interest. The student will be assigned to a specifice faculty member as their primary teaching attending, but will also interact with PM&R residents and other PM&R faculty. Faculty contact will average six hours per day. At the end of the rotation, with the help of their teaching attending, students will give a brief presentation on a rehab topic of interest.

POLS612 Public Administration Ethics

[3 credit hours]

BGSU/MPH Consortium course. Summer. Seminar involving research and analysis of ethical questions confronted by professionals in public service including selected issues in democratic governance, professional responsibility, and legal liability.

POLS6210 Administrative Theory and Behavior

[3 credit hours]

Fall, Spring. Systematic analysis of various theories and research focusing on organization and behavior in public administration, including the discussion of organization, human motivation, leadership, rationality, efficiency, and conflict management in public organizations. Offered as part of the UT/BGSU consortium.

POLS6260 Public Personnel Administration

[3 credit hours]

Spring. Public personnel policies and practices, including legal foundations, classification and compensation plans, recruitment and selection processes, training, employment policies and moral, and public labor relations. Offered as part of the UT/BGSU consortium.

POLS641 Management in Small Local Government - BGSU

[3 credit hours]

Fall. Analysis of management functions and practices required to operate a modern government in a rural area or small jurisdiction, including financial management, personnel management, public relations, and intergovernmental management.

POLS654 Foundations of the Nonprofit Sector

[3 credit hours]

Fall. Seminar examines the role of the nonprofit sector in American society; the values and ethics that guide it; the legal and tax issues that have an impact on it; the relationship between the nonprofit, public, and for-profit sectors; the nature of the nonprofit sector in the future.

PSC1200 American National Government

[3 credit hours]

An introductory survey of the institutions, processes and politics of the government of the United States and its relationship to state governments. (not for major credit)

PSC1710 Current International Problems

[3 credit hours]

A course designed to give the student a perspective on world affairs through an examination of some contemporary international problems like war, human rights, democratization, regional politics, and global health and the environment.

PSC2210 Women And Politics

[3 credit hours]

An exploration of women and gender relations in US political life. Special attention is paid to differences among women, their socializing experiences, political power bases, and legal status.

PSC2300 Principles Of State And Local Government

[3 credit hours]

A study of the political processes and institutions of American state and local governments, with attention given to selected areas of public policy and intergovernmental relations.

PSC2400 Topics in Political Science

[3 credit hours]

Examination of current topics in Political Science. Area and topic to be determined by instructor.

PSC2600 Principles of Comparative Politics

[3 credit hours]

How can we explain the vast array of political systems around the world? This course examines the political systems of various countries and the internal and external factors shaping their political decisions. We will focus on institutional arrangements at the country level and the shaping forces behind their design, as well as on broad global topics affecting national politics

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PSC2700 Principles Of International Relations

[3 credit hours]

An examination of the theoretical and methodological foundations of the international system. Through case studies, students will analyze and predict issues of cooperation and competition among states. For example, why does war occur? Why does the international system have particular international institutions rather than others? What best explains a state's foreign policy?

PSC2800 Principles Of Political Theory

[3 credit hours]

This course investigates core concepts in the history of political theory such as justice, liberty, and equality. We discuss how and why the influence of certain authors and ideas persists. Contemporary issues are interpreted using these authors and ideas in order to strengthen critical thinking skills and broaden students' thinking about politics.

PSC3150 Research and Writing in Political Science

[3 credit hours]

This course introduces the student to academic writing and research techniques in the political science discipline. Topics covered include: research ethics, scholarly literature review, peer-review process, research questions and research design, methodological approaches, and data analysis, among others.

PSC3210 Political Parties

[3 credit hours]

Why are political parties central to organizing democracy? This course examines how they set the terms of public debate, mobilize citizens, inform voter preferences, and shape policy.

PSC3250 Public Opinion

[3 credit hours]

This course explores the role of public opinion in American politics. It also develops data analysis skills and familiarizes students with survey development.

PSC3270 Campaign and Elections

[3 credit hours]

Campaigns and elections are vital components of democracy in the United States. In this course, we examine how candidates, parties, and citizens participate in the electoral process. Topics covered throughout the semester include candidate recruitment, voting behavior, advocacy groups, campaign finance, and the impact of new technology on voter mobilization.

PSC3410 Principles of Public Policy

[3 credit hours]

This course is an introduction to public policy. It is focused on the factors that affect policymaking in the United States.

PSC3500 Principles Of Law

[3 credit hours]

An overview of the politics of law. We examine such questions as the sources and existence of law, the legal process in civil and criminal cases, the nature of rights and the search for justice through participation in the legal system. Addresses specific issues such as plea bargaining and jury trials, personal injury lawsuits, national security and police powers, and the nomination and confirmation of federal judges.

PSC3510 Constitutional Law I

[3 credit hours]

Examines the political and institutional role of the U.S. Supreme Court in the development of the American legal system, the separation of powers between the executive, legislative, and judicial branches of the federal government, and the relationship between the federal government and the states. The course focuses on the analysis of Supreme Court cases as well as political science and legal scholarship.

PSC3520 Constitutional Law and Politics II

[3 credit hours]

Examines the political and institutional role of the Supreme Court in the development of the U.S. system of civil liberties, the relationship between judicial decisions and state actions affecting rights such as free speech, religion, and privacy, and the underlying theories of civil liberty in a democratic society. The course focuses on the analysis of Supreme Court cases as well as political science and legal scholarship.

PSC3690 Peasant Politics

[3 credit hours]

The study of political science has become increasingly urban but peasant movements remain a significant political force around the world, particularly in less-developed regions. In this course we will study peasants and their politics worldwide from both a historical and contemporary perspective.

PSC3730 American Foreign Policy

[3 credit hours]

An examination of the American foreign policy-making process as well as an analysis of the major problems facing the United States in its interaction with the international environment.

Prerequisites: (PSC 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR PSC 1300 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PSC 1400 FOR LEVEL UG WITH MIN. GRADE OF D- OR PSC 1710 FOR LEVEL UG WITH MIN. GRADE OF D-) OR PSC 2700 FOR LEVEL UG WITH MIN. GRADE OF D-

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PSC3790 Model United Nations

[1 credit hour]

Model UN provides a faculty-advised, student-led academic learning experience through the simulation of the structures, processes, and issues at the United Nations Organization. Students will learn about international relations while role–playing United Nations delegates. While not required, students are highly encouraged to take the Principles of International Relations (PSC 2700) course beforehand.

PSC3800 Sexual Politics

[3 credit hours]

This course critically examines gender, sex and sexuality as identities, practices, and relationships. Through readings in feminist political theory and history, we study state practices, social norms, and historical movements for change to understand why and how various forms of gender, sex and sexuality become normal or are challenged in unexpected ways.

PSC3820 Contemporary Political Ideas

[3 credit hours]

Surveys developments and themes in political theory since the early 20th century. Particular issues addressed include bureaucracy, mass society, state and civil violence, and identity politics.

PSC3850 Sports, Politics and Policy

[3 credit hours]

This course explores the intersection of sports with politics and policy-making. Topics covered include sports and nationalism, sports and international diplomacy, globalization and sports, economic development and sport stadiums, baseball and antitrust law, Title IX and women's athletics, college athletics and race, and athletes and political advocacy.

PSC3990 Independent Study For Honors Students

[3 credit hours]

Individual reading and research in selected topics for honors students.

PSC4220 Advocacy Groups in US Politics

[3 credit hours]

This course investigates the role of advocacy groups in American politics. It develops practical lobbying skills through experiential learning and covers topics such as the role of advocacy groups in campaigns and elections, grass roots mobilization, and agenda setting.

PSC4230 Presidency

[3 credit hours]

Presidents enjoy special prominence in the American political system. However, they are strongly influenced by their interactions with other political institutions, such as Congress, courts, the bureaucracy, and political parties. This course examines the presidency’s original design and how the office has developed over time. We also investigate contemporary cases and controversies in presidential power.

PSC4280 U.s. Congress

[3 credit hours]

Despite its key role in our political system, the U.S. Congress is not well understood by the public. This course examines how it works: the committee system, parties, and arcane legislative procedures. We consider topics like the impact of party polarization on congressional gridlock, the impact of divided government on policymaking, and how to improve representation.

PSC4300 Principles of Public Administration

[3 credit hours]

This course provides an overview of public administration. It addresses organization theory, decision making, budgeting, public policy, and the changing role of public institutions. It covers important democratic, professional, ethical and human values that are central to public administration.

PSC4320 Urban Policy And Administration

[3 credit hours]

What does it take to govern a city and its environs? In this course, we examine the balance between the pressing needs of a city and the many economic and political constraints that citizens, leaders, and experts must navigate to achieve their goals.

PSC4340 Environmental Policy

[3 credit hours]

Policy for air and water pollution control, hazardous wastes, nuclear wastes. Examination of EPA, Congressional committees, state and city agencies. Some international issues.

PSC4530 Civil Rights

[3 credit hours]

Examines the role of the US Supreme Court, judicial policy-making, and administrative implementation in the development of policies involving race, gender, sexual orientation, and the family. Issues covered include equal protection, voting rights, and affirmative action.

PSC4550 CONTEMPORARY ISSUES IN LAW AND POLITICS

[3 credit hours]

Examines current controversies in US law and politics drawing on recent research in political theory, constitutional history, and legal doctrine. Includes issues such as freedom of speech, presidential war powers, and religious freedom.

PSC4580 International Law

[3 credit hours]

A course focusing on the foundations of international law and the current use of international law in cases covering a wide range of issues such war, weapons, diplomacy, the environment, economics, and human rights.

PSC4590 Law, Policy, And The Politics of Sexuality

[3 credit hours]

This course explores the public policies that affect the lesbian, gay, bisexual and transgender communities in the United States and in other countries. It examines the factors that affect policymaking in this area.

PSC4640 The European Union

[3 credit hours]

An analysis of the evolution, institutional structure, and operation of the European Union. Issue areas include human rights, trade, migration and refugees, international and domestic law, and foreign policy.

PSC4660 Governmental & Political Institutions Of Africa

[3 credit hours]

An examination of political behavior in selected African states using a case method to examine alternative courses of action available to decision makers.

PSC4680 Politics of Latin America

[3 credit hours]

This course provides a survey of the Latin American region, its political transformation, and place in international politics. It covers an array of issues that have shaped and continue to shape the region: its history, its people, institutions and politics, and social and economic issues. Themes are approached both from a regional and country-level perspective.

PSC4720 International Organization

[3 credit hours]

A study of the background, general concepts and problems of international organizations including the United Nations, regional organizations and non-governmental organizations. Issues covered include war, security, human rights, trade, international law, and global health.

PSC4740 International Relationsmiddle East

[3 credit hours]

An examination of political, economic and geographic actors affecting international relations of the Middle East, including the role of the major world and regional powers. Recommended: PSC 1710 or PSC 2700

PSC4750 Terrorism in International Relations

[3 credit hours]

This course will give students a comparative historical, empirical, and theoretical overview of the causes, strategies, and goals of terrorist and counter-terrorism. The primary focus of the course is on the comparative and international nature of terrorism. Global and regional case studies will be used to better understand issues related to terrorism.

PSC4770 Human Rights

[3 credit hours]

What are human rights? How are human rights created? Why do states protect or repress human rights? This class answers these questions by examining both the theoretical and empirical contributions to the study of human rights from the social sciences and law. In addition, human rights best (and worst) practices are considered.

PSC4900 Seminar In Asian Affairs

[3 credit hours]

An interdisciplinary and comparative study of the major issues in Asia with special emphasis on political and economic development and international relations in Asia.

PSC4940 Applied Politics Internship

[3 credit hours]

A study of electoral politics, public decision-making or policy implementation through internships with candidates, political parties, public officials or governmental or nonprofit agencies.

PSC4950 Capstone in Political Science

[1 credit hour]

This course provides the opportunity to integrate and reflect on knowledge and experiences gained during completion of the political science major with an eye towards post-graduation endeavors such as graduate or professional study, or employment. Topics include how to construct a portfolio and write cover letters, resumes, and CVs.

PSC4960 Senior Honors Thesis

[3 credit hours]

Supervised research and writing for honors students only.

PSC4980 Current Topics In Political Science

[3 credit hours]

Timely examination of emerging issues within the various segments of the discipline of political science.

PSC4990 Independent Study In Political Science

[1-3 credit hours]

Individual study and research in a selected political science topic under mentorship of a faculty member.

PSC5220 Interest Groups In American Politics

[3 credit hours]

This course investigates the role of interest groups in American politics. Topics include lobbying, candidate recruitment, PAC's and agenda setting.

PSC5230 Presidency

[3 credit hours]

The nomination, election, responsibilities and performance of the American president. The course includes decision making, policy making, personality, and relations with Congress, the Courts, news media and interest groups.

PSC5280 Legislative Process

[3 credit hours]

An intensive study of the development, functions, committees, party and factional organizations of the U.S. Congress, state legislatures and non-American legislative bodies.

PSC5300 Principles of Public Administration

[3 credit hours]

This course provides an overview of public administration. It addresses organization theory, decision making, budgeting, public policy, and the changing role of public institutions. It covers important democratic, professional, ethical and human values that are central to public administration.

PSC5320 Urban Policy & Administration

[3 credit hours]

An examination of the policy process in modern cities, focusing on the interactions between the principal political and administrative organizations in formulating and implementing policy.

PSC5340 Environmental Policy And Administration

[3 credit hours]

Policy for air and water pollution control, hazardous wastes, nuclear wastes. Examination of EPA, Congressional committees, state and city agencies as well as some international issues.

PSC5390 Applied Politics Internship

[3 credit hours]

A study of electoral politics, public decision-making or policy implementation through internships with candidates, political parties, public officials or governmental or nonprofit agencies.

PSC5530 Civil Rights

[3 credit hours]

A study of policy-making and implementation related to issues of race, gender and sexual orientation.

PSC5550 Contemporary Issues In Law and Politics

[3 credit hours]

Examines current controversies in U.S. law and politics, drowing on recent research in political theory, constitutional history, and legal doctrine. Includes issues such as freedom of speech, presidential powers, and religious freedom.

PSC5580 International Law

[3 credit hours]

A study of the legal system governing interstate relations. Cases will be reviewed. State jurisdiction and responsibilities will be examined, emphasizing the rules of war.

PSC5590 Law, Policy,And The Politics of Sexuality

[3 credit hours]

This course explores law, policymaking, and public attitudes that affect gay, lesbian, bisexual and transgendered individuals in the U.S. Topics include hate crimes legislation, discrimination law, and same-sex marriage.

PSC5640 The European Union

[3 credit hours]

An analysis of the evolution, institutional structure and operation of the European Unions.

PSC5650 International Political Economy

[3 credit hours]

An analysis of the interaction of the international political and economic systems with focus on the political aspects of the international economy. Topics include economic development, interdependence, trade and multilateral institutions.

PSC5680 Politics of Latin America

[3 credit hours]

This course provides a survey of the Latin American region, its political transformation, and place in international politics. It covers an array of issues that have shaped and continue to shape the region: its history, its people, institutions and politics, and social and economic issues. Themes are approached both from a regional and country-level perspective.

PSC5710 Theories Of International Politics

[3 credit hours]

An analysis of the leading approaches to the study of international politics that contribute to the construction of a general theory.

PSC5720 International Organizations

[3 credit hours]

A study of the background, aims, purposes and problems of international organizations. An examination of the functions of the specialized agencies and other organizations of the United Nations system.

PSC5740 International Relations - Middle East

[3 credit hours]

A survey of geopolitical, economic and sociocultural factors affecting foreign policy processes; an examination of the role of the Big Powers and the United Nations. Conferences with the instructor are required.

PSC5750 Terrorism in International Relations

[3 credit hours]

This course will give students a comparative historical, empirical, and theoretical overview of the causes, strategies, and goals of terrorists and counter-terrorism. The primary focus of the course is on the comparative and international nature of terrorism. Global and regional case studies will be used to better understand issues related to terrorism.

PSC5950 Mpa Research Report

[2 credit hours]

Independent research, under the direction of a faculty adviser, analyzing experience as a public official.

PSC5980 Current Topics In Political Science

[3 credit hours]

Examination of emerging issues within the various segments and subfields of the discipline of political science.

PSC5990 Independent Study In Political Science

[1-3 credit hours]

Individual study in selected topic.

PSC6940 Public Service Internship

[1-6 credit hours]

Internship in public or nonprofit agency and preparation of an internship paper analyzing the internship experience.

PSC6960 Thesis Seminar

[1-6 credit hours]

Supervision of master's thesis writing.

PSCH681 Behavioral Science

[4 credit hours]

This course begins by presenting basic principles and theories of human behavior, then traces the sequence of development using standard models of emotional, social, cognitive and moral development from infancy to old age. Lectures on the elements of diagnosis of mental illness begin the section on psychopathology. Psychotherapeutic interventions are emphasized, with less time spent on psychopharmacology. The major emotional illnesses are discussed as they appear in children, adolescents, adults and older adults. Etiology, diagnosis, and the basics of treatment are presented for each category of illness.

PSCH701 Psychiatry

[7.5 credit hours]

Psychiatry (5 weeks)

PSCH704 Clinical Medical Ethics

[6 credit hours]

Provides opportunity for the student a) to function as student ethicist; b) to participate in ethics consultations and teaching conferences, and c) to participate in limited research which may lead to an abstract and/or participation in regional or national meeting.

PSCH706 Spirituality, Bioethics & Med

[6 credit hours]

The student participating in this fourth¿year elective clerkship will examine the complex interactions between spirituality, bioethics and medicine. Guided reading and discussion of different worldviews will allow the student to examine the impact of spirituality and bioethical issues on health care, medical practice, and public health. By focusing on a particular topic of interest, the student will search the primary literature and will prepare an original written report that integrates key issues explored during the four weeks. Robert B. Baker¿s The Cambridge World History of Medical Ethics will be used as the foundational text.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

PSCH708 Inpatient Psychiatry

[6 credit hours]

The student participating in this acting internship will be working primarily on NBH-Toledo Unit A-400, an acute care unit for psychiatric stabilization of individuals with serious psychiatric illness. Initial evaluations of individuals to be admitted to A-400 will be completed in the admitting unit under the supervision of various attending physicians. Dr. Bellian will supervise the student in all aspects of clinical management once individuals are admitted to A-400. The student will help in the preparation for Probate Court proceedings, which occur on-site, when involuntary hospitalization or involuntary treatment of the individual is deemed necessary. In addition to the clinical aspects of psychiatric management, the systems of care and cross-systems collaboration will be emphasized. It is expected that the student will take significant responsibility in the daily management of individuals assigned to him/her, and close collaboration with other members of the multi-disciplinary team will be expected. Each acting intern must complete two on-line modules to prepare the acting intern for his/her role as a teacher of junior medical students.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

PSCH709 Child/Adolescent AI

[6 credit hours]

The student participating in this acting internship will be working primarily at UTMC-Kobacker Center, on the inpatient unit. The student will be responsible for completing initial evaluations of children and adolescents with severe emotional disorders and psychiatric illnesses who are admitted to this hospital. This will be done with supervision primarily from Afia Hussain, M.D., but the student will also work with Theodor Rais, M.D. and Tanvir Singh, M.D. These physicians will supervise the student in all aspects of clinical management following admission. On occasion, the students will have an opportunity to accompany general psychiatry residents and child and adolescent psychiatry fellows in order to complete child/adolescent psychiatric consultations in UTMC¿s Emergency Department. The student will assist in clinical team preparation for family meetings and meetings including representatives from numerous outside agencies, programs, schools, etc. In addition to learning about the clinical aspects of psychiatric management, the student will gain an understanding of various systems of care and the necessity for cross-system collaboration. It is expected that the student will take significant responsibility in the daily management of individuals assigned to him/her, and close collaboration with other members of the multi¿disciplinary team will be expected.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

PSCH710 Adult Psychiatry-Akron General

[6 credit hours]

Students will have the opportunity to participate and have responsibility in the diagnosis and treatment of adult psychiatry inpatients as well as potential involvement in emergency room evaluations, outpatient and possible intensive outpatient program treatment opportunities.

PSCH712 Public & Community Psychiatry

[3-6 credit hours]

The student will meet with the director of the elective at least two months prior to the start of the elective so that a schedule of activities incorporating the student¿s special interests can be arranged. The student will travel to a number of sites throughout the community mental health, substance use disorder, criminal justice, and social service systems and will participate in programs at these sites and elsewhere in the community via outreach activities. The schedule will vary according to the particular activities and the day but will be limited to five days per week. There will be no scheduled activities on the weekends. The student must have successfully completed the required clerkship in psychiatry prior to requesting this elective.

PSCH713 Senior Behavioral Health AI

[6 credit hours]

The student participating in this course as an acting intern will be part of an interprofessional health care team working primarily at UTMC Senior Behavioral Health, a short-term inpatient treatment unit for adults aged 55 and over who are experiencing behavioral and/or emotional problems. Senior Behavioral Health strives to effectively treat the unique emotional needs and health care issues encountered during the aging process. The acting intern will evaluate assigned patients upon admission, assist in developing individualized treatment plans, and contribute to creating and maintain a warm, supportive treatment milieu. The student will gain exposure to various treatment modalities, including educational groups, family support and psychoeducation, group therapy, individual therapy, and medication management. The student enrolled in this course will also work with patients, and family members, when appropriate, to develop appropriate aftercare plans, which will address appropriate treatment settings and access to community-based resources. Finally, opportunities to meet with recently discharged patients during their initial outpatient geriatric psychiatry appointments will be pursued when possible and appropriate.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

PSCH715 Collaborative Care

[6 credit hours]

This elective clerkship provides opportunities for a medical student to engage in integrated models of health care delivery. Integrated care involves primary care and behavioral health care systems occurring in the same clinical setting. Health promotion and health care are delivered via the collaborative care approaches of various professions - including, but not limited to, Medicine, Nursing, Pharmacy, Psychology, and Social Work-for the diagnosis and management of individual patients.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P

PSCH716 Addiction Psychiatry AI

[6 credit hours]

The student participating in this clinical elective will be working primarily at UTMC on the inpatient Detox Unit. The student will assist in completion of initial evaluation of individuals with addiction who are admitted to this hospital. This will be done with supervision from Tanvir Singh, MD and Rakesh Goyal, MD. These physicians will supervise the student in all aspects of clinical management following admission. The student will assist in clinical team preparation for multidisciplinary care meetings and planning post-discharge care. In addition to learning about the clinical aspects of psychiatric management, the student will gain an understanding of various systems of care and necessity for cross-system collaboration. It is expected that the student will take significant responsibility for the daily responsibility of individuals assigned to him/her, under supervision and close collaboration with other members of the multi-disciplinary team will be expected.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR

PSCH720 Public & Community Psychiatry

[3 credit hours]

The student will meet with the director of the elective at least two months prior to the start of the elective so that a schedule of activities incorporating the student¿s special interests can be arranged. The student will travel to a number of sites throughout the community mental health, substance use disorder, criminal justice, and social service systems and will participate in programs at these sites and elsewhere in the community via outreach activities. The schedule will vary according to the particular activities and the day but will be limited to five days per week. There will be no scheduled activities on the weekends. The student must have successfully completed the required clerkship in psychiatry prior to requesting this elective.

PSCH745 MD/PhD Psychiatry Elective

[1-2 credit hours]

In the summer after the second year of medical school, MD/PhD students will identify a clinical mentor. This faculty member will be responsible for the clinical training program of the student, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The mentor may change during the course of the student¿s graduate school years, but any change should occur at the conclusion of a semester. The student may choose a clinical mentor from any department. The student is expected to spend 8 hours per month in a clinical setting. This can be accomplished via four weekly 2-hour sessions, two bi-weekly 4-hour sessions, or a single monthly 8-hour session. The student is encouraged to coordinate the schedule with his/her laboratory mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. The program description and schedule must be summarized in writing and submitted to both the student¿s MD/PhD Director and the Director of Psychiatry Clerkships for final approval. It is expected that each student should see (on average) one patient per 1-2 hours of clinical experience and keep a log of all patients seen, their diagnoses, and any assessments or procedures performed. An electronic logging system for this purpose will be established with assistance from UT HSC Academic Computing. Upon completion of three years of graduate training (assuming 40 weeks per year of participation), the student will have accumulated approximately 300 hours of clinical experience. Because this is equivalent to approximately two months of clinical electives (8 hours per day X 5 days per week X 4 weeks per month = 160 hours per month), the student will be awarded two months of 4th-year elective credit for this clinical experience upon re-enrolling in the College of Medicine and Life Sciences M.D. Program. This credit should allow further flexibility in 4th-year elective scheduling, enabling additional research months, off-site electives, etc. If the student requires more than three years of graduate work to fulfill requirements, continued participation in the clinical program will be strongly encouraged, although no more than two months of elective credit will be awarded.

PSCH760 Addiction Psychiatry

[6 credit hours]

The student participating in this clinical elective will be working primarily at UTMC on the inpatient Detox Unit. The student will assist in completion of initial evaluation of individuals with addiction who are admitted to this hospital. This will be done with supervision from Tanvir Singh, MD and Rakesh Goyal, MD. These physicians will supervise the student in all aspects of clinical management following admission. The student will assist in clinical team preparation for multidisciplinary care meetings and planning post-discharge care. In addition to learning about the clinical aspects of psychiatric management, the student will gain an understanding of various systems of care and necessity for cross-system collaboration. It is expected that the student will take significant responsibility for the daily responsibility of individuals assigned to him/her, under supervision and close collaboration with other members of the multi-disciplinary team will be expected.

Prerequisites: PSCH 701 FOR LEVEL MD WITH MIN. GRADE OF P

PSLS3000 Sales Career Orientation And Management

[1 credit hour]

This course addresses careers in sales, looking at different types of selling and sales activities.

PSLS3080 Purchasing And Business Relationship Management

[3 credit hours]

Purchasing and Business Relationship Management is designed for students interested in a career in sales, purchasing or general marketing. You will be exposed to the industrial buyer behavior and buying processes, strategic purchasing, relationship management and supply chain management. You will develop skills in communication, planning, analytical thinking and negotiation.

PSLS3440 Professional Sales

[3 credit hours]

This course introduces the professional selling process from a customer collaboration perspective. The course utilizes role plays and exercises to develop a strong but adaptable sales process that will serve a student well in a business or complex selling situation.

PSLS3450 Account And Territory Management

[3 credit hours]

This course introduces the student to the activities involved in supporting buyer-seller interactions and the personal selling function using the principles of Customer Relationship Management (CRM). Its purpose is to provide skills in areas related to prospecting, sales force automation technology, time and territory management, and managing customer follow-up.

Prerequisites: BUAD 3010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSLS4500 International Sales Negotiation

[3 credit hours]

This course is designed to explore the cultural and business implications of a sales career within an international or cross-cultural setting. Students will work in an applied setting engaging in role-playing and company analysis to understand the unique characteristics of this context. Prerequisite: Junior standing

PSLS4710 Salesforce Leadership

[3 credit hours]

The role and functions of the first line sales manager will be examined, including sales force size and organization, and management of the sales force. Issues related to hiring, training, supervising, compensating and evaluating salespersons are also emphasized.

Prerequisites: PSLS 3440 FOR LEVEL UG WITH MIN. GRADE OF D-

PSLS4740 Advanced Sales

[3 credit hours]

This course provides in depth study of advanced selling concepts including relationship management, account management, strategic selling, team selling and selected current topics. The course includes business presentations, field work, role playing and case studies.

Prerequisites: (PSLS 3440 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSLS 3450 FOR LEVEL UG WITH MIN. GRADE OF D-)

PSLS4940 Integrative Capstone: Sales Internship

[3 credit hours]

Receive practical sales experiences working in a business envrioment.

Prerequisites: PSLS 3440 FOR LEVEL UG WITH MIN. GRADE OF D-

PSRG711 Plastic Surgery

[6 credit hours]

The focus will be to develop a more sophisticated understanding of basic and clinical sciences as they pertain to reconstructive and cosmetic surgical procedures. Evaluation of pre and post operative management of the plastic surgical patient.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

PSRG712 Plastic Surgery

[3 credit hours]

The focuse will be to develop a more sophisticated understanding of basic and clinical sciences as they pertain to reconstructive and cosmetic surgical procedures. Evaluation of pre and post operative management of the plastic surgical patient.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

PSRG760 Plastic Surgery

[6 credit hours]

The focus will be to develop a more sophisticated understanding of basic and clinical sciences as they pertain to reconstructive and cosmetic surgical procedures. Evaluation of pre and post operative management of the plastic surgical patient.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

PSY1010 Principles Of Psychology

[3 credit hours]

A survey of the branches of psychology and the scientific approach to the study of behavior.

PSY2100 Statistical Methods

[3 credit hours]

Descriptive and inferential statistics as applied to research in basic behavioral science and to clinical research. Students are encouraged to take PSY 3120 Understanding Psychological Research before taking this course.

Prerequisites: MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1340 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1750 FOR LEVEL UG WITH MIN. GRADE OF C- OR MATH 1830 FOR LEVEL UG WITH MIN. GRADE OF C- OR

PSY2200 Abnormal Psychology

[3 credit hours]

Disordered human behavior; its etiology, classification and treatment. Consideration of different theories.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY2400 Cognitive Psychology

[3 credit hours]

Theoretical and empirical approaches to the role of pattern recognition, attention, memory, language, problem solving and decision making in human thinking.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY2510 Lifespan Developmental Psychology

[3 credit hours]

Emphasizes research and theory from conception through old age, and integrates important developmental issues within a lifespan approach.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY2600 Psychobiology

[3 credit hours]

The neural bases of behavior; topics include organization of the nervous system, perception and movement, learning and memory, emotion and motivation, drugs, language, and mental disorders.

PSY2610 Learning And Motivation

[3 credit hours]

Extended treatment of learning, conditioning and motivation including operant learning, reinforcement schedules, symbolic reward, generalization and related theoretical developments.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY2700 Social Psychology

[3 credit hours]

Theoretical and empirical treatment of socially-based perception and cognition, interpersonal influence, small group processes and interpersonal relations.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3000 History Of Psychology

[3 credit hours]

An historical treatment of the development of modern psychology, starting in the mid 19th century, with some consideration of earlier approaches. Theoretical developments are emphasized.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3010 Culture And Psychology

[3 credit hours]

Theoretical and empirical examination of the generality of psychological concepts across cultural and ethnic groups. A cultural analysis of key topics in clinical, cognitive, developmental and social psychology.

Prerequisites: PSY 2200 FOR LEVEL UG WITH MIN. GRADE OF D- OR PSY 2400 FOR LEVEL UG WITH MIN. GRADE OF D- OR (PSY 2500 FOR LEVEL UG WITH MIN. GRADE OF D- OR PSY 2510 FOR LEVEL UG WITH MIN. GRADE OF D- OR PSY 2700 FOR LEVEL UG WITH MIN. GRADE OF D-)

PSY3110 Research Methods In Psychology

[4 credit hours]

Design, execution, analysis and reporting of research in psychology. Lecture and laboratory.

Prerequisites: PSY 2100 FOR LEVEL UG WITH MIN. GRADE OF C-

PSY3120 Understanding Psychological Research

[3 credit hours]

Emphasis on the interpretation (as opposed to execution) of psychological research. Features overview of statistical methods and experimental design principles. Recommended before taking PSY 2100 Statistical Methods.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3200 Personality And Individual Differences

[3 credit hours]

Overview of major theoretical ideas and empirical research in personality and individual differences.

PSY3210 Clinical Psychology

[3 credit hours]

An overview of the field of Clinical Psychology including clinical assessment, psychotherapy, community intervention methods and professional/ethical issues.

Prerequisites: PSY 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3220 Psychopathology Of Childhood

[3 credit hours]

Clinical and experimental perspectives on behavioral, developmental and emotional disturbances in childhood.

Prerequisites: (PSY 2500 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 2200 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (PSY 2510 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 2200 FOR LEVEL UG WITH MIN. GRADE OF D-)

PSY3230 Psychological Testing

[3 credit hours]

History and purpose of psychological testing, review of statistics, reliability and validity, test development, measures of intelligence, personality, and clinical assessment

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

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PSY3300 Organizational Development Theory and Principles

[3 credit hours]

Organizational Development Theory and Principles This course uses applied behavioral science, social psychology and humanist ideologies. This course will examine organizational fundamentals It investigates systems theory; client centered; integral and learning organizations. Conscious business models; globalization; and sustainability will be discussed. Exploration of ethics, morality, values and transforming organizations will be studied. Upon completing this course a student can think critically about organizations and synthesize and apply organizational development theory and concepts.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3310 OD Practices

[3 credit hours]

Organizational Development Practices We will examine processes, interventions, and methods for leading and participating within organizations. Topics include working with collaborative organizations; initiating and leading change; process improvement; appreciative inquiry and action research; empowerment; integration and diversity; working with teams; focus groups; managing organizational stress; renewal and reintegration and authenticity and trust. Upon completion of the course students will possess tools to intervene in organizations and make informed, reasoned and ethical choices about assisting organizations to change.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3320 Psychology of Work

[3 credit hours]

Psychology of Work is intended to look at life inside an organization and view organizations from an interpersonal level. At the conclusion of this course students will possess a greater understanding of how they act and behave within an organization. Topics we will examine include whole life satisfaction; career anchors; influence; conflict; change; crucial and critical conversations; coaching; ownership of performance and tolerating ambiguity.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3330 Psychology of Leadership

[3 credit hours]

Psychology of Leadership focuses on developing yourself as a leader. Based on the work of Warren Bennis, we discuss how to become a leader and examination of our mindset about leadership. Students will demonstrate a holistic perspective of leadership by understanding the basics of leadership; by knowing our self and knowing the world. Students will critically think about their own leadership abilities and determine if leadership is for them.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3400 Cognitive Neuropsychology

[3 credit hours]

Analysis of the neural basis of higher level mental functions (e.g., perception, language, emotion), with an emphasis on anatomic and functional differences between the left and right cerebral hemispheres.

Prerequisites: PSY 2400 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3510 The Adult Years

[3 credit hours]

Emphasizes growth and change throughout adulthood. Issues of personality and cognitive change are investigated, and theory and research are highlighted.

Prerequisites: PSY 2500 FOR LEVEL UG WITH MIN. GRADE OF D- OR PSY 2510 FOR LEVEL UG WITH MIN. GRADE OF D-

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PSY3610 Behavioral Neuroscience

[3 credit hours]

In-depth treatment of the structure and function of neurons and their mediation of behavior, both normal and abnormal: circadian rhythms, eating, emotions, sexual behavior, memory, language and mental disorders. The scientific study of the brain and methods of neuroscience are emphasized.

Prerequisites: PSY 2600 FOR LEVEL UG WITH MIN. GRADE OF C OR BIOL 2150 FOR LEVEL UG WITH MIN. GRADE OF C OR BIOL 2170 FOR LEVEL UG WITH MIN. GRADE OF C OR BIOL 4250 FOR LEVEL UG WITH MIN. GRADE OF C

PSY3620 Sensory Processes

[3 credit hours]

In-depth treatment of the neural organization of the sensory and motor systems. A comparative and evolutionary approach to the study of perception is emphasized.

PSY3630 Everyday Behavior Analysis

[3 credit hours]

Application of learning and motivation in the home, classroom and workplace. Covers how to define and measure behavior principles of positive and negative reinforcement, and the effects of aversive control.

PSY3710 Psychology And The Law

[3 credit hours]

Emphasizes the utilization of theoretical and empirical notions of psychological science as they apply to both civil and criminal law.

Prerequisites: PSY 2700 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3720 Social Cognition

[3 credit hours]

This course examines how people make sense of other people, themselves, and social situations by examining the cognitive structures and processes involved in judgments, decisions, perceptions, beliefs, and behavior. The topics include (but are not limited to) attribution, counterfactual thinking, judgment heuristics, schemas, person perception, attitudes, and stereotypes/prejudice.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3730 Stereotyping, Prejudice, & Discrimination

[3 credit hours]

This course will examine issues of and related to stereotyping, prejudice, and discrimination from a social psychological perspective with a special emphasis on racism and sexism.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3740 Health Psychology

[3 credit hours]

This course explores the behavioral and psychological factors that affect stress and illness; topics include health-compromising behaviors (e.g., smoking), stress and pain management, alternative medicine, treatment adherence, and chronic illness.

Prerequisites: PSY 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3800 Honors Proposal

[1-3 credit hours]

Literature review and design of an experiment that will form the basis for an Honors Thesis; a formal written proposal will be prepared in conjunction with, and approved by, the thesis advisor and must be submitted to the departmental honors advisor.

Prerequisites: PSY 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY3910 Honors Research

[1-3 credit hours]

Data collection for research that will form the basis for the Honors Thesis. Admission to Psychology Honors and consent of instructor.

PSY3940 Externship In Psychology

[1-4 credit hours]

Supervised work experience in Psychology-related employment settings.

PSY4100 Research Practicum

[1-4 credit hours]

Directed by experience in empirical psychological research by students participating in faculty laboratories. Section number denotes field of research. :030Developmental psychology :040-Social psychology :060-Cognitive and biological psychology :070-Clinical psychology

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PSY4700 Research In Social Psychology

[4 credit hours]

Experience in designing research in social psychology, including a research project.

PSY4910 Independent Research

[1-4 credit hours]

This course will be offered every semester and will fill the requirement for an advanced research course. A student will carry out an empirical research project of his or her own design under the guidance of a member of the faculty.

Prerequisites: PSY 3110 FOR LEVEL UG WITH MIN. GRADE OF D-

PSY4960 Honors Thesis

[2-3 credit hours]

Analysis, interpretation and reporting of research aimed at understanding some aspect of behavior or its underlying mechanisms. The reports include a formal written thesis, a scientific poster and an oral presentation.

Prerequisites: (PSY 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 3800 FOR LEVEL UG WITH MIN. GRADE OF D- AND PSY 3820 FOR LEVEL UG WITH MIN. GRADE OF D-)

PSY4980 Special Topics In Psychology

[3 credit hours]

Seminar discussion of selected topics in psychology to allow for a more comprehensive treatment than possible in other available courses; or technical laboratory course in neuroanatomical techniques. Topics will vary depending on student demand and availability of instructors.

PSY4990 Independent Study

[1-4 credit hours]

This course is a tutorial consisting of directed independent reading, conferences with the instructor to discuss the readings and assess the student's understanding of their significance, and a paper in which the student summarizes the read material, integrates the material and discusses its significance for understanding some aspect of behavior.

PSY6000 History Of Psychology

[3 credit hours]

Intensive historical treatment of the development of modern psychology from the 19th century. Theoretical psychological and related philosophical positions are emphasized.

PSY6030 Research Practicum

[1-3 credit hours]

Developing, conducting, analyzing and preparing reports of research projects under faculty supervision. May be repeated.

PSY6040 Teaching Practicum

[3 credit hours]

Supervised experience in the teaching of psychology. May be repeated for credit.

PSY6050 Culture And Psychology

[3 credit hours]

A theoretical and empirical analysis of the systematic functioning of culture in psychological phenomena, with a focus on key concepts in clinical, cognitive, developmental and social psychology.

PSY6100 Quantitative Methods In Psychology I

[3 credit hours]

Probability theory, descriptive and inferential statistics, hypothesis testing, correlation.

PSY6110 Quantitative Methods In Psychology II

[3 credit hours]

Analysis of variance, regression analyses, non-parametric analyses.

PSY6130 Design And Evaluation Of Psychological Research

[3 credit hours]

Readings and discussion of problems of research design and analysis.

PSY6150 Psychometrics and Scale Development

[3 credit hours]

Procedures for developing and examining the reliability and validilty of test scales, including theories of measurement, item analysis, factor analysis, and diagnostic efficiency statistics.

Prerequisites: PSY 6100 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6110 FOR LEVEL GR WITH MIN. GRADE OF D-

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PSY6200 Systems Of Personality

[3 credit hours]

Advanced historical overview of the main systems for understanding human beings: sources of motivation, coping, dysfunction, strengths/virtues. Emphasizes philosophical understandings of personality systems, analysis of major contributions and multi-perspective critiques.

PSY6210 Psychopathology

[3 credit hours]

Critical analysis of diagnostic classification models, etiological conceptualizations and therapeutic interventions form mental disorders.

PSY6220 Cognitive Assessment

[4 credit hours]

Assessment of cognitive functioning, utilizing tests of cognitive abilities and achievement.

PSY6230 Personality Assessment

[4 credit hours]

Assessment of personality functioning utilizing objective tests.

Prerequisites: PSY 6220 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY6250 Seminar In Clinical Psychology

[3 credit hours]

Advanced seminar focusing on selected topics from the general area of clinical psychology. -001 Clinical neuropsychology -002 Child psychopathology -003 Child Clinical Intervention -004 Marital & Family Therapy -005 Psychotherapy research & program evaluation.

PSY6260 Professional And Ethical Issues

[3 credit hours]

Exploration of ethical and professional issues faced by clinical psychologists. Detailed analysis of the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct.

PSY6310 Psychotherapy With Children And Adolescents

[3 credit hours]

Presentation and explanation of techniques of psychotherapy with children and adolescents.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY6330 Psychodynamic Psychotherapy

[3 credit hours]

Didactic course covering psychoanalytic/psychodynamic theories, case conceptualization, theorapy techniques, and relevant empirical research.

PSY6340 Cognitive-Behavioral Psychotherapy

[3 credit hours]

Presentation and exploration of the theory and techniques of cognitive-behavioral assessment and therapy. Emphasis on understanding the theoretical and empirical base for cognitive-behavioral interventions and implications for application in clinical and clinical-research settings.

PSY6350 Family And Couple Therapy

[3 credit hours]

Presentation and exploration of family and couple therapy as a discipline, theoretical perspectives and empirical research on couple/family interaction and theapeutic techniques used with families and couples.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY6390 Clinical Laboratory

[3 credit hours]

Clinical interviewing, diagnostic assessment, case conceptualization and oral presentation of clinical cases. Diagnostic, therapeutic and professional issues are addressed via didactic coursework and practicum work with clients in the Psychology Clinic.

PSY6400 Cognitive Psychology

[3 credit hours]

An intensive examination of human information processing. Topics include neural bases of cognition, perceptual and attentional processing, mental imagery, memory, problem solving and reasoning.

PSY6410 Seminar In Cognitive Psychology

[3 credit hours]

An advanced seminar focusing on selected topics from the general area of Cognitive Psychology.

PSY6500 Developmental Psychology

[3 credit hours]

Advanced treatment of the theoretical and empirical literature in developmental psychology, and of the major issues of the field.

PSY6510 Seminar In Developmental Psychology

[3 credit hours]

Readings and evaluative discussions of the primary research literature in developmental psychology.

Prerequisites: PSY 6500 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY6600 Behavioral Neuroscience

[3 credit hours]

Structure and function of neurons and the neural mediation of behavior, both normal and abnormal.

PSY6610 Seminar In Psychobiology And Learning

[3 credit hours]

Readings and evaluative discussions of the primary research literature in psychobiology, behavioral neuroscience, neuroanatomy, learning, motivation and perception.

PSY6700 Social Psychology

[3 credit hours]

Social cognition and behavior, interpersonal influence and social relations will be addressed.

PSY6710 Seminar In Social Psychology

[3 credit hours]

In-depth treatment of selected topics in Social Psychology.

PSY6810 Clinical Practicum I

[0- credit hours]

This first-year practicum course includes observation of and entry-level participation in a practicum team providing supervision of clinical services provided to children, adolescents, and/or adults seen through the University of Toledo Psychology Clinic.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY6820 Clinical Practicum II

[3 credit hours]

This second-year practicum course includes participation, as a beginning student therapist, in a practicum team providing supervision of clinical services provided to children, adolescents, and/or adults seen through the University of Toledo Psychology Clinic.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY6830 Clinical Practicum III

[3 credit hours]

This third-year practicum course includes participation, as an experienced student therapist, in a practicum team providing supervision of clinical services provided to children, adolescents, and/or adults seen through the University of Toledo Psychology Clinic.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6810 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6820 FOR LEVEL GR WITH MIN. GRADE OF D-

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PSY6840 Clinical Practicum IV

[1-3 credit hours]

This fourth-year practicum course includes participation, as a senior-level student therapist, in a practicum team providing supervision of clinical services provided to children, adolescents, and/or adults seen through the University of Toledo Psychology Clinic.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6810 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6820 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6830 FOR LEVEL GR WITH MIN. GRADE OF D-

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PSY6850 Family And Couple Practicum

[3 credit hours]

Supervision of psychotherapy with families and couples seen through The University of Toledo Psychology Clinic.

PSY6860 Advanced Assessment Practicum

[3 credit hours]

Clinical supervision of psychological assessments using multiple methods of assessment with clients seen through Tlhe University of Toledo Psychology Clinic.

Prerequisites: PSY 6210 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6220 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 6230 FOR LEVEL GR WITH MIN. GRADE OF D-

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PSY6930 Seminar In Psychology

[3 credit hours]

Readings and evaluative discussions of the primary research literature in psychology.

PSY6940 Supervised Clinical Practicum

[1-3 credit hours]

Supervised applied assessment, therapeutic and consultative experience in community settings.

PSY6960 M.a. Thesis

[1-6 credit hours]

Developing, conducting and analyzing the thesis research project, writing the thesis.

PSY6980 Special Topics

[1-3 credit hours]

Professional issues in academic and scientific psychology.

PSY6990 Independent Study

[1-15 credit hours]

Directed reading and/or experimentation on a topic selected by the study in conjunction with a faculty mentor.

PSY7000 History Of Psychology

[3 credit hours]

Intensive historical treatment of the development of modern psychology from the 19th century. Theoretical psychological and related philosophical positions are emphasized.

PSY7030 Research Practicum

[1-3 credit hours]

Developing, conducting, analyzing and preparing reports of research projects under faculty supervision. May be repeated.

PSY7040 Teaching Practicum

[3 credit hours]

Supervised experience in the teaching of psychology. May be repeated for credit.

PSY7050 Culture And Psychology

[3 credit hours]

A theoretical and empirical analysis of the systematic functioning of culture in psychological phenomena, with a focus on key concepts in clinical, cognitive, developmental and social psychology.

PSY7100 Quantitative Methods In Psychology I

[3 credit hours]

Probability theory, descriptive and inferential statistics, hypothesis testing, correlation.

PSY7110 Quantitative Methods In Psychology II

[3 credit hours]

Analysis of variance, regression analyses, non-parametric analyses.

PSY7130 Design And Evaluation Of Psychological Research

[3 credit hours]

Readings and discussion of problems of research design and analysis.

PSY7150 Psychometrics and Scale Development

[3 credit hours]

Procedures for developing and examining the reliability and validilty of test scales, including theories of measurement, item analysis, factor analysis, and diagnostic efficiency statistics.

Prerequisites: PSY 7100 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 7110 FOR LEVEL GR WITH MIN. GRADE OF D-

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PSY7200 Systems Of Personality

[3 credit hours]

Advanced historical overview of the main systems for understanding human beings: sources of motivation, coping, dysfunction, strengths/virtues. Emphasizes philosophical understandings of personality systems, analysis of major contributions and multi-perspective critiques.

PSY7210 Psychopathology

[3 credit hours]

Critical analysis of diagnostic classification models, etiological conceptualizations and therapeutic interventions form mental disorders.

PSY7220 Cognitive Assessment

[4 credit hours]

Assessment of cognitive functioning, utilizing tests of cognitive abilities and achievement.

PSY7230 Personality Assessment

[4 credit hours]

Assessment of personality functioning utilizing objective tests.

Prerequisites: PSY 6220 FOR LEVEL GR WITH MIN. GRADE OF D- OR PSY 7220 FOR LEVEL GR WITH MIN. GRADE OF D-

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PSY7250 Seminar In Clinical Psychology

[3 credit hours]

Advanced seminar focusing on selected topics from the general area of clinical psychology. -001 Clinical neuropsychology -002 Child psychopathology -003 Child Clinical Intervention -004 Marital & Family Therapy -005 Psychotherapy research & program evaluation.

PSY7260 Professional And Ethical Issues

[3 credit hours]

Exploration of ethical and professional issues faced by clinical psychologists. Detailed analysis of the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct.

PSY7310 Psychotherapy With Children And Adolescents

[3 credit hours]

Presentation and explanation of techniques of psychotherapy with children and adolescents.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY7330 Psychodynamic Psychotherapy

[3 credit hours]

Didactic course covering psychoanalytic/psychodynamic theories, case conceptualization, therapy techniques, and relevant empirical research.

Prerequisites: PSY 7390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY7340 Cognitive-Behavioral Psychotherapy

[3 credit hours]

Presentation and exploration of the theory and techniques of cognitive-behavioral assessment and therapy. Emphasis on understanding the theoretical and empirical base for cognitive-behavioral interventions and implications for application in clinical and clinical-research settings.

PSY7350 Family And Couple Therapy

[3 credit hours]

Presentation and exploration of family and couple therapy as a discipline, theoretical perspectives and empirical research on couple/family interaction and therapeutic techniques used with families and couples.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY7390 Clinical Laboratory

[3 credit hours]

Clinical interviewing, diagnostic assessment, case conceptualization and oral presentation of clinical cases. Diagnostic, therapeutic and professional issues are addressed via didactic coursework and practicum work with clients in the Psychology Clinic.

PSY7400 Cognitive Psychology

[3 credit hours]

An intensive examination of human information processing. Topics include neural bases of cognition, perceptual and attentional processing, mental imagery, memory, problem solving and reasoning.

PSY7410 Seminar In Cognitive Psychology

[3 credit hours]

An advanced seminar focusing on selected topics from the general area of Cognitive Psychology.

PSY7500 Developmental Psychology

[3 credit hours]

Advanced treatment of the theoretical and empirical literature in developmental psychology, and of the major issues of the field.

PSY7510 Seminar In Developmental Psychology

[3 credit hours]

Readings and evaluative discussions of the primary research literature in developmental psychology.

Prerequisites: PSY 6500 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY7600 Behavioral Neuroscience

[3 credit hours]

Structure and function of neurons and the neural mediation of behavior, both normal and abnormal.

PSY7610 Seminar In Psychobiology And Learning

[3 credit hours]

Readings and evaluative discussions of the primary research literature in psychobiology, behavioral neuroscience, neuroanatomy, learning, motivation and perception.

PSY7700 Social Psychology

[3 credit hours]

Social cognition and behavior, interpersonal influence and social relations will be addressed.

PSY7710 Seminar In Social Psychology

[3 credit hours]

In depth treatment of selected topics in Social Psychology.

PSY7810 Child And Adolescent Therapy Practicum

[0- credit hours]

Supervision of psychotherapy with children and adolescents seen through the The University of Toledo Psychology Clinic.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY7830 Psychodynamic Psychotherapy Practicum

[3 credit hours]

Supervision of students' psychodynamic psychotherapy cases seen through The University of Psychology Clinic.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY7840 Cognitive-Behavior Therapy Practicum

[3 credit hours]

Supervision of cognitive-behavior therapy with children, adolescents, and adults seen through The University of Toledo Psychology Clinic.

Prerequisites: PSY 6390 FOR LEVEL GR WITH MIN. GRADE OF D-

PSY7850 Family And Couple Practicum

[3 credit hours]

Supervision of psychotherapy with families and couples seen through The University of Toledo Psychology Clinic.

PSY7860 Advanced Assessment Practicum

[3 credit hours]

Clinical supervision of psychological assessments using multiple methods of assessment with clients seen through Tlhe University of Toledo Psychology Clinic.

Prerequisites: PSY 7210 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 7220 FOR LEVEL GR WITH MIN. GRADE OF D- AND PSY 7230 FOR LEVEL GR WITH MIN. GRADE OF D-

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PSY7930 Seminar In Psychology

[3 credit hours]

Readings and evaluative discussions of the primary research literature in psychology.

PSY7940 Supervised Clinical Practicum

[1-3 credit hours]

Supervised applied assessment, therapeutic and consultative experience in community settings.

PSY7980 Special Topics

[1-3 credit hours]

Professional issues in academic and scientific psychology.

PSY7990 Independent Study

[1-15 credit hours]

Directed reading and/or experimentation on a topic selected by the study in conjunction with a faculty mentor.

PSY8940 APA Accredited Clinical Internship

[0-1 credit hours]

Full-time supervised training in an APA accredited predoctoral internship entity. Students will complete clinical work under direct supervision and with guidance of the program training director and internship training director. Grades will be awarded as Credit/No Credit.

PSY8960 Phd Dissertation

[1-15 credit hours]

Developing, conducting and analyzing the dissertation research project; writing the dissertation.

PSYC7810 General Seminar

[3 credit hours]

Current literature, theoretical issues, advanced techniques in all areas of psychology (BGSU).

PUBH4110 Intro Spanish for Healthcare

[1-3 credit hours]

This course introduces the Spanish language in a medical context. Through development of oral and aural skills, enables more effective communication with Spanish speaking patients.

PUBH4120 Adv Med Spanish Hlth Care Pro

[3 credit hours]

Prerequisites: Previous experience in Spanish language and/or completion of PUBH411 Builds upon previous Spanish in a medical context and development of oral and aural skills for more effective communication, improving interaction with Spanish speaking patients.

PUBH5020 Occupational Health

[3 credit hours]

Hazardous materials, mathematics, anatomy, and physiology; hazard recognition for harmful agents; methods, standards, recommendations, and instruments used to evaluate hazards; techniques for hazard control; occupational health programs and regulations; communication and ethics.

PUBH5030 Issues in Global Health

[3 credit hours]

Course examines current issues and trends that affect international health, including delivery systems in other countries, and examines a variety of environmental, economic, and political factors that play a role in the transmission and treatment of human diseases.

PUBH5060 Occupational Safety

[3 credit hours]

Safety and health organization, administration, management, services; controlling unsafe conditions/acts relation to construction and buildings, machines, materials handling, pressure vessels, electrical equipment; emergency procedures; communication effectiveness and ethical guidelines/standards.

PUBH5160 Environmental Health

[3 credit hours]

Scientific, regulatory and management principles applicable to human disease associated with food, water, air and soil contamination. Focuses on biology and chemistry of contamination and transformation, exposure monitoring and contaminant control.

PUBH5260 Haz Mat and Emerg Response

[3 credit hours]

(terrorism) Disaster preparedness and emergency response; and, personal protective equipment and site assessment/monitoring. This course requires the student to wear personal protective equipment, perform hands on monitoring and sampling, and assess and respond to in class response scenarios.

PUBH5310 Chemical Agents

[3 credit hours]

Scientific principles and practices applicable to the qualitative and quantitative evaluation of chemical agents associated with human diseases resulting from various environmental exposures. Content includes methods to assess exposures in the workplace.

PUBH5370 Crisis Communication

[3 credit hours]

Concepts, principles, strategies and "tools" of effective crisis management and communication from a public health perspective. Students learn to interact with stakeholders in situations posing a high risk to the health and safety of the public, and to communicate properly with the public through the broadcasting media and internet.

PUBH5410 Hazard Control

[3 credit hours]

Ventilation; control of indoor and outdoor (ambient) air pollution; operation of dilution and location exhaust ventilation systems; design of ventilation systems; respiratory and other personal protective equipment and programs available or commonly used in the workplace; communication and ethics.

PUBH5510 Social, Economic, and Political Implications of Infectious Diseases

[3 credit hours]

Fall. Examines and discusses the social, economic and political implications of newly emerging and existing infectious diseases and their impact on international health and commerce.

PUBH5520 Bio Agents Path Eval and Ctrl

[3 credit hours]

Scientific principles and practices applicable to the pathogenicity, evaluation and control of microbiological agents, parasitic agents, and some biological vectors associated with human diseases resulting from various environmental exposures. Content includes normal/abnormal human physiology relative to exposure, exposure assessment, and exposure control.

PUBH5620 Physical Agents

[3 credit hours]

Monitor exposure to physical agents; assessment of exposure to physical agents; appropriate exposure control methods of physical agents; professional reports; laws, regulations, recommendations, standards, services related to physical agents; communication and ethics.

PUBH5700 Risk Assessment

[3 credit hours]

Human health risk assessment including hazard identification, dos-response assessment, human exposure assessment, and risk characterization are discussed. Emphasis on practice of risk assessment, management, and communication relative to public, environmental, and occupational health and safety.

Prerequisites: PUBH 6000 FOR LEVEL GR WITH MIN. GRADE OF S AND PUBH 6010 FOR LEVEL GR WITH MIN. GRADE OF S

PUBH5720 Exposure Assessment Strategies

[3 credit hours]

Exposure assessment is an integral part of occupational and environmental health. This course will focus on the statistics and methods needed to assess exposures in the workplace.

Prerequisites: PUBH 6000 FOR LEVEL GR WITH MIN. GRADE OF D- OR PUBH 600 FOR LEVEL GR WITH MIN. GRADE OF D-

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PUBH6000 Biostatistics

[3 credit hours]

An introduction to descriptive statistics including measurement of central tendency, dispersion, relative position, correlation, and regression. Inferential statistical theory, selected nonparametric methods, application of computers, and also occupational exposure assessment will be discussed.

PUBH6010 Public Health Epidemiology

[3 credit hours]

The course will present principles of the epidemiology method including problem solving. Various study designs will be discussed, including prospective and retrospective studies, analytic, and experimental methods.

PUBH6030 Advanced Epidemiology

[3 credit hours]

This course covers principles and methods of epidemiology in depth. The topics include causal inference, risk and effect, confounding, interaction, randomization, and matching. Special emphasis is given to design and interpretation of epidemiological studies.

PUBH6040 Public Health Administration

[3 credit hours]

This course provides a basic understanding of the nature of public health administration, focusing on fundamentals, the recent changes, associated administrative and organizational arrangements that have been developed and the roles and responsibilities of public health administrators.

PUBH6050 Concepts and Issues in Environmental Health

[3 credit hours]

The course will review environmental concepts, focusing on water, soil, food, and diseases as they pertain to public health. Emergency preparedness for environmental events will be discussed. The impact of environmental events on public health, preparations, and appropriate responses will be included. The relationship between environmental health and public health will be emphasized.

PUBH6060 Advanced Biostatistics

[3 credit hours]

Advanced statistical techniques with particular emphasis on problems in public health. Multiple regression, methods of analysis of variance, categorical data analysis including logistic regression, non parametric and survival analysis. Problems whose solution involves using a statistical program (e.g., SPSS).

PUBH6070 Genetic Epidemiology

[3 credit hours]

Introduces genetic epidemiology methods, principles of population genetics including linkage and association studies used in assessing familial aggregatio, and transmission patterns for identifying the genetic basis of common diseases.

Prerequisites: (PUBH 6000 FOR LEVEL GR WITH MIN. GRADE OF C OR PUBH 8000 FOR LEVEL GR WITH MIN. GRADE OF C) AND (PUBH 6010 FOR LEVEL GR WITH MIN. GRADE OF C OR PUBH 8010 FOR LEVEL GR WITH MIN. GRADE OF C) OR (PUBH 600 FOR LEVEL GR WITH MIN. GRADE OF C OR

PUBH6100 Environ/Occup Epidemiology

[3 credit hours]

The course focuses on the application of epidemiological techniques to the study of effects of occupational and environmental exposures. Prerequisite: PUBH600 and 601.

PUBH6110 Categorical Data Analysis

[3 credit hours]

This course introduces the theory and application of methods for categorical data, with emphasis on biomedical and public health applications. Topics include contingency tables, log-linear, logistic regression and Raush models, multivariate methods for matched pairs and longitudinal data. The methods are illustrated with SAS and/or SPSS, R.

PUBH6120 Epidemiology Infectious Diseas

[3 credit hours]

Provides an overview of major infectious diseases affecting public health in the U.S. and worldwide; introducing the basic epidemiologic methods for surveillance and investigation of infectious disease outbreaks.

PUBH6130 Molecular Epidemiology

[3 credit hours]

The course focuses on the application of epidemiological techniques to the study of effects of occupational and environmental exposures.

PUBH6150 Clinical Epidemiology

[3 credit hours]

This course focuses on epidemiologic concepts and methods in clinical medicine. Topics include clinical measurements and outcomes, risk, prognostic factors, clinical diagnosis, study design, decision analysis, clinical research and meta-analysis.

PUBH6160 Reproductive Epidemiology

[3 credit hours]

Reproductive health issues from the pre-conception, prenatal delivery, and postnatal periods and emphasizes health issues affecting women, men, and infants. A focus on current research, controversial issues and methodological issues.

Prerequisites: PUBH 6010 FOR LEVEL GR WITH MIN. GRADE OF D- OR PUBH 601 FOR LEVEL GR WITH MIN. GRADE OF D-

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PUBH6170 Molec and Genomic Epidemiology

[3 credit hours]

Presents concepts and methods of molecular and genetic epidemiology relevant to the study of prevalent diseases in the population. Topics include biomarkers, polymorphism and gene-environment interaction. The evolution and function of the genomics and a synopsis of epidemiological design and analysis are included.

PUBH6180 Cancer Epidemiology

[3 credit hours]

Focuses on a number of cancers, including the most incident cancers in the United States. Provides a broad overview of cancer epidemiology and basic substantive knowledge regarding many cancers and their risk factors, prevention, and biology and pathogenesis.

PUBH6200 Methods,Materials for PUBH

[3 credit hours]

Introduces students to resource materials and methods appropriate for public health education. Students will use various mediums of instruction in direct application to public health programs.

PUBH6210 Public Health Management

[3 credit hours]

Students develop a deeper understanding of the principles of management and their application in directing a public health agency. While the primary focus is on human resource management, strategic management, strategic planning, organizational positioning and related topics are also discussed (BGSU).

Prerequisites: PUBH 6040 FOR LEVEL GR WITH MIN. GRADE OF C

PUBH6220 Budget and Administration in Public Health

[3 credit hours]

An examination of the basic components of budgeting and fiscal management as applied to public health organizations.

Prerequisites: PUBH 6280 FOR LEVEL GR WITH MIN. GRADE OF C

PUBH6280 Economics, Marketing, and Human Resource Management in Public Health

[3 credit hours]

Emphasis on integrated applications of economics, marketing, and human resources in public health agencies and workplaces. Prerequisite: Enrollment in MPH program or permission of instructor.

Prerequisites: PUBH 6040 FOR LEVEL GR WITH MIN. GRADE OF C

PUBH6300 Community Health Organization

[3 credit hours]

Focuses on techniques to bring about change in a community¿s health status through assessment, public advocacy, coalition building, decision-making, planning, policy development, and political influence. Applications will be emphasized.

PUBH6330 Public Health and Aging

[3 credit hours]

Examines public health and aging issues in contemporary society. Introduces physical, cognitive and affective function from a public health perspective. Prevention and health promotion models are included.

PUBH6350 Public Health Law

[3 credit hours]

Development of knowledge necessary for functioning as a health care professional; includes an introduction to our legal system in contexts that are important for public health, as well as a detailed analysis of the law related to issues of primary concern to public health professionals.

PUBH6410 Global Perspectives on Public Health and Disaster Preparedness

[3 credit hours]

This course introduces the introductory healthcare learner (including but not limited to MD, MPH, PA, MSN, MSBS, OT, PT) to specific principles of global perspectives on disaster management and response. Covers epidemiology of various diseases and population health issues from a global and domestic perspective. Employs an all-hazards framework, providing essential skills to function in the event of a catastrophe. Guest speakers from healthcare disciplines who work internationally will present first-hand experiences in managing disasters.

PUBH6510 Issues in Pandemic Preparedness and Response

[3 credit hours]

By means of synchronous, asynchronous, audiovisual, and simulation platforms, the learner will develop an in-depth knowledge concerning how the healthcare infrastructure of a community must plan for, respond to, and recover from a pandemic. The course is divided into four topic areas: 1) introduction; 2) preparedness; 3) response; and 4) recovery.

PUBH6550 Chronic Disease Epidemiology

[3 credit hours]

Epidemiology of selected chronic diseases and non-infectious conditions: cancer, cardiovascular diseases, musculoskeletal diseases and other chronic diseases. Emphasis on classification, rates, associations, etiology, prevention and control.

Prerequisites: PUBH 6010 FOR LEVEL GR WITH MIN. GRADE OF C OR PUBH 601 FOR LEVEL GR WITH MIN. GRADE OF C

PUBH6560 Interdisciplinary Crisis Management for Medical and Public Health Professionals

[3 credit hours]

The purpose of this semester course is to introduce the interdisciplinary healthcare learner (including but not limited to MD, PA, MPH, MSN, OT and PT students) to specific principles of epidemiology and disaster medicine employing an all-hazards framework and to provide essential skills enabling proper functioning in the event a catastrophe arises in the near future. The course will include lectures, simulation exercises and independent web-assisted content.

PUBH6600 Health Behavior

[3 credit hours]

Examines the role of behaviors on health status and how to influence and understand behavior through use of cognitive models and change theory.

PUBH6640 Issues in Public Health

[3 credit hours]

Examination of various contemporary issues in public health. Includes social, economic, political, and community problems in the provision of health services, health manpower, and payment for health care.

PUBH6730 Research Environmental Health

[3 credit hours]

Students will participate in selected ongoing research programs of members of the faculty. May be repeated for credit.

PUBH6790 Indep Study in Biostatistics

[0-3 credit hours]

This courses addresses areas of biostatistics not covered by a regular course offering. It is intended to provide students the knowledge and experience needed in that area. This course is designed for public health students and could be beneficial to Ph.D. students, specifically those who need advanced statistical techniques for their dissertation. Topics include survival analysis, statistical models in carcinogenesis, statistical genetics, nonparametric statistics and multivariate techniques. May be repeated for credit.

PUBH6800 Evaluation of Health Programs

[3 credit hours]

An exploration of types of program evaluation, evaluation models, data collection, types of data, data quality, evaluation reports, standard data collection instruments and ethical issues in health program evaluation (UT-Main). Prerequisites: HEAL 6460/HEAL 8460; co-requisite: HEAL 6750.

PUBH6810 Independent Study

[1-4 credit hours]

Supervised independent completion of an individual or group project or activity, or readings, on a specialized topic in public health. May be repeated for credit twice up to maximum of 8 hours.

PUBH6830 Internship in Public Health

[1-4 credit hours]

Supervised internship in public health. May be repeated for credit. Internship for all PHA and some PHN majors. (BGSU).

PUBH6840 Project in Public Health

[1-4 credit hours]

Supervised practicum experience in public health or completion of a project related to public health. Scholarly project for all PHA and some PHN majors.

PUBH6850 Capstone Seminar

[3 credit hours]

Integrative Seminar in Public Health (3). Systematic study of chosen topics in public health (BGSU).

PUBH6890 Indep Study in Public Health

[1-3 credit hours]

The student and instructor will agree on a program of study that will enable the student to achieve specific learning objectives in environmental health. May be repeated for credit.

PUBH6960 Internship in Public Health

[1-3 credit hours]

Comprehensive or focused practical training in environmental and occupational health at a designated agency, organization, or company.

PUBH6970 Project in Public Health

[1-4 credit hours]

Independent development by a student with approval and guidance by a Major Advisor, of a paper, manual, software, etc. applicable to a specific area of environmental and occupational health.

PUBH6980 Seminar in Public Health

[1-3 credit hours]

A systematic study of selected topics in public health. Course meets for three consecutive semesters. Students may begin any semester, but must complete in sequence. Students register for one credit each term for a cumulative total of three consecutive semesters. May be repeated for credit.

PUBH8010 Public Health Epidemiology

[3 credit hours]

This course will present principles of the epidemiology method including problem solving. Various study designs will be discussed, including prospective and retrospective studies, analytical, and experimental methods.

PUBH8030 Advanced Epidemiology

[3 credit hours]

The course covers principles and methods of epidemiology in depth. The topics include causal inference, risk and effect, confounding, interaction, randomization, and matching. Special emphasis is given to design and interpretation of epidemiological studies.

PUBH8120 Epidemiology Infectious Diesea

[3 credit hours]

Provides an overview of major infectious diseases affecting public health in the U.S. and worldwide; introducing the basic epidemiologic methods for surveillance and investigation of infectious disease outbreaks.

PUBH8130 Molecular Epidemiology

[3 credit hours]

This course covers both the major theoretical and practical issues of conducting an epidemiology study involving molecular and genomic techniques. The course will emphasize from infectious disease, chronic disease, and cancer research literature.

PUBH8150 Clinical Epidemiology

[3 credit hours]

This course focuses on epidemiologic concepts and methods in clinical medicine. Topics include clinical measurements and outcomes, risk, prognostic factors, clinical diagnosis, study design, decision analysis, clinical research and meta-analysis.

PUBH8160 Reproductive Epidemiology

[3 credit hours]

Additional assignments are here for students who will take this course as PUBH 8160. Covers broad reproductive health issues from the pre-conception, pre-natal, delivery, and post-natal periods and emphasizes how these issues affect women, men, babies, and infants. Relevant methodological and programmatic issues will be presented with practical illustrations from domestic and international settings. Guest speakers, including health care providers, will give real world experience and insight to these topics of study.

Prerequisites: PUBH 6010 FOR LEVEL GR WITH MIN. GRADE OF D- AND PUBH 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

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PUBH8180 Cancer Epidemiology

[3 credit hours]

Focuses on a number of cancers, including the most incident cancers in the United States. Provides a broad overview of cancer epidemiology and basic substantive knowledge regarding many cancers and their risk factors, prevention, and biology and pathogenesis.

PUBH8330 Public Health and Aging

[3 credit hours]

Examines public health and aging issues in contemporary society. Introduces physical, cognitive, and affective function from a public health perspective. Prevention and health promotion are included.

PUBH8410 Global Perspectives on Public Health and Disaster Preparedness

[3 credit hours]

This course introduces the introductory healthcare learner (including but not limited to MD, MPH, PA, MSN, MSBS, OT, PT) to specific principles of global perspectives on disaster management and response. Covers epidemiology of various diseases and population health issues from a global and domestic perspective. Employs an all-hazards framework, providing essential skills to function in the event of a catastrophe. Guest speakers from healthcare disciplines who work internationally will present first-hand experiences in managing disasters.

PUBH8510 Issues in Pandemic Preparedness and Response

[3 credit hours]

By means of synchronous, asynchronous, audiovisual, and simulation platforms, the learner will develop an in-depth knowledge concerning how the healthcare infrastructure of a community must plan for, respond to, and recover from a pandemic. The course is divided into four topic areas: 1) introduction; 2) preparedness; 3) response; and 4) recovery.

PUBH8550 Chronic Disease Epidemiology

[3 credit hours]

Epidemiology of selected chronic diseases and non-infectious conditions: cancer, cardiovascular diseases, musculoskeletal diseases and other chronic diseases. Emphasis on classification, rates, associations, etiology, prevention and control.

Prerequisites: PUBH 6010 FOR LEVEL GR WITH MIN. GRADE OF C OR PUBH 601 FOR LEVEL GR WITH MIN. GRADE OF C

PUBH8560 Interdisciplinary Crisis Management for Medical and Public Health Professionals

[3 credit hours]

The purpose of this semester course is to introduce the interdisciplinary healthcare learner (including but not limited to MD, PA, MPH, MSN, OT and PT students) to specific principles of epidemiology and disaster medicine employing an all-hazards framework and to provide essential skills enabling proper functioning in the event a catastrophe arises in the near future. The course will include lectures, simulation exercises and independent web-assisted content.

PUBH8640 Issues in Public Health

[3 credit hours]

Examination of various contemporary issues in public health. Included are social, economic, political and community problems in the provision of health services, health manpower and payment for health care.

RADI702 Radiology - UTMC

[0-6 credit hours]

Four one week blocks covering all imaging modalities dealing with the Central and Spinal Nervous System, the Musculoskeletal System including vascular, the Cardio-Pulmonary System, and the Gastro-Intestinal and Genito-Urinary System. Lectures on the basic physics of imaging, from x-ray to magnetic resonance. Instruction and use of the Picture Archiving and Communication System (PACS). An understanding of how images and interventions are performed.

RADI703 Abdominal Radiology Elective

[3 credit hours]

Designed as a two week supplement following Introduction to Diagnostic Radiology. One will participate in two weeks of Abdominal Radiology daily clinical activities. Students will attend all Abdominal radiology departmental case conferences provided during the rotation and various interdisciplinary conferences when available.

Prerequisites: RADI 705 FOR LEVEL MD WITH MIN. GRADE OF P OR RADI 760 FOR LEVEL MD WITH MIN. GRADE OF P OR RADI 762 FOR LEVEL MD WITH MIN. GRADE OF P

RADI704 Radiology Acting Internship

[6 credit hours]

An acting internship designed for the medical student who is planning to specialize in Diagnostic Radiology. During the 4 week rotation the student will be assigned to specific attending physicians, whom they will dictate cases with as if they were a resident and submit for review with feedback. Students will attend all radiology departmental case conferences provided during the rotation and various interdisciplinary conferences when available. Over the course of the 4 weeks the student will complete at least 4 case presentations, one of which be presented in an oral format and the others submitted online for review.

Prerequisites: MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

RADI705 Diagnostic Radiology

[3 credit hours]

This clerkship will offer the student a two-week rotation spent with the physician in the Radiology Department at Defiance Clinic or Fulton County Health Center. The student will study the diagnosis and treatment of diseases with the use of radiologic techniques, including contrast studies and radiation therapy.

RADI708 Thoracic Radiology Elective

[3 credit hours]

Designed as a two week supplement following Introduction to Diagnostic Radiology. One will participate in two weeks of Thoracic Radiology daily clinical activities. Students will attend all Thoracic radiology departmental case conferences provided during the rotaiton and various interdisciplinary conferences when available.

Prerequisites: RADI 705 FOR LEVEL MD WITH MIN. GRADE OF P OR RADI 760 FOR LEVEL MD WITH MIN. GRADE OF P OR RADI 762 FOR LEVEL MD WITH MIN. GRADE OF P

RADI709 Interventional Radiology

[6 credit hours]

This a four week elective in interventional radiology. The goal of the rotation is to provide students with exposure to the various procedures and instruments of interventional radiology. Students will be expected to have an understanding of the basic procures, their indications, their contraindications, and alternative care options. Students are expected to observe interventional radiology procedures and to participate on inpatient rounding while on service. Students are expected to attend at least one outpatient day a week while on service and to prepare a presentation on an interventional radiology topic or interesting patient encounter while on service. Students are expected to take call at least one weekend day while on service.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P AND (RADI 760 FOR LEVEL MD WITH MIN. GRADE OF P OR RADI 705 FOR LEVEL MD WITH MIN. GRADE OF P)

RADI760 Radiology - UTMC

[6 credit hours]

Four one week blocks covering all imaging modalities dealing with the Central and Spinal Nervous System, the Musculoskeletal System including vascular, the Cardio-Pulmonary System, and the Gastro-Intestinal and Genito-Urinary System. Lectures on the basic physics of imaging, from x-ray to magnetic resonance. Instruction and use of the Picture Archiving and Communication System (PACS). An understanding of how images and interventions are performed.

RADI761 Radiology Elective

[6 credit hours]

This clerkship will offer the student a four-week rotation spent with the physician in the Radiology Department. The student will study the diagnosis and treatment of diseases with the use of radiological techniques, including contrast studies and radiation therapy.

RADI762 Radiology/Pathology Clerkship

[3 credit hours]

Students will spend 2 weeks in the Department of Radiology and 2 weeks in the Department of Pathology. The overall course will bridge radiology and pathology subspecialities to prepare students to best utilize departmental resources (i.e. testing, consultation, procedures) as they transition into clinical practice. Students will participate in a plethora of clinical activities in the Department of Radiology include 1/2 day subspeciality assignments in Cardiothoracic, Gastrointestinal, Genitourinary, Musculoskeletal, and Neuroradiolofy as well as 1/2 day modality based experiences in diagnostic radiography/mammography, CT, MRI, ultrasound and nuclear medicine. While in Pathology students will participate in all anatomic and clinical activities in the Department of Pathology including surgical pathology, cytology, hematology, chemistry, immunology, microbiology, molecular pathology, genomics and transplant immunology. Students will attend all radiology and pathology departmental case conferences provided during the rotation and various interdisciplinary conferences when available.

RCBS3010 Respiratory Care Fundamentals

[4 credit hours]

A study of the anatomy and physiology of the respiratory and cardiovascular systems, including the physics of gas exchange, ventilation, and blood flow.

RCBS3020 Respiratory Care Practice I

[4 credit hours]

An introductory experience in the basic assessment and care of the patient with cardiopulmonary disease. Ethical issues, interpersonal communication, and infection control in the healthcare setting will also be covered.

RCBS3110 Respiratory Care Therapeutics I

[4 credit hours]

Etiology, pathophysiology, clinical manifestations, and treatment of selected diseases of pulmonary and cardiovascular systems with emphasis on pharmacologic principles and agents used in the treatment of those diseases.

Prerequisites: (RCBS 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3020 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS3120 Respiratory Care Practice II

[7 credit hours]

Didactic, laboratory, and introductory chinical experiences with a variety of equipment and procedures that are used to establish and maintain a patent airway, and to monitor and treat patients with cardiopulmonary diseases.

Prerequisites: (RCBS 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3020 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS3130 Cardiopulmonary Diagnostics I

[4 credit hours]

Discussion of the theory and selected techniques used in cardiopulmonary diagnostics, including analysis of blood gases, cardiac rhythms, hemodynamic monitoring values, spirometry results, and chest x-rays.

Prerequisites: (RCBS 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3020 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS3210 Respiratory Care Therapeutics II

[4 credit hours]

Continuation of RCBS 3110 with consideration of disease states of the pulmonary and cardiovascular systems not previously considered. Emphasis on analysis of assessment, diagnosis and treatment of individual patients by students.

Prerequisites: (RCBS 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3120 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3130 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS3220 Respiratory Care Practice III

[7 credit hours]

Theoretical principles involved in the initiation, maintenance, and discontinuance of mechanical ventilation. Laboratory experiences with a variety of adult mechanical ventilators. Clinical experiences providing respiratory care for patients requiring mechanical ventilation.

Prerequisites: (RCBS 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3120 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3130 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS3230 Cardiopulmonary Diagnostics II

[3 credit hours]

Classroom and laboratory experiences in the theory and practice of selected cardiopulmonary diagnostic procedures including measures of pulmonary volumes, flows, gas distribution, and gas diffusion. Capnography, exercise tasting, and specialized test regimens will also be covered.

Prerequisites: (RCBS 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3120 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3130 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS3300 Advanced Cardiac Life Support

[1 credit hour]

American Heart Association Advanced Cardiac Life Support course designed to aid in the management of cardiopulmonary emergencies. Students must have previous knowledge of cardiac pharmacology and rhythms, and current CPR certification.

RCBS4140 Integrated Clinical Practice I

[4 credit hours]

Clinical experiences in the acute care setting that requires the application of theory related to the diagnosis, treatment and management of adult, neonatal and pediatric patients with cardiopulmonary disease.

Prerequisites: (RCBS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3220 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3230 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS4150 Neonatal/Pediatric Respiratory Care

[4 credit hours]

A discussion of the etiology, pathophysiology and treatment of neonatal and pediatric disorders. Laboratory exercises designed to familiarize student with neonatal and pediatric resuscitation and ventilation.

Prerequisites: (RCBS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3220 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3230 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS4160 Clinical Assessment

[3 credit hours]

This course will provide the students with knowledge and enhance their critical thinking skills related to patient assessment and the development and modification of patient respiratory care plans.

Prerequisites: (RCBS 3210 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3220 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 3230 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS4240 Integrated Clinical Practice II

[3 credit hours]

Clinical experiences with a primary focus on advanced skills used in the management of cardiopulmonary patients of all ages in the acute and subacute care settings.

Prerequisites: (RCBS 4150 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 4140 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCBS4510 Respiratory Care in Alternate Sites

[3 credit hours]

The delivery of care to cardiopulmonary patients outside of the acute care facility will be discussed. Standards of care in addition to the funding of this care will be investigated. Special procedures in respiratory care will be presented.

RCBS4700 Research Analysis In Respiratory Care

[3 credit hours]

Review of appropriate statistical knowledge required to analyze applied/clinical and basic published research. Includes a review of the elements of basic research design, reliability and validity, and critical review of cardiopulmonary research literature.

RCBS4800 Issues In Professional Practice

[3 credit hours]

A capstone course designed to prepare the senior student for professional practice. Decision-making skills in complex clinical situations are developed through the use of clinical simulations and student case presentations.

Prerequisites: (RCBS 4140 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 4150 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCBS 4160 FOR LEVEL UG WITH MIN. GRADE OF D-) AND RCBS 4700 FOR LEVEL UG WITH MIN. GRADE OF D-

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RCBS4810 Preparation For Professional Practice

[1 credit hour]

This laboratory course is designed to complement the corequistite RCBS 4800 lecture course. Emphasis on enhancing the students' ability to integrate complex cognitive and psychomotor skills in preparation for professional practice.

RCBS4990 Independent Study

[1-4 credit hours]

Independent study of specific topics and issues under the supervision of a faculty member of the department of health promotion and human performance. The student will participate in independent reading, clinical/laboratory research, field experience and other similar activities. Independent study course must have a specialty; seminar sheet required.

RCRT1300 Introduction To Recreation And Leisure Studies

[3 credit hours]

An introductory course which gives an overview of recreation and leisure in educational, governmental, institutional and professional settings. Explores historical, social and economic implications from personal and professional perspectives. Minimum "C" required for RCRT majors.

RCRT1310 Recreation Programming

[3 credit hours]

An introductory course that presents theories and principles of programming, program planning, practical experiences in implementation, and facilitation of recreational programs. Minimum "C" required for RCRT majors.

RCRT2200 Principles of Travel, Tourism and Event Planning

[3 credit hours]

Travel and tourism is one of the largest industries in the world today. Students will be introduced to the principles of tourism, industry history, types and functions of tourism sectors, the tourism distribution system, the role of stakeholders in the creation and delivery of tourism, and motivations for travel as a means of understanding tourism demand.

RCRT3310 Inclusive Recreation

[3 credit hours]

An introductory course which defines the principals of inclusion and major legislation that impacts the provision and delivery of recreational services for individuals with disabilities. Thirty hour volunteer component required. Minimum "C" required for RCRT majors.

RCRT3710 Leadership and Administration In Outdoor Pursuits

[3 credit hours]

An introduction to theory and techniques of adventure programming as a treatment protocol and/or leisure education tool. Students learn and apply the components of risk management through the development of a risk management plan and practical implication exercises. Outdoor trips required. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 1310 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4000 Community Event Planning

[3 credit hours]

This course introduces the principles, strategies, and risk management concerns for planning a variety of events to achieve treatment outcomes and community/social integration. Students gain experience planning accessible events for a variety of group sizes and diverse populations. Event critiques required. Minimum "C" required for RCRT majors.

RCRT4010 Planning & Promotion of Sport

[3 credit hours]

This course focuses on the basic principles of marketing and delivery of services associated with intercollegiate athletics, professional, and multi-sport club operations, facilities and management of resources. This course also examines motivation and behavior of sports tourists.

RCRT4330 Administration In Recreation And Recreational Therapy

[3 credit hours]

This course focuses on the administrative functions of delivering therapeutic recreation services. Students will gain an understanding of the aspects of management principles including ethics, legislation, technology, quality management, risk management, financial and human resources, marketing, and accrediting agencies. Minimum "C" required for RCRT majors.

RCRT4340 Leisure Recreation And Aging

[3 credit hours]

This course provides a study of the impacts of aging on leisure and recreation activities during middle and later adulthood by investigating the aging process, leisure across the lifespan, and the impact of leisure and recreation on quality of life and wellness. Minimum "C" required for RCRT majors.

RCRT4440 Park And Recreation Planning

[3 credit hours]

An integration of landscape architecture, facility design and location, as well as the functional aesthetic considerations of park and recreational facility planning. Emphasis will be on plan-formulation procedures.

RCRT4450 Research Applications In Recreation And Recreational Therapy

[3 credit hours]

This course introduces research applications utilized by Recreation Therapy practitioners. Students will learn about evidence based practice, development and implementation of survey research, and the use of experimental designs. Minimum "C" required for RCRT majors.

RCRT4600 Therapeutic Arts

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using arts and crafts modalities. Minimum "C" required for RCRT majors.

RCRT4610 Rt Intervention: Horticulture Therapy

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using horticulture modalities. Minimum "C" required for RCRT majors.

RCRT4620 Animal Assisted Therapy

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using a variety of animal-assisted modalities. Minimum "C" required for RCRT majors.

RCRT4630 Therapeutic Activities

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using a variety of games, humor and play modalities. Minimum "C" required for RCRT majors.

RCRT4640 Rt Intervention: Therapeutic Groups

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using therapeutic group techniques and processes as a modality. Minimum "C" required for RCRT majors.

RCRT4660 Relaxation And Stress Management

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using relaxation and stress management techniques as a modality. Minimum "C" required for RCRT majors.

RCRT4670 Rt Intervention: Leisure Education

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using leisure education activities, including: social skills, values clarification, leisure awareness, resources and knowledge. Minimum "C" required for RCRT majors.

RCRT4680 Rt Intervention: Assistive Technology And Techniques

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes utilizing assistive technology, techniques, and resources in therapeutic settings. Minimum "C" required for RCRT majors.

RCRT4690 Rt Intervention: Aquatic Therapy

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes utilizing swimming, evidence-based aquatic programming methods, and resources. Minimum "C" required for RCRT majors.

RCRT4720 Introduction To Therapeutic Recreation

[3 credit hours]

This course is designed to introduce the student to theories, models, principles, and history of therapeutic recreation service. Through lectures, discussions and self-directed learning activities, the student will examine the structure and function of therapeutic recreation processes in a variety of treatment settings. Minimum "C" required for RCRT majors.

RCRT4730 Medical And Clinical Aspects Of Therapeutic Recreation

[3 credit hours]

This course is designed to provide the student with in-depth knowledge of health-related conditions or disabilities related to physical, neurological, sensory and metabolic impairments across the lifespan. Uses of pharmacological interventions, family involvement, programming, and other implications impacting Therapeutic Recreation practice will be examined. Minimum "C" required for RCRT majors.

RCRT4740 Assessment And Documentation In Therapeutic Recreation

[3 credit hours]

This course introduces the student to the APIE(D) process, reviews assessment tools (standardized and self-designed) used in practice, common documentation methods and skills needed for therapeutic recreation practice including: initial assessment, treatment planning, documentation, and discharge planning. Minimum "C" required for RCRT majors.

RCRT4750 Group Dynamics In Recreational Therapy

[3 credit hours]

This course introduces students to the concepts and theories of the therapeutic group process as it applies to professional practice. Students will be introduced to and practice: facilitation skills, behavior modification techniques, and effective communication and leadership skills. Minimum "C" required for RCRT majors.

RCRT4760 Research Administrative Programming In Therapeutic Recreation

[3 credit hours]

Course will focus on current issues and techniques relating to comprehensive research program design, implementation and evaluation relating to the practice of therapeutic recreation.

Prerequisites: (RCRT 4720 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCRT 4730 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCRT 4740 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCRT4770 Project Design

[2 credit hours]

In support of the recreation therapy internship the student will design a capstone project that links practical experience with formal academic preparation.

RCRT4780 Project Evaluation

[2 credit hours]

In support of RCRT 4770, this course requires the student to implement, evaluate, and prepare a professional presentation of the recreation therapy internship capstone project.

RCRT4790 Medical & Clinical Aspects In Therapeutic Recreation II

[3 credit hours]

This course is designed to provide the student with in-depth knowledge of health-related conditions or disabilities related to intellectual and developmental disabilities and psychological impairments across the lifespan. Uses of pharmacological interventions, family involvement, programming, and other implications impacting Therapeutic Recreation practice will be examined. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4730 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4800 Clinical: Physical Rehabilitation

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a physical rehabilitation population. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4730 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4810 Clinical: Psychiatric Rehabilitation

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a psychiatric rehabilitation population. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4730 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4820 Clinical: Intellectual Deficit/Developmental Disability

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with an ID/DD rehabilitation population. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4730 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4830 Clinical: Geriatric

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a geriatric population. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4730 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4840 Clinical: Pediatric

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a pediatric population. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4730 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4850 Internship Preparation

[1 credit hour]

This course is designed to prepare the student for the internship process and professional employment in recreation therapy. Students will learn and practice professional skills; such as, resume writing, interviewing techniques, and professionalism. Student internship expectations and professional certifications and licensure are also addressed. Minimum "C" required for RCRT majors.

RCRT4860 Therapeutic Fitness

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using therapeutic fitness modalities. Minimum "C" required for RCRT majors.

RCRT4870 Program Planning In Recreational Therapy

[3 credit hours]

This course requires the student to apply cumulative knowledge of the APIE(D) process through designing evidence-based: treatment programs, program evaluations, protocols and treatment plans in recreation therapy practice. Minimum "C" required for RCRT majors.

RCRT4900 Seminar In Recreation And Leisure

[1-3 credit hours]

This course provides faculty the opportunity to develop additional curriculum in recreation therapy related academic areas not offered as part of the current curriculum. Minimum "C" required for RCRT majors.

RCRT4930 Senior Internship

[4 credit hours]

An opportunity for the student to become totally involved as an intern in functionally related tasks which will help prepare for an appropriate role as a professional in the field. Not available for therapeutic recreation students. This course may be taken twice in the same semester.

RCRT4940 Internship In Recreational Therapy

[5 credit hours]

In accordance with the University of Toledo and NCTRC certification requirements, this course requires 560 hours of internship experience over a minimum of 14 consecutive weeks supervised by a CTRS . The internship experience is only offered in the summer and requires faculty approval. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4950 FOR LEVEL UG WITH MIN. GRADE OF D-

RCRT4990 Independent Study In Recreation And Leisure Studies

[1-3 credit hours]

This course provides students the opportunity to develop an independent learning experience in support of academic and/or professional interests. Minimum "C" required for RCRT majors.

RCRT5100 Community Event Planning

[3 credit hours]

This course provides the graduate student with an advanced understanding of the event planning process including: risk and risk management, ethics, inclusivity, planning, budgeting, organizing, location selection, travel logistics, venue and guest requirements, marketing, and food and beverage considerations.

RCRT5200 Planning and Promotion of Sport

[3 credit hours]

This course provides the graduate student with an advanced understanding of the principles of marketing and delivery of services associated with intercollegiate athletics, professional, and multi-sport club operations, facilities and management of resources. This course also examines motivation and behavior of sports tourists.

RCRT5300 Recreation And Adaptation For Special Education

[3 credit hours]

This course provides the graduate student with an advanced understanding of the principals of inclusion and major legislation that impacts the provision and delivery of recreational services for individuals with disabilities.

RCRT5310 Leisure And Popular Culture

[3 credit hours]

This course provides the graduate student with an advanced understanding of leisure theory, philosophy, and behavior and its application to the delivery of leisure services within contemporary culture.

RCRT5320 Administration In Recreation And Recreational Therapy

[3 credit hours]

This course provides the graduate student with an advanced understanding of the administrative functions of delivering recreation and therapeutic recreation services. Students will master and apply the aspects of management principles including ethics, legislation, technology, quality management, risk management, financial and human resources, marketing, and accreditation..

RCRT5340 Leisure, Recreation And Aging

[3 credit hours]

This course provides the graduate student with an advanced understanding of the impacts of aging on leisure and recreation behavior and activity during middle and later adulthood by investigating the aging process, leisure across the lifespan, and the impact of leisure and recreation on quality of life and wellness.

RCRT5410 Facility Planning and Design

[3 credit hours]

This course provides the graduate student with an advanced understanding of, and ability to apply, the principles of design and the site design process to the development of recreation-based facilities. Specific areas of the design process presented include: tools of the trade, functional and aesthetic considerations, research, regional and site analysis, programming, final design development, construction, management, and evaluation.

RCRT5420 Leisure Program Research Techniques

[3 credit hours]

This course provides the graduate student with an advanced understanding of, and ability to apply, the basic components of research in the academic and professional practice setting including: ethics, human subject protection, research concepts, topic identification, theoretical roots, literature review development, sample selection, methodologies, instrument testing, data collection and analysis procedures, and research reporting.

RCRT5610 Adventure Programming in Recreation and Recreation Therapy

[3 credit hours]

This course provides the graduate student with an advanced understanding of, and ability to apply, theories and techniques of adventure programming as a treatment protocol and/or leisure education tool. Outdoor trips required.

RCRT5620 Animal Assisted Therapy

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using a variety of animal-assisted modalities.

RCRT5630 Therapeutic Activities

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using a variety of games, humor and play modalities.

RCRT5640 Rt Intervention: Therapeutic Groups

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using therapeutic group techniques and processes as a modality.

RCRT5660 Relaxation And Stress Management

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using relaxation and stress management techniques as a modality.

Prerequisites: (RCRT 1310 FOR LEVEL UG WITH MIN. GRADE OF D- AND RCRT 4720 FOR LEVEL UG WITH MIN. GRADE OF D-)

RCRT5670 Rt Intervention: Leisure Education

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using leisure education activities, including: social skills, values clarification, leisure awareness, resources and knowledge. Minimum

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RCRT5680 Rt Intervention: Assistive Technology & Techniques

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes utilizing assistive technology, techniques, and resources in therapeutic settings.

RCRT5690 Rt Intervention: Aquatic Therapy

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes utilizing swimming, evidence-based aquatic programming methods, and resources.

RCRT5720 Introduction To Therapeutic Recreation

[3 credit hours]

This course is designed to introduce graduate students who do not have a background in therapeutic recreation to the theories, models, principles, and history of therapeutic recreation service. Through lectures, discussions and self-directed learning activities, the student will examine the structure and function of therapeutic recreation processes in a variety of treatment settings.

RCRT5730 Medical & Clinical Aspects Of Therapeutic Recreation

[3 credit hours]

This course provides the graduate student with an advanced understanding of health-related conditions or disabilities related to physical, neurological, sensory and metabolic impairments across the lifespan. Uses of pharmacological interventions, family involvement, programming, and other implications impacting Therapeutic Recreation practice are examined.

RCRT5750 Group Dynamics In Recreational Therapy

[3 credit hours]

This course provides the graduate student with an advanced understanding, and ability to apply, concepts and theories of the therapeutic group process as applicable to professional practice. Students will be introduced to and practice: facilitation skills, behavior modification techniques, and effective communication and leadership skills.

RCRT5760 APIE in Recreation Therapy

[3 credit hours]

This course addresses the procedures and processes of assessment, planning, implementation and evaluation of recreation therapy services.

RCRT5790 Medical & Clinical Aspects Of Therapeutic Recreation II

[3 credit hours]

This course provides the graduate student with an advanced understanding of health-related conditions or disabilities related to intellectual and developmental disabilities and psychological impairments across the lifespan. Uses of pharmacological interventions, family involvement, programming, and other implications impacting Therapeutic Recreation practice will be examined.

RCRT5800 Clinical: Physical Rehabilitation

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a physical rehabilitation population.

RCRT5810 Clinical: Psychiatric Rehabilitation

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a psychiatric rehabilitation population.

RCRT5820 Clinical: Mental Retardation/Developmental Disability

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with an ID/DD rehabilitation population.

RCRT5830 Clinical: Geriatric

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a geriatric population.

RCRT5860 Therapeutic Fitness

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using therapeutic fitness modalities.

RCRT5870 Program Planning In Recreational Therapy

[3 credit hours]

This course requires the graduate student to apply cumulative knowledge of the APIE(D) process through designing evidence-based: treatment programs, program evaluations, protocols and treatment plans in recreation therapy practice.

RCRT5900 Rt Intervention: Craft Therapy

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using craft therapy modalities.

RCRT5910 Rt Intervention: Horticulture Therapy

[1 credit hour]

This course provides the graduate student with advanced skill development needed to implement therapeutic outcomes using horticulture therapy modalities.

RCRT5940 Internship In Recreation And Leisure

[1-6 credit hours]

This course provides the graduate student with the opportunity to complete an internship under the supervision of a recreation professional in partial fulfillment for the MA degree in recreation and leisure studies.

RCRT6000 Issues And Trends In Recreation/Recreational Therapy

[3 credit hours]

This course provides the graduate student with an advanced understanding of the issues and trends impacting the delivery of recreation and recreation therapy services in diverse professional settings.

RCRT6020 Financial Resources Of Recreation And Recreational Therapy

[3 credit hours]

This course provides the graduate student with an advanced understanding of the finincial management concepts and resources supporting the delivery of recreation and recreation therapy services.

RCRT6920 Master's Project In Recreation And Leisure

[1-4 credit hours]

This course provides the graduate student with the opportunity to complete a Master's project under the supervision of a project committee in partial fulfillment for the MA degree in recreation and leisure studies.

RCRT6940 Internship

[1-4 credit hours]

This course provides the graduate student with the opportunity to complete an advanced internship under the supervision of a recreation professional in partial fulfillment for the MA degree in recreation and leisure studies.

RCRT6960 Master's Thesis In Recreation And Leisure

[1-4 credit hours]

This course provides the graduate student with the opportunity to complete a Master's Thesis under the supervision of a thesis committee in partial fulfillment for the MA degree in recreation and leisure studies.

RCRT6990 Independent Study In Recreation And Leisure

[1-3 credit hours]

This course provides the graduate student with the opportunity to develop an advanced independent learning experience in support of academic and/or professional interests.

RDON701 Radiation Oncology

[6 credit hours]

Students will participate or observe inpatient/outpatient functions including clinical and surgical procedures. Clinic hours are 8:00 a.m. to 4:30 p.m., Monday through Friday without exception. Absence from the clinic must be pre-authorized by the Chairman. Students are provided one-on-one instruction throughout their clinical rotation. Attendance at weekly Tumor Conference is expected. Students are also expected to accompany one of the radiation oncologists at the weekly St. Luke¿s Hospital Tumor Conference and the monthly Tumor Conference at Fulton County Health Center in Wauseon, Ohio. Reference and research materials are available for the students and specific readings may be assigned by the physician to enhance the learning experience. Students are always invited to visit the clinic and seek further information prior to registering for the rotation. At least one week prior to the beginning of the rotation, the student will receive a letter outlining the activities for the month, the expectations, and where to report for their clinical experience.

RDON760 Radiation Oncology Elective

[6 credit hours]

Students will participate or observe inpatient/outpatient functions including clinical and surgical procedures. Clinic hourse are 8:00 a.m. to 4:30 p.m., Monday through Friday without exception. Absence from the clinic must be pre-authorized from the Chairman. Students are provided one-on-one instruction throughout their clinical rotation. Attendance at weekly Tumor Conference is expected. Reference and research materials are available for the students and specific readings may be assigned by the physician to enhance the learning experience. Students are always invited to visit the clinic and seek further information prior to registering for the rotation. At least one week prior to the beginning of the rotation, the student will receive a letter outlining the activities for the month, the expectations, and where to report for their clinical experience.

REL1220 World Religions

[3 credit hours]

A study of the major religions of the world, with an emphasis on their histories, beliefs and practices

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REL2000 Introduction To Religion

[3 credit hours]

Critical and thematic study of the concepts, values, practices and world-views intrinsic to the religious life.

REL2070 Early Judaism

[3 credit hours]

Institutions, culture and religion from the earliest times through the Biblical period to the Medieval period.

REL2300 Understanding The Monotheistic Religions

[3 credit hours]

A critical examination of the similarities and differences between the three major manifestations of monotheistic religion in the Western Tradition, Islam, Judaism and Christianity.

REL2310 Old Testament/Tanakh

[3 credit hours]

An examination of the history and ideas of the Jewish scriptures within the context of Judaism and their appropriation within Christian traditions.

REL2330 New Testament History And Ideas

[3 credit hours]

Examination of the history and ideas of the New Testament.

REL2350 Bible And Church Authority

[3 credit hours]

This course will explore issues related to the sources and exercise of religious authority within Christianity, with an extended consideration given to a particular Christian tradition determined by the instructor.

REL2380 Topics In Catholic Thought

[3 credit hours]

Critical examination of selected topics in contemporary Catholic thought and life.

REL2410 Introduction To Christian Thought

[3 credit hours]

This course will introduce students to the fundamental creedal commitments of Christianity, with an extended consideration given to a particular Christian tradition determined by the instructor.

REL2500 Introduction To Islam

[3 credit hours]

An introduction to the academic understanding of Islam. Topics may include; faith, rituals, law (Shari'h), jurisprudence (Figh), theology (Kalam), and stories from the Islamic heritage. Non-Western multicultural course.

REL2610 Religious Studies Topics In The Humanities

[3 credit hours]

Cross-listings with 2000-level courses offered in the humanities departments. Specific topics vary, and course may be repeated for credit as topics vary. Check course schedules for specific subject and prerequisites.

REL2980 Special Topics In Religious Studies

[3 credit hours]

Special topics courses. Course may be repeated for credit as topics vary.

REL3000 Religious Studies Proseminar

[1 credit hour]

This course enhances students' professional development in fields related to religious studies.

REL3080 Jewish Biblical Studies

[3 credit hours]

An examination of the texts and methods of historical and contemporary Jewish scriptural studies.

REL3100 Islam

[3 credit hours]

An overview of the central doctrines and the many cultural expressions of Islam, the role of the Qur'an and the Prophet Muhammad, Hadith as religious narrative, and tensions between law, modernity, and mysticism.

REL3210 Ancient And Medieval Philosophy

[3 credit hours]

A study of ancient and medieval philosophy from the pre-Socratics to Aquinas.

REL3350 The Qur'an And Hadith

[3 credit hours]

A study of the two main texts for Islamic belief and practice: Qur'an and the Hadith (the tradition of the Prophet Muhammad). Topics include their thematic structure, methods of interpretation, and their unique authority within Islam.

REL3420 Christian Ethical Perspectives

[3 credit hours]

This course will study fundamental ethical concerns in Christian thought, with an extended consideration given to a particular Christian tradition determined by the instructor.

REL3500 Eastern Thought

[3 credit hours]

An examination of major philosophies of Asia and the Far East, their specific concerns and their relevance to contemporary problems.

REL3570 Philosophy Of Religion

[3 credit hours]

A critical, philosophical exploration of questions about the nature of religion, including the existence and nature of God, the problem of evil, and the relation between faith and knowledge. Other topics may include the relation of religion to science and morality, as well as the role of religious experience and miracles in religious belief.

REL3580 Contemporary Issues In Islam

[3 credit hours]

An examination of key contemporary issues facing Islamic thought and culture, such as the changing and contested understandings of religious authority, jihad, role of women, courting, and family norms and the effects on all these of globalization and social media. Course may be repeated for credit as topics vary. Non-Western multicultural course.

REL3610 Religious Studies Topics In The Humanities

[3 credit hours]

Cross listings with 3000-level courses offered in the humanities departments. Specific topics vary, and course may be repeated for credit as topics vary. Check course schedules for specific subject and prerequisites.

REL3670 Christian Worship And Ritual

[3 credit hours]

This course will explore the history of both Christian ritual practice and the diverse theological understandings of that practice, with a focus on a particular Christian tradition determined by the instructor.

REL3710 Literature Of The Old Testament

[3 credit hours]

A study of the Old Testament from the literary point of view, including ancient poetry, history, romance, short story, hymn, prophecy and wisdom writing. Recommended: ENGL 2700 or 2800.

REL3720 Literature And Mythology

[3 credit hours]

Study of classical and biblical mythologies in modern Western literature, private mythologies and literary adaptations of patterns from legend and folklore. Recommended: ENGL 2700 or 2800.

REL3900 Seminar-Contemporary Religious Thought

[3 credit hours]

A critical examination of selected topics in the area of religion.

REL3980 Special Topics In Religious Studies

[3 credit hours]

Special topics courses. Course may be repeated for credit as topics vary.

REL4600 Religious Studies Topics In The Arts

[3 credit hours]

Cross listings with 4000-level courses offered in the visual and performing arts departments. Specific topics vary, and course may be repeated for credit as topics vary. Check course schedules for specific subject and prerequisites.

REL4610 Religious Studies Topics In The Humanities

[3 credit hours]

Cross listings with 4000-level courses offered in the humanities departments. Specific topics vary, and course may be repeated for credit as topics vary. Check course schedules for specific subject and prerequisites.

REL4630 Religion, Violence and Peace

[3 credit hours]

This seminar is a sustained exploration of whether religion is related to the occurrence of violence, peace or community-building, and if so, when and how.

REL4820 Anthropology Of Religion

[3 credit hours]

Cross-cultural comparison of religious concepts, roles, and practices. The analysis of religious symbolism as well as their sociopolitical and economic basis.

Prerequisites: ANTH 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

REL4900 Seminar In Religious Studies

[3 credit hours]

Topics vary. Course may be repeated for credit as topics vary. See adviser for Seminar Request Form.

REL4920 Directed Readings In Religious Studies

[1-4 credit hours]

Critical inquiry of selected works under the guidance of an instructor on a topic not offered as a regular course.

REL4940 Internship In Religious Studies

[1-6 credit hours]

Student is placed in a campus or community setting approved by the instructor of record to work on issues pertaining to religion, and analyzes verbally and in writing how religion functioned in this setting.

REL4960 Senior Thesis for Honors

[3 credit hours]

Prerequisite: Junior standing and consent of program director

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REL4980 Special Topics In Religious Studies

[3 credit hours]

Topics vary. Course may be repeated for credit as topics vary.

REL4990 Independent Study In Religious Studies

[1-4 credit hours]

Directed study in religious studies under the supervision of a religious studies instructor.

REL5930 Seminar In Religion

[3 credit hours]

Advanced academic study of a thinker or topic in religion.

RESM4100 Educational Statistics

[3 credit hours]

Introduction to major concepts of statistical description; central tendency, dispersion, and relative position and relationship. Inferential methods such as t-tests, one-way analysis of variance and multiple comparisons are also presented.

RESM4200 Classroom Assessment

[3 credit hours]

Familiarizes preservice teachers with concepts and principles of classroom assessment. Examines formal and informal strategies for assessing student achievement and explores conceptual and practical issues in assessment and grading.

RESM4990 Independent Study In Educational Research

[1-4 credit hours]

The study of a current topic in educational research, measurement, statistics, or program evaluation. The student meets with the instructor at arranged intervals without formal classes.

RESM5110 Quantitative Methods I

[3 credit hours]

This course introduces the major concepts of statistical description, including central tendency, dispersion, and relative position and relationship. Inferential methods such as t-tests, one-way analysis of variance, and multiple group analyses are also presented.

RESM5210 Educational Testing And Grading

[3 credit hours]

This course introduces the development, administration and interpretation of teacher-made tests and other pupil assessments; basic principles underlying norm- and criterion-referenced tests; problems and issues in grading systems and assigning grades; standardized testing and Value-Added Models.

RESM5220 Applied Assessment for Improved Practice

[3 credit hours]

This is an advanced course in classroom assessment with a focus on informed and applied evidence-based decision making. Key components are the analysis and reporting of results from assessment datasets, the creation of formative and summative assessment action plans based on analysis results, and the incorporation of 21st century technology tools to support assessment planning and instructional decisions.

Prerequisites: RESM 4200 FOR LEVEL UG WITH MIN. GRADE OF C OR RESM 5210 FOR LEVEL GR WITH MIN. GRADE OF C

RESM5310 Educational Research

[3 credit hours]

This course offers an introduction to the history and foundations of research processes from the consumer's perspective. It introduces qualitative, quantitative, and mixed methods approaches for understanding research problems.

RESM5330 Qualitative Research I: Introduction And Basic Methods

[3 credit hours]

This course introduces history and theoretical underpinnings of qualitative research. Students then learn and practice fundamental methods of participant-observation, fieldnotes, interviewing, and transcription, and explore common models of qualitative research.

RESM5950 Workshop In Research And Measurement

[3 credit hours]

Each workshop is developed around a topic of interest and concern to inservice teachers and other educational personnel. Practical application of workshop topics will be emphasized.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6120 Quantitative Methods II

[3 credit hours]

This course covers the major inferential statistical techniques common to the behavioral sciences. Correlation, factorial analysis of variance, and linear regression are major topics. Computer applications are included.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6130 Multivariate Statistics

[3 credit hours]

This course covers multivariate analysis of variance, canonical correlation, discriminant analysis, repeated measures and factor analysis. Computer applications are included.

Prerequisites: RESM 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8120 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6140 Advanced Quantitative Methods

[3 credit hours]

This course exposes students to various experimental designs, such as complete and fractional factorial designs, repeated measures designs, and nested designs. Both the conceptual rationale and the computational procedures are covered.

Prerequisites: RESM 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8120 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6150 Structural Equation Modeling

[3 credit hours]

This course introduces structural equation modeling as a statistical method to assess the strengths of a priori relations among variables. Topics include path analysis and confirmatory factor analysis. Computer applications with AMOS are included.

Prerequisites: RESM 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8120 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6160 Nonparametric Statistics

[3 credit hours]

This course introduces the most common nonparametric statistical techniques as well as recent developments in this field. Coverage includes contingency tables, binomial distribution tests, several rank tests and other distribution-free statistics.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6220 Measurement I

[3 credit hours]

This course introduces psychometric theories, with emphasis on classical test theory; reliability theory, including generalizability theory; approaches to validation; practical applications such as standard setting.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6230 Measurement II

[3 credit hours]

This course covers advanced measurement-related topics with a focus on IRT with emphasis on 1- 2- and 3-parameter logistic models, Generalizability, test equating, scaling, item/test bias detection methods and current issues.

Prerequisites: (RESM 6220 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8220 FOR LEVEL GR WITH MIN. GRADE OF C) AND RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6320 Research Design

[3 credit hours]

This course exposes students to quantitative and mixed method research approaches that are used in theses and dissertations. Competing designs for addressing research questions are compared. The purpose is to prepare students for their dissertation experience.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6340 Qualitative Research II: Design And Analysis

[3 credit hours]

This course takes student through the design, implementation, and write up a qualitative study. Topics include theoretical frameworks and research design; managing, analyzing and interpreting data; collaboration between researcher and researched; using computers in analysis.

Prerequisites: RESM 5330 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 7330 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6350 Methods Of Survey Research

[3 credit hours]

This course contextualizes survey development within a broad theoretical framework and and tproceeds through the literature, problem, purpose, methods, and sampling. Particular emphasis is placed on the validity implications of each.

Prerequisites: RESM 6120 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6360 Program Evaluation

[3 credit hours]

An overview of prominent human services program evaluation methods including objectives-based, experimental, statistical and economic approaches. Evaluation criteria, issues, ethics and politics are considered.

Prerequisites: RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 7110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM6370 Fundamentals Of Grant Writing

[3 credit hours]

This seminar teaches participants about fundamentals of grant writing. Topics covered include: locating sources of funding, writing grants, designing evaluation instruments and administering grants.

RESM6940 Internships In Measurement, Evaluation, Research & Statistics

[3 credit hours]

This is a supervised field experience in measurement, evaluation, research design, or statistics in a variety of settings.

RESM6960 Master's Thesis In Educational Research

[1-3 credit hours]

This option is open to a graduate student who elects the completion of a research thesis in fulfilling the research requirement of the master's degree.

RESM6980 Master's Project In Educational Research

[1-3 credit hours]

This is a formal independent project applying principles of research and/or measurement to solve a particular problem and culminating in a written discourse.

RESM6990 Master's Independent Study In Educational Research

[1-3 credit hours]

This is a formal exploration of a current topic in educational research, measurement, statistics, or program evaluation. The student meets with the instructor at arranged intervals without formal classes.

RESM7110 Quantitative Methods I

[3 credit hours]

This course introduces the major concepts of statistical description, including central tendency, dispersion, and relative position and relationship. Inferential methods such as t-tests, one-way analysis of variance, and multiple group analyses are also presented.

RESM7210 Educational Testing And Grading

[3 credit hours]

This course introduces the development, administration and interpretation of teacher-made tests and other pupil assessments; basic principles underlying norm- and criterion-referenced tests; problems and issues in grading systems and assigning grades; standardized testing and Value-Added Models.

RESM7220 Applied Assessment for Improved Practice

[3 credit hours]

This is an advanced course in classroom assessment with a focus on informed and applied evidence-based decision making. Key components are the analysis and reporting of results from assessment datasets, the creation of formative and summative assessment action plans based on analysis results, and the incorporation of 21st century technology tools to support assessment planning and instructional decisions.

Prerequisites: RESM 4200 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5210 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 7210 FOR LEVEL GR WITH MIN. GRADE OF C

RESM7310 Educational Research

[3 credit hours]

This course offers an introduction to the history and foundations of research processes from the consumer's perspective. It introduces qualitative, quantitative, and mixed methods approaches for understanding research problems.

RESM7330 Qualitative Research I: Introduction And Basic Methods

[3 credit hours]

This course introduces history and theoretical underpinnings of qualitative research. Students then learn and practice fundamental methods of participant-observation, fieldnotes, interviewing, and transcription, and explore common models of qualitative research.

RESM7950 Workshop In Research And Measurement

[3 credit hours]

Each workshop is developed around a topic of interest and concern to inservice teachers and other educational personnel. Practical application of workshop topics will be emphasized.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM7980 Special Topics In Research, Measurement, Statistics And Evaluation

[3 credit hours]

The study of a current topic or set of related topics in educational research, measurement, statistics, program evaluation and computer applications in quantative and qualitative data anayisis. The course is typically taught as a seminar.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8120 Quantitative Methods II

[3 credit hours]

This course covers the major inferential statistical techniques common to the behavioral sciences. Correlation, factorial analysis of variance, and linear regression are major topics. Computer applications are included.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8130 Multivariate Statistics

[3 credit hours]

This course covers multivariate analysis of variance, canonical correlation, discriminant analysis, repeated measures and factor analysis. Computer applications are included.

Prerequisites: RESM 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8120 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8140 Advanced Quantitative Methods

[3 credit hours]

This course exposes students to various experimental designs, such as complete and fractional factorial designs, repeated measures designs, and nested designs. Both the conceptual rationale and the computational procedures are covered.

Prerequisites: RESM 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8120 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8150 Structural Equation Modeling

[3 credit hours]

This course introduces structural equation modeling as a statistical method to assess the strengths of a priori relations among variables. Topics include path analysis and confirmatory factor analysis. Computer applications with AMOS are included.

Prerequisites: (RESM 6120 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8120 FOR LEVEL GR WITH MIN. GRADE OF C) AND RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8160 Nonparametric Statistics

[3 credit hours]

This course introduces the most common nonparametric statistical techniques as well as recent developments in this field. Coverage includes contingency tables, binomial distribution tests, several rank tests and other distribution-free statistics.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8180 Interdisciplinary Seminar In Educational Psychology, Research, And Social Foundations

[1 credit hour]

This proseminar will enable doctoral students to improve their understanding of the research process. Students will learn to ask research questions, choose alternative methodologies and interpret the validity of conclusions.

RESM8220 Measurement I

[3 credit hours]

This course introduces psychometric theories, with emphasis on classical test theory; reliability theory, including generalizability theory; approaches to validation; practical applications such as standard setting.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8230 Measurement II

[3 credit hours]

This course covers advanced measurement-related topics with a focus on IRT with emphasis on 1- 2- and 3-parameter logistic models, Generalizability, test equating, scaling, item/test bias detection methods and current issues.

Prerequisites: (RESM 6220 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 8220 FOR LEVEL GR WITH MIN. GRADE OF C) AND RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8320 Research Design

[3 credit hours]

This course exposes students to quantitative and mixed method research approaches that are used in theses and dissertations. Competing designs for addressing research questions are compared. The purpose is to prepare students for their dissertation experience.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8340 Qualitative Research II: Design And Analysis

[3 credit hours]

This course takes student through the design, implementation, and write up a qualitative study. Topics include theoretical frameworks and research design; managing, analyzing and interpreting data; collaboration between researcher and researched; using computers in analysis.

Prerequisites: RESM 5330 FOR LEVEL GR WITH MIN. GRADE OF C OR RESM 7330 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8350 Methods Of Survey Research

[3 credit hours]

This course contextualizes survey development within a broad theoretical framework and and tproceeds through the literature, problem, purpose, methods, and sampling. Particular emphasis is placed on the validity implications of each.

Prerequisites: RESM 8120 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8360 Program Evaluation

[3 credit hours]

An overview of prominent human services program evaluation methods including objectives-based, experimental, statistical and economic approaches. Evaluation criteria, issues, ethics and politics are included.

Prerequisites: RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 5110 FOR LEVEL GR WITH MIN. GRADE OF C

RESM8370 Fundamentals Of Grant Writing

[3 credit hours]

This seminar teaches participants about fundamentals of grant writing. Topics covered include: locating sources of funding, writing grants, designing evaluation instruments and administering grants.

RESM8380 Methods of Normative Theory Construction

[3 credit hours]

This course explores prominent methods and approaches to normative theory construction. The two approaches covered deontological and teleological.

RESM8390 Methods of Conceptual Analysis and Textual Interpretation

[3 credit hours]

This course explores prominent methods and approaches Central Analysis and Textual Interpretation. The central goal of the course is to equip doctoral students to engage in theoretical research, the understanding and skill necessary to engage in theoretical research.

RESM8940 Internships In Measurement, Evaluation, Research & Statistics

[3 credit hours]

This is a supervised field experience in measurement, evaluation, research design, or statistics in a variety of settings.

RESM8960 Dissertation Research In Foundations Of Education

[1-12 credit hours]

This is a formal independent study culminating in a written discourse central to the advancement of knowledge in educational research design, statistics, measurement, or evaluation.

RESM8990 Doctoral-Independent Study

[1-6 credit hours]

This is a formal exploration of a current topic in educational research, measurement, statistics, or program evaluation. The student meets with the instructor at arranged intervals without formal classes.

SBS6410 Theory And Research: Emotional Behavioral Disorders

[3 credit hours]

This course provides in-depth readings on problems of emotionally and behaviorally disturbed/disordered children and youth. Intense study on two levels: (1) theoretical considerations and (2) treatments pertinent to diverse educational settings.

SBS6420 Public School Emotional Behavior Disorders

[1 credit hour]

This course provides supervised practice in classroom participation with students identified as Emotionally Behaviorally Disturbed/Disordered. Public school settings include: self-contained, resource, transition, mainstreamed and consultative-collaborative teaching roles.

SBS6430 Alternative School Setting: Ebd

[1 credit hour]

This course provides supervised practice in classroom participation with students identified as Emotionally Behaviorally Disturbed/Disordered. The alternative school setting includes: self-contained, transition-mainstreamed and consultative-collaborative teaching roles.

SBS6440 Teaching Children And Youth With Emotional Behavior Disorders

[3 credit hours]

This course provides evaluation and application techniques of research based methodologies for teaching students with emotional behavioral disorders/disturbances. Psychosocial educational best practices within the least restrictive environment are presented.

Prerequisites: SPED 6410 FOR LEVEL GR WITH MIN. GRADE OF D-

SBS6450 Adjudicated-Locked Setting: Ebd

[1 credit hour]

This course provides supervised practice in classroom with children and youth identified as Emotionally Behaviorally Disturbed/Disordered. The adjudicated-locked setting includes: self-contained, remedial plus consultative-collaborative teaching roles.

Prerequisites: (SPED 6420 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPED 6430 FOR LEVEL GR WITH MIN. GRADE OF D-)

SBS6460 Hospital Setting: Ebd

[1 credit hour]

This course provides supervised practice teaching children and youth identified as Emotionally Behaviorally Disturbed/Disordered. Hospital setting include: self-contained, individualized and group tutoring, and consultative-collaborative teaching roles.

SBS6470 Theory And Research: Autism

[3 credit hours]

This course provides in-depth readings in the field of autism. The course includes intense study on two levels: (1) theoretical considerations and (2) treatment approaches pertinent to populations with autism.

Prerequisites: SBS 6460 FOR LEVEL GR WITH MIN. GRADE OF D-

SBS6480 Teaching Children And Youth With Autism

[3 credit hours]

This course provides research based methodologies for understanding and teaching children and youth with autism. Psychosocial educational best practices within the least restrictive environment are presented.

Prerequisites: SBS 6470 FOR LEVEL GR WITH MIN. GRADE OF D-

SBS6510 Management Of Severe Behaviors Of Incarcerated Children And Youth

[3 credit hours]

Managing severe behaviors of incarcerated children and youth, including learning knowledge, skills and a solid dispositional commitment to empower cognitive-behavioral change through emotional, neurological, biophysical, sociological and cultural barriers.

SBS6520 Practicum: Child Study Institute

[1 credit hour]

The Child Study Institute, Lucas County Juvenile Detention Center, offers frontline knowledge-to-skill practicing in the management of incarcerated children and youth with severe, chronic and potentially violent behaviors.

SBS6990 Independent Study: Severe Behavior

[1-5 credit hours]

Provides advanced graduate students with opportunities to study severe behavior related issues. Individual meetings with sponsoring faculty are scheduled.

SBS8410 Theory And Research: Emotional Behavioral Disorders

[3 credit hours]

This course provides in-depth readings on problems of emotionally and behaviorally disturbed/disordered children and youth. Intense study on two levels: (1) theoretical considerations and (2) treatments pertinent to diverse educational settings.

SBS8420 Public School: Emotional Behavior Disorders

[1 credit hour]

This course provides supervised practice in classroom participation with students identified as Emotionally Behaviorally Disturbed/Disordered. Public school settings include: self-contained, resource, transition, transition, mainstreamed and consultative-collaborative teaching roles.

SBS8430 Alternative School Setting: Ebd

[1 credit hour]

This course provides supervised practice in classroom participation with students identified as Emotionally Behaviorally Disturbed/Disordered. The alternative school setting includes: self-contained, transition-mainstreamed and consultative-collaborative teaching roles.

SBS8440 Teaching Children And Youth With Emotional Behavior Disorders

[3 credit hours]

This course provides evaluation and application techniques of research based methodologies for teaching students with emotional behavioral disorders/disturbances. Psychosocial educational best practices within the least restrictive environment are presented.

Prerequisites: SPED 6410 FOR LEVEL GR WITH MIN. GRADE OF D-

SBS8450 Adjudicated-Locked Setting: Ebd

[1 credit hour]

This course provides supervised practice in classroom with children and youth identified as Emotionally Behaviorally Disturbed/Disordered. The adjudicated-locked setting includes: self-contained, remedial plus consultative-collaborative teaching roles.

Prerequisites: (SPED 6420 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPED 6430 FOR LEVEL GR WITH MIN. GRADE OF D-)

SBS8460 Hospital Setting: Ebd

[1 credit hour]

This course provides supervised practice teaching children and youth identified as Emotionally Behaviorally Disturbed/Disordered. Hospital setting include: self-contained, individualized and group tutoring, and consultative-collaborative teaching roles.

Prerequisites: (SBS 8420 FOR LEVEL GR WITH MIN. GRADE OF D- AND SBS 8430 FOR LEVEL GR WITH MIN. GRADE OF D-)

SBS8470 Theory And Research: Autism

[3 credit hours]

This course provides in-depth readings in the field of autism. The course includes intense study on two levels: (1) theoretical considerations and (2) treatment approaches pertinent to populations with autism.

Prerequisites: SBS 8460 FOR LEVEL GR WITH MIN. GRADE OF D-

SBS8480 Teaching Children And Youth With Autism

[3 credit hours]

This course provides research based methodologies for understanding and teaching children and youth with autism. Psychosocial educational best practices within the least restrictive environment are presented.

Prerequisites: SBS 8470 FOR LEVEL GR WITH MIN. GRADE OF D-

SBS8510 Management Of Severe Behaviors Of Incarcerated Children And Youth

[3 credit hours]

Managing severe behaviors of incarcerated children and youth, including learning knowledge, skills and a solid dispositional commitment to empower cognitive-behavioral change through emotional, neurological, biophysical, sociological and cultural barriers.

SBS8520 Practicum: Child Study Institute

[1 credit hour]

The Child Study Institute, Lucas County Juvenile Detention Center, offers frontline knowledge-to-skill practicing in the management of incarcerated children and youth with severe, chronic and potentially violent behaviors.

SBS8990 Independent Study: Severe Behavior

[1-5 credit hours]

Provides advanced graduate students with opportunities to study severe behavior related issues. Individual meetings with sponsoring faculty are scheduled.

SISS7010 Spatial Statistics

[3 credit hours]

The course deals with statistical theory and applied statistical techniques for spatial data analysis. Topics include descriptive statistics, statistical modeling and hypothesis testing for spatial dependence and spatial heterogeneity.

SISS7020 GEOGRAPHICAL INFORMATION SCIENCE IN SISS

[3 credit hours]

The course emphasizes the fundamental elements of cartography, geodesy, statistics, mathematics and geo-computational methods that form the foundation for the development of GIS and spatial analysis tools.

SISS8010 FOUNDATIONS OF SPATIALLY INTEGRATED SOCIAL SCIENCE

[4 credit hours]

This course will examine the historical development of the social sciences, their philosophical and methodological approaches to research, and the emergence of the spatial perspective in social science research.

SISS8020 SISS THEORY

[3 credit hours]

Advanced study of SISS requiring preparedness in theoretical and methodological aspects of spatial analysis in social sciences focusing on the spatial organization of society and spatial human and social dynamics.

Prerequisites: SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

SISS8030 ADVANCED SPATIAL DATA ANALYSIS

[3 credit hours]

Examination of spatial processes: spatial autoregressive models, gaussian Markov random ¿eld models, auto-logistic models, spatial discrete choice models. The topics include spatial panel data models, their applications and estimation methods.

Prerequisites: SISS 7010 FOR LEVEL GR WITH MIN. GRADE OF D-

SISS8040 Research Design

[2 credit hours]

Introduces students to research and research technicalities, including what is research, how to write research papers and research proposals, and how to design and manage a research project.

Prerequisites: SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 8020 FOR LEVEL GR WITH MIN. GRADE OF D-

SISS8150 ADVANCED QUALITATIVE ANALYSIS IN SISS

[3 credit hours]

Advanced qualitative analysis techniques and applications to a broad range of spatially oriented social science problems.

Prerequisites: SISS 7010 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 7020 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

SISS8170 SPACE AND SOCIETY CRITICAL THEORY IN SISS

[3 credit hours]

Critical examination of both the role of spatial inquiry and its limitations to the understanding of society and space.

Prerequisites: SISS 7010 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 7020 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

SISS8180 DISCRETE CHOICE SPATIAL PROCESS MODELING

[3 credit hours]

The study of the human factor in spatial processes with the aim to advance understanding of spatial aspects of social dynamics by modeling discrete choice spatial processes.

Prerequisites: SISS 7010 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 7020 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

SISS8200 SPATIAL PERSPECTIVES ON THE ENVIRONMENT

[3 credit hours]

Examination of the relationship between SISS approaches and human interaction with the natural environment.

Prerequisites: SISS 7010 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 7020 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

SISS8920 Directed Readings in SISS

[3 credit hours]

Independent study of research literature in Spatially Integrated Social Science and related fields.

Prerequisites: SISS 7010 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 7020 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

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SISS8940 Seminar in Special Topics

[3 credit hours]

Discussion of the major advances in Spatially Integrated Social Science as presented in the primary research in a selected topic or set of topics.

Prerequisites: SISS 7010 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 7020 FOR LEVEL GR WITH MIN. GRADE OF D- AND SISS 8010 FOR LEVEL GR WITH MIN. GRADE OF D-

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SISS8960 Doctoral Dissertation Research

[1-12 credit hours]

Original research on a comprehensive topic of a spatial nature in the social sciences under the direction of a SISS faculty member. 18 credits in SISS core with grades of B or higher; 9 credits in advanced SISS seminars and 9 credits in SISS electives, all with grades of B or higher. Must pass dissertation qualifying exam within first semester of dissertation.

SLP2400 Communication Disorders

[3 credit hours]

A study of causative factors and characteristics of communicative disorders in comparison to normal speech/language/hearing processes.

SLP3010 Clinical Phonetics

[0-4 credit hours]

Understanding of articulatory and acoustic phonetics with emphasis on the development of transcription skills using the International Phonetic Alphabet in recording normal and disordered speech production. Laboratory required for transcription skill development.

SLP3020 Anatomy And Physiology Of Communication Mechanisms

[0-4 credit hours]

The study of the anatomy and physiology of the mechanisms used for communication including oral-pharynageal-esophageal, respiratory, and neurological systems.

SLP3030 Normal Language Acquisition

[0-4 credit hours]

Presents basic theories of language acquisition and procedures to describe the developmental sequence of childhood language. Procedures and techniques for analyzing childhood language are introduced and practiced in laboratory experiences.

SLP3150 Speech and Hearing Science

[0-4 credit hours]

A detailed exploration of the speech and language production system, as well as the hearing mechanism with relation to the auditory environment. Information on aerodynamic and acoustic parameters of speech, the anatomy and physiology of the speech and hearing mechanisms, the neural basis of speech/language/hearing, and the speech perception system is provided during this course. The course is designed with lab experiences so students can get hands-on practice.

SLP3200 Articulation/Phonological Disorders

[0-4 credit hours]

Assessment techniques and intervention strategies for persons with disorders of the sound system of the language. Theories of phonological acquisition and etiological factors will be discussed during this course. Laboratory experience required.

Prerequisites: SLP 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND SLP 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

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SLP3300 Language Disorders

[0-4 credit hours]

Course includes the identification of etiologic bases and characteristics of language disorders. Assessment strategies leading to choice of intervention techniques will be discussed. Laboratory experience required.

Prerequisites: SLP 3030 FOR LEVEL UG WITH MIN. GRADE OF C

SLP3400 Clinical Audiology

[3 credit hours]

The student learns to administer and interpret the comprehensive auditory battery consisting of pure-tone air conduction and bone conduction thresholds, speech reception thresholds, speech discrimination tests and acoustic emittance test battery.

SLP3800 Methods For Clinical Intervention

[3 credit hours]

Teaches methods of intervention of speech, language and hearing services in various settings. Emphasis on developing skills in observation, report writing, and structuring intervention services and their implementation. Requires 25 hours of observation. Mandatory clinic meeting, and one hour lab duty. Laboratory experience required.

Prerequisites: (SLP 3200 FOR LEVEL UG WITH MIN. GRADE OF B- AND SLP 3300 FOR LEVEL UG WITH MIN. GRADE OF B-)

SLP4000 Beginning Clinical Practicum

[2 credit hours]

Supervised participation in structured individual or group intervention leading to the accumulation of 25 clinical hours of practicum.

Prerequisites: SLP 3800 FOR LEVEL UG WITH MIN. GRADE OF B-

SLP4350 Concomitant Disorders

[3 credit hours]

This capstone course explores literature in advanced speech and language disorders as well as intervention communication disorders.

SLP4440 Augmentative Communication Systems

[3 credit hours]

Technological systems available for persons with the absence of functional speech will be described. Etiological factors, assessment and intervention procedures and hands-on experience with devices will be provided.

SLP4910 Directed Research In Speech-Language Pathology

[1-5 credit hours]

Directed research provides students the opportunity to explore specific topics and develop individual research with a faculty member. Current questions in the area of speech-language pathology will be the focus.

SLP4920 Readings In Speech-Language Pathology

[1-5 credit hours]

Individual Readings is designed to provide students with opportunities to examine literature related to specific issues. The student works under the direction of faculty in the speech-language pathology program.

SLP4980 Special Topics In Speech-Language Pathology

[1-5 credit hours]

An advanced course for undergraduate majors in speech-language pathology or majors in related fields covering an important area of communication disorders. Student may repeat this course under different section numbers.

SLP4990 Independent Study Speech-Language Pathology

[1-5 credit hours]

Independent study provides students with opportunities to work individually on issues under the direction of the speech-language pathology program faculty. The student meets with instructor without formal classes.

SLP6000 Advanced Practicum In Communication Disorders

[2 credit hours]

Provides students with supervised therapeutic experiences with specific speech and language disorders. Students should have completed or be currently enrolled in graduate level communication disorders course addressing the specific practicum disorder selected.

SLP6001 Advanced Practicum in Communication Disorders II

[2 credit hours]

Provides students with supervised therapeutic experiences with specific speech and language disorders. Students should have completed or be currently enrolled in graduate level communication disorders course addressing the specific practicum disorder selected. SLP 6000 is a pre-requisite for this course.

Prerequisites: SLP 6000 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP6002 Advanced Practicum III

[2 credit hours]

Provides students with supervised therapeutic experiences with specific speech and language disorders. Students should have completed or be currently enrolled in graduate level communication disorders course addressing the specific practicum disorder selected. SLP 6000 and 6001 are a pre-requisite for this course.

Prerequisites: SLP 6000 FOR LEVEL GR WITH MIN. GRADE OF D- AND SLP 6001 FOR LEVEL GR WITH MIN. GRADE OF D-

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SLP6010 Diagnostic Practicum In Communication Disorders

[2 credit hours]

Provides a minimum of 30 hours supervised diagnostic practicum with a variety of communicatively disordered cases.

SLP6011 Diagnostic Practicum in Communication Disorders II

[2 credit hours]

Provides students with supervised therapeutic experiences with specific speech and language disorders. Students should have completed or be currently enrolled in graduate level communication disorders course addressing the specific practicum disorder selected.

Prerequisites: SLP 6010 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP6020 Audiological Practicum In Communication Disorders

[2 credit hours]

Provides the advanced student with supervised practicum hours in the screening, impedance and pure tone threshold testing for audiological diagnosis.

SLP6030 Research in Speech-Language Pathology

[3 credit hours]

Early graduate course in research methods with emphasis on analysis of current research, application of single-subject research in clinic practicum, and development of research project.

Prerequisites: SLP 6010 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY) OR SLP 6020 FOR LEVEL GR WITH MIN. GRADE OF D- (MAY BE TAKEN CONCURRENTLY)

SLP6100 Diagnosis Of Speech And Language Disorders

[3 credit hours]

Detailed analysis of formal and informal instruments and procedures designed to evaluate speech and language disorders.

SLP6210 Language Development and Disorders:Early Childhood through Adolescence

[6 credit hours]

This course provides the conceptual framework for understanding language disorders in preschool through school-age children. Special emphasis is placed on application and theory of assessment as well as intervention strategies in private and school settings.

SLP6300 Phonological And Articulatory Disorders

[3 credit hours]

Advanced study of phonological and articulatory disorders including developmental apraxia. Focus on phonological differences in multi-cultural society with emphasis on assessment of disorders and current advances in remediation.

SLP6400 Adult Language and Cognitive Communication Disorders

[5 credit hours]

Advanced course exploring normal and disordered neural anatomy and physiology for communication and cognition. Student will demonstrate knowledge of assessment and treatment of cognitive and linguistics deficits due to trauma and disease to central nervous systems.

SLP6500 Motor Speech Disorders

[3 credit hours]

Adult apraxia and dysarthrias are discussed in relation to neurological organization, disorders and speech characteristics.

SLP6550 Trends in Technology for Communication Disorders

[3 credit hours]

Introduction to the study and application of assistive technology, including augumentative and alternative communication devices, to aid communication for persons incapable of producing functional oral communication. The course includes device characteristics, program features, and intervention strategies as well as current trends in technological advances that includes but are not limited to devices such as iPads, smartphone applications, and software.

SLP6600 Voice and Resonance Disorders

[3 credit hours]

An advanced course in the nature, evaluation and treatment of voice and resonance disorders. Major voice and resonance disorders in adults and children are emphasized.

SLP6650 Feeding and Swallowing Disorders

[3 credit hours]

This course introduces the student to the nature, evaluation, and management of feeding and swallowing disorders from infancy through adulthood.

SLP6700 Assessment And Remediation Of Fluency Disorders

[3 credit hours]

An advanced course to develop skills in the assessment and remediation of fluency disorders with special emphasis on current trends in stuttering therapy.

SLP6710 Counseling Skills for Speech-Language Pathologists

[3 credit hours]

Provides an overview of the skills necessary to counsel people with communication disorders and their families. Topics include patient-centered practice, interviewing, information-giving, psychological sequelae of communication disorders, and family systems.

SLP6720 Advanced Readings in Fluency Disorders

[3 credit hours]

Reviews seminal and current research studies in fluency disorders. Topics include physiology, psychosocial effects of stuttering, evidence base for stuttering therapy, school-based stuttering therapy, and others based on student interests.

SLP6730 Innovative Service Delivery in Stuttering

[3 credit hours]

Explores innovative service delivery models in stuttering including intensive programs, telepractice, and group therapy. Students will deliver therapy to at least one client who stutters as part of the course.

SLP6750 Professional Issues in Speech Language Pathology

[3 credit hours]

This course will provide students with the opportunity to learn about specific issues related to working in a variety of professional settings.

SLP6800 Aural Rehabilitation

[3 credit hours]

Aural (Re)Habilitation examines communication assessment and intervention approaches over the lifespan for individuals with both peripheral and central auditory perceptual issues. Emphasis is placed upon early identification and education to minimize and alleviate communication and related problems commonly associated with hearing impairment and auditory perceptual disorders.

SLP6810 Facilitating Auditory Learning and Spoken Language for Children with Hearing Loss

[3 credit hours]

The impact of universal newborn hearing screening, early fitting of hearing technology (digital hearing aids and/or cochlear implants), and enrollment in comprehensive early intervention programs has created new opportunities for infants and toddlers with hearing loss to learn to listen and talk. In this course, students will learn the developmental processes that are the underpinning for audition and spoken language acquisition. Specific techniques, strategies, and teaching behaviors to develop listening and spoken language in young children who are deaf or hard of hearing will be demonstrated and explored.

SLP6820 Hearing Technology

[3 credit hours]

This course will orient speech-language pathology students to hearing technologies that assist persons with hearing impairment (hearing aids, assistive listening and alerting devices, and implantable technologies). The focus will be on providing auditory access to children for the purpose of developing listening and spoken language. Equipment will be demonstrated, current issues will be discussed, and students will be given opportunities to check and troubleshoot equipment.

SLP6830 Lang Lit Ac of Child Hear Loss

[3 credit hours]

This course examines the relevant research, best practices, and intervention strategies for infants and children with hearing loss.

SLP6840 Team Models and Ed Leadership

[3 credit hours]

SLPs who work with children who are hearing impaired (HI) must work in collaboration educational professionals, parents, audiologists, and other medical professionals within a team-based model. This course will focus on the skills, knowledge and ethical practices essential to the provision of effective service coordination and teaming for SLPs who work in educational settings with children who are HI. Students will examine various models of teaming and consultation approaches and address issues related to supporting students' educational achievement in educational settings.

SLP6900 Independent Research In Speech-Language Pathology

[1-5 credit hours]

Independent research provides opportunities to work on individual research under the direction of faculty. The student meets with the instructor at intervals and conducts research without formal class meeting.

SLP6920 Master's Research Project In Speech-Language Pathology

[1-5 credit hours]

The Master's project is an individually designed product.

Prerequisites: SLP 6930 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP6930 Seminars In Speech-Language Pathology

[1-5 credit hours]

Seminars will consider problems and provide advanced study in the field of Speech-Language Pathology. A student may register for more than one seminar during a graduate program.

SLP6940 Internship In Speech-Language Pathology

[1-8 credit hours]

Provides the advanced graduate student with supervised practicum experiences at an off-campus site; including schools, hospitals, agencies, rehabilitation clinics, work training sites and other community sites where persons with disabilities are served.

SLP6941 Internship in Speech-Language Pathology II

[4 credit hours]

Provides the advanced graduate student with supervised practicum experiences at an off-campus site. This will be the second of three externships completed by the student, with the expectation of students having more time scheduled and more clinical hours across each externship course.

Prerequisites: SLP 6940 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP6942 Internship in Speech-Language Pathology III

[6 credit hours]

Provides the graduate student with supervised practicum experiences at an off-campus sites. This is the third internship in a sequence.

Prerequisites: SLP 6940 FOR LEVEL GR WITH MIN. GRADE OF D- AND SLP 6941 FOR LEVEL GR WITH MIN. GRADE OF D-

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SLP6960 Master Research Thesis In Speech-Language Pathology

[1-5 credit hours]

The master's thesis is an individually designed investigation approved by the thesis committee and designed to contribute to the knowledge base of the speech-language pathology. Meets the final activity requirement for completion of the master's degree.

Prerequisites: SLP 6930 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP6990 Independent Study In Speech-Language Pathology

[1-5 credit hours]

Individual study provides advanced graduate students opportunities to work individually on professional problems with faculty of the Speech-Language Pathology program. Individual meetings with sponsoring faculty are held.

SLP7610 Orientation to Interprofessional Teaming

[1 credit hour]

Orientation to the Graduate Certificate in Teaming in Early Childhood. Focus on individual competencies needed to work collaboratively to meet the needs of young children with disabilities and their families.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP7620 Working Effectively With Team Members

[1 credit hour]

This second seminar in the Graduate Certificate in Teaming in Early Childhood focuses on skills and policies that promote best practices in teaming to support young children with disabilities.

Prerequisites: SLP 7610 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP7630 Evidence-Based Practice and Innovation in Interprofessional Teaming

[1 credit hour]

This third seminar in the Graduate Certificate in Teaming in Early Childhood provides students the opportunity to reflect on their practicum experiences in teaming to support young children with disabilities.

Prerequisites: SLP 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP7640 Practicum in Interprofessional Teaming

[2 credit hours]

The practicum is provides an opportunity to engage in interprofessional teaming in order to provide integrated services to young children with special needs in an inclusive setting.

Prerequisites: SLP 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP8000 Advanced Practicum In Communication Disorders

[2 credit hours]

Provides students with supervised therapeutic experiences with specific speech and language disorders. Students should have completed or be currently enrolled in graduate level communication disorders course addressing the specific practicum disorder selected.

SLP8010 Diagnostic Practicum In Communication Disorders

[2 credit hours]

Provides a minimum of 30 hours supervised diagnostic practicum with a variety of communicatively disordered cases.

SLP8020 Audiological Practicum In Communication Disorders

[2 credit hours]

Provides the advanced student with supervised practicum hours in the screening, impedance and pure tone threshold testing for audiological diagnosis.

SLP8100 Diagnosis Of Speech And Language Disorders

[3 credit hours]

Detailed analysis of formal and informal instruments and procedures designed to evaluate speech and language disorders.

SLP8210 Preschool Language Disorders

[3 credit hours]

The conceptual framework for understanding language disorders in young children. Application and theory of assessment and intervention strategies will be described and discussed.

SLP8220 Language Disorders In School-Age Children

[2 credit hours]

The conceptual framework for understanding language disorders in school-age children with special emphasis on language assessment and language interventions in school settings.

SLP8300 Phonological And Articulatory Disorders

[3 credit hours]

Advanced study of phonological and articulatory disorders including developmental apraxia. Focus on phonological differences in multi-cultural society with emphasis on assessment of disorders and current advances in remediation.

SLP8400 Neurological Disorders: Aphasia

[3 credit hours]

Advanced course in deficits due to neurological alterations resulting in aphasia. Formal and informal assessment procedures for the diagnosis of aphasia as well as techniques and functional strategies for communicative compensation provide the focus of the course.

SLP8450 Neurological Disorders: Brain Injury And Dementia

[2 credit hours]

Course in cognitive and linguistics deficits due to trauma and disease to central nervous system. Course focuses on identification and intervention in communication disorders as the result of acquired brain injury/disease. Traumatic brain injury, right hemisphere damage and dementia are addressed.

SLP8500 Motor Speech Disorders

[3 credit hours]

Adult apraxia and dysarthrias are discussed in relation to neurological organization, disorders and speech characteristics.

SLP8550 Augmentative And Alternative Communication

[2 credit hours]

The study and application of assistive communication technology for persons who are nonspeaking. The course includes characteristics of ACC consumers, design features of augmentative communication devices, assessment strategies to choose a system and intervention strategies to facilitate use of the ACC system.

SLP8600 Voice Disorders: Diagnosis And Treatment

[3 credit hours]

Advanced course in the evaluation and treatment of voice disorders. Major voice disorders in children and adults are emphasized.

SLP8650 Dysphagia And Orpharyngeal Disorders

[2 credit hours]

Evaluation and intervention procedures for individuals with communication problems related to structural impairments of the oral cavity and pharynx.

SLP8700 Assessment And Remediation Of Fluency Disorders

[3 credit hours]

An advanced course to develop skills in the assessment and remediation of fluency disorders with special emphasis on current trends in stuttering therapy.

SLP8800 Aural Rehabilitation

[3 credit hours]

Advanced care and training in the use of individual and group assistive listening devices, auditory trainers and other aids to augment hearing. Methods for using residual hearing and contextual factors to augment technology is addressed.

Prerequisites: SLP 3400 FOR LEVEL UG WITH MIN. GRADE OF D-

SLP8900 Independent Research In Speech-Language Pathology

[1-5 credit hours]

Independent Research provides opportunities to work on individual research under the direction of faculty. The student meets with the instructor at intervals and conducts research without formal class meeting.

SLP8930 Seminars In Speech-Language Pathology

[1-5 credit hours]

Seminars will consider problems and provide advanced study in the field of Speech-Language Pathology. A student may register for more than one seminar during a graduate program.

SLP8940 Internship In Speech-Language Pathology

[1-8 credit hours]

Provides the advanced graduate student with supervised practicum experiences at an off-campus site; including schools, hospitals, agencies, rehabilitation clinics, work training sites and other community sites where persons with disabilities are served.

SLP8960 Master Research Thesis In Speech-Language Pathology

[1-5 credit hours]

The master's thesis is an individually designed investigation approved by the thesis committee and designed to contribute to the knowledge base of the speech-language pathology.

Prerequisites: SLP 6930 FOR LEVEL GR WITH MIN. GRADE OF D-

SLP8990 Independent Study In Speech-Language Pathology

[1-5 credit hours]

Individual study provides advanced graduate students opportunities to work individually on professional problems with faculty of the Speech-Language Pathology program. Individual meetings with sponsoring faculty are held.

SOC1010 Introduction To Sociology

[3 credit hours]

(not for major credit) Sociological topics regarding social behavior, institutional dynamics and social change are examined, and the principles and basic concepts used by sociologists are taught.

SOC1020 Social Problems

[3 credit hours]

(Not for major credit) Introduces students to the sociological perspective through the analysis of various social problems including inequality, population, environment, workplace and deviant behavior.

SOC2000 Proseminar In Sociology I

[1 credit hour]

Students are introduced to the academic and professional nature of Sociology. Topics covered include professional socialization, honor theses, portfolio construction, preparation for graduate studies, and career development.

SOC2150 The Family and Society

[3 credit hours]

Examines evolving family structures, focusing on the impact that cultural, political, and social factors have on private personal relationships and the public social institution of the family.

SOC2410 Communities

[3 credit hours]

Examination of various forms and definitions of community with special focus on what the conceptualization of community means for how community issues are identified and addressed.

SOC2500 Women's Roles: A Global Perspective

[3 credit hours]

The course focuses on the current and evolving social, economic and political status of women in the United States and selected non-Western societies. For both men and women students.

SOC2640 Race, Class, And Gender

[3 credit hours]

Introduction to the study of race, class and gender as factors in American stratification.

SOC2750 Sociology Of Sport

[3 credit hours]

This course examines sport as a microcosm of our society, exploring many sociological issues (socialization, social institutions, and inequality) within the framework of sport that exist in society as whole.

SOC2900 African American Culture

[3 credit hours]

A survey of the sociohistorical and cultural factors related to the African American experience in the United States.

SOC2980 Special Topics

[3 credit hours]

Examination of a special topical area in sociology. May be repeated on different topics.

SOC3270 Social Research Methods

[3 credit hours]

Introduction to procedures used in the various phases of sociological research.

SOC3290 Social Statistics

[3 credit hours]

Study of major statistical procedures and techniques in sociology.

Prerequisites: MATH 1180 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1200 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1210 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1320 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 1330 FOR LEVEL UG WITH MIN. GRADE OF D- OR

SOC3520 Qualitative Approches in Social Science Research

[3 credit hours]

This course examines qualitative methods used in social science research. Focusing on ethnographic and qualitative methods, the course provides students the skills necessary to design and conduct qualitative research studies.

SOC3640 Social Inequality

[3 credit hours]

This course examines the bases, varieties and consequences of systems of inequality, including the development of and changes in inequality patterns in the US and other societies.

SOC3800 Social Psychology

[3 credit hours]

An introduction to theory and research concerning social influences on the experience and behavior of individuals. Includes interaction patterns, interpersonal and intergroup relations.

SOC3890 Ecotourism: Studies of the Africana World

[3 credit hours]

Introduce students to the field of ecotourism studies and specific challenges of community development and sustainability. The course covers ecotoursim in the Africana world of Africa, the Caribbean, and Latin America.

SOC4000 Proseminar In Sociology II

[2 credit hours]

Discussion among faculty and students devoted to the study of Sociology with a special focus on the development of a professional portfolio for graduate work or career.

Prerequisites: SOC 2000 FOR LEVEL UG WITH MIN. GRADE OF D-

SOC4040 Classical Theory

[3 credit hours]

Foundations of social theory including works by Marx, Weber, Durkheim and Simmel as well as other classical theorists.

SOC4100 Community Organizing and Development

[3 credit hours]

This course focuses on attempt of communities to regain power and wealth lost through urban disinvestment occurring since World War II. The course will involve numerous practical workshops to learn how to do community organizing and community development and will include information on Toledo case studies.

SOC4110 Political Sociology

[3 credit hours]

Examination of political institutions, organizations and behavior with special attention to participation, power, ideology, decision making and conflict.

SOC4160 Health And Gender

[3 credit hours]

An examination of sex and gender as a predisposing factor of health status, health behavior, health care delivery, and the structure and posture of health care professionals.

SOC4170 Law And Society

[3 credit hours]

Dynamics of law and legal institutions; the relationship of sociocultural changes in substantive and procedural aspects of law to the concept of justice, and to the social control of deviance.

SOC4180 Medical Sociology

[3 credit hours]

An analysis of the sociocultural factors in health and illness, and in medical and paramedical services, and in the field of health practice as a social institution.

SOC4190 Social Gerontology

[3 credit hours]

A study of the changing proportions of older people in the population, their changing roles and statuses, and the problems and processes of adjustment.

SOC4340 Population And Society

[3 credit hours]

Examination of the interaction among variables of population (fertility, mortality and migration) and other aspects of societal organization.

SOC4450 Exploring the City

[3 credit hours]

Examination of how cities are organized with special attention to economic, political, racial/ethnic, and sex/gender dynamics.

SOC4580 Science, Technology, And Social Change

[3 credit hours]

The impact of rapidly changing science and technology on North American society: social change in a technological age; the emergence of post industrial society.

SOC4610 Sociology Of Organizations

[3 credit hours]

Study of the structures, functions, and processes of various types of organizations. Topics include bureaucracy, organizational leadership and management, and organizational culture.

SOC4650 SOCIOLOGY OF LATIN AMERICA AND CARIBBEAN

[3 credit hours]

An overview of sociological literature on Latin American and the Caribbean. Topics include economic development, political change, gender and ethnicity, disability, culture and international migration.

Prerequisites: SOC 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

SOC4710 Criminology

[3 credit hours]

Crime and criminal behavior: nature, types and extent of crime, societal reactions; problems in research and theory, prevention, control and treatment.

SOC4720 Deviant Behavior

[3 credit hours]

Study and analysis of the nature, meaning and process of deviant behavior in terms of social norms, control and societal reaction.

SOC4740 Issues In Crime

[3 credit hours]

Topics may include legalizing drugs, police violence, plea bargaining, death sentence and mandatory sentencing. Emphasizes liberal/conservative ideology.

SOC4750 Legal Issues

[3 credit hours]

Topics may include abortion, three strike sentencing, homosexual rights, hate speech and decriminalizing narcotics. Emphasizes liberal/conservative ideology.

SOC4760 Juvenile Delinquency

[3 credit hours]

Delinquency and delinquent behavior, including definitions, extent, process, types and causes; methods of prevention, protective control and treatment; institutional and non-institutional facilities and services.

SOC4800 Social Change in Developing Nations

[3 credit hours]

The new emerging ideological, political, social and economic patterns which repeat themselves in and determine the Third World transition from a traditional to a new society.

SOC4810 Gender In Cross-Cultural Perspective

[3 credit hours]

Analysis of gender stratification and its impact on culture in various nations and across ethnic groups in the United States.

SOC4830 Social Movements

[3 credit hours]

This course analyzes how and why social protest movements form, and how and why they succeed or fail. Attention will be given to post-World War II social movements, including current examples.

SOC4910 Directed Research In Sociology

[1-3 credit hours]

Student-selected research topic under the supervision of a sociology faculty member. Permission to enroll is contingent on the instructor's acceptance of the student's research proposal.

Prerequisites: SOC 3270 FOR LEVEL UG WITH MIN. GRADE OF D-

SOC4920 Directed Readings In Sociology

[1-3 credit hours]

Written proposal required. May be repeated for additional credit. For majors wishing to continue course work in greater depth or seeking contact with unlisted subject areas.

SOC4980 Special Topics In Sociology

[3 credit hours]

Sociological examination of a developing and/or important social issue or sociological topic. May be repeated for different specialized topics.

SOC5040 Classical Theory

[3 credit hours]

19th Century theory in sociology with emphasis on A. Comte, K. Marx, E. Durkheim, T. Veblen, M. Weber and H. Spencer.

SOC5100 Community Organizing And Development

[3 credit hours]

This course will review the major forms of community and organizing since World War II. Practical issues and theoretical issues will be stressed. Students will engage in intensive case study research applying the course concepts in addition to reading and writing on the various topics.

SOC5110 Political Sociology

[3 credit hours]

Examination of political institutions, organizations and behavior with special attention to participation, power, ideology, decision making and conflict.

SOC5160 Health And Gender

[3 credit hours]

An examination of gender as a predisposing factor of health status, health behavior, health care delivery, and the structure and posture of health care professionals.

SOC5170 Law And Society

[3 credit hours]

Dynamics of law and legal institutions; the relationship of sociocultural changes in substantive and procedural aspects of law to the concept of justice, and to the social control of deviance.

SOC5180 Medical Sociology

[3 credit hours]

An analysis of the sociocultural factors in health and illness, and in medical and paramedical services, and in the field of health practice as a social institution.

SOC5190 Social Gerontology

[3 credit hours]

A study of the changing proportions of older people in the population, their changing roles and statuses, and the problems and processes of adjustment.

SOC5270 Social Research Methods

[3 credit hours]

Introduction to procedures used in the various phases of sociological research.

SOC5290 Social Research Statistics

[3 credit hours]

Study of major statistical procedures and techniques in sociology.

SOC5340 Population And Society

[3 credit hours]

Examination of the interaction among variables of population (fertility, mortality and migration) and other aspects of societal organization.

SOC5450 Exploring the City

[3 credit hours]

This course takes an interdisciplinary approach to life in cities around the world, with emphasis on the ethnographic exploration of how power, cultural difference, and social inequality in cities are produced and experienced.

SOC5580 Science, Technology, And Social Change

[3 credit hours]

The impact of rapidly changing science and technology on North American society: social change in a technological age; the emergence of post industrial society.

SOC5610 Sociology Of Organizations

[3 credit hours]

Study of the structure and processes of organizations; includes theory of bureaucratic and non-bureaucratic organizations, as well as structure and function of organizations.

SOC5650 ADVANCED TOPICS IN LATIN AMERICAN AND CARIBBEAN

[3 credit hours]

An examination of social life in Latin America and the Caribbean, focusing on changing political economy, gender and ethnicity, globalization, culture and migration and in and out of the region.

Prerequisites: SOC 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

SOC5710 Criminology

[3 credit hours]

Crime and criminal behavior: nature, types and extent of crime, societal reactions; problems in research and theory, prevention, control and treatment.

SOC5720 Deviant Behavior

[3 credit hours]

Study of the analysis of the nature, meaning and process of deviant behavior in terms of social norms, control and societal reaction.

SOC5740 Issues In Crime

[3 credit hours]

Topics may include legalizing drugs, police violence, plea bargaining, death sentence and mandatory sentencing. Emphasizes liberal/conservative ideology.

SOC5750 Legal Issues

[3 credit hours]

Topics may include abortion, three strike sentencing, homosexual rights, hate speech and decriminalizing narcotics. Emphasizes liberal/conservative ideology.

SOC5760 Juvenile Delinquency

[3 credit hours]

Delinquency and delinquent behavior, including definitions, extent, process, types and causes; methods of prevention, protective control and treatment; institutional and non-institutional facilities and services.

SOC5800 Development Of Subordinate Nations

[3 credit hours]

The new emerging ideological, political, social and economic patterns which repeat themselves in and determine the Third World transition from a traditional to a new society.

SOC5810 Gender In Cross-Cultural Perspective

[3 credit hours]

Analysis of gender stratification and its impact on culture in various nations and across ethnic groups in the United States.

SOC5830 Social Movements

[3 credit hours]

This course will focus on social movements and their political context to understand the causes of social movement success and failure. Special attention will be given to the 1960s wave of protest, as well as to contemporary movement forms. Students will engage in intensive case study research applying the course concepts in addition to reading and writing on relevant topics.

SOC5980 Special Topics In Sociology

[3 credit hours]

Sociological examination of a developing social issue. May be repeated in different specialized topics.

SOC5990 Directed Readings In Sociology

[1-3 credit hours]

Written proposal required. May be repeated for additional credit. For majors wishing to continue course work in greater depth or seeking contact with unlisted subject areas.

SOC6000 Introduction To Graduate Studies In Sociology

[1 credit hour]

Graduate students are exposed to and get acquainted with the academic and professional nature of the field of sociology from the experience of several faculty members. Some of the topics that will be covered include writing theses, doing internships and seeking graduate work and careers.

SOC6040 Advanced Sociological Theory

[3 credit hours]

Building on classical traditions, the course includes readings and lectures on functionalist, neo-Marxist, symbolic interactionist and other significant twentieth century sociological theories.

Prerequisites: SOC 4040 FOR LEVEL UG WITH MIN. GRADE OF D- OR SOC 5040 FOR LEVEL GR WITH MIN. GRADE OF D-

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SOC6050 Advanced Social Theory And Political Economy

[3 credit hours]

This course will analyze and evaluate major social theories drawn from various 19th and 20th century intellectual and ideological traditions. The common subject focus of course readings is state, power and class relations.

Prerequisites: SOC 4040 FOR LEVEL UG WITH MIN. GRADE OF D- OR SOC 5040 FOR LEVEL GR WITH MIN. GRADE OF D-

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SOC6270 Advanced Social Research Methods

[3 credit hours]

Examination of advanced methods of data collection in sociological research.

Prerequisites: SOC 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

SOC6290 Advanced Social Research Statistics

[3 credit hours]

Examination of advanced methods of data analysis in sociological research.

Prerequisites: SOC 5290 FOR LEVEL GR WITH MIN. GRADE OF D-

SOC6640 Seminar in Diversity and Inequality

[3 credit hours]

This course examines theories and research on diversity and inequality. Possible topics include social class, race, gender, sexual orientation and disability, plus evaluating the interconnections between these areas.

SOC6800 Seminar In Theories In Social Psychology

[3 credit hours]

Intensive sociological study of theory building in social psychology including, among others, paradigms of social cognition and belief, social influence, and social relations.

SOC6900 Independent Research In Sociology

[1-3 credit hours]

Student-selected research topic under the supervision of a sociology faculty member. Permission to enroll is contingent on the instructor's acceptance of the student's research proposal.

SOC6930 Seminars In Sociology

[3 credit hours]

Seminar on selected topics in the field of Sociology.

SOC6940 Graduate Internship

[3 credit hours]

In applied setting in areas of student interest: community organizing - health-probation - gerontology.

Prerequisites: (SOC 6000 FOR LEVEL GR WITH MIN. GRADE OF D- AND SOC 6040 FOR LEVEL GR WITH MIN. GRADE OF D- AND SOC 6270 FOR LEVEL GR WITH MIN. GRADE OF D- AND SOC 6290 FOR LEVEL GR WITH MIN. GRADE OF D-)

SOC6960 Thesis

[1-6 credit hours]

Topic (proposal) is selected by the student and approved by a thesis committee.

Prerequisites: (SOC 6270 FOR LEVEL GR WITH MIN. GRADE OF D- AND SOC 6290 FOR LEVEL GR WITH MIN. GRADE OF D- AND SOC 6040 FOR LEVEL GR WITH MIN. GRADE OF D- AND SOC 6000 FOR LEVEL GR WITH MIN. GRADE OF D-)

SOC6990 Independent Study In Sociology

[1-3 credit hours]

Written proposal required. May be repeated for additional credit. For majors wishing to continue course work in greater depth or seeking contact with unlisted subject areas.

SOCW1030 Introduction To Social Welfare

[3 credit hours]

Introduction to the social welfare institution, its history, relation to social values, social welfare laws and programs, and the systems characteristic of service delivery. C or better required for majors.

SOCW2010 Survey Of The Social Work Profession

[4 credit hours]

This course provides an opportunity for the student to explore the dynamics of the social work profession. The student will examine various components of social work, including an overview of strengths perspective, systems theory, ethics, client populations served, roles of social workers who serve these populations, and APA style of professional writing. The course also includes sixty hours of supervised field experience and directed classroom discussion connecting field experience to social work practice.

Prerequisites: SOCW 1030 FOR LEVEL UG WITH MIN. GRADE OF C (MAY BE TAKEN CONCURRENTLY)

SOCW2210 Field Experience And Lab I

[3 credit hours]

Supervised field experience. Ninety hours evenly distributed with weekly directed classroom discussion of reflecting the relationship of field experience to social work practice. This course meets the WAC requirements, and journaling and written classroom exercises will be required.

Prerequisites: SOCW 2010 FOR LEVEL UG WITH MIN. GRADE OF C

SOCW3020 Social Work Issues In Social & Economic Justice

[3 credit hours]

Provides an in depth study of the concepts of social and economic justice relative to the practice of social work including power and economic distribution, oppression, discrimination and confronting injustice.

Prerequisites: SOCW 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW3030 Survey Of Social Work Assessment Tools

[3 credit hours]

Provides an overview of various tools used by social workers in practice including use of DSM IV, individual, family, group, organization and community assessments.

Prerequisites: SOCW 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW3040 Social Work With Older Adults

[3 credit hours]

History and development of practice with older adults. Trends in aging, services for older adults, health care, social security, retirement, elder abuse, substitute care decision, hospice, loss, death and dying.

Prerequisites: SOCW 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW3050 Crisis Intervention

[3 credit hours]

Provides an examination of crisis intervention theories and strategies to deal with stress. Emphasis is on observing, formulating, defining and measuring the threats, tasks and opportunities associated with crisis behavior.

Prerequisites: SOCW 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW3060 Social Work Ethics

[3 credit hours]

Examination of social work values and their professional implications. Provision of working knowledge of Social Work Code of Ethics and licensing and subsequent professional responsibilities. Integration of theoretical models with practice situations.

Prerequisites: SOCW 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW3070 Child Welfare I

[3 credit hours]

Child welfare history. Knowledge, concepts and skill development concerning child maltreatment and protection, risk assessment and family-centered services.

Prerequisites: SOCW 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW3080 Women In Poverty

[3 credit hours]

Provides an understanding of women's poverty and its perpetuation through marriage and divorce, women's work and wages, welfare, children, child support and the economics of the unpaid women's labor.

Prerequisites: SOCW 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW3090 Social Work Perspectives On Culture And Oppression

[3 credit hours]

Focus is on vulnerable and oppressed groups who are among social welfare consumers. Cultural characteristics and group strengths, needs, priorities and experiences within the context of social work are also explored.

SOCW3110 Social Work Practice I

[3 credit hours]

An overview of generalist social work practice with various system sizes. Emphasizes strengths, empowerment, social and economic justice, ethical practice and examination of self in relation to professional social work.

Prerequisites: SOCW 2210 FOR LEVEL UG WITH MIN. GRADE OF C

SOCW3120 Social Work Interviewing And Recording

[4 credit hours]

Develops skills needed for the generalist social work interview and appropriate recording techniques. Integrates computer simulation, role-play and video recording for a participatory learning experience.

Prerequisites: SOCW 3110 FOR LEVEL UG WITH MIN. GRADE OF C

SOCW3170 Child Welfare II

[3 credit hours]

Addresses the developmental and permanence needs of children, effects of maltreatment on children, placement issues, separation, reunification and adoption. Includes child welfare services for children with developmental disabilities.

Prerequisites: (SOCW 3070 FOR LEVEL UG WITH MIN. GRADE OF D- AND SOCW 2010 FOR LEVEL UG WITH MIN. GRADE OF D-)

SOCW3210 Human Behavior in the Soc Environment I

[3 credit hours]

Theoretical social-work related approaches to understanding human behavior and related biological, psychological, social, cultural and environmental factors affecting individuals, families and groups, from infancy to adolescence, within the context of diversity.

SOCW3220 Human Behavior In Social Environment II

[3 credit hours]

Theoretical social work - related approaches to understanding human behavior and related biological, psychological, social, cultural and environmental factors affecting individual, family and group behavior, from young adulthood to old age.

Prerequisites: SOCW 3210 FOR LEVEL UG WITH MIN. GRADE OF C

SOCW3230 Human Behavior in the Social Environment III

[3 credit hours]

This course provides a view of behavior of larger systems including groups, organizations, and communities through a strengths perspective, focusing on social and economic justice, and the values of the social work profession.

SOCW3300 Social Policy And Legislation

[3 credit hours]

An examination of current social welfare issues and theories and the significance to the social, economic and political factors which influence policymaking and implementation.

Prerequisites: PSC 1200 FOR LEVEL UG WITH MIN. GRADE OF C

SOCW3410 Social Work Research Practicum I

[3 credit hours]

Presentation of basic methods used in social work research. Practice based methods are emphasized. Course content will focus on scientific methods of building knowledge for evidence-based social work practice.

SOCW3420 Social Work Research Practicum II

[3 credit hours]

Develop student competency in use of statistical applications in applied social work research. Entails continuation and completion of community-based research project started in Research Practicum I.

Prerequisites: SOCW 3410 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW4120 Social Work Practice II

[3 credit hours]

Provides advanced theory and skill development as a generalist social worker with organizations and communities. Emphasis is on a strengths and empowerment perspective focused on social and economic justice.

Prerequisites: SOCW 3110 FOR LEVEL UG WITH MIN. GRADE OF C AND SOCW 3120 FOR LEVEL UG WITH MIN. GRADE OF C

SOCW4130 Social Work Practice III

[3 credit hours]

Provides advanced theory and skill development as a generalist social worker with individuals, families and groups. Emphasis is on a strengths and empowerment perspective focused on social and economic justice.

Prerequisites: SOCW 4120 FOR LEVEL UG WITH MIN. GRADE OF C

SOCW4200 Field Laboratory II

[1 credit hour]

Integration of field experience and proactive principles.

SOCW4210 Field Laboratory III

[1 credit hour]

Integration of field experience and proactive principles.

SOCW4220 Social Work Field Experience II

[5 credit hours]

A professional experience in generalist social work practice with an integration of classroom learning with practice in a social agency. Must be taken in successive semesters during a single academic year. Application for entry to field placement must be submitted to social work office during spring semester prior to fall placement.

SOCW4230 Field Experience III

[5 credit hours]

A professional experience in generalist social work practice with an integration of classroom learning with practice in a social agency. Must be taken in successive semesters during a single academic year. Application for entry to field placement must be submitted to social work office during spring semester prior to fall placement.

Prerequisites: SOCW 4220 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW4500 Appreciating Diversity In Social Work Practice

[3 credit hours]

This course focuses upon the cultural gropu strengths, needs, priorities and experiences of ethnic/racial groups in the U.S. through a social welfare perspective. Individual and institutional racism are examined.

Prerequisites: SOCW 2210 FOR LEVEL UG WITH MIN. GRADE OF D-

SOCW4960 Honors Thesis

[1-6 credit hours]

Senior standing and approval of the department honor adviser.

SOCW4980 Special Issues In Social Work

[1-3 credit hours]

Courses on various social work specialties. May be repeated in different topics.

SOCW4990 Independent Study In Social Work

[1-3 credit hours]

Designed for advanced students in social work to pursue supervised independent study in unlisted subject areas or to continue course work in greater depth. Written proposal required.

SOCW5010 Social Work Research Methods And Analysis

[3 credit hours]

Course introduces students to qualitative and quantitative research methodologies, supporting statistical methods as utilized within the social work profession, data analysis technology and evidenced based social work practice concepts.

SOCW5110 Social Work Practice I

[3 credit hours]

Provides an overview of social work practice theory and paradigms to base practice with individuals, families and groups emphasizing strengths and empowerment, values and ethics, and understanding self.

SOCW5120 Social Work Practice II

[3 credit hours]

Provides an overview of social work theories guiding social work practice with groups and organizations, including group development, leadership, and models of organizations within a social and economic justice framework.

Prerequisites: SOCW 5110 FOR LEVEL GR WITH MIN. GRADE OF B AND SOCW 5210 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW5130 Social Work Practice III

[3 credit hours]

Provides historical and contemporary look at the social work profession, its roots in community organizing, theories underpinning group work and community organizing. Strengths and empowerment models and social justice emphasized.

Prerequisites: SOCW 5110 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW5210 Micro Social Work Perspectives In Human Behavior And The Social Environment

[3 credit hours]

Course is organized on a developmental model including social work perpectives and theory on: biopsychosocial aspects of human growth and development. Critical analysis encouraged through social justice conceptualizations.

SOCW5220 Macro Social Work Perspectives In Human Behavior And The Social Environment

[3 credit hours]

Course views the behavior of groups, organizations, and communities and their environmental contexts through a social work perspective. Attention focuses on issues of diversity, oppression, and social and economic justice.

Prerequisites: SOCW 5210 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW5330 Policy Issues And Analysis In Social Work

[3 credit hours]

Course covers the history of social work profession and major institutions. Through current policy issues, methods of policy analysis are provided. Students are introduced to various methods of policy practice.

SOCW5900 FOUNDATION FIELD EXPERIENCE AND INTEGRATIVE SEMINAR I

[3 credit hours]

Students participate in a weekly seminar to integrate classroom learning to the field experience; and during the 3rd week begin a 208 hour field experience in an assigned agency. The course must be taken in consecutive semesters with SOCW 5910.

SOCW5910 FOUNDATION FIELD EXPERIENCE AND INTEGRATIVE SEMINAR II

[3 credit hours]

Students continue in the field agency assigned in SOCW 5900; complete 240 field hours; and participate in the same weekly integrative field seminar section. SOCW 5900 and 5910 must be taken in consecutive semesters.

Prerequisites: SOCW 5900 FOR LEVEL GR WITH MIN. GRADE OF B OR SOCW 5120 FOR LEVEL GR WITH MIN. GRADE OF B OR SOCW 5220 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6030 Research Methods For Macro Social Work Practice

[3 credit hours]

Covers research methods specific to macro social work practice especially needs assessment and program evaluation. Content on research ethics, data management, and evidence based practice are addressed. Prerequisites: All 5000 level courses, advanced standing status or permission of instructor.

Prerequisites: SOCW 5010 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6040 Research Methods For Micro Social Work Practice

[3 credit hours]

Course covers evaluation of client accomplishments through subject design methods. Content on research Ethics, data management, and evidence based practice are addressed. Prerequisites: all 5000-level courses, advanced standing status or by permission of instructor.

Prerequisites: SOCW 5010 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6110 Advanced Generalist Practice I

[3 credit hours]

Advanced study of generalist social work practice and theory when working with individuals, families, and groups with an intergenerational focus on social and economic justice. All SOCW 5000-level courses, Advanced Standing Status, or Permission.

SOCW6120 Advanced Generalist Practice II

[3 credit hours]

Course provides advanced content on social work practice in organizations including financial management, supervision and planning. Incorporates current theoretical perspectives and research on effective practice. Prerequisite: SOCW 6110 with a B or better, or permission of instructor.

Prerequisites: SOCW 6110 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6130 Advanced Generalist Practice III

[3 credit hours]

Course provides advanced content on social work practice within the community and with groups. Particular attention is paid to community change processes and social and economic justice. Prerequisite: SOCW 6110 and 6140 with a B or better.

Prerequisites: SOCW 6110 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6140 Advanced Social Work Assessment

[3 credit hours]

Course provides an overview of theories and methods of social work assessment with an emphasis on psychosocial assessment, macro assessments and various tools used by social workers for asssessment purposes. Prerequisites all 5000 level corses, advaced standing status. or by permission.

SOCW6410 Social Work Micro Practice with Children and Families

[3 credit hours]

Course provides students with specialized knowledge about clinical practice with children and families. Included are major theoretical perspectives and practices currently accepted in the field, with an emphasis on strengths and empowerment.

SOCW6430 Social Work Macro Practice involving Children and Families

[3 credit hours]

This is the second of two Child and Family specialization courses. It provides knowledge about current social work issues and practices in the mezzo and macro practice arenas, including social work practice related to laws, regulations, and policies concerning services for children and families.

Prerequisites: SOCW 6410 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6460 Social Work Journal Review Seminar I: Child And Family Services

[1 credit hour]

This course enables students to gain a critical understanding and appreciation of the social work literature and research underpinning social work practice in child and family services. Prerequisite: All 5000-level classes and SOCW 6140. Corequisites: SOCW 6110, 6410, or permission of instructor

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SOCW6470 Social Work Journal Review Seminar II - Child And Family Services

[1 credit hour]

Course provides a more in depth examination and appreciation of social work literature and research underpinning social work practice with children and family services. Prerequisite: SOCW 6110, 6140, 6410 with a B or better. Corequisite: 6430.

Prerequisites: SOCW 6460 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6510 Social Work Micro Practice in Mental Health

[3 credit hours]

This course Provides MSW students with specialized knowledge about clinical practice in mental-behavioral health settings. The focus includes social works history of involvement with the primary prevention, diagnosis and treatment of mental and emotional disorders. Major emphasis is placed on social work practice at thise levels with emphasis on social and economic justice.

SOCW6530 Social Work Macro Practice in Mental Health

[3 credit hours]

This is the second of two mental health specialization courses. It provides knowledge about current social work issues in the mezzo-macro practice arena, including social work practice related to laws regulations and policies concerning mental health services. Major emphasis is placed on social work practice at these levels with emphasis on social and economic justice.

Prerequisites: SOCW 6510 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6560 Social Work Journal Review Seminar I - Mental Health Practice

[1 credit hour]

Course enables students to gain a critical understanding and appreciation of the social work literature and research underpinning social work practice in mental health settings. Prerequisites: All 5000-level classes, advanced standing status, and SOCW 6140. Corequisites: SOCW 6110, 6510, or permission of instructor.

SOCW6570 Social Work Journal Review Seminar II - Mental Health Practice

[1 credit hour]

Course provides a more in depth examination and appreciation of social work literature and research underpinning social work practice in mental health settings. Prerequisites: SOCW 6110, 6140, 6510 with a B or better.

Prerequisites: SOCW 6560 FOR LEVEL GR WITH MIN. GRADE OF B

SOCW6610 Social Work Practice In The Aging Community

[3 credit hours]

Course provides an understanding of social worker's role in aging practice settings. Included are major theoretical perspectives currently accepted in the field with emphasis on strengths and empowerment.

SOCW6630 Social Work Policy Issues In Aging

[3 credit hours]

Course provides knowledge about the current policy issues concerning social work services for the elderly. Major emphasis is placed on social and economic justice in the resolution of policy conflicts.

SOCW6660 Social Work Journal Review Seminar I - Aging Services

[1 credit hour]

Course provides an understanding and appreciation of the social work literature and research underpinning social work practice with older adults.

SOCW6670 Social Work Journal Review Summer II - Aging Services

[1 credit hour]

Course provides a more in depth examination and appreciation of the social work literature and research underpinning social work practice with older adults.

Prerequisites: SOCW 6660 FOR LEVEL GR WITH MIN. GRADE OF D-

SOCW6700 Perspectives on Child Maltreatment and Child Advocacy

[3 credit hours]

This course provides a foundation of in-depth information on the child protection system in the U.S., child neglect, child physical abuse, child sexual abuse the investigation, and substantiation of maltreatment, and the role of advocacy in the process.

SOCW6900 ADVANCED FIELD EXPERIENCE AND INTEGRATIVE SEMINAR I

[5 credit hours]

Students are assigned to a field agency; complete 360 field hours; and attend a weekly seminar to integrate classroom learning to the field experience. SOCW 6900 and SOCW 6910 must be taken in consecutive semesters.

Prerequisites: SOCW 6460 FOR LEVEL GR WITH MIN. GRADE OF B AND SOCW 6410 FOR LEVEL GR WITH MIN. GRADE OF B (MAY BE TAKEN CONCURRENTLY) OR SOCW 6510 FOR LEVEL GR WITH MIN. GRADE OF B (MAY BE TAKEN CONCURRENTLY) AND SOCW 6560 FOR LEVEL GR WITH MIN. GRADE

SOCW6910 ADVANCED FIELD EXPERIENCE AND INTEGRATIVE SEMINAR II

[5 credit hours]

Students continue placement in the field agency assigned in SOCW 6900; complete 360 field hoursl and participate in same weekly integrative field seminar section. SOCW 6900 and 6910 must be taken in consecutive semesters.

Prerequisites: SOCW 6900 FOR LEVEL GR WITH MIN. GRADE OF B AND SOCW 6430 FOR LEVEL GR WITH MIN. GRADE OF B (MAY BE TAKEN CONCURRENTLY) OR SOCW 6530 FOR LEVEL GR WITH MIN. GRADE OF B (MAY BE TAKEN CONCURRENTLY)

SOCW6960 Thesis

[1-6 credit hours]

This course involves research leading to a written thesis. Thesis topic, defense, and final thesis must be approved by the student's thesis committee.

SOCW6980 Special Topics In Social Work

[1-3 credit hours]

Content will vary as instructors present a single concentration on developments, problems, and controversies in social work.

SOCW6990 Independent Study In Social Work

[1-3 credit hours]

Directed study in social work under the supervision of a social work faculty member.

SOCW7610 Orientation to Interprofessional Teaming

[1 credit hour]

Students will become familiar with and develop a plan of study which will lead to successful completion of the requirements for the Graduate Certificate in Teaming in Early Childhood. Students will demonstrate an understanding of conflict resolution and working with others whose values and beliefs differ significantly from their own.

Prerequisites: SPED 7270 FOR LEVEL GR WITH MIN. GRADE OF D-

SOCW7620 Leadership and Advocacy in Interprofessional Teaming

[1 credit hour]

This seminar focuses on developing the skills to promote best practice in teaming. Students will explore the factors that support and threaten interprofessional collaboration. They will become aware of policies affecting teaming. Finally, students will engage in advocacy for teaming that will benefit individuals with disabilities.

Prerequisites: SOCW 7610 FOR LEVEL GR WITH MIN. GRADE OF D-

SOCW7630 Evidence-Based Practice and Innovation in Interprofessional Teaming

[1 credit hour]

The purpose of this seminar is to provide an opportunity for students to reflect on their practicum experiences as well as examine issues related to principles of ethical practice, professional identity and advocacy to promote the well-being of young children with special needs and their families. Students will also explore ways in which technology can promote effective teaming practices with other professionals as well as with family members.

SOCW7640 Practicum in Interprofessional Teaming

[2 credit hours]

The purpose of this practicum is to provide students enrolled in the Graduate Certificate in Teaming and Early Childhood program with an opportunity to engage in interprofessional teaming in order to provide integrated services to young children with special needs and their families in an inclusive setting. During this practicum, students will complete a minimum of 60 clock hours directly working with team members, young children with special needs, and their families.

Prerequisites: SOCW 7620 FOR LEVEL GR WITH MIN. GRADE OF B

SOMN600 Basic Life Support

[1 credit hour]

The Basic Life Support Healthcare Provider Course is designed to teach the skills of CPR for use in victims of all ages (including ventilation with a barrier device, a bag-mask device, and oxygen); use of an automated external defibrillator (AED); and relief of foreign-body airway obstruction (FBAO).

SOMN602 Intro to Sports Medicine

[0- credit hours]

This elective is designed to introduce second year Medical students to the field of Sports Medicine. Students will be required to shadow a minimum of two different sports medicine physicians totaling at least eight hours. Following each shadowing experience, the student will have the physician sign an attendance form documenting the hours to be turned in at the end of the semester. In addition to the shadowing experiences, each student will be required to write a research paper. He or she may choose to either write about an injury seen while shadowing or another sports medicine related topic chosen from a provided list. Lastly, the student will be required to attend at least one workshop held by the Sports Medicine Club. A minimum of 10 hours of participation, including all three of the above requirements, is needed for completion of the elective. Students are responsible for contacting physicians to set up the shadowing experiences, no more than two medical students and residents are to be present with a physician at an athletic event. Students will then be responsible for reporting to the elective coordinator who will document each student's participation until requirements for the elective have been reached. The students completing the elective for each semester will be reported to Dr. Weldy, whose signature is required to receive credit for the elective.

SOMN604 Intro to Orthopedic Research

[0- credit hours]

This elective gives students the opportunity to get experience in the field of orthopedic research. The student will be exposed to a variety of research projects with the opportunity to publish the results of the work. Students will work independently or with a resident doctor/fellow on research projects. There is great flexibility in this program so students can meet their own goals. (This experience is invaluable for students interested in Orthopedic Surgery and students who are interested in doing clinical or experimental research.)

SOMN610 Medical Spanish

[0- credit hours]

Sessions 1 and 2 are optional, and will consist of a review of basic Spanish language, targeted to students that have not taken any Spanish before or want to refresh their knowledge. Students will be required to attend 9 out of 10 sessions, including the last two sessions. Each session will be divided into one hour of formal instruction and one hour of practice and review. Various methods of instruction will be used, including lecture and role playing (doctor-patient encounters).

SOMN673 Laboratory Medicine Vignettes

[0- credit hours]

Clinical case discussions revolving around interpretation and appropriate cost-effective utilization of laboratory tests. Students will meet twice per week to discuss pre-assigned cases.

SOMN684 Introduction to Surgery

[0- credit hours]

The students may be assigned a preceptor or may elect to sign up randomly for specific cases within their two week time period. Students will be directly involved in observing patient care. This is strictly an observational course intended to introduce students to surgery. Any involvement of students beyond pure observation is the responsibility and liability of the attending surgeon as allowed under his or her discretion.

SOMN710 Family Care Giving - Dementia

[0- credit hours]

Alzheimer¿s disease affects over 4 million Americans and is the 4th leading cause of death in the U.S. today. The caregivers of patients with Alzheimer¿s disease sustain a significant burden and are at risk for physical and emotional illness. This elective presents the student with experiences in family settings, day care and nursing homes in which patients with Alzheimer¿s disease reside. Students will participate in activities of local organizations that focus on Alzheimer¿s disease and attend lectures on the topic presented by experts in the field.

SOMN711 Wilderness Medicine

[0- credit hours]

Effective medical education requires a combination of didactic instruction and practical experience. The challenge of providing a practical wilderness medicine experience is that students and teachers must leave the traditional hospital setting. The wilderness medicine elective will encourage students to apply their medical knowledge in non-traditional settings. This will occur through a series of workshops and also in having the students organize the medical wilderness adventure race (MedWAR). MedWAR is an event that requires participants display both preparation and adaptability in the practice of wilderness medicine. The students will work from a curriculum of medical problems and incorporate these into an adventure race format. Students will be required to demonstrate proficiency in: splinting, extrication, wound management, water purification, land navigation, management of hypothermia, triage, and identification of poisonous plants and animals. An open reference test covering an even broader range of topics will be administered as well.

SOMN712 Autopsy Elective

[0- credit hours]

The purpose of this elective is to introduce first year medical student to the process, procedures, requirements and requests that surrounds the autopsy. The autopsy, as a multidiscipline educational tool, will provide a format for engendering professionalism, fundamentals of clinical practice, death and dying issues, prepare the student to describe the process of an autopsy, discussing reasons and ethical issues that surround requests for autopsy. It is interdisciplinary in that it addresses issues that arise in Anatomy dissection, Pathology, Psychiatry, and the Fundamental Practice of Medicine and Professionalism. In addition, it would serve as a foundation for current practices and courses in preclinical, clinical years as well as residencies.

SOMN713 Intro/Orientation to Hospice of Northwest Ohio

[0- credit hours]

First-year and second-year medical students will have the opportunity to explore many facets of end-of-life care by participating in a structured curriculum at the Perrysburg location of Hospice of Northwest Ohio. They will be completing this program alongside 10 individuals from the community who will be participating in order to gain certification as a Hospice Volunteer. All students will receive an orientation at the beginning of the elective from Dr. John McGreevey, Medical Director of Hospice of Northwest Ohio ¿ Perrysburg. He will be available to meet with the students throughout the elective experience as they complete the Hospice curriculum.

SOMN715 Introduction to Neurology

[0- credit hours]

The elective coordinators will arrange for interested students to have the opportunity to have shadowing experiences with neurologists who have agreed to participate in the elective. During their four-week experience, the students will spend time rotating in outpatient general neurology and sub-specialty clinics. The students have the option of doing all four weeks in a row, but also have the opportunity to spread the experience out over a 6-week time course. In each division students will have the opportunity to shadow participating physicians working with both inpatient and outpatient care. Additional experience in EEG and EMG laboratory will also be available.

SOMN716 Scribe Program

[0- credit hours]

A scribe is a medical student who would like to work in a clinical environment to gain early exposure to clinical medicine. The principle duties of a scribe include: free text documentation of chief complaint and history of present illness, documentation of physical exam, past medical history, social history, family history and lab & imaging data. The scribe accompanies the physician into the exam room to hear the patient¿s history of present illness and chief complaint. The scribe takes down this information on a pad of paper and reviews it with the physician while exiting the room. The scribe then types this information as a free text note into the patient¿s electronic medical record. While in the exam room, the scribe takes notes on the pertinent physical exam findings. The scribe also notes which findings are normal and abnormal. This information is reviewed with the physician while exiting the patient¿s room. The scribe then works through a ¿quick click¿ documentation screen, which often requires the use of addendums to thoroughly detail the exam. The scribe is expected to alert the physician when lab results or imaging study data are available to be viewed. The scribe can also document all procedures performed, consultations ordered and changes in patient¿s course of care and response to treatment. The scribes assist the physicians with improving efficiency in the emergency department because the physicians are able to spend more face time with each patient and can access the next patient more quickly. This aspect of a scribe program improves workflow and patient satisfaction. The scribe adheres to the workflow design established for the emergency department and meets all job performance standards. The scribe performs other duties as assigned.

SOMN717 The History of Medicine

[0- credit hours]

This elective will provide medical students with a background in the history of medicine. This has the potential to aid their clinical decision making by helping them develop an awareness of how clinical practice has evolved over time. It will provide them with an opportunity to reflect on current medical practices and technologies, how they have evolved from prior approaches, and how they may shape the future of medicine.

SOMN718 Interprofessional Leadership

[0- credit hours]

This elective will give students the opportunity to learn from established healthcare teams, participate in authentic inter-professional learning opportunities, and share in a learning experience with other students on the HSC.

SOMN719 Student to Student Health Edu

[0- credit hours]

The purpose of this elective is to provide medical students with the opportunity to share their knowledge about a wide variety of health-related topics with elementary, middle, and high school students in the greater Toledo area. Student to Student has been active on campus for over 20 years and over this time it has enriched the educational experiences of the medical students that participate and the students they educate. By visiting local schools and also hosting high school classes at the Health Science Campus, UTCOM students serve as stewards of the University in the community. There are two different arms of Student to Student. 1. Medical students visit local schools and present on a topic chosen by the classroom teacher. The topics include alcohol abuse, smoking, nutrition, the five senses, sexually transmitted infections, the heart, the brain, and the path to becoming a doctor. 2. High school science classes visit the Health Science Campus for a tour of the Anatomy Lab. Medical students lead the tours in which they teach the high school students about the human body using a human cadaver, isolated organs, and plastinated specimens. Presentations and tours are generally scheduled from October through April. (Last year, the volunteer efforts of medical students made it possible for Student to Student to serve over 2,000 kindergarten through 12th grade students.)

SOMN720 Pioneering Healthier Community

[0- credit hours]

The purpose of this elective is to provide students a service learning opportunity. Service learning is defined as a learning experience that combines community service with preparation and reflection. The elective will allow a first or second year medical student to volunteer at the South YMCA at the Morse Center. Students will volunteer for programs that are already established as part of the YMCA¿s Pioneering Healthier Communities (PHC) program. PHC has a goal to create lasting change in support of healthy living by collaborating with community leaders. Working together, the YMCA and JCC of Greater Toledo and the University Of Toledo College Of Medicine will be able to raise awareness and strengthen the framework for movements that aim to reverse trends in physical inactivity, poor nutrition, and obesity. Students will participate in a service learning opportunity focused in the Lifestyle Eating, Activities, and Attitudes (LEAP) Program. Those who participate in LEAP are under the age of 21 and are referred by a physician. The program focuses on a multidisciplinary approach to maintaining an optimal weight and healthy lifestyle. Student volunteers in LEAP will work as a health mentor responsible for assisting the children/young adults in a group or individualized exercise routine. In addition, students also will be able to teach classes advising the participants and their parents on proper nutrition. The student would be expected to volunteer at least 1 hour per week. This elective is a great opportunity for the YMCA and JCC of Great Toledo and UTCOM to partner together to promote healthy living in the Toledo community. Students in this elective will be able to see the importance that volunteer service can have in promoting healthy behaviors. In addition, students will be able to use and strengthen their medical knowledge in order to promote healthy lifestyle changes for children/young adults. Throughout the elective, students will be able to reflect on the challenges faced while advocating change and their service experience in the community.

SOMN721 Cmnty Hlth for the Underserved

[0- credit hours]

The purpose of the elective is to promote and support health care professional students at the University of Toledo in their pursuit of careers in underserved areas through mentoring, volunteering, leadership, and public speaking opportunities.

SOMN722 Pediatric Longitudinal Exp

[0- credit hours]

The purpose of this elective is to increase patient exposure in the preclinical years via a longitudinal pediatric experience for second year medical students. The program will pair a second year medical student with a newborn patient who begins seeing a pediatric physician at UTMC. The student would be paired with the same patient and family for the elective that will last the academic school year. During the first year of life, newborns have 6 regularly scheduled well-care visits that would be planned with the students¿ schedules taken into account. The 6 appointments occur at 1, 2, 4, 6, and 9 months. During the visits, the students will interact with the newborn, the family, and the attending pediatric physician. The students¿ responsibilities, which will be guided by the pediatric physician, will include taking patient histories, taking vitals, and helping assist in the exam during any particular appointment. The elective is multifaceted in increasing patient exposure in the preclinical years as well as gaining a better understanding of primary care. The elective will provide an opportunity for students to translate behavioral science developmental milestones, anatomy, and vaccination and infectious disease timelines learned in the preclinical years to a patient experience. The elective will also be geared toward strengthening the students¿ comfort level with both physical exam skills and patient interactions.

SOMN725 Global and Disaster Medicine

[0- credit hours]

The purpose of the course is to bring exposure and training experience to conditions and diseases that are specific to disaster relief, and medical conditions that are no longer common in the United States, but future physicians may be exposed to in their travels or through returning travelers.

SOMN726 Casos en Espanol

[0- credit hours]

This course aims at providing students with sufficient knowledge of Spanish with an opportunity to keep and improve language and communication skills. The course will include a variety of simulated case presentations with particular emphasis on diseases, environmental facotrs or cultural components that are more likely to be found in patients of Hispanic origin.

SOMN729 Interprofessional Patient Care

[0- credit hours]

The 14-week module has been designed to provide a variety of interprofessional learning activities and educational experiences that include clinical skills training, communications sessions, small group (team) work, roles and responsibilities sessions, patient safety sessions, patient simulations, standardized patient interviews, and clinical case studies. Students are assigned to interprofessional teams and have the opportunity to collaborate with students from other health care professionas including medicine, nursing, occupational therapy, pharmacy, physical therapy, physician assistant studies, respiratory care, speech language pathology, and clinical psychology using an experiential, case-based learning approach to patient care. Public Health and Social Work faculty are also involved in the course. This course is web-assisted and uses Blackboard for posting of team rosters, handouts, assignments, schedules, etc.

SOMN730 Medical Practice Management

[0- credit hours]

Medical Practice Management explores and analyzes methods of organizing, delivering, financing, and evaluating health care provided in medical practices in the United States. The purpose of this elective is to introduce students to fundamental business aspects of the practice of medicine. Domains explored include operations management, financial management, human resource management, organizational governance, patient-centered care, and risk and compliance management.

SOMN731 Interprof Approach Patient

[0- credit hours]

The program provides students the opportunity to collaborate with students from other health care professions including nursing, occupational therapy, pharmacy, physical therapy, physician assistant studies, respiratory care, medicine, and social work. The students use a problem-based learning approach to patient care. The groups are interprofessional and students work through patient cases together. The program is experiential and involves simulation exercises. By the end of the program students will have a better appreciation of the roles and scope of practice of the different professions and the impact of a team approach to patient care.

SOMN732 Intro Biomarkers and Person

[0- credit hours]

The practice of medicine is just beginning to be transformed by the use of diagnostic biomarkers, selection of therapeutic drugs based on a patient's gene profile (pharmacogenomics), development of therapies based on modifications of a patient's own immune cells, and many other related approaches. This course provides an overview of how these approaches are being developed and applied, and should help prepare physicians for the coming transformational changes.

SOMN733 Family Planning

[0- credit hours]

The overall objective of the elective is for students to gain knowledge regarding common reproduction health issues. Lectures will cover: taking a full sexual history, pharmacology and method of action of various contraceptives, contraceptive counseling, common causes of infertility, assisted reproductive technology procedures (IUI and IVF), first and second trimester abortion procedures, and pregnancy counseling. In addition to the required lectures and standardized patient experience, students will have access to optional shadowing experiences. Attendance will be taken at each required session. At the end of the course, students will interact with a standardized patient and complete a post-test to assess their competence in the course material. Students will learn primarily from the guest lecturers. Lecturers will include, but are not limited to: Ob/Gyn faculty, area providers, and Planned Parenthood staff members. Over one semester, each student must complete eleven hours of in-class lecture, one hour with a standardized patient, and a reflection paper. Students will also complete an evaluation of the course and instructors. These evaluations are formative and intended to provide mutually beneficial feedback.

SOMN734 Ethics and Clinical Research

[0- credit hours]

This elective will offer sessions for students interested in pursuing clinical research and will focus on the ethical and regulatory aspects of research with patients. The sessions will be designed to help demystify IRBs by explaining what they are and how they review research proposals, what they look for in protocols, consent forms with a focus on what researchers should know. The group will discuss research misconduct cases with the intent of understanding what it is, the role of researchers in identifying research misconduct, institutional responsibilities in addressing allegations. There will also be discussions related to authorship criteria and responsibility as well as Data Safety Management Boards, their purpose, composition and responsibilities. Students will be instructed in the typical development of research from phase 1 studies through phase 4 studies with the goal of understanding what each phase is looking at and the related risks to subjects and responsibilities of researchers. There will be at least one session of "what would you do?" ethical scenarios to discuss the roles and responsibilities of researchers. Other topics that will be added depending on the interests of the group will include Mentorship, Biosecurity (national security, politics and research), Animal research, Issues in Oncology research, Whistleblowing, etc.

SOMN735 Introduction to Integrated Care in Behavioral Health

[0- credit hours]

Students will learn about the integration of behavioral health and primary care, as well as key components of integrated models of care, evidence of their effectiveness, and the role of medical health providers participating in these systems. Additional concepts such as population-based care, measurement-based care, and stepped care will be addressed. This pre-clinical elective is to serve as an opportunity to work with interprofessional health teams. A minimum of ten hours are required for pre-clinical elective credit.

SOMN736 Rocket Launch Peer Mentorship Program

[0- credit hours]

Rocket Launch will be an elective course for 2nd year medical students. Second year mentors will be required to submit a CV and application in order to be considered for the program. This application will be reviewed and scored by the student coordinator. Each M2 mentor will then be matched based on similar interests with a maximum of six incoming first year students. This group will be expected to meet throughout the year in an informal environment to provide guidance, support, and encouragement to their new peers.

SOMN737 Social Determinants of Health Exploration Through Mentoring Elective

[0- credit hours]

Students will learn about the impact of many social determinants of health, including housing instability, community violence, drug use, food insecurity, and more through one-on-one mentoring relationships with 5th and 8th grade students in Toledo Public Schools. Additional concepts such as community engagement, population health, cultural humility, and more will be addressed and explored in small group discussion.

SOMN738 Interprofessional Health Behavior Change

[0- credit hours]

This elective provides first-year health profession students the opportunity to learn techniques and approaches that facilitate health behavior change through participation in online class discussions. Following successful completion of the required Interprofessional Approach to Patient Care course in Fall semester, a maximum of 54 students will have the opportunity to further develop their clinical communication skills as part of six-member interprofessional teams discussing online clinical cases.

SOST1010 Introduction To Social Services

[3 credit hours]

The historical development of social services as it relates to the present system of delivery of services. Significant writing involved.

SOST1020 Helping Skills In Social Service

[3 credit hours]

All social services agencies use a modified form of the Scientific Method. This course will assist the student in executing gathering data, defining problems, generating solutions, implementing solutions and follow-up. Significant writing involved.

SOST1040 Introduction To Gerontology

[3 credit hours]

This course gives an overview of the role of the older adult in contemporary society, including the demography of aging, physical and social environments, specialized services available and stereotypical myths related to the aged. Significant writing involved.

SOST1070 Techniques Of Interviewing

[3 credit hours]

The knowledge and practice of effective approaches to interviewing. Significant writing involved.

SOST1080 Team Approach In Social Services

[3 credit hours]

Experiential exploration of the variety of professional teams, the division of responsibility within the professional team and the differences in function of its members. Significant writing involved.

SOST1130 Community Resources

[3 credit hours]

An explanation of community resources (human services agencies) with focus on their effective use for connecting clientele to services. Significant writing involved.

SOST1150 Applied Creative Expressions

[3 credit hours]

Exploration of materials and applications of techniques covering a variety of two and three dimensional arts and crafts projects as applied to various age groups.

SOST1500 Self-Management And Interpersonal Relationships

[3 credit hours]

A course designed to assist the student in learning about human behavior in relation to awareness of oneself and relationships to others. Significant writing involved.

SOST2020 Methods In Social Services

[3 credit hours]

Experientially learning the processes involved in the various methods of giving service casework, (one-to-one approach), group work and community organization. Significant writing involved.

Prerequisites: SOST 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

SOST2030 Financing Health And Social Services

[3 credit hours]

An in-depth examination of current funding systems in human services, with particular emphasis on Medicare, Medicaid, social security benefits and private health care coverage. Significant writing involved.

SOST2100 Record Keeping

[3 credit hours]

Assists the student in acquiring recording skills for use in providing service with emphasis on relationship between practice and record keeping. Significant writing involved.

SOST2110 Ethnic Studies In Social Services

[3 credit hours]

This course explores the effects of living in a multi-cultural society, examines stereotyping, discrimination and racism. Significant writing involved.

SOST2160 Dealing With Death And Dying

[3 credit hours]

This course explores the meaning of death, as well as adjustment to the deaths of others and the social-emotional consequences. Dealing with those who are terminally ill and who must deal with dying is of concern in this course. Significant writing involved.

SOST2210 Adult-Child Relationships

[3 credit hours]

Understanding the child as an interacting member of family and community. Management techniques and methods to promote mental and emotional health will be studied. Significant writing involved.

SOST2220 Developmental Patterns Of Children

[3 credit hours]

A study of normal patterns of development from conception through middle childhood. Recognition of abnormal patterns which indicate special physical, mental or emotional problems or needs. Significant writing involved.

SOST2230 Adolescent Psychology

[3 credit hours]

Investigates the changes and stress in adolescence and the special dynamics of parent-adolescent interaction through use of journal research and class discussions. Significant writing involved.

SOST2350 Social Services Internship

[4 credit hours]

Supervised practice obtained in the equivalent of up to 18 hours a week at an agency. Significant writing involved.

Prerequisites: SOST 2100 FOR LEVEL UG WITH MIN. GRADE OF D-

SOST2990 Independent Study

[1-4 credit hours]

A course designed to provide educational opportunities in a specialized academic area under the direct supervision of a faculty member.

SPAN1010 Spanish for Health Care Professionals

[3 credit hours]

Introductory presentation of the vocabulary, grammar, and customs of the Spanish-speaking world as they relate to the field of health care.

SPAN1080 Culture & Commerce In The Spanish-Speaking World

[3 credit hours]

A study of the Hispanic world with emphasis on the relationship between its culture and business and economic institutions and practices. Taught in English. (Not for major credit)

SPAN1090 Culture Of Latin America

[3 credit hours]

A study of selected artistic, literary, philosophical, political and social aspects of present day Latin American culture. Taught in English. (Not for major credit)

SPAN1100 Culture Of Spain

[3 credit hours]

A study of the events, people and movements that have formed Spain. Taught in English. (Not for major credit)

SPAN1110 Elementary Spanish I

[4 credit hours]

Practice in using and understanding Spanish to develop listening, speaking, reading and writing skills. Pronunciation, grammar, vocabulary and cultural topics. Lab practice required. (Not for major credit)

SPAN1120 Elementary Spanish II

[4 credit hours]

A comprehensive introductory course in Spanish language and culture through the four basic skills: aural comprehension, reading, speaking and writing. Laboratory practice required. (Not for major credit)

Prerequisites: SPAN 1110 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNSP FOR MIN. SCORE OF 1120

SPAN1500 Review Of Elementary Spanish

[4 credit hours]

Review of first-year college Spanish for students who studied the language in high school and who need to strengthen communication skills, vocabulary, grammar and pronunciation before study at the 2000 level. (Not for major credit)

SPAN2140 Intermediate Spanish I

[3 credit hours]

Intermediate-level review and development of aural comprehension, speaking, reading and writing skills. Topics in the cultures of the Spanish-speaking world. Lab practice required. (Not for major credit)

Prerequisites: SPAN 1120 FOR LEVEL UG WITH MIN. GRADE OF D- OR SPAN 1500 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNSP FOR MIN. SCORE OF 2140

SPAN2150 Intermediate Spanish II

[3 credit hours]

Further review and development of aural comprehension, speaking, reading and writing skills. Topics in the cultures of the Spanish-speaking world. Lab practice required. (Not for major credit)

Prerequisites: SPAN 2140 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNSP FOR MIN. SCORE OF 2150

SPAN2190 Study Abroad

[1-3 credit hours]

Designed to permit and encourage non-majors to spend time in a country where Spanish is spoken. Credit will be given in accordance with established departmental procedures. (Not for major credit.)

SPAN2980 Special Topics in Spanish Studies

[0-6 credit hours]

Study of a selected topic in Spanish language, literature or culture. May be repeated when topic varies.

SPAN3000 Spanish Grammar

[3 credit hours]

A study of all Spanish grammatical aspects with special emphasis on those which present greater difficulty for the English speaker.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNSP FOR MIN. SCORE OF 3000

SPAN3010 Conversation And Composition I

[3 credit hours]

Practice in speaking, listening, reading and writing. Vocabulary and fluency building in Spanish with special emphasis on oral practice.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNSP FOR MIN. SCORE OF 3000

SPAN3020 Conversation And Composition II

[3 credit hours]

Practice in speaking, listening, reading and writing. Vocabulary and fluency building in Spanish with special emphasis on writing practice. A writing-intensive course.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D- OR LNSP FOR MIN. SCORE OF 3000

SPAN3170 Business Spanish

[3 credit hours]

An introduction to the language of the Hispanic world peculiar to the areas of business and commerce.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN3210 Survey Of Spanish Literature I

[3 credit hours]

A survey of Spanish literature from its origins through the seventeenth century.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN3220 Survey Of Spanish Literature II

[3 credit hours]

A survey of Spanish literature from the eighteenth century to the present.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN3270 Survey Of Latin American Literature I

[3 credit hours]

The literature of Latin America from the Colonial period to the end of the nineteenth century.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN3280 Survey Of Latin American Literature II

[3 credit hours]

The literature of Latin America from the beginning of the twentieth century to the present.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN3410 Spanish Culture And Civilization

[3 credit hours]

A study of the events, people and movements that have formed Spain. Attention is also given to the nation's contemporary life-style and culture.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN3420 Latin American Civilization

[3 credit hours]

A study of Latin America's contributions to world culture in such fields as architecture, painting, sculpture, music, literature, folklore, sciences, philosophy and education.

Prerequisites: SPAN 2150 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN3980 Special Topics in Spanish Studies

[0-6 credit hours]

Study of a selected topic within Spanish studies. May be repeated for credit when topic varies.

SPAN4000 Advanced Spanish Grammar

[3 credit hours]

An advanced study of Spanish grammar in preparation for higher levels of study in the language and for its use in professional pursuits.

SPAN4010 Syntax And Stylistics

[4 credit hours]

A thorough study of the grammatical structure of Spanish with special attention to stylistic problems.

Prerequisites: (SPAN 3000 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPAN 3010 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPAN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-)

SPAN4060 Translation & Interpretation In Spanish

[3 credit hours]

A study of the techniques of translation and interpretation as they relate to English and Spanish based on a contrastive analysis of the two languages, both in theory and practice.

Prerequisites: SPAN 4010 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN4070 History Of The Spanish Language

[3 credit hours]

A study of the development of the Spanish language from Vulgar Latin to the present, illustrated with selected texts.

SPAN4110 Introduction To Spanish Linguistics

[4 credit hours]

Basic concepts of linguistics as applied to the study of the Spanish language and its dialectal systems. Emphasis on phonetics, phonology, morphology, syntax and semantics.

SPAN4120 Teaching Colloquium

[3 credit hours]

A course in the theory and practice of teaching Spanish and of second language acquisition in general.

SPAN4170 Latin American Novel II

[3 credit hours]

A study of the major developments in Latin American novel from the Boom to the present.

Prerequisites: SPAN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN4190 Study Abroad

[1-12 credit hours]

The course permits the Spanish major or minor to spend time in a country where Spanish is spoken. Credit awarded in accordance with established departmental procedures.

Prerequisites: SPAN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN4250 Latin American Short Story

[3 credit hours]

Development of the Latin American short story from its origins with special emphasis on the contemporary authors such as Allende, Borges, Cortazar, Garcia Marquez and Rulfo among others.

Prerequisites: SPAN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN4260 Latin American Poetry I

[3 credit hours]

The poetry of Latin America from Sor Juana Ines de la Cruz to Ruben Dario.

Prerequisites: SPAN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN4270 Latin American Poetry II

[3 credit hours]

Latin American poetry from Surrealism to the present, with emphasis on authors such as Borges, Huidobro, Neruda, Paz and Vallejo.

Prerequisites: SPAN 3020 FOR LEVEL UG WITH MIN. GRADE OF D-

SPAN4830 Hispanic Cinema

[3 credit hours]

Critical viewings of Spanish-language films from Spain and the Americas. Emphasis on cultural criticism.

SPAN4910 Honors Research In Spanish

[3 credit hours]

Independent research in special topics. May be repeated once for credit.

SPAN4940 Internship in Spanish

[0-12 credit hours]

Educational work experience, using Spanish, in a pre-approved professional field.

SPAN4980 Special Topics

[3 credit hours]

Study and research in specific areas or authors with considerable reading of Spanish texts plus written reports in Spanish.

SPAN5000 Advanced Spanish Grammar

[3 credit hours]

An advanced study of Spanish grammar in preparation for higher levels of study in the language and for its use in professional pursuits.

SPAN5010 Syntax And Stylistics

[4 credit hours]

A thorough study of the grammatical structure of Spanish with special attention to stylistic problems.

SPAN5060 Translation & Interpretation In Spanish

[3 credit hours]

A study of the techniques of translation and interpretation as they relate to English and Spanish based on a contrastive analysis of two languages, both in theory and practice.

SPAN5070 History Of The Spanish Language

[3 credit hours]

A study of the development of the Spanish language from Vulgar Latin to the present, illustrated with selected texts.

SPAN5110 Introduction To Spanish Linguistics

[4 credit hours]

Basic concepts of linguistics as applied to the study of the Spanish language and its dialectal systems. Emphasis phonetics, phonology, morphology, syntax and semantics.

SPAN5120 Teaching Colloquia

[3 credit hours]

A practical course in the theories, methods and specific techniques of teaching Spanish.

SPAN5160 Latin American Novel I

[3 credit hours]

A study of the Latin American novel from the nineteenth century to the authors of the literary Boom of 1963.

SPAN5170 Latin American Novel II

[3 credit hours]

A study of the major developments in Latin American novel from the Boom to the present.

SPAN5210 Spanish For Reading Knowledge I

[3 credit hours]

Study of those elements of structure and vocabulary most appropriate for preparing graduate students to read effectively in Spanish. (Not for majors)

SPAN5220 Spanish For Reading Knowledge II

[3 credit hours]

Study of those elements of structure and vocabulary most appropriate for preparing graduate students to read effectively in Spanish. (Not for majors)

SPAN5250 Latin American Short Story

[3 credit hours]

Development of the Latin American short story from its origins with special emphasis on the contemporary authors such as Allende, Borges, Cortazar, Garcia Marquez and Rulfo among others.

SPAN5310 Medieval & Renaissance Spanish Literature

[3 credit hours]

Study of major works from the Poema de Mio Cid to the early writers of the Siglo de Oro.

SPAN5830 Hispanic Cinema

[3 credit hours]

Critical viewings of Spanish-language films from Spain and the Americas. Emphasis on cultural criticism.

SPAN5980 Special Topics

[3 credit hours]

Study and research in specific areas or authors with considerable reading of Spanish texts plus written reports in Spanish.

SPAN6900 Research In Spanish

[1-3 credit hours]

May be repeated for additional credit when topic varies.

SPAN6930 Seminar: Selected Topics

[1-3 credit hours]

Selected topics from Spanish culture, linguistics, or literature.

SPED2010 Practicum In Special Education

[3 credit hours]

Lecture and fieldwork, consisting of a minimum of 15 clock hours as assistant in each of two placements for persons with disabilities (total of 30 hours)

SPED2040 Perspectives In The Field Of Exceptionalities

[3 credit hours]

Synthesis of the cross-categorical components required of special education. Issues addressed: causes and characteristics for disabling conditions and issues related to persons with disabilities, i.e., identification, intervention strategies, educational settings. Role of professionals in the field of special education.

SPED2900 Early Seminar Special Education

[1-5 credit hours]

Seminar provides students with the opportunity to explore, as a group, specific topics with a faculty member. Current issues in the area of Special Education will be the focus.

SPED2910 Cultural Diversity And Disabilities

[1 credit hour]

This is a linking seminar with the urban studies or public administration dual majors. The purpose is to integrate the two majors. Students will learn the relation of cultural diversity and special education. Theoretical as well as pragmatic positions will be discussed.

SPED2990 Independent Study In Special Education

[1-5 credit hours]

Designed to provide the student with the opportunity to explore special interests through individual study.

SPED3130 Linguistic Analysis

[3 credit hours]

Identification and evaluation of language usage. Course focuses upon development of competence for the analysis of semantic and syntactic components of language. Some pragmatic analysis is included. Lab required.

SPED3670 American Sign Language I

[3 credit hours]

Principles of manual communication. Course builds an expressive and receptive vocabulary of at least 1,000 signs in American Sign Language (ASL) and Pidgin Signed English. Ten hours of lab required.

SPED3680 American Sign Language II And Basics Of Interpreting

[3 credit hours]

Emphasis on fluency development in manual communication. Study of various models of interpreting and transliterating processes.

Prerequisites: SPED 3670 FOR LEVEL UG WITH MIN. GRADE OF D-

SPED3690 American Sign Language III

[4 credit hours]

American Sign Language III is designed to continue the development of proficiency in using the language and understanding the culture of the Deaf. Student will gain knowledge and skill in applying approximately 900 additional vocabulary words. Students will advance in the complexity of sentence structure and grammatical structures including classifiers, specifier, verb modulations and aspects, special referencing, pluralizations and the importance of facial expressions.

Prerequisites: SPED 3680 FOR LEVEL UG WITH MIN. GRADE OF D-

SPED3700 American Sign Language IV

[4 credit hours]

American Sign Language IV is designed to continue the development of proficiency in using the language and understanding the culture of the Deaf. Student will gain knowledge and skill in applying approximately 900 additional vocabulary words.

Prerequisites: (SPED 3670 FOR LEVEL UG WITH MIN. GRADE OF C AND SPED 3680 FOR LEVEL UG WITH MIN. GRADE OF C AND SPED 3690 FOR LEVEL UG WITH MIN. GRADE OF C)

SPED3850 Braille I

[3 credit hours]

Basic course in both reading and writing literary Braille; practical application of this medium to teaching.

SPED3860 Braille II And Other Media For The Blind And Visually Impaired

[3 credit hours]

Covered in this course will be reading and writing and advanced literary Braille, nemeth code and other nee

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SPED4030 Educating Students With Disabilities In The Middle Grades

[3 credit hours]

Focus on the teacher's role in middle age grade classrooms in the development and modification of environment curriculum and instruction to enable students with disabilities to be educated within an inclusive educational environment. Course must be taken concurrently with CI 4200.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4060 Specialized Intervention In Infancy And Early Childhood

[3 credit hours]

Atypical infant, toddler and early childhood development examined. Intervention strategies in home, school and specialized environments, which are family-centered and developmentally appropriate, will be addressed. Forty (40) clock hour practicum required.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4070 Specialized Intervention In Infancy And Early Childhood

[3 credit hours]

Atypical infant, toddler and early childhood development examined. Intervention strategies in home, school and specialized environments, which are family-centered and developmentally appropriate, will be addressed. 20 clock hour practicum required.

SPED4080 Curriculum Adaptations & Strategies In Early Childhood Education

[3 credit hours]

Curriculum models and intervention strategies which facilitate the cognitive, academic, social, language, self-help and lay skills of children with disabilities in preschool and primary grades will be examined.

Prerequisites: UPDV FOR MIN. SCORE OF 1 AND CIEC 3200 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIEC 4340 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4100 Field Practicum With Students With Mild/Moderate Educational Needs

[3-4 credit hours]

This course must be taken with SPED 4110 or SPED 4370. The purpose is to implement strategies and techniques for teaching students with mild and moderate educational needs. Students will have the opportunity to work in educational settings with experienced teachers. One hundred twenty hours of required field.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4110 Curriculum And Methodology For Students With Moderate Educational Needs

[3 credit hours]

This course focuses on community-referenced functional curricula approaches to teaching students with moderate educational needs. Topics include inclusionary activities, community-based instruction, social skills.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4120 Curriculum And Methodology For Students With Intensive Educational Needs

[3 credit hours]

Examination of appropriate curriculum models, instructional strategies and adaptations, and related behavior problems for students with intensive educational needs. A transdisciplinary team approach is explored.

Prerequisites: SPED 4110 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 4240 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4170 Working With Adults With Disabilities In Community Setting

[3 credit hours]

An in-depth study of strategies for linking youth and adults with disabilities to avenues leading to productive and fulfilling employment and community living. Special emphasis will be on supported/ customized employment and the development of successful business partnerships to create jobs and careers for youth and adults with disabilities.

SPED4220 Diagnostic And Prescriptive Teaching Students With Disabilities

[4 credit hours]

Exploration of the development of visual, auditory and tactile-kinesthetic learning modalities and implications for social and academic learning with curricular consideration for math and language arts. Field experience required.

SPED4230 Field Practicum For Diagnostic And Prescriptive Teaching

[2 credit hours]

Provides opportunities for field experience to use and refine the teaching of basic skills presented in SPED 4220. Eighty hours of field required. Must be taken concurrently with SPED 4220.

SPED4240 Teaching Phonics, Contextual Reading And Writing To Learners With Special Needs

[3 credit hours]

Methods for teaching reading and writing to diverse learners. Emphasis on individualized and small-group approach using structured, explicit phonics in a balanced literacy program.

SPED4250 Teaching Career And Vocational Skills To Youths With Disabilities

[3 credit hours]

This course is designed to teach the prospective teacher the necessary skills to enhance transition from school to adult life for students with special needs. The course will cover several issues in the area of transition, including best practices, interagency collaboration, as well as application in developing a transition plan and summary of performance for young adults with disabilities.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4260 Family And Professional Partnership In Special Education

[3 credit hours]

Effective parent and professional partnerships will be explored. Interpersonal communication skills, legal issues, effective models for home-school communication, and differences in culture, values and family expectations will be discussed.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4310 Learning And Behavior Problems Of Children

[4 credit hours]

The purpose of this course is to present causes and characteristics of learning and behavioral problems. Emphasis of course: (a)theoretical models and considerations, (b)techniques of instruction and (3) the IEP.

SPED4320 Field Practicum For Learning And Behavior Problems

[1 credit hour]

Provides opportunities to use, refine and implement strategies for working with persons with specific learning disabilities presented in SPED 4310. Forty hours of field required. Taken concurrently with SPED 4310.

SPED4330 Child Study Institute: Ebd

[1 credit hour]

Provides educational settings for preservice teachers to practice effective behavioral/academic managing of children and youth experiencing emotional stress/trauma. Thirty hours of field required.

SPED4340 Effective Management Of Students With Special Needs In Educational Settings

[3 credit hours]

Techniques for managing student behavior. Topics include analyzing environments and problems, implementing and evaluating interventions, data collection and analysis, and handling aggression and noncompliance. Case-backed approach. Integrated field component required.

Prerequisites: UPDV FOR MIN. SCORE OF 1 AND SPED 4110 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 4240 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4350 Advanced Methods In Learning Disabilities

[3 credit hours]

An in-depth study of instructional methods and strategies for persons with learning disabilities. The focus will be on organization, study skills and self-advocacy strategies.

SPED4360 Clinical Practice In Specific Learning Disabilities

[1 credit hour]

Provides students with supervised practice in developing and implementing learning strategies and study skills for persons with learning problems. Required 15 hours instructional practice with weekly meetings with supervisors/instructors.

SPED4370 Curriculum And Methods For Students With Mild Educational Needs

[3 credit hours]

Study of causes and characteristics of mild disorders. Discussion will be on theoretical considerations as well as intervention approaches pertinent to the school and clinic setting. Taken concurrently with SPED 4100 and SPED 4110.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4450 Methods of Teaching Students With Emotional Disturbance

[3 credit hours]

This course provides evaluation and application techniques of research-based methodologies for teaching students with emotional disturbance in school-based settings within the least restrictive environment.

Prerequisites: SPED 4340 FOR LEVEL UG WITH MIN. GRADE OF D-

SPED4510 Instruction Of Students With Physical And Other Health Impairments

[3 credit hours]

Appropriate curriculum models, learning objectives and teaching strategies for students with physical or health impairing conditions are examined. Modification of materials, assessment options and alternative response modes will be discussed.

SPED4600 Professional Reflective Seminar

[3 credit hours]

This seminar is taken concurrently with student teaching/internship. Students will evaluate their behavior in relation to the classroom environment. The students will develop alternative strategies in the educational setting.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4620 Linguistic Diversity Issues In Speech-Language Pathology

[1 credit hour]

Explores the relationship of disorders of communication with the concept of community language as it impacts language development in children.

SPED4630 Collaboration For The Speech-Language Pathologist

[1 credit hour]

Develops an understanding of the roles and expertise of the professionals; enhances skills which benefit the communicatively disordered client by contributing to diagnostic and intervention terms.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4700 Meet Needs Young Children Disabilities

[9 credit hours]

This 9 semester-hour course is required for the "Fast-Track" non-licensure program in Early Childhood Education and focuses on knowledge and skills that general early childhood teachers must have to work with young children between the ages of birth to 5 years who have disabilities.

Prerequisites: CIEC 4600 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIEC 4610 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4710 Field Meet Needs Young Children Disabilities

[7 credit hours]

Students complete 280 clock hours of field experience in their ECE setting that focuses on their ability to design, manage and evaluate learning environments and activities for young children with special needs (infants, toddlers, or preschoolers). This field experience is part of the non-licensure "Fast-Track" ECE program.

Prerequisites: CIEC 4600 FOR LEVEL UG WITH MIN. GRADE OF D- AND CIEC 4610 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4800 Introduction to Vision Impairment and Blindness

[3 credit hours]

This course covers the anatomy and physiology of the eye, visual impairments and their implication for learning, working and independent living, as well as general issues and concepts related to blindness, the blind and the visually impaired.

Prerequisites: SPED 2040 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 2910 FOR LEVEL UG WITH MIN. GRADE OF D- AND UPDV FOR MIN. SCORE OF 1

SPED4810 Implications Of Low Vision

[3 credit hours]

This course covers low vision conditions as well as instruction of persons with low vision. Advantages and disadvantages of specialized equipment are discussed alongside strategies for instruction. Rehearsal with the equipment is required.

Prerequisites: AND SPED 2040 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 2910 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4820 Introduction to Research in Vision

[3-5 credit hours]

Exposes undergraduate vision students to basic research skills and enables them to conduct research in areas of interests.

Prerequisites: SPED 2040 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 2910 FOR LEVEL UG WITH MIN. GRADE OF D-

SPED4830 Assessment in Vision

[3-5 credit hours]

Covers general assessment in special education but emphasizes assessment vision. This emphasis allows students to critique and administer vision assessment tools.

Prerequisites: SPED 2040 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 2910 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4870 Education Of The Blind And Visually Impaired

[3 credit hours]

The course focuses on methods of instruction of the blind and visually impaired in different settings; cultural diversity, instruction of the blind with additional disabilities, and various types of assessments and methodologies for curriculum adaptation are addressed.

Prerequisites: SPED 2910 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 2040 FOR LEVEL UG WITH MIN. GRADE OF D-

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SPED4880 Independence Skills and Technologies for the Blind and Visually Impaired

[3 credit hours]

This course focuses on the general independence of persons who are blind or visually impaired. Covered are skills and strategies for independent living, adaptive technology, and orientation and mobility skills for the blind and visually impaired.

Prerequisites: SPED 2040 FOR LEVEL UG WITH MIN. GRADE OF D- AND SPED 2910 FOR LEVEL UG WITH MIN. GRADE OF D- AND UPDV FOR MIN. SCORE OF 1

SPED4900 Seminar In Special Education

[1-5 credit hours]

Seminar provides students with the opportunity to explore, as a group, specific topics with a faculty member. Current issues in the area of Special Education will be the focus.

SPED4910 Directed Research In Special Education

[1-5 credit hours]

Directed research provides students the opportunity to explore specific topics and develop individual research with a faculty member. Current questions in the area of Special Education will be the focus.

SPED4920 Readings In Special Education

[1-5 credit hours]

Individual Readings is designed to provide students with opportunities to examine literature related to specific issues. The student works under the direction of staff in the Department of Special Education Services.

SPED4930 Student Teaching In Special Education

[4-12 credit hours]

Planned field experience in public school classrooms under the direction of University supervisors. Full responsibility for the classroom is expected by the end of the student teaching experience.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4940 Internship/Externship In Special Education

[4-12 credit hours]

Provides advanced undergraduate students with supervised practicum experiences at off-campus site, including schools, hospitals, rehabilitation clinics, work training sites and other community sites where persons with disabilities are served.

Prerequisites: UPDV FOR MIN. SCORE OF 1

SPED4980 Special Topics In Special Education

[1-5 credit hours]

An advanced course for undergraduate majors in special education or majors in related fields covering an important area of special education. Student may repeat this course under different section numbers.

SPED4990 Independent Study - Special Education

[1-5 credit hours]

Individual study provides students with opportunities to work individually on issues under the direction of department of Special Education Services faculty. The student meets with instructor without formal classes.

SPED5000 Issues In Special Education

[3 credit hours]

Examination of causes and characteristics, identification procedures, and potential of learners who significantly deviate from the norm mentally, physically and behaviorally. Issues related to services for persons with disabilities will be studied.

SPED5010 Atypical Development In Early Childhood: Implications For Development

[3 credit hours]

Factors that contribute to atypical development in early childhood, appropriate intervention models and implications of delay on young children's development. The focus will be on conditions that may result in eligibility of children for early intervention and/or special education services in infancy (0-2), in the preschool (3-5) and primary grade (K-3) years (ages 5 to 8).

SPED5080 Curriculum Adaptations and Strategies in Early Childhood Education

[3 credit hours]

[3 hours] Early childhood development, including learning and behavioral characteristics examined focusing on implications of developmental delay and risk. Implications for IEP-based intruction explored. Strategies that support inclusion descussed. Prerequisite: CIEC 5000, EDP 5210, SPED 5010.

SPED5120 Students With Special Needs: Developmental And Educational Implication

[3 credit hours]

In-depth study of personality, psychological and physical development, and educational needs of atypical children: including current research issues in areas of social, legal and environmental aspects of exceptional populations.

SPED5150 Advanced Practicum For Teaching Students With Moderate Educational Needs

[1 credit hour]

This course is taken with SPED 5160 to apply strategies and techniques for teaching students with moderate educational needs. Forty hours of required field.

SPED5160 Advanced Instructional Methods For Teaching Students With Moderate Educational Needs

[3 credit hours]

This course focuses on a community-referenced functional curricula approach to teaching children and youths with moderate to severe delays. An in-depth study of inclusionary activities, community-based instruction, social skills.

SPED5170 Supporting Youths And Adults With Disabilities Living And Working In The Community

[3 credit hours]

In-depth study of issues faced by adults with severe and multiple disabilities and their families. Emphasis on supported employment, residential options, self-determination, recreation and quality of life issues. Field experience required.

SPED5180 Advanced Instructional Methods For Teaching Students With Intensive Educational Needs

[3 credit hours]

An in-depth examination of appropriate curriculum models, instructional strategies and adaptations, and related behavior problems for students with severe and multiple disabilities. A transdiciplinary team approach is explored.

SPED5190 Advanced Practicum For Students With Intensive Needs

[1 credit hour]

This course is taken with SPED 5180 to apply strategies and techniques for teaching students with intensive needs. Forty field hours are required.

SPED5210 Augmentative and Alternative Communication

[3 credit hours]

This course will provide an overview of alternative or augmentative modes of communication for children who are unable to meet their daily communication needs through natural modes such as speech, gestures or handwriting. It will provide a broad overview of AAC and its application, along with the history and terminology.

SPED5220 Research And Practice In Teaching Phonics, Reading And Writing To Students With Special Needs

[3 credit hours]

Current trends and issues in teaching reading and writing to students with disabilities. Examination of research supporting various methods. Application of research-based methods into practical strategies for classroom implementation. Twenty-four hours of field required.

SPED5230 Advanced Field Practicum In Diagnostic And Prescriptive Teaching

[1 credit hour]

Provides the laboratory to rehearse and refine the teaching skills presented in SPED 5/7220. Required of persons seeking initial special education certification. Forty field hours required. Taken concurrently with SPED 5220.

SPED5240 Disorders and Characteristics of Students with Emotional Disturbance

[3 credit hours]

This course introduces conceptual models of emotional disturbance (ED) in children and adolescents. Definitive diagnostics categories and their etiology are presented in contexts of their use in a variety of educational settings appropriate for children and adolescents with ED.

Prerequisites: SPED 5000 FOR LEVEL GR WITH MIN. GRADE OF C

SPED5250 Career And Vocational Education For Students With Disabilities

[3 credit hours]

This course covers career and vocational education activities for youths with disabilities. Special emphasis placed on developing and implementing an Individual Transition Plan (ITP) and coordination with adult service providers.

SPED5260 Family And Professional Relations In Special Education

[3 credit hours]

Effective parent and professional partnerships will be explored. Interpersonal communication skills, legal issues, effective models for home-school communication, and differences in culture, values and family expectations will be discussed.

SPED5270 Team Models And Community Networking In Early Intervention

[3 credit hours]

This course will focus on the skills, knowledge and ethical practices essential to the provision of effective service coordination and teaming for early intervention and early childhood special education. In addition, students will examine various models of teaming and consultation approaches and address issues related to working with individuals from cultural backgrounds other than their own.

SPED5280 Management Of The Learning Environment In Early Childhood Special Education

[3 credit hours]

Aspects of quality environments, in the home and in early childhood centers for young children with special needs. Of particular interest is identifying characteristics of natural environments that promote positive child outcomes.

SPED5300 Teaching Literacy Skills To Adolescents With Disabilities

[3 credit hours]

This course will review existing theories and research regarding teaching literacy to students with disabilities in 4th through 12th grades (those who did not learn to read by 3rd grade).

SPED5310 Advanced Instructional Methods For Teaching Students With Mild Educational Needs

[3 credit hours]

Theoretical considerations for designing instruction, lesson plan development using direct, explicit instructional approach, differentiation, co-teaching, and evidence-based practices to meet the needs of students with mild disabilities in school settings will be examined. Research-based approaches to teaching language arts, mathematics, science, and social studies, will be explored.

SPED5320 Advanced Field Practicum For Students With Mild Educational Needs

[1 credit hour]

Provides opportunities for field experience to use and refine the strategies for persons with mild disabilities presented in SPED 5310. Forty hours of field required.

SPED5330 Advanced Child Study Institute: Ebd

[1 credit hour]

Provides quality educational settings to inservice teachers to practice effective behavioral and academic managing of children and youth experiencing continuous emotional stress and trauma.

SPED5340 Advanced Behavior Management

[3 credit hours]

This course provides training inservice teachers to become managers of intra-communication and interpersonal relationships in diverse special education settings. Nonviolent Crisis Prevention/Intervention (CPI) training required.

SPED5450 Advanced Methods of Teaching Studeents With Emotional Disturbance

[3 credit hours]

This course provides evaluation and application techniques of research-based methodologies for teaching students with emotional disturbance in school-based settings within the least restrictive environment.

Prerequisites: SPED 5340 FOR LEVEL GR WITH MIN. GRADE OF C

SPED5510 Curriculum And Teaching Strategies: Physical And Other Health Impairments

[3 credit hours]

Appropriate curriculum models, learning objectives and teaching strategies for students with physical or health impairing conditions are examined. Modification of materials, assessment options and alternatives response modes will be discussed.

SPED5600 ADVANCED PROFESSIONAL REFLECTIVE SEMINAR

[3 credit hours]

The focus of this seminar is on teaching as a profession. Student will complete The Student Teaching Portfolio Project, a performance-based assessment approach to licensure and professional development. Additionally, this internship seminar provides a forum for group sharing, reflection, professional issues, ethical behaviors, interview processes, and career development.

SPED5610 Seminar I: Orientation to Interprofessional Teaming

[1 credit hour]

Become familiar with requirements for the Certificate in Interprofessional Teaming. Focus on competencies needed to work collaboratively with professionals to meet the needs of individuals with disabilities and their families.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

SPED5620 Seminar II: Working Effectively with Team Members

[1 credit hour]

Factors that support and threaten interprofessional collaboration. Become aware of policies affecting teaming. Engage in advocacy for teaming that will benefit individuals with disabilities.

Prerequisites: SPED 5610 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

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SPED5630 Seminar III: Evidence-Based Practice and Innovation in Teaming

[1 credit hour]

Issues related to principles of ethical practice, professional and advocacy. Ways in which technology can promote effective teaming practices with other professionals as well as with family members.

Prerequisites: SPED 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

SPED5640 Practicum in Interprofessional Teaming

[2 credit hours]

Students will work as part of an inter-professional team to develop, implement, and evaluate integrated intervention plans designed to support the development of children who have special needs.

Prerequisites: SPED 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

SPED5950 Workshop In Special Education

[1-5 credit hours]

A workshop developed around topics of interest and concern for in-service teachers and other education personnel. Practical application of workshop topics will be emphasized.

SPED5980 Special Topics In Special Education

[1-5 credit hours]

An advanced course for graduate students in special education or related fields. Topics are selected based on needs of the population. Student may repeat this course under different section numbers.

SPED5990 Independent Study In Special Education

[1-5 credit hours]

Individual study provides graduate students with opportunities to work individually on professional problems with faculty of the Depart of Special Education Services. Individual meetings with sponsoring faculty are held.

SPED6060 K-3 Curr. Models and Int. Strategies

[3 credit hours]

Examination of appropriate curriculum models, instructional strategies and adaptions for young students (K-3 grade) with mild to intensive educational needs. A trans-disciplinary team approach is explored with an emphasis on collaboration and communication.

SPED6070 Curriculum Models And Intervention Strategies In Early Childhood Special Education

[3 credit hours]

Atypical infant, toddler and early childhood development will be examined. Specialized intervention techniques, their research and practice base and appropriate curriculum models will be explored. 20 clock hour practicum required.

SPED6080 Clinical And Educational Evaluation Of Students With Disabilities

[3 credit hours]

An in-depth study of instruments used by school psychologists and classroom teachers to access and evaluate students. The diagnostic uses and the understanding of the results will be the focus.

SPED6220 Collaboration For Inclusive Schools

[3 credit hours]

Provides information and competencies to develop, implement and evaluate collaborative programs. Educators will enhance their ability to collaborate so that they can better meet the needs of their students.

SPED6250 Issues And Research In Transitin And Post-Secondary Outcomes For Student With Disabilities

[3 credit hours]

In-depth study of transition issues and outcomes focusing on: a) best practices, b) the roles and responsibilities of a transition specialist, c) inter-agency collaboration, d) team building, and e) program development, implementation and evaluation.

SPED6350 Educational And Instructional Implications In Specific Learning Disabilities

[3 credit hours]

Students will examine current trends in research and program development in Specific Learning Disabilities. The focus will be on learning and study skills: their implication in the development of learning.

SPED6360 Clinical Practicum: Learning Strategies For Students With Specific Learning Disabilities

[1 credit hour]

Provides advanced graduate student with supervised practice in developing and implementing strategies and study skills for persons with learning problems. Required l5 hours instructional practice and weekly meetings with supervisors.

SPED6410 Theory And Research: Emotional Behavioral Disorders

[3 credit hours]

This course provides in-depth readings on problems of emotionally and behaviorally disturbed/disordered children and youth. Intense study on two levels: (1) theoretical considerations and (2) treatments pertinent to diverse educational settings.

SPED6420 Public School Emotional Behavior Disorders

[1 credit hour]

This course provides supervised practice in classroom participation with students identified as Emotionally Behaviorally Disturbed/Disordered. Public School settings include: self-contained, resource, transition, mainstreamed and consultative-collaborative teaching roles.

SPED6440 Teaching Children And Youth With Emotional Behavior Disorders

[3 credit hours]

This course provides evaluation and application techniques of research based methodologies for teaching students with emotional behavioral Disorders/disturbances. Psycho-social educational best practices within the least restrictive environment are presented.

SPED6470 Theory And Research: Autism

[3 credit hours]

This course provides in-depth readings in the field of autism. The course includes intense study on two levels: (1) theoretical considerations and (2) treatment approaches pertinent to populations with autism.

SPED6480 Teach Youth/Child With Autism

[3 credit hours]

This course provides research based methodologies for understanding and teaching children and youth with autism. Psycho-Social Educational best practices within the least restrictive environment are presented.

SPED6900 Independent Research In Special Education

[1-5 credit hours]

Independent Research provides opportunities to work on individual research under the direction of faculty. The student meets with the instructor at intervals and conducts research without formal class meeting.

SPED6920 Master's Research Project In Special Education

[1-5 credit hours]

The master's project is an individually designed product which meets the final activity requirement for completion of the masters degree.

SPED6930 Seminars In Special Education

[1-5 credit hours]

Seminars will consider problems and provide advanced study in the field of Special Education. A student may register for more than one seminar during a graduate program.

SPED6940 Internship/Externship In Special Education

[1-8 credit hours]

Provides the advanced graduate student with supervised practicum experiences at an off-campus site; including schools, hospitals, agencies, rehabilitation clinics, work training sites and other community sites where persons with disabilities are served.

SPED6960 Master Research Thesis In Special Education

[1-5 credit hours]

The master's thesis is an individually designed research study which meets the final activity requirement for completion of the master's degree.

SPED6990 Independent Study In Special Education

[1-5 credit hours]

Individual study provides advanced graduate students opportunities to work individually on professional problems with faculty of the Department of Special Education Services. Individual meetings with sponsoring faculty are held.

SPED7000 Issues In Special Education

[3 credit hours]

Examination of causes and characteristics, identification procedures, and potential of learners who significantly deviate from the norm mentally, physically and behaviorally. Issues related to services for persons with disabilities will be studied.

SPED7120 Students With Special Needs: Developmental And Educational Implication

[3 credit hours]

In-depth study of personality, psychological and physical development, and educational needs of atypical children: including current research issues in areas of social, legal and environmental aspects of exceptional populations.

SPED7150 Advanced Practicum For Teaching Students With Moderate Educational Needs

[1 credit hour]

This course is taken with SPED 5160 to apply strategies and techniques for teaching students with moderate educational needs. Forty hours of required field.

SPED7160 Advanced Instructional Methods For Teaching Students With Moderate Educational Needs

[3 credit hours]

This course focuses on a community-referenced functional curricula approach to teaching children and youths with moderate to severe delays. An in-depth study of inclusionary activities, community-based instruction, social skills.

SPED7170 Supporting Youths And Adults With Disabilities Living And Working In The Community

[3 credit hours]

In-depth study of issues faced by adults with severe and multiple disabilities and their families. Emphasis on supported employment, residential options, self-determination, recreation and quality of life issues. Field experience required.

SPED7180 Advanced Instructional Methods For Teaching Students With Intensive Educational Needs

[3 credit hours]

An in-depth examination of appropriate curriculum models, instructional strategies and adaptations, and related behavior problems for students with severe and multiple disabilities. A transdiciplinary team approach is explored.

SPED7190 Advanced Practicum For Students With Intensive Needs

[1 credit hour]

This course is taken with SPED 7180 to apply strategies and techniques for teaching students with intensive needs. Forty field hours are required.

SPED7210 Augmentative and Alternative Communication

[3 credit hours]

This course will provide an overview of alternative or augmentative modes of communication for children who are unable to meet their daily communication needs through natural modes such as speech, gestures or handwriting.

SPED7220 Research And Practice In Teaching Phonics, Reading And Writing To Students With Special Needs

[3 credit hours]

Current trends and issues in teaching reading and writing to students with disabilities. Examination of research supporting various methods. Application of research-based methods into practical strategies for classroom implementation. Twenty-four hours of field required.

SPED7230 Advanced Field Practicum In Diagnostic And Prescriptive Teaching

[1 credit hour]

Provides the laboratory to rehearse and refine the teaching skills presented in SPED 5/7220. Required of persons seeking initial special education certification. Forty field hours required. Taken concurrently with SPED 7220.

SPED7250 Career And Vocational Education For Students With Disabilities

[3 credit hours]

This course covers career and vocational education activities for youths with disabilities. Special emphasis placed on developing and implementing an Individual Transition Plan (ITP) and coordination with adult service providers.

SPED7260 Family And Professional Relations In Special Education

[3 credit hours]

Effective parent and professional partnerships will be explored. Interpersonal communication skills, legal issues, effective models for home-school communication, and differences in culture, values and family expectations will be discussed.

SPED7270 Team Models And Community Networking In Early Intervention

[3 credit hours]

This course will focus on the skills, knowledge and ethical practices essential to the provision of effective service coordination and teaming for early intervention and early childhood special education. In addition, students will examine various models of teaming and consultation approaches and address issues related to working with individuals from cultural backgrounds other than their own.

SPED7280 Management Of The Learning Environment In Early Childhood Special Education

[3 credit hours]

Aspects of quality environments, in the home and in early childhood centers for young children with special needs. Of particular interest is identifying characteristics of natural environments that promote positive child outcomes.

SPED7310 Advanced Instructional Methods For Teaching Students With Mild Educational Needs

[3 credit hours]

Theoretical considerations for designing instruction, lesson plan development using direct, explicit instructional approach, differentiation, co-teaching, and evidence-based practices to meet the needs of students with mild disabilities in school settings will be examined. Research-based approaches to teaching language arts, mathematics, science, and social studies, will be explored.

SPED7320 Advanced Field Practicum For Students With Mild Educational Needs

[1 credit hour]

Provides opportunities for field experience to use and refine the strategies for persons with mild disabilities presented in SPED 7310. Forty hours of field required.

SPED7330 Advanced Child Study Institute: Ebd

[1 credit hour]

Provides quality educational settings to inservice teachers to practice effective behavioral and academic managing of children and youth experiencing continuous emotional stress and trauma.

SPED7340 Advanced Behavior Management

[3 credit hours]

This course provides training inservice teachers to become managers of intra-communication and interpersonal relationships in diverse special education settings. Nonviolent Crisis Prevention/Intervention (CPI) training required.

SPED7510 Curriculum And Teaching Strategies: Physical And Other Health Impairments

[3 credit hours]

Appropriate curriculum models, learning objectives and teaching strategies for students with physical or health impairing conditions are examined. Modification of materials, assessment options and alternatives response modes will be discussed.

SPED7610 Seminar I: Orientation to Interprofessional Teaming

[1 credit hour]

Become familiar with requirements for the Certificate in Interprofessional Teaming. Focus on competencies needed to work collaboratively with professionals to meet the needs of individuals with disabilities and their families.

Prerequisites: SPED 7270 FOR LEVEL GR WITH MIN. GRADE OF D-

SPED7620 Seminar II: Working Effectively with Team Members

[1 credit hour]

Factors that support and threaten interprofessional collaboration. Become aware of policies affecting teaming. Engage in advocacy for teaming that will benefit individuals with disabilities.

Prerequisites: SPED 7610 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPED 7270 FOR LEVEL GR WITH MIN. GRADE OF D-

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SPED7630 Seminar III: Evidence-Based Practice and Innovation in Teaming

[1 credit hour]

Issues related to principles of ethical practice, professional and advocacy. Ways in which technology can promote effective teaming practices with other professionals as well as with family members.

Prerequisites: SPED 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

SPED7640 Practicum in Interprofessional Teaming

[2 credit hours]

Students will work as part of an inter-professional team to develop, implement, and evaluate integrated intervention plans designed to support the development of children who have special needs.

Prerequisites: SPED 7620 FOR LEVEL GR WITH MIN. GRADE OF D-

SPED7800 Practical And Theoretical Implication Of Vision Impairment

[3 credit hours]

A study of the research on the anatomy and physiology of the eye, visual impairments and the practical implication for learning, working and independent living.

SPED7810 Low Vision: Theory & Research

[3 credit hours]

An in-depth study of the field of low vision. Conditions, equipment and instruction will be reviewed and analyzed for their implication to the field of vision.

SPED7880 Advanced Study Of Technology And Independent Daily Living For The Persons With Visual Impairment

[3 credit hours]

This course includes the research regarding technology, strategies and an analytical evaluation of the independent living of the blind and visually impaired.

SPED7950 Workshop In Special Education

[1-5 credit hours]

A workshop developed around topics of interest and concern for in-service teachers and other education personnel. Practical application of workshop topics will be emphasized.

SPED7980 Special Topics In Special Education

[1-5 credit hours]

An advanced course for graduate students in special education or related fields. Topics are selected based on needs of the population. Student may repeat this course under different section numbers.

SPED7990 Independent Study In Special Education

[1-5 credit hours]

Individual study provides graduate students with opportunities to work individually on professional problems with special education faculty. Individual meetings with sponsoring faculty are held.

SPED8060 K-3 Curr Models and Int Strate

[3 credit hours]

Examination of appropriate curriculum models, instructional strategies and adaptions for young students (K-3 grade) with mild to intensive educational needs. A trans-disciplinary team approach is explored with an emphasis on collaboration and communication.

SPED8070 Curriculum Models And Intervention Strategies In Early Childhood Special Education

[3 credit hours]

Atypical infant, toddler and early childhood development will be examined. Specialized intervention techniques, their research and practice base, and appropriate curriculum models will be explored. 20 clock hour practicum required.

SPED8080 Clinical And Educational Evaluation Of Students With Disabilities

[3 credit hours]

An in-depth study of instruments used by school psychologists and classroom teachers to access and evaluate students. The diagnostic uses and the understanding of the results will be the focus.

SPED8220 Collaboration For Inclusive Schools

[3 credit hours]

Provides information and competencies to develop, implement and evaluate collaborative programs. Educators will enhance their ability to collaborate so that they can better meet the needs of their students.

SPED8250 Issues And Research In Transition And Post-Secondary Outcomes For Students With Disabilities

[3 credit hours]

In-depth study of transition issues and outcomes focusing on: a) best practices, b) the roles and responsibilities of a transition specialist, c) inter-agency collaboration, d) team building, and e) program development, implementation and evaluation.

SPED8350 Educational And Instructional Implications In Specific Learning Disabilities

[3 credit hours]

Students will examine current trends in research and program development in Specific Learning Disabilities. The focus will be on learning and study skills: their implication in the development of learning.

SPED8360 Clinical Practicum: Learning Strategies For Students With Specific Learning Disabilities

[1 credit hour]

Provides advanced graduate student with supervised practice in developing and implementing strategies and study skills for persons with learning problems. Required l5 hours instructional practice and weekly meetings with supervisors.

SPED8410 Theory And Research: Emotional Behavioral Disorders

[3 credit hours]

This course provides in-depth readings on problems of emotionally and behaviorally disturbed/disordered children and youth. Intense study on two levels: (1) theoretical considerations and (2) treatments pertinent to diverse educational settings.

SPED8420 Public School Emotional Behavior Disorders

[1 credit hour]

This course provides supervised practice in classroom participation with students identified as Emotionally Behaviorally Disturbed/Disordered. Public School settings include: self-contained, resource, transition, mainstreamed and consultative-collaborative teaching roles.

SPED8440 Teaching Children And Youth With Emotional Behavior Disorders

[3 credit hours]

This course provides evaluation and application techniques of research based methodologies for teaching students with emotional behavioral Disorders/disturbances. Psycho-social educational best practices within the least restrictive environment are presented.

SPED8470 Theory And Research: Autism

[3 credit hours]

This course provides in-depth readings in the field of autism. The course includes intense study on two levels: (1) theoretical considerations and (2) treatment approaches pertinent to populations with autism.

SPED8480 Teach Youth/Child With Autism

[3 credit hours]

This course provides research based methodologies for understanding and teaching children and youth with autism. Psycho-Social Educational best practices within the least restrictive environment are presented.

SPED8720 Advanced Language And Speech For Persons With Hearing Impairments

[3 credit hours]

Clinical evaluation model in descriptive linguistics and interaction in the use of a process approach to developing language with children with hearing impairments. Includes relation of hearing impairment to language development.

SPED8730 Synthesis Of Principles Of Educating Children With Hearing Impairments

[3 credit hours]

Historical, Philosophical, psychological and social aspects of educating the hearing impaired. Factors affecting successful public school instruction is covered.

SPED8740 Curriculum And Assessment Issues Of The Education Of Persons With Hearing Impairments

[3 credit hours]

Principles of educational assessment and curriculum development for students with hearing impairment. Assessment and curriculum issues will be discussed as they relate to current research trends in hearing impairment.

SPED8900 Independent Research In Special Education

[1-5 credit hours]

Independent Research provides opportunities to work on individual research under the direction of faculty. The student meets with the instructor at intervals and conducts research without formal class meeting.

SPED8930 Seminars In Special Education

[1-5 credit hours]

Seminars will consider problems and provide advanced study in the field of Special Education. A student may register for more than one seminar during a graduate program.

SPED8940 Internship/Externship In Special Education

[1-8 credit hours]

Provides the advanced graduate student with supervised practicum experiences at an off-campus site; including schools, hospitals, agencies, rehabilitation clinics, work training sites and other community sites where persons with disabilities are served.

SPED8960 Doctoral Dissertation In Curriculum & Instruction

[1-12 credit hours]

The doctoral dissertation is an original scholarly product required of all students completing the doctoral degree in Special Education Services.

SPED8990 Independent Study In Special Education

[1-5 credit hours]

Individual study provides advanced graduate students opportunities to work individually on professional problems with faculty of the Department of Special Education Services. Individual meetings with sponsoring faculty are held.

SPSY3100 Psychological Testing and Assessment

[3 credit hours]

This course provides an overview of the major topics in the field of psychological testing, such as norms, statistics, reliability, validity, test development, defining and measuring intelligence, educational assessment, personality assessment, and clinical assessment.The main objective of this course is to develop the student's knowledge about the variables, objectives, and effects of psychological testing. After completing this course students will, understand terminology and concepts; list criteria for test selection; describe standardized tests and measurement techniques; discuss issues involved in testing.

Prerequisites: PSY 2100 FOR LEVEL UG WITH MIN. GRADE OF D- OR MATH 2600 FOR LEVEL UG WITH MIN. GRADE OF D- OR RESM 4100 FOR LEVEL UG WITH MIN. GRADE OF D-

SPSY5030 Role And Function Of The School Psychologist

[3 credit hours]

Designed for school psychology students to develop an understanding of the school psychologist as a member of the school staff. It also serves as an introduction to each of the important concepts in current practice, as well as the values of our specific program. Current legal & ethical responsibilities, the history of the profession, as well as current theories of service delivery will be explored.

SPSY5040 Legal And Ethical Issues For School Psychologists And Counselors

[4 credit hours]

Covers the ethical standards and legal regulation in school psychology and school counseling. Ethical standards, litigation and legal regulation are examined in regard to professional practice.

SPSY5060 Prepractica in School Psychology

[2 credit hours]

A two semester pre-internship experience designed for first year school psychology graduate students to acquire knowledge of schools as systems and to gain familiarity with the role and function of the school psychologist and other related services staff. This course includes activities designed to build students' skills in delivering culturally responsive practices.

SPSY5170 Consultation I: Theories And Techniques

[3 credit hours]

Designed to provide an overview of the major consultation theories and techniques and to help students develop consultation skills, which may be applied in the schools, community agencies, or other settings. Includes introduction to and practice in applying the problem solving process to school-based academic and behavior problems.

SPSY5300 Psychoeducational Assessment And Interventions I

[4 credit hours]

Provides training in standardized and curriculum based academic assessment methods and linking assessment to intervention. Includes instruction in evidence-based interventions, administering, scoring, interpreting, and communicating assessment results in written reports.

Prerequisites: SPSY 5030 FOR LEVEL GR WITH MIN. GRADE OF D-

SPSY5310 Psychoeducational Assessment And Interventions II

[4 credit hours]

Provides training in standardized assessment methods for preschool and low-incidence populations. Includes instruction in evidence-based interventions, linking assessment to tiered interventions, and functional behavior assessment.

Prerequisites: SPSY 5300 FOR LEVEL GR WITH MIN. GRADE OF B (MAY BE TAKEN CONCURRENTLY)

SPSY5610 Seminar I: Orientation to Interprofessional Teaming

[1 credit hour]

Orientation to the Graduate Certificate in Teaming in Early Childhood. Focus on individual competencies needed to work collaboratively to meet the needs of young children with disabilities and their families.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D-

SPSY5620 Seminar II: Leadership and Advocacy Interprofessional Teaming

[1 credit hour]

This second seminar in the Graduate Certificate in Teaming in Early Childhood focusses on skills and policies that promote best practices in teaming to support young children with disabilities.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPSY 5610 FOR LEVEL GR WITH MIN. GRADE OF D-

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SPSY5630 Seminar III: Evidence-Based Practice and Innovation in Interprofessional Teaming

[1 credit hour]

This third seminar in the Graduate Certificate in Teaming in Early Childhood provides students the opportunity to reflect on their practicum experiences in teaming to support young children with disabilities.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPSY 5610 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPSY 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

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SPSY5640 Practicum in Interprofessional Teaming

[2 credit hours]

The practicum provides an opportunity to engage in interprofessional teaming in order to provide integrated services to young children with special needs in an inclusive setting.

Prerequisites: SPED 5270 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPSY 5610 FOR LEVEL GR WITH MIN. GRADE OF D- AND SPSY 5620 FOR LEVEL GR WITH MIN. GRADE OF D-

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SPSY5980 Special Topics In Counseling, Mental Health, And School Psychology

[1-3 credit hours]

This course is open to a graduate student pursuing a master's, specialist or doctoral degree program and may be a requirement of that program.

SPSY6260 Developmental Child Psychopathology

[3 credit hours]

Examination of disorders of childhood adolescence from an ecological perspective, focusing on understanding characteristics and causes, diagnosis both medical and educational, and identification of interventions for school and home.

SPSY6990 Master's Independent Study

[1-4 credit hours]

Provides students the opportunity to work independently on professional problems under the direction of a faculty member in the Department of Counseling and Mental Health Services.

SPSY7170 Consultation I: Theories And Techniques

[3 credit hours]

Designed to provide an overview of the major consultation theories and techniques and to help students develop consultation skills, which may be applied in the schools, community agencies, or other settings. Includes introduction to and practice in applying the problem solving process to school-based academic and behavior problems.

SPSY7180 Consultation II: School and Home Collaboration

[3 credit hours]

Provides training in universal/system-level academic interventions with an emphasis on consultation practices used to develop and sustain home and school collaboration. Includes study and review of prevention programs for student academic success and system-level academic assessment methods.

SPSY7190 Consulting III:School-Community

[4 credit hours]

Provides training in universal/system-level behavior interventions with an emphasis on practices used to develop and sustain school and community collaboration. Includes instruction in system change theory, prevention programs for promoting mental health, and crisis prevention and intervention.

SPSY7260 Developmental Child Psychopathology

[3 credit hours]

Examination of disorders of childhood adolescence from an ecological perspective, focusing on understanding characteristics and causes, diagnosis both medical and educational, and identification of interventions for school and home.

SPSY7310 Psychoeducational Assessment And Interventions II

[4 credit hours]

Provides training in standardized assessment methods for preschool and low-incidence populations. Includes instruction in evidence-based interventions, linking assessment to tiered interventions, and functional behavior assessment.

Prerequisites: SPSY 5300 FOR LEVEL GR WITH MIN. GRADE OF B (MAY BE TAKEN CONCURRENTLY)

SPSY7320 Psychoeducational Assessment And Interventions III

[4 credit hours]

Provides training and practice in assessment of cognitive and adaptive functioning for school-age children. Includes instruction in administering, scoring, interpreting, and communicating assessment results, and in writing comprehensive written reports.

Prerequisites: SPSY 7310 FOR LEVEL GR WITH MIN. GRADE OF B OR SPSY 5310 FOR LEVEL GR WITH MIN. GRADE OF B

SPSY7330 PRACTICA IN SCHOOL PSYCHOLOGY

[1-4 credit hours]

A two semester pre-internship experience designed for second year school psychology students. Provides experience in tiered intervention design, implementation, and evaluation for behavior and academic problems. Includes practice in individual assessment for special eduation eligibility.

Prerequisites: SPSY 5310 FOR LEVEL GR WITH MIN. GRADE OF B OR SPSY 7310 FOR LEVEL GR WITH MIN. GRADE OF B

SPSY7340 School Psychology Practicum II

[4 credit hours]

Practice in individual evaluation, assessment and intervention design, with preschool and other special populations. Includes practice in functional behavioral assessment.

Prerequisites: SPSY 7330 FOR LEVEL GR WITH MIN. GRADE OF B

SPSY7510 Supervision In Counseling And School Psychology

[3 credit hours]

Training in supervision models, methods, roles, ethical issues, research and evaluation. Advanced training in consultation.

SPSY7530 Advanced Theories Of Counseling And Consultation

[4 credit hours]

Advanced preparation in theory pertaining to the principles and practice of individual counseling, group work and consultation.

SPSY7920 Specialist Research Project

[1-3 credit hours]

In this capstone experience, specialist students review the literature, report implications and produce a project which can be applied in school psychology and counseling-related settings.

SPSY7930 Doctoral Research Seminar

[3 credit hours]

Advanced preparation in research problems, design and implementation of quantitative and qualitative research and methodology in the fields of counseling and supervision.

SPSY7940 Internship In School Psychology

[1-8 credit hours]

Academic year on-the-job internship experience for third year school psychology students. Conducted in a school and supervised by a school psychologist and coordinated by a university supervisor. Prepares students for the broad range of services to include tiered mental health and instructional interventions, assessment linked to intervention, consultation, special education assessment, home-school-community collaboration, and counseling.

Prerequisites: SPSY 7330 FOR LEVEL GR WITH MIN. GRADE OF S

SPSY8480 Advanced Training In Professional, Legal, And Ethical Issues

[3 credit hours]

Advanced training in contemporary professional, legal and ethical issues that regulate or affect the work of counselors, psychologists and other mental health professionals.

SPSY8930 Advanced Doctoral Seminar

[3 credit hours]

This seminar will consider problems and provide advanced study. Open only to advanced graduate students.

SPSY8950 Workshop In Counseling, Mental Health, And School Psychology

[1-6 credit hours]

Workshops developed around topics of interest and concern to counselors, school psychologists, or other mental health care professionals. Practical application of topics will be stressed.

SPSY8960 Doctoral Research Dissertation

[1-12 credit hours]

Dissertation credit may not total less than 10 semester hours and no greater than 32 hours. A doctoral student may register for such credit in more than one semester.

SPSY8980 Special Topics In Counseling, Mental Health, And School Psychology

[1-3 credit hours]

This course is open to a graduate student pursuing a master's, specialist or doctoral degree program and may be a requirement of that program.

SPSY8990 Doctoral Independent Study

[1-4 credit hours]

Provides students the opportunity to work independently on professional problems under the direction of a faculty member in the Department of Counseling and Mental Health Services.

STGB2500 Global Learning Experience

[0-25 credit hours]

Placeholder Course

SURG6610 Journal Paper Review in Surger

[0-4 credit hours]

Weekly assessment and critical review of the literature devoted to surgical science. Emphasis will be placed on structure and content of literature with the goal of developing the student's ability to evaluate validity. May be repeated for credit.

SURG6810 Current Topics in Surgery II

[0-4 credit hours]

Lecture and/or seminar course in topics of current interest in general surgery with special emphasis on the fundamentals of life under normal, experimental, or pathological conditions. Will present and moderate the discussion of original and on-going research publications and studies.

SURG703 Surgery

[15 credit hours]

Surgery (10 weeks)

SURG704 Cardiothoracic Surgery

[0-6 credit hours]

Students will be given an individualized opportunity to participate in the activities of the Division of Cardiothoracic Surgery. Opportunities may be available for clinical experience in the operating room, in management of adult and pediatric cardiac surgical patients, or in clinical research. The focus will be the development of an understanding of the basic and clinical sciences as they pertain to cardiovascular surgical procedures and pulmonary resection.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

SURG705 General/Trauma Surgery

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

SURG706 Trauma Surgical Intensive Care

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

SURG708 Ophthalmology

[0-6 credit hours]

The student will have the opportunity to evaluate eye disorders in the outpatient setting. Techniques for eye examination will be stressed with special emphasis on diagnosis of diabetic retinopathy, macular degeneration, cataract, and glaucoma. Viewing a series of slides will also be a part of the rotation

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SURG711 Plastic Surgery

[6 credit hours]

The focus will be to develop a more sophisticated understanding of basic and clinical sciences as they pertain to reconstructive and cosmetic surgical procedures. Evaluation of pre and post operative management of the plastic surgical patient.

SURG712 General Surgery

[6 credit hours]

Students will be integrated into the service as a member of the surgical team, participating in all aspects of patient management, both inpatient and outpatient.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P OR SURG 740 FOR LEVEL MD WITH MIN. GRADE OF P

SURG714 Vascular Surgery

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

SURG715 Emergency Medicine

[0-6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

SURG716 Acting Internship in Surgery

[6 credit hours]

Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

SURG717 Vascular Surgery

[3 credit hours]

Exposure to the surgery of the vascular disease process with the physiological approach to understanding the pre and post operative patient with vascular disease. Particular emphasis is on fluids, clotting mechanisms, renal, pulmonary, and cardiac status. The student will spend time in the vascular lab to learn techniques and interpretation of vascular studies. Each acting intern must complete two on-line modules to prepare the acting intern for his/her roles as teachers of junior medical students.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

SURG718 HPB and Surgical Oncology

[6 credit hours]

Students will be integrated into the service as a member of the surgical team, participating in all aspects of HPB (hepatobiliaryand pancreatic) and surgical oncology patient management, both inpatient and outpatient. The student will be expected to complete at least 40 hours per week on the service.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P OR SURG 740 FOR LEVEL MD WITH MIN. GRADE OF P

SURG730 Ophthalmology

[0-3 credit hours]

The student will have the opportunity to evaluate eye disorders in the outpatient setting. Techniques for eye examination will be stressed with special emphasis on diagnosis of diabetic retinopathy, macular degeneration, cataract, and glaucoma. Viewing a series of slides will also be a part of the rotation

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SURG731 Cardiothoracic Surgery

[3 credit hours]

Students will be given an individualized opportunity to participate in the activities of the Division of Cardiothoracic Surgery. Opportunities may be available for clinical experience in the operating room, in management of adult and pediatric cardiac surgical patients, or in clinical research. The focus will be the development of an understanding of the basic and clinical sciences as they pertain to cardiovascular surgical procedures and pulmonary resection.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

SURG745 Surgery Clinical Training for MD/PhD Students during Graduate Research Years

[1-2 credit hours]

In the summer after the second year of medical school, MD/PhD students will identify a clinical mentor. This faculty member will be responsible for the clinical training program of the student, and will provide formative and summative feedback concerning the development of clinical skills and a foundation for subsequent clinical clerkship training. The mentor may change during the course of the student¿s graduate school years, but any change should occur after the end of a semester. Although students may choose a clinical mentor from any department, the following specialties are particularly suited to training MD/PhD students with limited prior clinical training and restricted hours of availability: Emergency Department: Students schedule specific hours (which may include evenings or weekends) with their clinical mentor. Patients will be assigned to the student for evaluation, and students will be involved in all aspects of emergency patient care. Contact: Dr. Kris Brickman, Director of Emergency Medicine. Student time commitment: Students are expected to spend 8 hours per month in clinical training. This can be divided into weekly 2 hour session, biweekly 4 hour sessions or an 8 hour day per month. Students are encouraged to discuss the most appropriate schedule with their laboratory mentor to ensure that the clinical experience does not interfere with graduate coursework or research progress. The program should be formalized in writing, and submitted to the MD/PhD Director for approval. Students should see about one patient per hour of training. Students should keep a log of their patients, their diagnoses, and any procedures performed. An electronic logging system for patient experiences will be developed. Credit: Upon completion of 3 years of graduate training, assuming 40 weeks per year of participation, students will have accumulated about 300 hours of clinical experience. This is approximately equivalent to 2 months of clinical electives (8 h/d X 5 d/w X 4 weeks = 160 h/mo), and students will be awarded 2 months of 4th year elective credit for this training upon re-enrolling in the College of Medicine. This credit should allow further flexibility in 4th elective scheduling, enabling additional research months, off site rotations, etc. If students require more than 3 years of graduate work, continued participation in the clinical training program is strongly encouraged, but no more than 2 months of elective time will be awarded.

SURG760 Cardiothoracic Surgery

[6 credit hours]

Students will be given an individualized opportunity to participate in the activities of the Division of Cardiothoracic Surgery. Opportunities may be available for clinical experience in the operating room, in management of adult and pediatric cardiac surgical patients, or in clinical research. The focus will be the development of an understanding of the basic and clinical sciences as they pertain to cardiovascular surgical procedures and pulmonary resection.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

THR1010 Acting for Non Majors

[3 credit hours]

Learn the fundamentals of acting through exercises, devised playmaking and scene study. Through active class participation, the student discovers an understanding of the basic artistic process of the performer and how that process may lead to self-realization and heightened awareness.

THR1030 Stagecraft

[3 credit hours]

[3 hours] Introduction to theatre technology using the tools and practices utilized in set construction, properties scene painting and scene design. Lectures, readings and projects with practical laboratory experience.

THR1040 Stage Lighting And Sound

[3 credit hours]

Introduction to theory and practice in stage lighting and sound. Students will use lighting and sound tools and equipment in production crews on department productions.

THR1050 Costuming

[3 credit hours]

Introduction to the theory and practice of stage costuming. Lectures, readings and projects offer practical laboratory experiences. Students will use tools and equipment of the costume shop on production crews.

THR1100 Introduction To Theatre

[3 credit hours]

Introductory survey of the development of theatre and drama from the ancient world to the present day; discussion of representative plays; slides and films complement lectures. (Not recommended or required for majors.)

THR2000 Theatre Practicum

[1 credit hour]

Students will be assigned a crew position for one of the department productions.

THR2200 Perspectives On Theatre

[3 credit hours]

A study of contemporary theatrical organization and styles; theatre compared with film and television; Broadway, regional and experimental theatre; research skills development; exploration of career opportunities in theatre and related fields.

THR2420 Stage Makeup

[2 credit hours]

[2 hours] Introduction to principles and techniques of makeup for the stage. Students explore practical executions of stage makeup problems. Topics may include special effects, old age techniques, creature design, period specific makeup and makeup design Students are required to purchase supplies.

THR2610 Acting I

[3 credit hours]

An introduction to the art and craft of acting. Through scene work and improvisation, students learn to use acting terminology, identify dramatic beats, develop character objectives and play actions. Students who are not theatre majors or minors must get permission of instructor.

Prerequisites: THR 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

THR2620 Acting II

[3 credit hours]

Students are exposed to a range of techniques explicated by primary acting theorists/practitioners, including diagnosis of individual skills, work in voice, movement, textual analysis and scene preparation.

Prerequisites: THR 2610 FOR LEVEL UG WITH MIN. GRADE OF D-

THR2640 Voice And Movement

[2 credit hours]

Theory and practice of vocal and physical techniques for the actor. Repeatable for up to 8 hours of credit.

THR2990 Special Projects

[1-3 credit hours]

Individual study provides a student an opportunity to work independently on a problem of special interest in theatre under the direction of the faculty. (Seminar forms available in the department office.)

THR3110 World Theatre I

[3 credit hours]

Developments and trends in theatre and drama from the ancient world through the Renaissance, including traditional forms of theatre in India, China and Japan.

THR3120 World Theatre II

[3 credit hours]

Developments and trends in theatre and drama from the late 17th Century to the present day, including developments in Latin America and Africa.

THR3140 Dramaturgy

[3 credit hours]

The study and applications of Dramaturgy as they pertain to the theatrical production process. Emphasis is placed on pre-production dramaturgy (research gathering and presentation; production concept development); production/rehearsal dramaturgy (pre-audience criticism; concept comments, etc.); and post-production dramaturgy (lobby displays, post-production discussions, etc.).

THR3150 Theatre History - Ancient to Contemporary - WAC

[3 credit hours]

This course explores major developments and trends in theatrical production, theory, and playwriting from ancient times to the Present. The study of theatre history in this course is applied to the development of design and directorial approaches for plays by theatre artists. In addition, students will use performance techniques in class to explore historical production methods and theatrical theories through practice.

Prerequisites: ENGL 1110 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3210 Playwriting

[3 credit hours]

Creative writing for the theatre analyzing traditional and contemporary structure and style.

Prerequisites: ENGL 2720 FOR LEVEL UG WITH MIN. GRADE OF D- OR THR 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

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THR3250 Theatre Management

[3 credit hours]

Theatre Management will provide students with a general overview of the administrative and management functions of an arts organization. Through readings, interactive discussion forums, research projects, and practical assignments, the student will develop an understanding of the structure and business of the performing arts, translating traditional business practices into the language of the arts.

THR3410 Stage Lighting Design

[3 credit hours]

Principles and theories of lighting design for theatrical productions are explored. Develop skills of script analysis, light study, light plot and related graphics for conceptualization and communication of design ideas.

Prerequisites: THR 1040 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3420 Stage Management

[3 credit hours]

Study and application of professional practices of the Stage Manager as they pertain to the theatrical production. Emphasis is placed on the duties, responsibilities and procedures from pre-production to post-production planning.

THR3430 Advanced Stagecraft and Technical Production

[3 credit hours]

This course is designed to expand upon the foundation of scenic construction techniques formed in basic theatre practices: Stagecraft. Topics include welding/metalworking, advanced woodworking, scenic automation, theatrical rigging, and technical direction/project management/shop management.

Prerequisites: THR 1030 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3440 Stage Design

[3 credit hours]

Theory and principles of scenic design for stage are the focus. Conceptualization and communication of design ideas are explored through renderings, models, ground plans and elevations. Students are required to purchase supplies.

Prerequisites: THR 1030 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3450 Scene Painting

[3 credit hours]

Students learn the fundamental skills of the scenic artist in large scale painting: preparing and sizing the surfaces, gridding and other layout, and painting techniques and tools used by the scenic artist.

THR3470 Theatre Sound

[3 credit hours]

Students study the methods and techniques of sound production and design used in the theatre. Tools and techniques of audio production are used in laboratory recording and mixdown.

Prerequisites: THR 1040 FOR LEVEL UG WITH MIN. GRADE OF D- OR MUS 2270 FOR LEVEL UG WITH MIN. GRADE OF D-

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THR3480 Costume Design

[3 credit hours]

Principles and theories of costume design for theatrical productions are explored. Develop skills of script analysis, sketching, fabric study and rendering for conceptualization and communication of design ideas. Students are required to purchase supplies.

Prerequisites: THR 1050 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3610 Acting For The Camera

[3 credit hours]

Performing dramatic material for camera with an emphasis on the differences between stage and screen performing.

Prerequisites: THR 2620 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3620 Acting: Contemporary Styles

[3 credit hours]

Contemporary, nonrealistic theatre requires adjustments for actors trained in the Stanislavski tradition. This course examines the theory and praxis of artists such as Brecht, Artaud, Grotowski, Boal and others.

Prerequisites: THR 2620 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3640 Voice And Diction

[2 credit hours]

Theories and practice of vocal techniques for the actor. Diagnosis of individual skills continues work begun in voice and movement.

Prerequisites: THR 2640 FOR LEVEL UG WITH MIN. GRADE OF D-

THR3650 Stage Movement

[2 credit hours]

Theories and practice of physical techniques for the actor. Diagnosis of individual skills continues the work begun in voice and movement.

Prerequisites: THR 2610 FOR LEVEL UG WITH MIN. GRADE OF D- OR THR 2640 FOR LEVEL UG WITH MIN. GRADE OF D-

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THR3710 Directing I

[3 credit hours]

The director's approach to analyzing a script, formulating a production concept and realizing that concept on stage. Discussions and exercises progress to directing scenes or short plays in class.

Prerequisites: (THR 2610 FOR LEVEL UG WITH MIN. GRADE OF D- AND THR 2640 FOR LEVEL UG WITH MIN. GRADE OF D- AND THR 3110 FOR LEVEL UG WITH MIN. GRADE OF D-) OR (THR 2610 FOR LEVEL UG WITH MIN. GRADE OF D- AND THR 2640 FOR LEVEL UG WITH MIN. GRADE OF D- AN

THR3800 Production

[1-3 credit hours]

Through study and practice the student contributes significantly to department productions. This course is for students who have auditioned for roles or applied for design/tech positions in department productions.

THR4110 Modern American Theatre

[3 credit hours]

Developments and trends in the American Theatre since 1945.

THR4150 Theatre Studies

[3 credit hours]

Application of the methods of theatre history, theory, and criticism to the exploration of a specific theatrical theme, style, historical period, or practice.

Prerequisites: THR 3110 FOR LEVEL UG WITH MIN. GRADE OF D- AND THR 3120 FOR LEVEL UG WITH MIN. GRADE OF D-

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THR4400 Seminar Topics In Design

[3 credit hours]

Individual and group investigations of particular topics in all phases of design and technology, i.e. scene painting, advanced design and rendering technique, new technology.

THR4440 Theatre Design

[3 credit hours]

Theory and principles of scenic, costume and lighting design for the stage. Conceptualization and communication of design ideas are explored through rendering, model, drawing, and collage.

THR4500 Professional Aspects Of Theatre

[2 credit hours]

Study of the professional theatre as a business: contracts, unions, the theatre marketplace, preparation of resumes, portfolios, audition pieces, interview.

Prerequisites: THR 2200 FOR LEVEL UG WITH MIN. GRADE OF D-

THR4620 Acting: Historical Styles

[3 credit hours]

Advanced training in acting with emphasis on effective vocal and rhetorical techniques and the use of poetic rhythm and imagery in creating a role psychologically as well as physically.

Prerequisites: (THR 2610 FOR LEVEL UG WITH MIN. GRADE OF D- AND THR 2620 FOR LEVEL UG WITH MIN. GRADE OF D- AND THR 2640 FOR LEVEL UG WITH MIN. GRADE OF D-)

THR4940 Internship

[3 credit hours]

Internship with an approved program, company, or agency in theatre. Students must submit proposal for approval of instructor. (Repeatable for 6 hours credit.)

THR4950 Honors Thesis

[3 credit hours]

Research or a creative project on a topic in theatre. Required of all candidates seeking department honors. (Repeatable for 6 hours credit.)

THR4990 Special Projects

[1-3 credit hours]

Individual study provides a student an opportunity to work independently on a problem of special interest in theatre under the direction of the faculty.

TPDT1010 Principles of Transportation

[3 credit hours]

This course introduces the transportation services available iin the marketplace, public policy decisions and concerns, pricing of transportation services, and transportation's relationship to other functions in the budsiness world.

TPDT2010 Regulation of Transporation in a Changing Environment

[3 credit hours]

This course focuses on the regulatory issues facing the modern transportation/logistics manager where environmental, hazardous material safety, and NAFTA regulations are more important than the traditional economic regulations.

TPDT2070 Technology Uses in Logistics

[3 credit hours]

This course will introduce the student to technologies used by transportation companies and the business world. Students will gain practical experience by completing assignments using technology-based tools.

TPDT2130 Warehousing and Terminal Management

[3 credit hours]

This course studies the management of the storage of goods from the time the journey begins as raw materials until the finishe product is delivered to the consumer.

TPDT2210 Mgmt of Commercial Transportn

[3 credit hours]

This course is taught from the perspective of users of transportation/logistical sevices. It ties the concepts introducedin earlier courses together with emphasis on current management philosophies in transportation.

Prerequisites: TPDT 1010 FOR LEVEL UG WITH MIN. GRADE OF D-

TSOC1500 Education In A Diverse Society

[2 credit hours]

Introduction to the socio-cultural foundations of schooling in the United States, including purposes of schooling in a multicultural society and the resulting nature of teacher work.

TSOC2000 Diversity In Contemporary Society

[3 credit hours]

This course analyzes the roles of people in a culturally diverse society through an exploration of issues of race, class, gender, ethnicity and disability.

TSOC2500 Historical-Philosophical Perspectives On Education

[2 credit hours]

This course uses history and philosophy as lenses through which to inspect and reflect on the developing role of public schooling in the US from colonial times to the present.

TSOC3000 Schooling And Democratic Society

[3 credit hours]

The evolving role of education in the US, including the historical and contemporary relationship of schooling to other educational institutions, groups of people and the process of social change.

TSOC3010 Educating The Reflective Practitioner

[3 credit hours]

Emphasizes being and teaching others to be "reflective practitioners" in vocational and avocational endeavors. Coping with changing client circumstances, effective thinking, higher levels of learning and self-renewal are also studied.

TSOC3100 Inquiry And Creative Action

[3 credit hours]

Different approaches to problem solving are examined and students use some to complete real-life projects they have designed. Creativity, logical analysis, personal effectiveness and polarity management will be studied.

TSOC3540 Education And The Construction Of Societies

[3 credit hours]

Examines life long conceptual learning tools from several humanity disciplines that help define and frame action on real life problems of a diverse, global nature.

TSOC4000 Socio-Cultural And Historical Influences On U.s. Education

[3 credit hours]

The evolving role of education in the US, including the historical and contemporary relationship of schooling to other educational institutions, groups of people and the process of social change.

TSOC4100 Group Processes In Education

[3 credit hours]

Investigation of theory, research and individual interactions which undergird effective actions in groups. Group processes and individual-group relationships are emphasized in education, voluntary and business group settings.

TSOC4130 Children And The Law

[2 credit hours]

Examines major issues and laws involved in public education and health services, especially the role of advocate for students that the school nurse and other professionals play.

TSOC4150 Education And Community Relations

[3 credit hours]

Provides a framework, the analysis skills and the action implementation behaviors for understanding community schools and agencies. Develops skills in project management within the context of understanding and valuing diversity.

TSOC4190 Workshop In Educational Theory & Social Foundations

[1-5 credit hours]

Practical applications of topics of interest and concern for preservice teachers and other education personnel.

TSOC4940 Field Experience In Pacs

[1-10 credit hours]

Students will establish and complete an internship focusing on specified objectives, actions and time schedules under both on and off-campus supervision. Progress reports and a summary evaluation are required.

TSOC4990 Independent Study In Educational Theory

[1-4 credit hours]

Directed study of a current topic in educational theory and social foundations. The student meets with the instructor at arranged intervals without formal classes.

TSOC5100 Group Processes In Education

[3 credit hours]

Examines intrapersonal and interpersonal principles of high performing teams, meaningful relationships, and being an effective leader and member of groups. Real-life projects will be designed, implemented and evaluated.

TSOC5110 Modern Educational Controversies

[3 credit hours]

Examines controversial contemporary educational issues, the forces that perpetuate them and the socio-cultural contexts in which they exist. Teachers' work and ethical tenets shaping practice are also examined.

TSOC5190 Summer Institute On Diversity In Education

[3 credit hours]

School personnel collaborate with persons from higher education, the community, and scholars who have created model multicultural/urban education programs to learn new ways of teaching and learning among diverse populations.

TSOC5200 Sociological Foundations Of Education

[3 credit hours]

Critical examination of the socio-cultural foundations of schooling in the United States, including purposes of schooling in a multicultural society and the resulting nature of teacher work.

TSOC5210 Multicultural Non-Sexist Education

[3 credit hours]

Examines how race, class, gender, ethnicity and disability intersect with power, culture, knowledge and ideology in American schools to influence the lives of students and teachers in a multicultural society.

TSOC5230 Intergroup And Intercultural Education

[3 credit hours]

In-depth history of racial and ethnic minorities in the U.S. and the ongoing tension between deculturalization and democratic pluralism in P-12 and higher education including current theories and practical applications.

TSOC5300 Philosophy And Education

[3 credit hours]

Exploring the nature of philosophic inquiry in education and examining competing traditions in the West, particularly in the United States. A distinction between education and schooling will be drawn.

TSOC5400 History Of Schooling & Teaching In The U.s.

[3 credit hours]

Evolving role of schooling and teaching in the US, using history to reflect on the relationship of schooling to other social institutions, groups of people and the process of social change.

TSOC5500 Anthropology and Education

[3 credit hours]

Examination of cross-cultural, comparative and other studies directed toward understanding processes of cultural transmission and transformation, and implications of anthropological research for contemporary issues in education.

TSOC5600 Foundations of Peace Pedagogy

[3 credit hours]

The purpose of this course is to introduce the basic concepts, theories, and approaches to peace education. The course explores the theories of peace education, including pedagogical appproaches to peace-learning. The course also introduces the substantive areas of peace education.

TSOC5950 Workshop In Educational Theory And Social Foundations

[3 credit hours]

Each workshop is developed around a topic of interest and concern to inservice teachers and other educational personnel. Practical application of workshop topics will be emphasized.

TSOC6000 Women, Culture And Pedagogy

[3 credit hours]

This course surveys works of prominent feminist scholars in order to address the impact of dominant ideology upon the lives of women and girls in American schools.

TSOC6120 International Education

[3 credit hours]

Complex interrelationships between global issues and education systems will be examined. Emphasis will be on how education can be used to build a more global society. Some sections of the course will include an international field trip.

TSOC6140 History Of Socio-Political Issues In School-state Relations

[3 credit hours]

An examination of the historical, legal, sociological interaction between state and schooling in US, emphasizing both religious/non-religious issues. These concerns are compared and analyzed with respect to other countries.

Prerequisites: TSOC 5200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5400 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7400 FOR LEVEL GR WITH MIN. GRADE OF D-

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TSOC6190 Seminar In Educational Theory/Social Foundations

[3 credit hours]

The collaborative study of a specific topic in educational theory and social foundations by a group of advanced students under the direction of one or more professors.

TSOC6220 Problems And Issues In Multicultural Education

[3 credit hours]

2Application of theoretical assumptions presented in TSOC 5210/7210 to US schools and classrooms, with particular attention given to program and curriculum issues, teachers and teaching policies, practices and procedures.

Prerequisites: TSOC 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7210 FOR LEVEL GR WITH MIN. GRADE OF D-

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TSOC6240 Sociological Analyses Of Urban Education

[3 credit hours]

Development and dynamics of schooling in urban centers across the United States, including historical and critical analyses of current problems, issues and reform initiatives.

Prerequisites: TSOC 5200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7210 FOR LEVEL GR WITH MIN. GRADE OF D-

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TSOC6310 Major Educational Theorists

[3 credit hours]

An examination of selected educational philosophers who have addressed themselves to the problem of the ends and means of education from Classical Hellenic Times to the present.

TSOC6320 Education And The Democratic Ethic

[3 credit hours]

Examination of the interdependence among education, democracy and ethics in the context of civic life. Applications made to the practice of schooling as cultural production in a democratic society.

Prerequisites: TSOC 5200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5300 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5400 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7300 FOR LEVEL GR WITH MIN. GRADE OF D- OR

TSOC6330 THE ETHICS OF WAR AND PEACE AND EDUCATION

[3 credit hours]

The purpose of this seminar is to explore the ethics of war and peace and its implications for the moral and civic education of democratic citizens.

TSOC6340 Human Rights Education

[3 credit hours]

The purpose of this seminar is to explore the nature of human rights and human rights education. The origin, definition, content, scope, foundation, and correlative duties of human rights, as well as, the theory of human rights education will be explored.

TSOC6350 Environmental Ethics and Education

[3 credit hours]

The purpose of this seminar is to explore the nature of environmental ethics and its implications for educational theory, in particular moral and civic education.

TSOC6360 Theories of Justice and Educational Policy

[3 credit hours]

The purpose of this class is to explore prominent theories of distributive justice in a liberal democratic republic and to analyze key educational policy issues from the perspective of those theories.

TSOC6960 Master's Thesis In Educational Theory And Social Foundations

[1-3 credit hours]

A formal, independent study culminating in a written discourse that advances our understanding of educational theory or social foundations.

TSOC6980 Master's Project In Educational Theory And Social Foundations

[1-3 credit hours]

A formal, independent project applying principles of educational theory or social foundations to analyze a particular problem and culminating in a written discourse.

TSOC6990 Independent Study In Educational Theory And Social Foundations

[1-3 credit hours]

Directed study of a current topic in educational theory and social foundations. The student meets with the instructor at arranged intervals without formal classes.

TSOC7100 Group Processes In Education

[3 credit hours]

Examines intrapersonal and interpersonal principles of high performing teams, meaningful relationships, and being an effective leader and member of groups. Real-life projects will be designed, implemented and evaluated.

TSOC7110 Modern Educational Controversies

[3 credit hours]

Examines controversial contemporary educational issues, the forces that perpetuate them and the socio-cultural contexts in which they exist. Teachers' work and ethical tenets shaping practice are also examined.

TSOC7190 Summer Institute On Diversity In Education

[3 credit hours]

School personnel collaborate with persons from higher education, the community, and scholars who have created model multicultural/urban education programs to learn new ways of teaching and learning among diverse populations.

TSOC7200 Sociological Foundations Of Education

[3 credit hours]

Critical examination of the socio-cultural foundations of schooling in the United States, including purposes of schooling in a multicultural society and the resulting nature of teacher work.

TSOC7210 Multicultural Non-Sexist Education

[3 credit hours]

Examines how race, class, gender, ethnicity, and disability intersect with power, culture, knowledge and ideology in American schools to influence the lives of students and teachers in a multicultural society.

TSOC7230 Intergroup And Intercultural Education

[3 credit hours]

In-depth history of racial and ethnic minorities in the U.S. and the ongoing tension between deculturalization and democratic pluralism in P-12 and higher education including current theories and practical applications.

TSOC7300 Philosophy And Education

[3 credit hours]

Exploring the nature of philosophic inquiry in education and examining competing traditions in the West, particularly in the United States. A distinction between education and schooling will be drawn.

TSOC7400 History Of Schooling & Teaching In The U.s.

[3 credit hours]

Evolving role of schooling and teaching in the US, using history to reflect on the relationship of schooling to other social institutions, groups of people and the process of social change.

TSOC7500 Anthropology and Education

[3 credit hours]

Examination of cross-cultural, comparative, and other studies directed toward understanding processes of cultural transmission and transformation, and implications of anthropological research for contemporary issues in education.

TSOC7600 Foundations of Peace Pedagogy

[3 credit hours]

The purpose of this course is to introduce the basic concepts, theories, and approaches to peace education. The course explores the theories of peace education including pedagogical approaches to peace-learning. The course also introduces areas of peace education.

TSOC7950 Workshop In Educational Theory And Social Foundations

[3 credit hours]

Each workshop is developed around a topic of interest and concern to inservice teachers and other educational personnel. Practical application of workshop topics will be emphasized.

TSOC8000 Women, Culture, And Pedagogy

[3 credit hours]

This course surveys works of prominent feminist scholars in order to address the impact of dominant ideology upon the lives of women and girls in American schools.

TSOC8120 International Education

[3 credit hours]

Complex interrelationships between global issues and education systems will be examined. Emphasis will be on how education can be used to build a more global society. Some sections of the course will include an international field trip.

TSOC8140 History Of Socio-Political Issues In School-state Relations

[3 credit hours]

An examination of the historical, legal, sociological interaction between state and schooling in US, emphasizing both religious/non-religious issues. These concerns are compared and analyzed with respect to other countries.

Prerequisites: TSOC 5200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5400 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7400 FOR LEVEL GR WITH MIN. GRADE OF D-

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TSOC8150 CULTURAL PERSPECTIVES IN LEARNING AND DEVELOPMENT

[3 credit hours]

This course aims to develop a broader understanding of the role of culture in psychological processes and the implications of such psychological understanding for a culturally diverse society.

TSOC8180 Interdisciplinary Seminar In Educational Psychology, Research, And Social Foundations

[1 credit hour]

The proseminar will enable doctoral students to improve their understanding of the research process. Students will learn to ask research questions, choose alternative methodologies and interpret the validity of conclusions.

TSOC8190 Seminar In Educational Theory/Social Foundations

[3 credit hours]

The collaborative study of a specific topic in educational theory and social foundations by a group of advanced students under the direction of one or more professors.

TSOC8220 Problems And Issues In Multicultural Education

[3 credit hours]

2Application of theoretical assumptions presented in TSOC 5210/7210 to US schools and classrooms, with particular attention given to program and curriculum issues, teachers and teaching policies, practices and procedures.

Prerequisites: TSOC 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7210 FOR LEVEL GR WITH MIN. GRADE OF D-

TSOC8240 Sociological Analyses Of Urban Education

[3 credit hours]

Development and dynamics of schooling in urban centers across the United States, including historical and critical analyses of current problems, issues and reform initiatives.

Prerequisites: TSOC 5200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5210 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7210 FOR LEVEL GR WITH MIN. GRADE OF D-

TSOC8310 Major Educational Theorists

[3 credit hours]

An examination of selected educational philosophers who have addressed themselves to the problem of the ends and means of education from Classical Hellenic Times to the present.

TSOC8320 Education And The Democratic Ethic

[3 credit hours]

Examination of the interdependence among education, democracy and ethics in the context of civic life. Applications made to the practice of schooling as cultural production in a democratic society.

Prerequisites: TSOC 5200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5300 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 5400 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7200 FOR LEVEL GR WITH MIN. GRADE OF D- OR TSOC 7300 FOR LEVEL GR WITH MIN. GRADE OF D- OR

TSOC8330 THE ETHICS OF WAR AND PEACE AND EDUCATION

[3 credit hours]

The purpose of this seminar is to explore the ethics of war and peace and its implications for the moral and civic education of democratic citizens.

TSOC8340 Human Rights Education

[3 credit hours]

The purpose of this seminar is to explore the nature of human rights and human rights education. The origin, definition, content, scope, foundation, and correlative duties of human rights, as well as, the theory of human rights education will be explored.

TSOC8350 ENVIRONMENTAL ETHICS AND EDUCATION

[3 credit hours]

The purpose of this seminar is to explore the nature of environmental ethics and its implications for educational theory, in particular moral and civic education.

TSOC8360 Theories of Jstce and Ed Plcy

[3 credit hours]

The purpose of this class is to explore prominent theories of distributive justice in a liberal democratic republic and to analyze key educational policy issues from the perspective of those theories.

TSOC8380 Methods of Normative Theory Construction

[3 credit hours]

The purpose of this course is to explore methods of and approaches to normative theory construction. The central goal of the course is to equip doctoral students in the field of educational theory and social foundations, among other students whose fields engage in normative theory, the understanding and skill necessary to engage in normative theory construction. Normative theory refers to systematic moral, political, social, and educational conceptions that rationally account for adjust what ought to be (rather than empirical theory that accounts for what is). In the discipline of normative theorizing a number of methods of and approaches to theory construction have been developed as a means to the development and analysis of normative theory. There are two main approaches to theory construction in this field: deontological and teleological approaches.

TSOC8390 Methods of Conceptual Analysis and Textual Interpretation

[3 credit hours]

The purpose of this research methods course is to explore prominent methods and approaches Central Analysis and Textual Interpretation. These methods and approaches constitute the research tools in the field of educational theory and social foundations, among other fields of inquiry. The central goal of the course is to equip doctoral students in field of educational theory and social foundations, among other students whose fields engage in theoretical research, the understanding and skill necessary to engage in theoretical research.

TSOC8960 Dissertation Research In Foundations Of Education

[1-12 credit hours]

A formal, independent study culminating in a written discourse central to the advancement of knowledge in educational theory or social foundations.

TSOC8990 Independent Study In Educational Theory And Social Foundations

[1-6 credit hours]

Directed study of a current topic in educational theory and social foundations. The student meets with the instructor at arranged intervals without formal classes.

UC1000 Orientation

[1 credit hour]

An orientation to college for incoming first year students in the Gateway Program. It is designed to equip students with tools for academic success.

UC1110 Creative Problem Solving

[2 credit hours]

This course assists students in developing problem solving skills through critical thinking, simulated situations and other activities desgined to engage and challenge problem solving capabilities.

UC1120 Career And Self-Evaluation

[2 credit hours]

This course offers an opportunity to explore two important considerations in choosing a career: (1) career opportunities and requirements, (2) individual interests, abilities, skills, needs, values and goals. Students will have opportunities to develop a resume, complete career and interest assessments, investigate a variety of majors at UT and create a personalized career action plan.

UC1130 Information Literacy for College Research

[3 credit hours]

This course will provide information literacy skills specific to accessing sources and materials appropriate for university level research. Students will acquire a broader knowledge of library services and resources. Additionally, students will learn to apply research logic in order to utilize library catalogs, electronic databases, the World Wide Web, and print resources. By building experiential knowledge, students will gain an understanding of information creation, dissemination, and applications through utilizing various research strategies and scholarly communication.

UC1140 Introduction to Learning Technologies

[1 credit hour]

This course prepares students with the computer and media literacy skills necessary for successful online learning. Students will acquire greater knowledge of the academic technologies utilized by the University, including email, Blackboard, virtual labs, online library resources, Web 2.00 tools, and the role of copyright and accessibility standards with respect to these technologies.

UC1150 Orientation: Strategies for College Success

[3 credit hours]

Acquaints students with the services, policies, procedures and layout of the University, along with relevant study skills and student learning services available campus-wide. Required of all pre-major students; optional for others.

UC1200 Applications of Thinking Critically

[3 credit hours]

Introduces students to critical thinking and fosters intellectual abilities. The course is designed for first year students who earned below a 2.0 their first or second semester and for transfer or adult students entering college with less than a 2.00 GPA.

UC1940 Learning Through Service

[2 credit hours]

Students will be involved four hours a week in various community service projects and analyze and reflect on their experiences through journals, discussion and a final paper in a weekly seminar (local, domestic and International).

UC2980 Special Topics

[1-4 credit hours]

Special Topics is an opportunity to create and pilot potential courses at a 2000 level.

UC4980 Special Topics

[1-4 credit hours]

Topics of interest to University College students offered by various instructors. Open to any University College student.

UGR2980 Issues in Research and Scholarship

[1 credit hour]

Seminar series addressing various issues that can arise in research, scholarship, and creative activities, including: safe laboratory practices, regulatory compliance issues, and ethics issues.

UROL6400 Readings in Immunology

[0-3 credit hours]

Selected readings in the field of immunology. Emphasis will be placed on the historical development of the field and establishing a working model of the immune system for the student. May be repeated for credit.

UROL6500 Seminar Urological Science I

[2 credit hours]

Literature review and critical analysis of subspecialty areas within the field of urology, pediatric urology, and oncology. May be repeated for credit.

UROL6550 Jrnl Review Urologic Science

[1 credit hour]

A weekly assessment and critical review of the literature devoted to urological science. Emphasis will be placed on structure and content of the literature with the goal of developing the student's ability to evaluate literature validity. May be repeated for credit.

UROL6560 Readings in Urologic Science

[2 credit hours]

Selected readings in the field of urological science. Emphasis will be placed on the historical development of different treatment modalities. May be repeated for credit.

UROL6730 Research Urological Science I

[2 credit hours]

The student and instructor will agree on a program of study that will enable the student to achieve his/her objectives. May be repeated for credit.

UROL6900 Ind St:Urol Transplantation

[0-4 credit hours]

The student and instructor will agree on a program of study to enable the student to achieve objectives including theoretical and experimental work. May be repeated for credit.

UROL6910 Ind St:Urol Surg Oncology

[0-4 credit hours]

The student and instructor will agree on a program of study to enable the student to achieve his/her objectives including theoretical and experimental work. May be repeated for credit.

UROL6920 Ind St:Surg Infertility

[0-4 credit hours]

Student and instructor will agree on a program of study to enable the student to achieve objectives including theoretical and experimental work. May be repeated for credit.

UROL6930 IndSt:Urol Surg Peds Urology

[0-4 credit hours]

The student and instructor will agree on a program of study that will enable the student to achieve his/her objectives including theoretical and experimental work. May be repeated for credit.

UROL701 Urology

[6 credit hours]

This clerkship is designed to expose students to a variety of urologic disorders seen in an outpatient setting. Teaching will be conducted primarily in the outpatient clinics, on rounds and in the ambulatory operating rooms by residents and faculty in a one-on-one setting. The student will be exposed to patients presenting with a variety of disorders such as abnormal voiding, urinary tract pain, impotence, incontinence and renal failure

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

UROL702 Advanced Urology

[6 credit hours]

This clerkship is designed to expose students to a variety of urologic disorders seen in an inpatient or outpatient setting. Designed for students considering a career in Urology or a surgical discipline. Students will be designated as an Acting Intern with increased responsibility for patient management ¿ under supervision. The student will also be exposed to the variety and complexity of urologic diagnostic testing and surgical intervention.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

UROL703 Outpatient Pediatric Urology

[6 credit hours]

This clerkship is designed to expose students to a variety of pediatric urologic problems including voiding disorders, urinary infections, undescended testes and congenital penile abnormalities. This clerkship will be especially beneficial for students considering a career in Pediatrics or in Urology.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

UROL704 Lapro Surgical Robotics

[6 credit hours]

This course will review fundamentals of laparoscopic surgery including indications, complications, physiology, and basic techniques as well as other didactic information that will set the stage for skills training in a specialized laboratory setting. Basic skills will preceed eventual training in complex tasks such as laparoscopic suturing. Individualized training from advanced laparoscopic surgeons will be offered with the expectation that students will practice tasks of progressive difficulty independently between group training sessions. Students demonstrating satisfactory acquisition of skills necessary for operation of the surgical robot may be allowed the opportunity to train in the basic controls of the robot, but all students will be introduced to the robot with demonstrations and videos regardless.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

UROL705 Urology

[3 credit hours]

This clerkship is designed to expose students to a variety of urological disorders, primarily in outpatient office setting. Teaching is conducted in preceptor¿s office and in and outpatient operating rooms, as well as on outpatient rounds. Patients may present with a variety of disorders including but not limited to voiding problems, urinary tract pain, impotence, erectile dysfunction and renal failure.

Prerequisites: FMMD 701 FOR LEVEL MD WITH MIN. GRADE OF P AND MEDI 703 FOR LEVEL MD WITH MIN. GRADE OF P AND NEUR 701 FOR LEVEL MD WITH MIN. GRADE OF P AND OBGY 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PEDS 701 FOR LEVEL MD WITH MIN. GRADE OF P AND PSCH

UROL706 Renal Transplant

[3 credit hours]

This course will review the fundamentals of renal transplant including patient selection, organ procurement, surgical transplant methods, and management of post-operative transplant patients. Students will be expected to work with the urology faculty and resident on the transplant service and attend transplant conference, transplant clinic, and any organ procurement or transplant procedure during the duration of the course.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

UROL707 Renal Transplant

[6 credit hours]

This course will review the fundamentals of renal transplant including patient selection, organ procurement, surgical transplant methods, and management of post-operative transplant patients. Students will be expected to work with the urology faculty and resident on the transplant service and attend transplant conference, transplant clinic, and any organ procurement or transplant procedure during the duration of the course.

Prerequisites: SURG 703 FOR LEVEL MD WITH MIN. GRADE OF P

UROL760 Urology Elective

[6 credit hours]

This clerkship is designed to expose students to a variety of urologic disorders seen in an outpatient setting. Teaching will be conducted primarily in the outpatient clinics, on rounds and in the ambulatory operating rooms by residents and faculty in a one-on-one setting. The student will be exposed to patients presenting with a variety of disorders such as abdominal voiding, urinary tract pain, impotence, incontinence and renal failure.

VCT5660 Prin of Multimedia Products

[3 credit hours]

Exploration and experimentation in various visual presentation techniques including digital media. Emphasis on design and production of total presentations.

WGST1150 Proseminar In Women's And Gender Studies I

[1 credit hour]

Students reflect on the academic and professional and community activist dimensions of Women's and Gender Studies. Students develop a proliminary plan for the development of their portfolio.

WGST2010 Introduction To Gender Studies: Gender, Sex And Difference

[3 credit hours]

Interdisciplinary introduction to gender studies. Critically examines competing theories of gender and sex identification, construction, and biological determinism. Considers ethical and intersectional issues regarding differences of gender, sex and sexuality.

WGST2020 Girlhood and Adolescence

[3 credit hours]

This class examines the adolescent experience of the American teenage girl using historical documents, current films, magazines, and popular teen fiction. This class looks at the complexities that race, socioeconomic status, ethnicity and sexual orientation have on the experience of the teenage girl. Students will have several opportunities to share their own adolescent experiences as they relate to assigned readings.

Prerequisites: WGST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

WGST2150 Proseminar In Women's & Gender Studies II

[1 credit hour]

Designed for majors only. Students reflect on the academic and professional and community activist dimensions of Women's and Gender Studies. Special emphasis will be dedicated to the completion of the portfolio for future career, community activism and graduate studies.

Prerequisites: WGST 1150 FOR LEVEL UG WITH MIN. GRADE OF D-

WGST2400 Women's Roles: A Global Perspective

[3 credit hours]

The course focuses on the current and evolving social, economic and political status of women in the United States and selected non-Western societies.

WGST2610 Women In American Politics

[3 credit hours]

An examination of the role of women in the American political system with special attention to the socializing experiences, political power bases and legal status.

Prerequisites: PSC 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

WGST2640 Race, Class, And Gender

[3 credit hours]

Introduction to the study of race, class and gender as factors in American stratification.

WGST2880 Contemporary U.S. Queer Cultures

[3 credit hours]

An interdisciplinary, multicultural examination of diverse lesbian, gay, bisexual, transgender, and other queer cultural productions, this course examines continuities and conflicts in aesthetics, issues, materials, and motivations for queer culture.

WGST2980 Special Topics In Women's And Gender Studies

[3 credit hours]

Study of selected topics relevant to Women's and Gender Studies. May be repeated for major or minor credit when topic varies.

WGST3010 Issues In Women's Studies

[3 credit hours]

Required for the major. An interdisciplinary introduction to basic works of feminist thought, feminist methodologies and current issues in the field world-wide. Writing Intensive (WAC) course.

WGST3020 Visual Construction Of Gender

[3 credit hours]

Writing intensive (WAC) course. This non-studio course focuses on the ways images reflect and shape our understanding of gender. Students will learn to analyze visual material in order to identify and articulate their cultural significance in relation to gender.

WGST3030 Women and the Body

[3 credit hours]

This class will look at the complexities of women’s relationships to their bodies and how the intersectionalities of race, gender identity, sexuality and societal pressures help shape the ways women feel about themselves. Using popular culture, feminist theory, and other mediums, this class expects students to participate in self- reflection, critical analysis, and the application of various feminist theories to their work.

Prerequisites: WGST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

WGST3200 Issues In Lesbian, Transgender, Bisexual And Gay Communities

[3 credit hours]

This course will explore current issues facing diverse LTBGQ communities including historical, socio-cultural and political perspectives.

WGST3400 Feminist Approaches To Social Problems

[3 credit hours]

This course will examine current social problems from a feminist perspective. The course will examine such issues as the feminization of poverty, violence against women, homeless, prostitution, teen pregnancy, HIV/AIDS and addictions.

WGST3550 Feminism And Philosophy

[3 credit hours]

An examination of feminist perspectives on love, sex and marriage in philosophy, exploring the relevance of gender to central questions in ethics, political theory and epistemology.

WGST3650 Economics Of Gender

[3 credit hours]

Analysis of labor market outcomes and income distribution characteristics resulting from gender differences; Gender-related economic outcomes; the feminization of poverty, persistent male-female wage differential, expanding proportion of female headed households.

Prerequisites: ECON 1150 FOR LEVEL UG WITH MIN. GRADE OF D- OR ECON 1200 FOR LEVEL UG WITH MIN. GRADE OF D-

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WGST3700 Women's Studies Topics In Literature

[3 credit hours]

Specific topics vary. Check schedule of classes for specific subject.

WGST3750 Women And Literature

[3 credit hours]

Examines literary works in light of major issues raised by feminist criticism. Specific emphasis varies. Recommended ENGL 2700 or 3790

WGST3800 Sexual Politics

[3 credit hours]

This course examines sexual politics through studying canonical literature of Western political theory, feminism and postmodern theory.

WGST3980 Topics In Women's Studies

[3 credit hours]

Specific topics vary. Check schedule of courses for specific subject.

WGST4010 Women's Studies Topics In Film

[3 credit hours]

Specific topics vary. Check schedule of courses for specific subject and prerequisites.

WGST4160 Health And Gender

[3 credit hours]

An examination of gender as a predisposing factor of health status, health behavior, health care delivery, and the structure and posture of health care professionals. Writing intensive (WAC) course.

WGST4200 Women's Studies Topics In Science

[3 credit hours]

Cross-listings of 4000-level courses with biology, chemistry, geology, math, natural sciences, physics and pre-med. Specific topics vary. Check schedule of courses for specific subject and prerequisites.

WGST4350 Women's Studies Topics In Communication

[3 credit hours]

Cross-listings of 4000-level courses with the communication department. Specific topics vary. Check schedule of courses for specific subject and prerequisites determined by the department of communication.

WGST4500 Women's Studies Topics In History

[3 credit hours]

Crosslistings of 4000 level courses with the history department. Specific topics vary. Check schedule of courses for specific subject and prerequisites.

WGST4510 Women In American History

[3 credit hours]

This course presents American history from early settlement to the present by examining the contributions of women, in interaction with men, to the immensely complex fabric of American life.

WGST4540 Witchcraft And Magic In Medieval And Early Modern Europe

[3 credit hours]

Witchcraft, religion and magic in western Europe from the 12th through 17th centuries, focusing on the origins of witchcraft belief, diabolical magic, the witchcraft and its decline.

WGST4590 Law, Policy, And The Politics of Sexuality

[3 credit hours]

This course explores law, policymaking, and public attitudes that affect gay, lesbian, bisexual and transgendered individuals in the U.S. Topics include hate crimes legislation, discrimination law, and same-sex marriage.

WGST4610 Feminist Political Theory

[3 credit hours]

Readings in and interpretation of feminist political theories about the state, power, citizenship, and identity.

Prerequisites: PSC 2800 FOR LEVEL UG WITH MIN. GRADE OF D-

WGST4700 Women's Studies Topics In Literature

[3 credit hours]

Specific topics vary. Check Course Schedules for specific subject.

WGST4760 Feminist Readings Of Literature

[3 credit hours]

Classic works by diverse American and English men and women considered in light of significant recent feminist scholarship and how such perspectives enhance classroom teaching and academic production.

WGST4770 American Women Writers

[3 credit hours]

Author/authors vary with each offering. Consult schedule of courses for specific subject. Recommended ENGL 2700, 2800 or 3790.

WGST4810 Women's Health Care

[3 credit hours]

The course is designed to consider those personal health topics of special interest and applicability to women. The focus will be upon the role of self-understanding and self-help in promotion of health and well-being.

WGST4870 Feminisms

[3 credit hours]

This introduction to global feminist thought familiarizes students with feminist terminology and a variety of feminist theoretical frameworks.

WGST4880 Queer Theory WAC

[3 credit hours]

This course explores the theoretical concepts/texts of Queer Theory and its locations in communities and identities, focusing principally on the theories that have emerged since the late 1990s.

Prerequisites: WGST 3010 FOR LEVEL UG WITH MIN. GRADE OF D- OR WGST 2010 FOR LEVEL UG WITH MIN. GRADE OF D-

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WGST4890 Women's Studies Research And Methodologies

[4 credit hours]

Investigates and applies current trends in Women's Studies as a discipline and the ways in which Women's Studies methodologies inform other disciplines. Requires research project.

WGST4900 Seminar In Women's Studies

[3 credit hours]

Seminar focused on timely topics in Women's Studies chosen by rotating faculty.

WGST4910 Honors Thesis In Women's And Gender Studies

[1-3 credit hours]

Supervised research and writing for honors students only.

WGST4940 Internship In Women's Studies

[1-3 credit hours]

Practical field experience applying Women's Studies theories, arranged in conjunction with the department of women's and gender studies. Students must have pre-approval based on detailed written proposal.

WGST4980 Advanced Topics In Women's Studies

[3 credit hours]

A course on a special topic in Women's Studies. Consult schedule of courses for topic to be studied and semester offered. Recommended WGST 3010.

WGST4990 Independent Study In Women's Studies

[1-4 credit hours]

Supervised independent reading and research on selected topics. Before the end of open registration, students must present the supervising instructor a detailed written proposal and get written approval.

WGST5880 Queer and Sexuality Theories-WAC

[3 credit hours]

An overview of the complexities, contradictions, and conflicts in the rapidly shifting field sometimes known as Queer Studies. This course attempts to walk a line between the hyberabstraction of "clasic theoretical" concepts/texts and their more "concrete" contextualized locations in communities and identities. This course focuses on the field that emerged from the g/l/b/t movement as it moved into the academy in the l990's.

WGST5980 Special Topics Gender

[3 credit hours]

A course on specialized topics in Women's and Gender Studies. Consult schedule of courses for topics to be studied and semester offered.

WGST6240 Research and Methods in Women's and Gender Studies

[4 credit hours]

This course will present an overview of the ways in which women's/gender/feminist studies have informed and complicated traditional theories of research and methodologies. Students will examine and use various research methods and tools to prepare a final research project.

WGST6250 Feminism and U.S. Film

[3 credit hours]

This course will focus on the representation of women in dominant U.S. cinema with a particular interest in the filmic responses created by independent women film makers. We will examine the celluloid construction of women and gender presented in classic Hollywood Cinema using the tools of feminist analysis and discourse. We will be particularly concerned with the ways in which gender, race, class and sexuality shape the cinematic representations of women.

WGST6260 Women, Gender & Disability

[3 credit hours]

This course will be an interdisciplinary exploration of the intersections of gender and disability and the significance of these categories of analysis as they are understood and experienced by American women with and without disabilities.

WGST6980 Directed Readings in Women's and Gender Studies

[1-4 credit hours]

Supervised independent reading and research on selected topics. Student meets individually with instructor to develop a detailed written proposal. The course provides students with the opportunity to read independently on a topic related to gender studies under the direction of a WGST faculty member.

WGST6990 Independent Project in WGST

[1-4 credit hours]

Supervised independent project. Students work with a faculty member to design a semester long project that utilizes the knowledge and skills gained through the certificate program. The course provides students with the opportunity to develop an individual project related to gender studies under the close supervision of a WGST faculty member.