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Other Graduate Courses..... 1

Other Graduate Courses

The 400- and 500-level courses listed below are offered by Southern Illinois University for graduate credit. These courses may satisfy graduate degree requirements or graduate certificate programs but are not stand alone master or doctoral degree programs.

Africana Studies

AFR401 - Atlantic History (Same as HIST 401) This course examines the origins and development of the Atlantic basin as an intercommunication zone for African, European and American societies from the mid-15th century through the early-19th century. Themes include transformation of environments, forced and voluntary migrations, emergence of distinct Atlantic culture communities, development of Atlantic economics and formulation and implementation of Atlantic revolutionary ideologies. Credit Hours: 3

AFR410H - African Expressive Culture (Same as ANTH 410H) This course examines aspects of African expressive culture including the visual arts, music, dance, orature, cinema, drama, and ceremony from an anthropological perspective. Particular attention is given to analysis of African expressive culture in social context and the role of the arts in the practice of politics, religion, medicine, and other aspects of African life. Many of the expressive genres examined deal with historical representation and political resistance. Therefore, this course provides insights into African history and politics through the creation of African artists. Credit Hours: 3

AFR413 - African Film (Same as ANTH 413) This course examines the history and social significance of African film from cultural, aesthetic, political, and economic perspectives. Credit Hours: 3

AFR416 - Black Feminist Thought as Theory and Praxis (Same as CMST 416 and WGSS 416) Explore the roots, contemporary manifestations, and current embodiments of Black feminist thought. Explore the works of Black women to engage in critical thinking and thoughtful dialogue that positions the valuable knowledge, experiences and perspectives of women of color at the center of inquiry while simultaneously discovering spaces for multicultural alliances. Credit Hours: 3

AFR420 - Themes in Africana Drama (Same as THEA 460) Explores significant themes in African and African American drama, with special attention to performance styles and cultural issues. Credit Hours: 3

AFR447 - Communicating Race and Ethnicity (Same as CMST 447) Via intercultural theories and methods, this course explores histories, relationships, interactions and recent events by positioning racial and ethnic perspectives at the center of inquiry. The course critically examines the complexities of race, racism and ethnicity by focusing on how people communicate across racial and ethnic differences in different contexts. Credit Hours: 3

AFR452A - Traditions of Uppity Women's Blues (Same as MUS 452A, WGSS 452A) Examines the tradition of "uppity" women's blues from the so-called "classic" blues singers of the 19th century (Gertrude "Ma" Rainey, Bessie Smith, Ida Cox, etc.) to the contemporary blues of Saffire, Denise LaSalle and others. Explores ways blues women challenge conventions of gender and sexuality, racism, sexism, classism, and homophobia. Restricted to junior/senior/graduate music major or consent of instructor. Credit Hours: 3

AFR452B - Blues and Boogie Woogie Piano Styles (Same as MUS 452B) Traces the history, culture, and stylistic developments of blues and boogie woogie piano. Explores socio-cultural contexts and

examines key players, pieces, and musical styles. Restricted to junior/senior/graduate music major or consent of instructor. Credit Hours: 3

AFR460 - Slavery and The Old South (Same as HIST 460) This course examines slavery and southern distinctiveness from the colonial period to 1861. Discussion topics include the plantation system, race relations, women and slavery, and southern nationalism. Credit Hours: 3

AFR461 - Black Americans on the Western Frontier (Same as HIST 461) This course examines the history of African Americans in the American West. Taking both a chronological and thematic approach, it begins with a discussion of early black explores in the age of encounter, and ends with a focus on black western towns established in the United States by the 1880's. Credit Hours: 3

AFR465 - Governments and Politics of Sub-Saharan Africa An examination of the impact of western colonial rule on the societies and politics of Africa, the method by which these colonial areas became sovereign states in the post-World War II era, the role of domestic political institutions, African political thought and behavior, and the development of foreign policies regarding relations with other African states, continental and international organizations, and international organizations, and non-African states. Credit Hours: 3

AFR472 - Psychology of Race and Racism This course reviews the history and evolution of the construct of race as a psychological phenomenon. While the course will be largely psychological in nature, the pervasiveness of race in practically every sphere of life necessitates a multidisciplinary approach. The course will emphasize a theoretical and conceptual approach toward understanding the psychology of racialized thinking. Prerequisite: PSYC 211. Crosslisted with PSYC 470. Credit Hours: 3

AFR473 - Comparative Slavery (Same as HIST 473) A comparative study of slavery from antiquity to its abolition in the 19th century with the differing socio-cultural, political and economic contexts; organized chronologically, regionally, and thematically. Credit Hours: 3

AFR475 - Education and Black America This course uses the best scholarship of cultural anthropology and social studies to look at the history of education in the African American community; how public education affects African American families; how school shape cultural change and how racial, ethnic peer group, and gender issues help determine curriculum issues. For graduate credit. Credit Hours: 3

AFR478 - Southern Africa, 1650-1994 (Same as HIST 478) An examination of Southern African history with emphasis on South Africa from 1652 to 1994. Topics to be covered include conflicts and wars, migrations and state formations, the economics of minerals, industrialization and the Anglo-Boer War, intertwined histories of race relations, the politics of exclusion and apartheid, and the making of modern South Africa. Credit Hours: 3

AFR491 - Independent Readings in Africana Studies Special topics, focused on research needs of students who are regularly enrolled in upper-division courses, especially graduate students doing research in Africana related topics in other departments and programs. May be repeated for up to six credit hours. Special approval needed from the director of the AFR program. Credit Hours: 3

AFR494 - Methodology Seminar in Africana Studies This course provides the theoretical framework for research in the field of Africana Studies. Students will investigate the foundations of the field of Black Studies, from the arguments of Maulana Karenga and Molefi Asante, to the challenges of scholars such as Manning Marable, James Turner and other recent scholars. Students will pursue individual research projects appropriate to various academic disciplines which constitute the field of Africana Studies. May be taken for graduate credit. Credit Hours: 3

AFR495 - African Cultural Continuities: Study Abroad Study abroad 4-6 week program is designed to introduce similarities in culture (food, dance, music, family traditions, religion) of people in Ghana and in the cultures of people in the African diaspora. Class begins on the SIUC campus and will relocate to Elmina and Cape Coast, Ghana, during the first year of a three-year sequence. Other years will locate in areas of the West Indies, Caribbean & Central America. May be taken for graduate credit. Special approval needed from the instructor. Credit Hours: 3-9

AFR496 - Slave Narratives Using compilations of the 19th and early 20th century body of work known as "Slave Narratives", students will organize research projects that discover selected major themes

of Africana Studies. The course will be useful to students from various academic disciplines (such as Psychology; Music; Sociology; History; Philosophy; Education; Literature; and Theology, among others) as they place Slave Narratives in the center of Africana and American Studies scholarship. May be taken for graduate credit. Credit Hours: 3

AFR497 - The U.S. Civil Rights Movement (Same as HIST 487) This course provides an overview of the history of the Civil Rights Movement while engaging major debates in the field of Black Freedom Studies. Central themes will include the impact of the Cold War, the roles of women, and the relationship of civil rights to black power. We will also discuss the difference between popular memory and historical scholarship as well as the meaning of such discussions for contemporary issues of racial and economic justice. Credit Hours: 3

AFR499 - Special Topics in Africana Studies Topics vary and are announced in advance. May be repeated as the topic varies. No prerequisites. Credit Hours: 3-9

AFR499A - History of African American Philosophy (Same as PHIL 451) A survey of major thinkers and themes in the history of African American Philosophy from colonial times to the 20th century. Credit Hours: 3

AFR499B - Philosophy of Race (Same as PHIL 455) A survey of critical examination of a range of theories on the nature and meaning of "race", the intersection of race with class and gender, and the promotion of racial progress. Such theories include racial realism and idealism, racial biologism, cultural race theory, social constructivist theory, integrationism, separatism, racial eliminativism, cosmopolitanism, and especially critical race theory. Credit Hours: 3

AFR499C - Topics in Africana Philosophy (Same as PHIL 459) A seminar on varying topics, themes, and figures in African, African American, and/or Caribbean Philosophy, e.g., "W.E.B. Du Bois and His Contemporaries," "Pan Africanism," "Philosophies of Liberation," "Black Feminism," "Contemporary African Philosophy," "Philosophies of the Caribbean. Credit Hours: 1-6

AFR501 - Testimonies of Liberation: The Slave Narratives as a Foundation for Africana Research In the seminar, a deep appreciation of the various texts that are the testimonies of the enslaved Africans in the United States help shape the research strategies of students who wish to do focused studies of African American and American culture, by discovering the themes of resistance, persistence and transcendence as these themes were articulated and employed by generations of enslaved Africans in what is now the United States. Students engage in close critical and cultural readings of slave narratives; folklore texts; musical testimonies (folk songs and Spirituals), petitions and other records. Credit Hours: 3

AFR502 - Multicultural Competence Seminar The course deals with issues of human diversity broadly defined to include race, ethnicity, culture, nationality, religion, sexual orientation, gender identity, and ability. It explores the contours of difference and the dynamics of diversity, privilege, and oppression in domestic and global contexts. It also examines authentic cultural voices, understanding these voices, how to interact with them and be able to find individual and group cultural voices in a diverse society and how to apply the knowledge in a larger global sphere. Credit Hours: 3

AFR559 - Topics in Africana Philosophy A seminar on varying topics, themes, and figures in African, African American, and/or Caribbean Philosophy, e.g., "W.E.B. Du Bois and His Contemporaries," "Pan-Africanism," "Philosophies of Liberation," "Black Feminism," "Contemporary African Philosophy," "Philosophies of the Caribbean. Credit Hours: 3

Agriculture

AGRI401 - Fundamentals of Environmental Education (Same as FOR 401 and REC 401) A survey course designed to help education majors develop an understanding of environmental education principles and teaching both inside and outside the classroom. Requires field trip transportation fee not to exceed \$25 per course registration. Prerequisite: Ten hours of biological science or ten hours of recreation and/or education, or consent of instructor. Credit Hours: 3

AGRI423 - Environmental Interpretation (Same as FOR 423 and REC 423) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Prerequisite: ten hours

biological science or ten hours of recreation. Requires field trip transportation fee not to exceed \$40 per course registration. Credit Hours: 3

AGRI450 - Farming Systems Research and Development An introduction to farming systems, which is an interdisciplinary approach to agricultural research and development emphasizing small farms. The whole farm is viewed as a system of interdependent components controlled by the farm household. Focuses on analyzing interactions of these components as well as the physical, biological, and socioeconomic factors not controlled by the household. Techniques of analysis are applicable domestically and internationally. Credit Hours: 2

AGRI481 - International Agricultural Seminar Discussion of special topics relating to worldwide agricultural development. Special approval needed from the instructor. Credit Hours: 1

AGRI595 - Instruction in Agricultural Sciences Acquaints the student with different teaching environments and styles. Students will be expected to participate in instructing agricultural sciences courses. Special approval needed by the instructor. Credit Hours: 1-6

Army Military Science

AMS404 - U.S. Military History This course provides a historical perspective to decisions made by American military leaders; emphasizing solutions to challenges future Army officers might face: battlefield complexity, resource limitations, teamwork deficiencies, etc. The student will learn how former military leaders confronted and coped with similar issues, using their experiences and approaches to arm students with the ability to create their own solutions. Commissioning requirement for Army ROTC cadets. Course not restricted to ROTC cadets. Credit Hours: 3

Aviation Technologies

AVT470 - Reliability, Maintainability, and Fault Prediction and Analysis Students will develop an understanding of the concepts of reliability, maintainability and failure modes to a level which facilitates fault prediction and the analysis of logistical systems. The topics of logic symbols, fault tree analysis, statistical analysis, fault criticality and engineering for reliability and maintainability will be presented as these relate to the maintenance and logistical management of aerospace hardware. Credit Hours: 3

AVT478 - Aircraft Business and Industry Financial Practices This class introduces current and future aerospace manufacturing and maintenance professionals to aviation business and finance. This course covers business and economic theory as it applies to a wide range of aviation businesses. Topics of study include a survey of the aviation industry, the application of economic principles to industry forecasts, business finance, and aviation in a global marketplace. Credit Hours: 3

AVT488 - Advanced Aerospace Safety Procedures This course is an introduction to safety management systems that are becoming prevalent and required in the aviation industry. Topics will include the history of SMS, FAA guidelines pertaining to SMS, development and implementation of an SMS and the documentation and record keeping required. Credit Hours: 3

Biochemistry

BCHM451A - Biochemistry (Same as CHEM 451A and MBMB 451A) First half of the 451A,B two semester course. Introduction to structure and function of biomolecules including nucleic acids, proteins, sugars, polysaccharides, lipids and membranes, biochemical techniques, expression of genetic information, signal transduction and transport through membranes. Prerequisites: CHEM 340 and CHEM 342 or 442, or equivalents with grades of C- or better. Credit Hours: 3

BCHM451B - Biochemistry (Same as CHEM 451B and MBMB 451B) Second half of 451A,B two semester course. Basic kinetics, enzyme kinetics, enzyme inhibitors, regulation of enzymes, oxidation-reduction, high energy bonds, carbohydrate metabolism, aerobic/anaerobic metabolism, lipid metabolism, nitrogen metabolism, hormonal control of metabolism. Prerequisites: MBMB 451A or BCHM 451A or CHEM 451A or equivalent with a C- or better. Credit Hours: 3

BCHM452 - Advanced Biochemistry Advanced study of biological chemistry including the structure-function relationship in proteins, the mechanism of enzyme reactions and the biochemical basis of gene expression, signal transduction, nerve impulses, molecular motors and other physiological processes. For graduate students, this course may be taken to meet deficiencies in biochemical knowledge, but will not meet the formal coursework requirements for the master or doctoral level degrees. Prerequisite: C- or better in CHEM 340, CHEM 341, BCHM/CHEM 350. Credit Hours: 3

BCHM456 - Biophysical Chemistry (Same as CHEM 456 and MBMB 456) A one-semester course in Biophysical Chemistry intended for biochemists and molecular biologists. Emphasis will be on solution thermodynamics, kinetics and spectroscopy applied to biological systems. Prerequisites: CHEM 340 and 442, MATH 141 or 150, MBMB 451A or BCHM 451A or CHEM 451A, or equivalents. Credit Hours: 3

Education

EDUC468 - Science Methods for Middle and Senior High Schools A performance-based approach to instructional skills common to teaching natural science at the middle and senior high school levels. Three class hours and one micro teaching laboratory per week. (Previously CI 468). Credit Hours: 3

EDUC469 - Teaching Social Sciences in the Secondary School [6-12] Emphasis is placed on the analysis and evaluation of the social sciences with focus on instructional strategies and curricular designs in the teaching of history, geography, political science, economics, and sociology, as well as content reading for the social sciences. Prerequisite: EDUC 313 with a grade of C or better or consent of instructor. (Previously CI 469). Credit Hours: 3

EDUC500 - Clinical Experiences in Teaching Clinical field experiences or apprenticeship conducted in a public school setting for graduate students. Supervision provided by Cooperating Teacher and University Supervisor. Restricted to admission to graduate programs. Special approval needed from the advisor. Credit Hours: 1-6

EDUC501 - Graduate Student Teaching A requirement for the Master of Arts in Teaching and Alternative Route to Teacher Certification programs. The student teaching experience is necessary for certification by entitlement. Restricted to admission to the M.A.T. or alternative route to teacher certification programs. Lab fee: \$100. Credit Hours: 1-12

EDUC510 - Introduction to Doctoral Studies in Education This seminar is required of all new students enrolled in the Ph.D. program in Education, to be taken at or near the beginning of their studies. The seminar serves as an introduction to doctoral studies and doctoral-level scholarship in Education. It will emphasize each student's development as a critically reflective scholar and address the attitudes, assumptions and practices that underlie scholarly inquiry in the Education field. Credit Hours: 3

EDUC511 - Doctoral Seminar in Philosophical and Cultural Foundations of Education This seminar is one of two course options required for all students pursuing a doctoral program degree in the College of Education and Human Services. The primary objectives are to aid in the development of the Doctoral student's own nature and reflective theory of education; to help students pursue their scholarly activities in relation to the whole field of education; and to make the student aware of the resources of scholarship in other disciplines which might be said to be foundational to education. Restricted to admission to the Ph.D. program in education. Credit Hours: 3

EDUC512 - Doctoral Seminar in Behavioral and Cognitive Foundations of Education This seminar is one of two course options for all students pursuing a doctoral degree in Education. The seminar focuses on the critical examination of the psychological basis of pedagogical theory; a review of behavior, cognitive and motivational theories; and a preliminary assessment of empirical research related to psychology of instruction. Restricted to admission to the Ph.D. program in education. Credit Hours: 3

EDUC550 - Experimental Education Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Special approval needed from the instructor. Credit Hours: 1-10

EDUC550C - Rec Research Seminar Credit Hours: 3

Educational Research

ERES500 - Reading Educational Research The goal of this course is to develop student skills as consumers of research in education. This course covers standards and practices in multiple traditions of educational research in order to help students critically read, assess, and evaluate research. Credit Hours: 3

ERES501 - Introduction to Education Research Methods This course provides an overview of research methods as applied to education. Students will read, discuss, and analyze various research approaches. This course will also examine differences between various approaches to research and how educators in multiple settings and venues use them to address elements of education such as organizational functions, fiscal management, instruction (general and discipline specific), and learning outcomes. (Previously CI 538 and SPED 500). Credit Hours: 3

ERES510 - Research in Action This course provides an overview of how to apply research to practice within educational settings and related policy arenas. The research reviewed in this course will focus on an approach to inquiry that strives to improve performance, functions, and outcomes. Students will learn how to use research as a tool to examine elements of their own practice as educators with particular attention to improving student achievement, professional development and performance, administrative leadership, and the overall function of schools, colleges, and universities as organizations. (Previously EAHE 586). Credit Hours: 3

ERES520 - Introduction to Quantitative Research in Education This course offers an introduction to the reading of quantitative research literature and the development of quantitative research methods. This course emphasizes application to Education; however, students can use the content covered in this course to address areas of scholarly inquiry in various academic fields and disciplines. (Previously EDUC 505) Credit Hours: 3

ERES530 - Program Development & Evaluation The course emphasizes both the evaluation of individual learner performance and program evaluation in the interest of assessing curriculum and instruction effectiveness. This course emphasizes formal and informal means of formative and summative processes utilizing evaluation diagnostics and instrumentation. Content will include qualitative and quantitative data collection strategies, implementing effective evaluations, and complying with accreditation standards and guidelines. (Previously, CI 587, SPED 585, and WED 564). Credit Hours: 3

ERES531 - Implementation and Assessment of Program Evaluation This course will concentrate on the development, implementation, and analysis of assessment and evaluation strategies. Course participants will gain hands-on experience by examining the components, design, influence, and outcomes of an educational program, curriculum, or academic unit. Students will learn and practice using assessment and evaluative strategies to improve administrative practice, affect student outcomes, and conduct academic research. Students will have opportunities to consider and devise strategies for sharing evaluation results and using this information to improve instruction, operations, administration, and outcomes. Prerequisite: ERES 530 with a C or better. (Previously EAHE 567). Credit Hours: 3

ERES532 - Evaluating Learner Performance The course focuses on the evaluation of individual learner performance in schools, the workplace, and other training activities. Topics in this course will include establishing personalized benchmarks, monitoring individual progress, helping learners to identify their own skills and challenges, and application of these tools and approaches in various settings. Prerequisite: ERES 530 with a C or better or consent of instructor. Credit Hours: 3

ERES540 - Introduction to Qualitative Research This course introduces students to qualitative research in education. The course examines the foundations, design, methods and analysis of qualitative research. Course materials include both philosophical texts about the foundations and purposes of qualitative inquiry, and methodological readings about the hands-on application of research techniques. This course allows students to explore multiple approaches and tools used in qualitative methods, while considering how to apply them to research. Restricted to admission to doctoral program or consent of instructor. (Previously EAHE 587). Credit Hours: 3

ERES541 - Critical Qualitative Paradigms This course delves into critical perspectives that center voices of different perspectives, cultures, and identities. Critical perspectives examined and applied in this course include feminism, indigenous, critical race theory (CRT), postcolonialism, postmodernism,

and queer theory as well as geographic and culturally specific forms of these and other frameworks. This course will promote (re)consideration, deconstruction, reflexivity, and conscious recognition of the ways that social, economic, political, and ethical issues affect research, the populations and communities at the center of a study, and the people conducting this work. Prerequisite: ERES 540 with a C or better or consent of instructor. Credit Hours: 3

ERES542 - Data Collection in Qualitative Research This course focuses on various approaches to collecting data in qualitative research. Topics include interviews and focus groups; case study; ethnography; phenomenology; comparative; and narrative forms used in qualitative research. Students will use this course to practice and improve their data collection skills for application on theses, dissertations, and other projects. Prerequisite: ERES 540 with a C or better or consent of instructor. Credit Hours: 3

ERES544 - Application and Implementation of Qualitative Research This doctoral-level seminar in qualitative research concentrates on applying methods and approaches. As part of this course, students will design and implement an independent qualitative research project. This course will include attention to methods and methodology, conceptualization, trustworthiness, and analysis. Prerequisite: ERES 540 and ERES 542 (or concurrent enrollment in ERES 542) with grades of C or better. (Previously EAHE 594). Credit Hours: 3

ERES546 - Historical Research in Education Seminar designed to explore the literature, methods, and possibilities of historical research in education. (Previously EAHE 530). Credit Hours: 3

ERES550 - Mixed Methods in Educational Research An examination of how to combine qualitative and quantitative research methods and to defend such studies with reference to the tenets of the underlying constructivist and post-positivistic research paradigms. The objective of this course is for students to design and defend a mixed methods educational research study. Prerequisite: ERES 520 and ERES 540 with grades of C or better or consent of instructor. (Previously CI 592). Credit Hours: 3

ERES580 - Writing for Publication The purpose of this course is to help students learn about and navigate the publication process for educational research and scholarship. This course will discuss and apply current American Psychological Association (APA) guidelines required by the School of Education with specific attention to writing reports, annotated bibliographies, and reviews of literature. The course will also emphasize professional vocabulary, format, and writing style. Assignments for this course may include reviewing and critiquing scholarly research, crafting detailed literature reviews, authoring conference, fellowship, and/or book chapter proposals, etc. (Previously CI 493 and WED 561). Credit Hours: 3

ERES588 - Reviewing and Synthesizing Research This course seeks to help students prepare, improve, and apply their skills analyzing existing research literature. Students will practice reviewing and analyzing research on a topic of their choice and write a paper synthesizing this body of research. This course will help students enhance their synthesis skills as preparation for preliminary exams, dissertation/capstone, and establishing a research agenda. Prerequisite: ERES 520 or ERES 540 with a C or better. Special approval needed from the instructor. (Previously CI 582). Credit Hours: 3

ERES589 - Doctoral Research Seminar This course seeks to help students prepare to fulfill their dissertation/capstone requirements. This course emphasizes both independent study and practical application to help students transition from reading educational research to synthesizing existing literature and clearly presenting original scholarship. Students must have approval from their committee chair to enroll in this course. Students should also obtain an approved Program of Study before initiating this course. Graded S/U only. Special approval needed from the instructor. (Previously EAHE 589 and WED 594). Credit Hours: 3

ERES590 - Special Investigations Selection and investigation of a problem: use of relevant sources and techniques; collection and analysis, evaluation, interpretation of data, and the writing of a report of the investigation. Emphasizes independent study or small group investigations that students may use as part of their dissertation, capstone, or some other research project. Special approval needed from the instructor. (Previously WED 598). Credit Hours: 3

ERES591 - Individual Readings in Educational Research Advanced readings in topics related to educational research. Special approval needed from the instructor. Credit Hours: 1-6

ERES592 - Independent Study in Educational Research Advanced study and application of research methods on topics related to education and educational research. Graded S/U only. Special approval needed from the instructor. Credit Hours: 1-6

ERES593 - Research Internship/Practicum The internship provides an opportunity for practical experience related to educational research. Each student must obtain prior approval from his/her advisor before registering for or starting an internship/practicum. Additionally, each student must pass all of the assigned internship requirements in order to receive a pass for the course. Graded S/U only. Special approval needed from the instructor. Credit Hours: 1-6

Electrical Engineering Technology

EET403A - Electronic Circuit Analysis This course studies fundamental solid-state electronic concepts, the application and design of transistor amplifiers, and operational amplifier circuits. Course topics include the ideal operational amplifier, diodes, rectifiers, analysis and design of bipolar transistor (BJT) amplifiers, and the analysis and design of field effect transistor (FET) amplifiers. Prerequisites: EET 304B & EET 304BL. Co-requisite: EET 403AL. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

EET403AL - Electronic Circuit Analysis Lab This course demonstrates the operation of solid-state devices and provides design experience. The course covers diodes, bipolar junction transistors, and field effect transistors. The course also covers advanced Operational Amplifier applications. Students develop circuits that utilize these devices based on design specifications using industry standard components and part values. Students test these circuits to verify their operation. Design reports document student work and provide experience in technical communications and data presentation. Parts kit required. Prerequisites: EET 304B & EET 304BL. Co-requisite: EET 403A or consent of instructor. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 1

EET403B - Electronics Application and Design This course focuses on system-level design and application of electronics circuits. Circuits include linear integrated circuits, quasi-linear circuits, integrated digital circuits, and pulse waveform generating and timing circuits. Topics include power amplifiers, Schmitt triggers, comparators, timers, and active filters. A design laboratory allows students to implement several design projects with increasing complexity. Prerequisite: EET 403A. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 4

EET437A - Telecommunication Systems Fundamentals This course is a study of the fundamental concepts of analog and digital communication systems in addition to a survey of the state of the art of current and emerging communication technologies. Topics include modulation, signal encoding, transmission media, multiplexing, cellular, bluetooth, Wi-Fi, WiMAX and LTE-Advanced. Prerequisites: EET 304B & EET 304BL with a minimum grade of C. Co-requisite: EET 437AL. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

EET437AL - Telecommunication Systems Fundamentals Lab This course demonstrates the operation of a basic telecommunication system and hands-on experience with real-world applications. The course covers how to operate an oscilloscope, different signal modulations and demodulation like amplitude and frequency, and how to sample and reconstruct a communication signal. Students will design and develop communication circuits using a trainer kit. The course also covers MATLAB programming to simulate the building blocks of analog/digital communications systems. Prerequisites: EET 304B & EET 304BL with a minimum grade of C. Co-requisite: EET 437A. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 1

EET437B - Data and Computer Communication This course is a study of data and computer networks. Students are introduced to communication protocols, networking technologies and the various computer networks topologies. The OSI (Open Systems Interconnection) model is used as a guide in introducing

the purpose and underlying principles of the existing communication protocol standards. The course concludes with an overview of emerging communication standards and technologies. Topics include LAN, WAN, TCP/IP, Routing, and Data Link layer. Prerequisites: EET 437A & EET 437AL with a minimum grade of C. Co-requisite: EET 437BL. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

EET437BL - Data and Computer Communication Lab This course gives students experience with computer networking protocols and transmission mediums through software simulation. Students use software tools to build simulated communication networks and test them using various protocols and traffic patterns. Students document their work with short reports and simulation results. Prerequisites: EET 437A & EET 437AL with a minimum grade of C. Co-requisite: EET 437B. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 1

EET438A - Automatic Control Systems Technology The mathematical concepts and tools used to model and design automatic control systems. The mathematical models for electric, hydraulic, mechanical and thermal processes found in industry. The course uses Laplace transforms, transfer functions, block diagrams and signal flow graphs to represent systems, determine system response and design control systems. Prerequisites: EET 304B & EET 304BL with a C or better, or consent of instructor; EET 332A & EET 332AL. Co-requisite: EET 438AL. Credit Hours: 3

EET438AL - Automatic Control Systems Technology Lab This course gives student practical experience with the building blocks of control systems technology. Students construct analog hardware circuits that implement control and measurement functions used in automatic control systems. Software simulation tools allow students to construct mathematical models of physical systems and test their responses to input changes, disturbances and control system parameter variations. Prerequisites: EET 304B & EET 304BL with a C or better, or consent of instructor; EET 332 & EET 332AL. Co-requisite: EET 438A or consent of instructor. Credit Hours: 1

EET438B - Sequential Digital Control and Data Acquisition Concepts and components used in data acquisition and sequential control systems. The course covers sensors, signal conditioning, analog-to-digital/digital-to-analog conversion devices, relay logic design and programmable logic controllers. Prerequisites: CS 202 or ENGR 222 or ECE 222 with a C or better; EET 438A & EET 438AL with a C or better, or consent of instructor. Co-requisite: EET 438BL. Credit Hours: 3

EET438BL - Sequential Digital Control and Data Acquisition Lab This course demonstrates the fundamentals of computer-based data acquisition and control using a high-level programming language. Students conduct experiments that utilize both analog and digital signals and construct user interfaces that display the results on personal computers. Students also learn the fundamentals of industrial sequential control programming as implemented in ladder logic on programmable logic controllers. Prerequisites: CS 202 or ENGR 222 or ECE 222 with a C or better; EET 438A & EET 438AL with a C or better, or consent of instructor. Co-requisite: EET 438B. Credit Hours: 1

EET439 - Microcontroller Application and Design This course introduces embedded systems design and microcontroller programming. Students study microcontroller architectures and design applications. The course emphasizes interfacing microcontrollers with sensors and actuators. Software tools like Matlab and Simulink aid in visualization and Model-Based Design. Prerequisites: EET 238 & EET 238L with a C or better; CS 202 or ENGR 222 or ECE 222 with a C or better; or consent of instructor. Co-requisite: EET 439L. Credit Hours: 3

EET439L - Microcontroller Application and Design Lab This course provides hardware and software activities that use a microcontroller development board. Students write programs in a high-level programming language that demonstrate the capabilities of the device and its subsystems. The course covers basic digital and analog signal interfacing, communication standards, power management, and digital/analog output interfacing. Processor development board required. Prerequisites: EET 238 & EET 238L with a C or better; CS 202 or ENGR 222 or ECE 222 with a C or better; or consent of instructor. Co-requisite: EET 439. Credit Hours: 1

EET440 - Embedded Systems Design This course introduces the hardware and software necessary to successfully design and construct simple embedded systems using commonly available devices and

development tools. This course uses a microcontroller and its associated software development tools to design the hardware and firmware necessary to complete an embedded system. The course reviews the internal structure of the device and how it can be programmed using a high-level language. The course utilizes both the Atmel development tool suite and the Arduino framework to program microcontrollers. This course covers the interconnection of commonly encountered input/output devices connected to microcontrollers to achieve a functional system. Prerequisites: EET 439, EET 439L. Co-requisite: EET 440L. Credit Hours: 3

EET440L - Embedded Systems Design Lab The course provides practical experience in the integration of microcontrollers, sensors and actuators to create functional electromechanical systems. The course covers interfacing both analog and digital input devices, display systems, and actuators to a microcontroller. Students use development boards and software tools to program microcontroller systems that monitor and control the physical environment. Sensor, display, actuator kit required. Prerequisites: EET 439; CS 202 or ENGR 222 or ECE 222 or consent of instructor. Co-requisite: EET 440. Credit Hours: 1

EET445 - Computer-Integrated Manufacturing (Same as IMAE 445) Introduction to the use of computers in the manufacturing of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control and quality control. Prerequisite: IMAE 208. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

EET455 - Industrial Robotics (Same as IMAE 455) Study of robotics within a wide variety of application areas. Topics covered include classification of robots, sensor technology, machine vision; control systems, including programmable logic controllers (PLCs); robot safety and maintenance; and economic justification of robotic systems. Prerequisite: None. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

Fashion Studies

FASH431 - Ethnic Dress The study of ethnic dress in non-western cultures, with attention to aesthetics, symbolism and uses of ethnic dress. Cultures studied may vary with each offering. May be repeated for credit. Credit Hours: 3

FASH432 - Historic Clothing: Western Cultures Development of clothing in Western civilization to 1850. Consideration of social, economic, aesthetic factors and technical innovations influencing clothing. Credit Hours: 3

FASH433 - History of Western Costume 1860 to Present Evolution of Western costume from 1860 through the present time. Emphasis on the interrelationship between costume, social, political, economic, and technical changes. Credit Hours: 3

FASH441 - Fashion Product Analysis Examines how quality and value of apparel products are visually evaluated by industry and consumers. Prerequisite: FASH 101, 241. Credit Hours: 3

Fermentation Sciences

FERM462 - Yeast Science and Technology An in-depth look at yeast from the perspective of fermentation science, with an emphasis on brewing science and technology. The effects of genetics will be examined with respect to how various strains and genetic mutations affect the fermentation process and the quality of the final product. The course will emphasize yeast metabolism and the various parameters and conditions that affect fermentation processes. Three hours lecture per week. Prerequisite: MICR 301 with a grade of C or better or consent of instructor. Concurrent enrollment in FERM 463 allowed. Credit Hours: 3

FERM463 - Yeast Science & Technology Lab The laboratory complement to FERM 462, Yeast Science & Technology. The laboratory will cover the techniques class dealing with yeast collection; storage and culturing will be covered from both theoretical and practical perspectives. One hour laboratory, in-class

per week. Co-requisite or prerequisite: FERM 462 with a grade of C or better. Lab fee: \$60. Credit Hours: 1

FERM489 - Brewing and Distilling Technology The primary focus of this course is to introduce basic facilities planning for operations of the brewing and distilling industry, and to gain management and technology insight in brewing/distilling production. Prerequisite: FERM 480 with a grade of C or better. Restricted to Junior/Senior standing in Ag Systems Technology or Fermentation Science and instructor approval. Credit Hours: 3

Health Care Management

HCM460 - Lean Six Sigma in Healthcare An introductory course focusing on the Lean Six Sigma approach to improving quality in healthcare organizations. An exploration of error prevention, problem solving, problem detection, change management, and effective and efficient process improvement. Cases will be used to demonstrate how the approach can be applied specifically to the healthcare industry. Restricted to Health Sciences majors or minors. Credit Hours: 3

HCM463 - Environment of Care A study of the elements important for a safe care environment, including the physical space, equipment, and people. Students will discuss how to examine and assess the care environment for environmental risks. Emphasis will be placed on the disinfection and sterilization process, employee/occupational health, and education of staff to ensure a safe care environment. Credit Hours: 3

HCM464 - Surveillance & IP Informatics Explores the use of surveillance technology to identify healthcare-acquired infections (HAIs) and other infection prevention data. Discusses how to develop a surveillance system based on risk assessment and systematic collection of data. Use of EHRs, clinical decision support systems, data warehouses, and predictive analysis related to infection prevention programs will be examined. Credit Hours: 3

HCM465 - Infection Prevention & Control Operations Examines the key elements of infection prevention and control programs within healthcare organizations. Students will study the basic principles of microbiology and the most common healthcare-acquired infections. Explores how infection prevention and control programs can control the spread of infectious pathogens within healthcare organizations. Emphasis will be placed on developing programs to identify infection risks and implement infection interventions. Credit Hours: 3

HCM471 - Research of Social Responsibility in Healthcare Through use of research methodology and/or case study, students will examine critical issues related to the balancing of quality care with operational efficiency through the lens of ethics and social responsibility in the context of healthcare service delivery and the governance of healthcare organizations. Conflict resolution, critical thinking, and moral reasoning will be explored as applied to analyzing contemporary and global healthcare issues and applied to decision-making models in topic areas applicable to patient care environments. A writing intensive course that critically examines ways to ensure the most benefit and the least harm, achieve justice, eradicate disparity in healthcare, and assure transparency. Prerequisite: HCM 302, HCM 365, ENGL 101 (or higher) all with a grade of C or higher. Restricted to HCM major/minor. Credit Hours: 3

HCM499 - Individual Study Provides advanced health care management/informatics or administration students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Each student will work under the supervision of a sponsoring program faculty member approved by the HCM Program Director. Restricted to School of Health Sciences majors. Requires special permission from HCM Program Director. Credit Hours: 1-3

Horticulture

HORT410 - Urban Horticulture This class will provide students an understanding of growing edible and ornamental plants in urban landscapes. This course will focus on the value of horticulture in urban environments, and provide an overview of urban horticulture practices, with content focusing on the importance to ecosystem services and urban sustainability. The cultivation and management of both ornamental and edible plants will be discussed in the context of using best management practices to create resilient urban ecosystems. Students will also learn the social and economic value of sustainable horticulture systems and implications of creating better communities through urban horticulture. A 3- to 4-

day field trip will be required to observe and learn about various current horticulture practices in an urban setting. Prerequisite: HORT 220. Field trip and lab fee: \$195. Credit Hours: 3

HORT423 - Greenhouse Management Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; greenhouse heating and cooling systems. Prerequisite: HORT 220 or consent of instructor. Lab fee: \$40. Credit Hours: 3

HORT440 - Applied Greenhouse Management (Same as PSAS 440) Faculty led work experience at the SIUC Horticulture Greenhouses. The student can acquire practical professional training to complement their academic course work. Greenhouse management operations manual preparation will be a significant component of this course. Study will include: traditional greenhouse practices, green (living) walls & green roofs, nutrient film techniques, crop scheduling, biological pest control, pesticide application & safety. Prerequisite: HORT 423 or PSAS 423 with a grade of C or better or consent of instructor. HORT 423 or PSAS 423 may be taken concurrently. Lab fee: \$75. Credit Hours: 3

HORT450 - Controlled Environment Agriculture Students learn basics of intensive, high-value crop production such as cannabis in artificial/controlled growing environments (e.g., greenhouse, high tunnel, or other indoor environment). Course covers greenhouse structures, their basic operation & fundamental environmental management, plant growth & maintenance, diseases & pests, and crop scheduling & production of high value, intensively grown plants. Course fee of \$142 is required for supplies associated with hands-on laboratory exercises and travel expenses. Credit Hours: 3

Hospitality, Tourism, and Event Management

HTEM402 - Dimensions of Tourism In-depth examination of the components of the travel and tourism industry, motivators to travel and the various market segments will be explored. The economic, social, cultural and environmental impacts to tourism will be analyzed. Prerequisite: HTEM 202 or REC 302 or equivalent. Must be enrolled in one of the following Majors: Accounting (ACCT), Business and Administration (BNAD), Business Analytics (BSAN), Economics (ECON), Econometrics and Quantitative Economics (EQE), Finance (FIN), Hospitality, Tourism, & Event Management (HTEM), Management (MGMT), Marketing (MKTG), Public Administration (PADM), Business Undecided (UNBA), Recreation Professions (REC). Credit Hours: 3

HTEM415 - Gaming Management Introduction to the main components involved in the management of gaming enterprises, including an overview of legalized casino gaming in the United States, profit structure of casinos, organizational structures, Louisiana gaming law, casino drop and count procedures, cage operations, suspicious activity reporting, slot and table games management, and race and sports book operations. Special emphasis to be placed on casino marketing and promotion of responsible gaming. Prerequisite: HTEM 202 with a grade of C or better. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM435 - Hospitality Marketing Management This course concentrates on marketing for hotels, restaurants and tourism-related entities. Industry specific problems and characteristics will be examined. Students will develop a comprehensive marketing plan. The starting point for the development of hospitality marketing strategy assumes basic marketing knowledge has been derived from completing a previous marketing course. Prerequisite: HTEM 202, MKTG 304 or equivalent, and HTEM 351 with grades of C or better. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM440 - Hospitality Risk Management Introduction to risk management, security, liability and contract management applicable to the awareness and/or operations of hotels, restaurants and resorts. Prerequisite: HTEM 202 with a grade of C or better. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM445 - Sustainable Tourism Planning and Development This course focuses on sustainable tourism development as management of all resources in such a way that we can fulfill economic, social, and aesthetic needs while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems. Prerequisite: HTEM 202 with a grade of C or better or consent of instructor. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM450 - Event Marketing and Sponsorships Strategic marketing and procurement of sponsors as they relate to events will be examined. Techniques related to association, corporation, and other special events will be analyzed and applied. Credit Hours: 3

HTEM451 - Festival Management Explore strategic planning, logistics, and marketing of local and community festivals. Develop memorable experiences that resonate with audiences and leave a lasting impact. Gain hands-on experience by assisting in the planning activities for festivals held at SIU Touch of Nature. Prerequisite: HTEM 202 or REC 302 or equivalent. Must be enrolled in one of the following Majors: Accounting (ACCT), Business and Administration (BNAD), Business Analytics (BSAN), Economics (ECON), Econometrics & Quantitative Economics (EQE), Finance (FIN), Hospitality, Tourism, & Event Management (HTEM), Management (MGMT), Marketing (MKTG), Public Administration (PADM), Business Undecided (UNBA), Recreation Professions (REC). Credit Hours: 3

HTEM452 - Advanced Festival Management Live entertainment event design including technology, marketing operations, sponsor and vendor relations, and risk management. Overall visitor experience will be explored through an event evaluation. Gain hands-on experience by planning and managing festivals held at SIU Touch of Nature. Prerequisite: HTEM 202 or REC 302 or equivalent. Must be enrolled in one of the following Majors: Accounting (ACCT), Business and Administration (BNAD), Business Analytics (BSAN), Economics (ECON), Econometrics & Quantitative Economics (EQE), Finance (FIN), Hospitality, Tourism, & Event Management (HTEM), Management (MGMT), Marketing (MKTG), Public Administration (PADM), Business Undecided (UNBA), Recreation Professions (REC). Credit Hours: 3

HTEM455 - Event Risk Management and Safety Techniques used to reduce event risk and liability and increase safety for event attendees will be discussed. Crowd control, fire safety, attendee behavior, food and beverage safety, emergency medical services, among others, will be explored. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM461 - Service Organization and Management (Same as HND 461) Managerial aspects of the hospitality industry as related to provision of quality service. Organizational structures, management techniques, decision-making abilities, ethics, leadership, and human resource issues are examined. Prerequisite: HTEM 202, HTEM 380 with a grade of C or better. Restricted to junior standing or consent. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM465 - Convention Management and Services This course serves as a primer to the understanding of the role the meeting and convention planning business plays in hotel profitability. Students will explore successful procedures, practical insight, and foundational knowledge to succeed in convention management and services. Prerequisite: HTEM 202 with a grade of C or better. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM470 - Facilities Management The course provides a comprehensive survey to manage the physical plants of hotels and food service establishments by working with the engineering and maintenance divisions in an effective and efficient manner. Areas of emphasis will include maintenance, energy conservation, environmental impact, and facilities management, with specific issues such as maintenance needs as they affect operations, property expenditures and resources, and a balance between guest satisfaction and environmental sustainability being addressed. Prerequisite: HTEM 202 with a grade of C or better or consent of instructor. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM472 - Revenue Management in the Hospitality Industry Managing revenue is a vital aspect of the Hospitality industry. This important course in Revenue Management for the Hospitality Industry will help students understand how they can incorporate the principles of revenue management and best practices, as an integral and critical function in their hospitality establishment. The core of revenue management of a hospitality organization is to "charge the right price, to the right customer, for the right product, through the right channel, at the right time." This course will help students to develop, implement, evaluate and effectively manage revenues as a strategic management process. Prerequisites: ACCT 230, HTEM 273, and HTEM 372 with grades of C or better. Restrictions: College of Business and Analytics majors or minors, or see a College of Business and Analytics advisor. Credit Hours: 3

HTEM521A - Readings in Hospitality and Tourism-7-9 Year Literature Review Advanced seminar class and nine-year historical literature review of issues affecting the hospitality and tourism industry. Sections (A) through (C) may be taken only once each. Credit Hours: 3

HTEM521B - Readings in Hospitality and Tourism-4-6 Year Literature Review Advanced seminar class and nine-year historical literature review of issues affecting the hospitality and tourism industry. Sections (A) through (C) may be taken only once each. Credit Hours: 3

HTEM521C - Readings in Hospitality and Tourism-Current to 3 Year Literature Review Advanced seminar class and nine-year historical literature review of issues affecting the hospitality and tourism industry. Sections (A) through (C) may be taken only once each. Credit Hours: 3

HTEM531 - Hospitality Managerial Accounting Theory and practice of managerial accounting techniques in the hospitality industry. Credit Hours: 3

HTEM535 - Advanced Hospitality Marketing Management Analysis of marketing processes within hospitality, tourism and related organizations. Focus is on design and implementation of marketing research and analysis, as well as creation of the strategic marketing plan. Credit Hours: 3

HTEM545 - Economics of Sustainable Tourism Development Development of sustainable tourism destinations will be examined. Introduction to research methods involved in conducting economic impact studies, feasibility studies and conversion studies. Credit Hours: 3

HTEM551 - Strategic Destination Management Responsibilities of destination management organizations from an international perspective will be examined. Primary focus is destination product development and management. Destination competitiveness and marketing, specifically branding and positioning will also be discussed. Credit Hours: 3

HTEM560 - Advanced Food Service Management Course will provide opportunities in food service facility management to demonstrate leadership, financial management skills, food safety initiatives, contingency planning, and marketing techniques. Topics include sustainable food service practices, human resource management, culinary techniques, HACCP planning and theories. Graduate students will experience a supervisory role while managing undergraduate students at food service facilities. Credit Hours: 3

HTEM561 - Service Organization and Management Covers topics such as motivation, group dynamics, leadership, organization structure, decision making, conflict resolution, and Organizational Development. Focus is on strategic leadership to prepare individuals and organizations to excel within a changing environmental landscape toward delivery of a quality service relationship. Credit Hours: 3

HTEM565 - Advanced Convention Management and Service Strategic relationships between meeting planner, client, facility and suppliers will be examined. Focus will be on a practical approach to convention planning and management. Students will be required to participate in planning as well as attending regional meetings. Credit Hours: 3

Human Nutrition and Dietetics

HND410 - Nutrition and Wellness Education This course explores research, theories and practices that influence human health behavior. Educational principles associated with behavior change including health literacy, assessing populations at risk, and designing effective health communication strategies are examined. Theories to explain human behavior, such as the Health Belief Model, Social Cognitive Theory, Transtheoretical Model, and Social Ecological Model will be studied, particularly as they relate to health education programming and how individual behavior is influenced. Prerequisite: HND 321. Credit Hours: 3

HND420 - Recent Developments in Nutrition Critical study of current scientific literature in nutrition. Prerequisite: HND 320. Credit Hours: 3

HND425 - Biochemical Aspects in Nutrition (Same as ANS 425) The interrelationship of cell physiology, metabolism and nutrition as related to energy and nutrient utilization, including host needs

and biochemical disorders and diseases requiring specific nutritional considerations. Prerequisite: ANS 215 or HND 320, CHEM 140B, PHSL 201 and 208. Credit Hours: 3

HND445 - Nutrition for Sport and Exercise This course presents the metabolic and physiologic basis for macronutrient and micronutrient requirements during training, competition/performance, and recovery. The course begins with a brief overview of nutrition and exercise metabolism, followed by examination of nutritional requirements for sport and exercise, and concluding with a discussion of the practical aspects of nutrition related to athletes and exercise enthusiasts. Restricted to Junior, Senior, or Graduate Standing or permission of instructor. Credit Hours: 3

HND461 - Service Organization and Management (Same as HTEM 461) Managerial aspects of the hospitality industry as related to provision of quality service. Organizational structures, management techniques, decision-making abilities, ethics, leadership, and human resource issues are examined. Prerequisite: HTEM 202, HTEM 380 with a grade of C or better. Restricted to junior standing or consent. Credit Hours: 3

HND470 - Medical Nutrition Therapy I This is the first in a 2-course sequence of the study of pathophysiology and principles of medical nutrition therapy for various disease states. Application of Nutrition Care Process, nutrition screening and assessment, and medical record documentation. Prerequisite: HND 320, HND 321, AH 105, CHEM 140B, PHSL 201 and 208. Restricted to HND students. Credit Hours: 3

HND475 - Nutrition Through the Life Cycle This course will review nutrition during major phases of the life cycle. It will include units on: women's health during the preconception period pregnancy and lactation; infancy; childhood; adolescence; and older adults (65+). Students will complete life cycle projects and case studies for each phase of life throughout the course. Prerequisite: HND 320. Restricted to HND major. Credit Hours: 3

HND480 - Community Nutrition This course will provide a general foundation of Community Nutrition and how the Registered Dietitian/Community Nutritionist works in a community setting. This course will cover areas such as determining needs for nutrition education/intervention, public policy, supplemental nutrition programs, funding and grant writing. Prerequisite: HND 475. Restricted to HND major. Credit Hours: 3

HND485 - Advanced Nutrition This course applies advanced principles of biochemistry and physiology to expand on basic nutrition information and explains the role of nutrients from cellular and mechanistic aspects. Prerequisite: HND 320, 425. Credit Hours: 3

HND486 - Food and Culture in Global Nutrition This course addresses the nature and scope of major nutrition issues, emphasizing the global perspective of the health, food, and nutritional status of various cultures and nutritional aspects of specific infectious and chronic diseases. The course will also study the correlation between health disparities and the availability and accessibility of the food system. The Legislative and regulatory food system policies, using current and emerging issues in global and public health nutrition, will also be discussed. Credit Hours: 3

HND490 - Practicum in Sport Nutrition and Wellness This is an opportunity to gain field experience in wellness and sports nutrition and collaborate with peers to share experiences and work through a variety of problems. It is a "capstone" course: one that brings together the theory, knowledge, and skills that you've gained through completion of the Nutrition curriculum that you may apply in a live setting. The goal of this course is to expose students to a variety of situations they may encounter in a wellness and/or sports nutrition profession. Restricted to senior standing or instructor approval. Credit Hours: 3

HND495 - Nutrition and Obesity This course will examine the multifactorial etiology of obesity, its corresponding health consequences, and the role of diet in prevention and treatment of obesity and its related comorbidities. At the end of this course, students will be able to (i) understand basic physiological and metabolic concepts underlying the development of obesity; (ii) discuss the health consequences of obesity across the lifespan; and (iii) describe the nutrition-related approaches for prevention and treatment of obesity. Prerequisite: HND 425 or concurrent enrollment. Credit Hours: 3

Industrial Management and Applied Engineering

IMAE405 - Applied Robotics and Control Lab Laboratory experiments to familiarize the student with writing robotic programs for performing specific tasks, developing and debugging PLC code, integrating robotic programming and PLC programming in the control of a robotics cell, developing basic programming skills using computer simulation packages; milling and lathing applications of CNC machining. Prerequisite: IMAE 445 or ET 445 and IMAE 455 or concurrent enrollment in both. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 4

IMAE430 - Health and Injury Control in a Work Setting (Same as PH 430) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE440 - Manufacturing Policy Review of all areas covered by the industrial technology program. Includes problems which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE445 - Computer Integrated Manufacturing (Same as EET 445) Introduction to the use of computers in the manufacturing of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control and quality control. Prerequisite: IMAE 208. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE450 - Project Management (Same as TRM 470) This course is designed to provide students with an overview of the project management process based on the knowledge areas/processes developed by Project Management Institute (PMI). This course further provides an in-depth examination of the activities needed to successfully initiate, plan, schedule, and control the time and cost factors of the project from a technical management perspective. Course emphasis using the content of the PMBOK prepares a student for the Certified Associate Project Management (CAPM) examination/certification. A grade of C or better is required. Credit Hours: 3

IMAE455 - Industrial Robotics (Same as EET 455) Study of robotics within a wide variety of application areas. Topics covered include classification of robots, sensor technology, machine vision; control systems, including programmable logic controllers (PLCs); robot safety and maintenance; and economic justification of robotic systems. Prerequisite: None. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE465 - Lean Manufacturing This course will cover the principles and techniques of lean manufacturing. Major topics covered include lean principles, 5S, value stream mapping, total productive maintenance, manufacturing/office cells, setup reduction/quick changeover, pull system/Kanbans, continuous improvement/Kaizen, lean six sigma, lean simulation, and other modern lean manufacturing techniques and issues. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE470A - Six Sigma Green Belt I Study the knowledge areas of Six Sigma Green Belt. Topics include six sigma goals, lean principles, theory of constraints, design for six sigma, quality function deployment, failure mode and effects analysis, process management, team dynamics, project management basics, data and process analysis, probability and statistics, measurement system analysis, and process capability. Restricted to Junior/Senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE470B - Six Sigma Green Belt II The objective of this course is to provide the student with a complete coverage of the statistical and analytical tools used and applied in the "Six Sigma" methodology at the green-belt level. Topics include: discrete probability distributions, continuous probability distributions, statistical process control tools, quality control charts, process capability analysis, gauge and measurement capability studies, cumulative sum control charts and exponentially-weighted moving

average control charts. Prerequisite: IMAE 307 or MATH 140 or MATH 150, IMAE 470A or consent of instructor. Restricted to Junior/Senior standing. Restricted to students with junior, senior or graduate standing in the College of Engineering, Computing, Technology, and Mathematics except when approved by department. Credit Hours: 3

IMAE475 - Quality Control Study the principles and techniques of modern quality control practices. Topics include total quality management, fundamentals of statistics, control charts for variables and other quality related issues and techniques. Restricted to senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE485 - Quality Control II Study the principles and techniques of modern quality control practices. Topics include fundamentals of probability, control charts for attributes, acceptance sampling systems, reliability and other quality related issues and techniques. Restricted to senior standing. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

IMAE490 - Six Sigma Six Sigma is a data-driven management system with near-perfect-performance objectives that has been employed by leading corporations. Its name is derived from the statistical target of operating with no more than 3.4 defects per one million chances, but its principles can be applied in business of all types to routinely reduce costs and improve productivity. This overview describes what Six Sigma is, and what its techniques and tools are. Prerequisite: IMAE 475. Restricted to College of Engineering, Computing, Technology, and Mathematics students or departmental approval required. Credit Hours: 3

Information Technology

ITEC431 - Applied Data Analytics with Python This course introduces students to applied data analytics using the Python programming language. Important topics include exploration of Python language fundamentals (lists, functions, packages, arrays, etc.), applications of data analytics techniques to gain business intelligence, and data visualization and representation in Python. A grade of C or better is required. Prerequisites: ITEC 209, ITEC 265, ITEC 371 all with a grade of C or better; or consent of instructor. Credit Hours: 3

ITEC432 - Applied Data Analytics with R This course is designed to help develop an understanding of fundamental data mining and data analytics methods and tasks. Important topics include data importing and exporting, data exploration, and data visualization. The lecture is complemented with hands-on learning experience with the use of the R language. A grade of C or better is required. Prerequisites: ITEC 209, ITEC 265, ITEC 371 all with a grade of C or better; or consent of instructor. Credit Hours: 3

ITEC452 - Research The selection, investigation, research, and writing on a specific topic approved by a faculty member. Special approval needed from instructor. A grade of C or better is required. Restricted to ITEC major. Credit Hours: 1-3

ITEC471 - Applied Data Analytics with Advanced SQL This course is designed to help develop an understanding of essential concepts and techniques of applied data analytics using advanced SQL analytic functions such as ranking, windowing, linear regression, hypothetical rand and distribution, etc. Students will gain hands on learning experience through formulating data analytics problems and building analytics queries in SQL. A grade of C or better is required. Prerequisites: ITEC 209, ITEC 265, ITEC 370 and ITEC 371 each with a grade of C or better, or consent of instructor. Credit Hours: 3

ITEC491 - Seminar Students will examine a variety of information technology topics and/or problems. Special approval needed from the instructor. A grade of C or better is required. Credit Hours: 3

ITEC501 - Cybersecurity Fundamentals This course discusses key concepts of cybersecurity, providing a solid foundation to understand security challenges and practical solutions to cybersecurity threats. Topics to be covered include risks and threats, governance and policy, laws, ethics and compliance, strategy and planning, disaster recovery and business continuity. Credit Hours: 3

ITEC502 - Secure Cloud Computing This course discusses both data security and software security. Topics include basic cryptography concepts, secure communications, data integrity and authentication, information storage security, fundamental design principles including least privilege, open design, and

abstraction, security requirements and their role in design, implementation issues, static and dynamic testing, configuring and patching, and ethics, especially in development, testing and vulnerability disclosure. Credit Hours: 3

ITEC503 - Cyber Physical Systems Security This course addresses security concerns for cyber physical systems (CPS) and Internet of Things (IoT) devices including industrial control systems and those considered critical infrastructure systems. Topics include industrial networks and control theory, industrial network protocols, hacking and securing industrial control systems, privacy and legal issues in CPS and IoT. Students will complete multiple course projects both exploring security vulnerabilities and developing security solutions for CPS and IoT. Prerequisite: ITEC 501 with a grade of C or better. Credit Hours: 3

ITEC504 - IT Project Management This course combines theory and techniques of project management emphasizing information technology applications. The course adheres to the Project Management Body of Knowledge (PMBOK). Course concepts are strengthened by the use of project management software. Credit Hours: 3

ITEC505 - Cybersecurity Metrics and Quantitative Approaches Cybersecurity metrics are tools designed to facilitate decision-making and improve performance and accountability. This course defines cybersecurity metrics, describes characteristics of effective metrics, discusses different types of metrics and where they are best used, and provides tips for communicating metrics to executives. Students will learn a collection of measurements to assess security performance based on data collected from various sources. Topics will also include how to measure a cybersecurity program's implementation, effectiveness, and impact, how to enable the assessment of cybersecurity programs and justify improvements to those programs, and how to bring visibility and awareness to the underlying issues of cybersecurity and highlight effective efforts through benchmarking, evaluation, and assessment of quantified data. Prerequisite: ITEC 502 with a grade of C or better. Credit Hours: 3

ITEC506 - Cyber Forensics This course covers cyber forensics investigation and response. Areas of study include concepts and procedures for investigating cyber crimes and methods for collecting, analyzing, preserving and reporting forensic evidence. Multiple courses projects will help students to get familiar with key tools and techniques, perform damage assessments and determine what was compromised, collect and document evidence, and develop incident response tactics and procedures of threat hunting. Prerequisites: ITEC 501 and ITEC 502 each with a grade of C or better. Credit Hours: 3

ITEC507 - Social Computing and Cyber Intelligence This course discusses aspects of cybersecurity that broadly impact society as a whole for better or for worse. Cybersecurity law, ethics, policy, privacy and their relation to each other are the key components of this course. Topics will include online communities, crowdsourcing platforms, algorithms for information dissemination, information elicitation, collection methods and techniques, open-source tools and risk analysis, threat taxonomy, decomposition and fusion, case studies in analysis and types of reports. Prerequisite: ITEC 502 with a grade of C or better. Credit Hours: 3

ITEC509 - Advanced Topics in Cybersecurity This course provides a survey of various advanced topics in cybersecurity. It allows students to investigate state-of-the-art research and development in the field as well as to apply techniques found in current research. Relevant topics may include data mining and log analysis, machine learning and intrusion prevention, predictive analytics of cloud security, risk management for social computing, and malware analysis tools. Prerequisite: ITEC 504 with a grade of C or better. Credit Hours: 3

ITEC511 - Cybersecurity Research Project This is a guided research project course. Students must seek approval from the Program Director before registering. This course presents an intensive experience during which students build a system they intend to be secure, and then attempt to show that other students' projects are insecure, by finding security flaws and vulnerabilities in them. Special approval needed from the Program Director. Credit Hours: 3

ITEC512 - Information Systems Development This course is designed to provide students with essential knowledge and pragmatic skills of information system analysis, design, and implementation. Topics include systems development life cycle methodologies, system analysis and modeling methods, technical design specifications development, and information systems integration. Credit Hours: 3

ITEC515 - Enterprise Architecture This course is designed to provide students with essential knowledge and pragmatic skills of information system analysis, design, and implementation. Topics include systems development life cycle methodologies, system analysis and modeling methods, technical design specifications development, and information systems integration. Credit Hours: 3

ITEC520 - Business Continuity & Disaster Recovery This course will provide students with an understanding of how an organization should prepare for all types of disruptions. Students will learn how to establish a BC/DR program and how to evaluate existing and emerging standards to audit an existing or new BC/DR program. Credit Hours: 3

ITEC530 - IT Leadership & Management This course explores fundamentals of management for professionals in high-technology fields. It addresses the challenges of managing technical professionals and technology assets; human resource management; management of services, infrastructure, outsourcing, and vendor relationships; technology governance and strategy; and resource planning. Credit Hours: 3

ITEC531 - Financial Management for IT Professionals This course develops students' skills in financial management, budgeting, and procurement. The course teaches how to leverage financial knowledge to improve workplace decision-making and align spending and budgets with strategic initiatives. Credit Hours: 3

ITEC532 - Business Process Innovation This course introduces students to the key concepts and approaches of business process innovation (BPI) such as incremental improvement, process automation, and process redesign. BPI initiatives take place across three levels - the enterprise level, the process level, and the application infrastructure level. The focus of this course is on both understanding and designing business processes within these three levels of concern. This course has both a theoretical and a practical component. Students will learn theoretical process models such as the Business Process Modeling Notation (BPMN) and use them to design process innovations to achieve efficiency, effectiveness, compliance, and agility objectives. Credit Hours: 3

ITEC533 - IT Service Delivery This course will examine the application of industry standard frameworks to the management of information technology infrastructure, development and operations. Frameworks including the Information Technology Infrastructure Library (ITIL), Control Objectives for Information and related Technology (COBIT), and others will be covered. Students will learn to use these frameworks to tailor a set of concepts and policies necessary to manage IT in a specific enterprise. Credit Hours: 3

ITEC534 - IT Strategy Developing and executing an effective Information Technology (IT) strategy that enables business strategy is critical for creating business value and gaining competitive advantage. This course presents a framework and methodology for assessing, developing and implementing an effective IT strategy that is aligned with business needs. Credit Hours: 3

Microbiology

MICR403 - Medical Microbiology Lecture (Same as MBMB 403) A survey of the more common bacterial, mycotic and viral infections of humans with particular emphasis on the distinctive properties, pathogenic mechanisms, epidemiology, immunology, diagnosis and control of disease-causing microorganisms. Three hours lecture. Spring semester. Prerequisite: MICR 301, or consent of instructor. Credit Hours: 3

MICR405 - Clinical Microbiology (Same as MBMB 405) This course will be offered in Springfield only. A comprehensive course for health science professionals covering the biology, virulence mechanisms, and identification of infectious agents important in human disease and host-defense mechanisms. Clinical applications emphasized. Three hours lecture. Prerequisite: MICR 301, or consent of instructor. Credit Hours: 3

MICR406 - Introduction to Mycology (Same as MBMB 406) This course will provide an overview of fungal diversity and taxonomy, fungal cell and molecular biology. Additionally, it will cover the ecological, economic, and historical impact of fungi on the environment, science, and society. Prerequisite: MICR 301 with a grade of C or better or consent of instructor. Credit Hours: 3

MICR421 - Biotechnology (Same as MBMB 421) Topics covered will include the genetic basis of the revolution in biotechnology, medical applications including genetic screening and therapeutic agents, industrial biotechnology and fermentation, and agricultural applications. Three hours lecture. Fall semester. Prerequisite: MICR 302, or consent of instructor. Credit Hours: 3

MICR423 - Geomicrobiology (Same as MBMB 423 and GEOL 423) The course will focus on the role that microorganisms play in fundamental geological processes. Topics will include an outline of the present understanding of microbial involvement of weathering of rocks, formation and transformation of soils and sediments, and genesis and degradation of minerals. Elemental cycles will also be covered with emphasis on the interrelationships between the various geochemical cycles and the microbial trophic groups involved. Prerequisite: MICR 301 and CHEM 210 and 211. Recommended: GEOL 220, 221 or 222. Credit Hours: 3

MICR441 - Viruses and Disease (Same as MBMB 441) An intensive, lecture-based course in virology which will emphasize principles of molecular virology, the ubiquity of viruses in nature, evolutionary relationships between viruses, co-evolution between virus and host, and the pathogenic consequences of some viral infections (e.g., AIDS, hepatitis, cancer, etc.). Prerequisites: MICR 460 or MBMB 460 or consent of instructor. Credit Hours: 3

MICR453 - Immunology Lecture (Same as MBMB 453) Principles of molecular and cellular immunology. Particular emphasis is given to molecular mechanisms involved in activation and maintenance of the immune response at the basic science level. The role of the immune system in medical diagnostic procedures and in human health is also discussed. Spring semester. Prerequisite: MICR 403, or consent of instructor. Credit Hours: 3

MICR454 - Soil Microbiology (Same as CSEM 454, PSAS 454) A study of microbial numbers, characteristics, and biochemical activities of soil microorganisms with emphasis on transformation of organic matter, minerals, and nitrogen in soil. Prerequisite: MICR 301 or CSEM 240. Lab fee: \$15. Credit Hours: 4

MICR455 - Medical Immunology (Same as MBMB 455) This course will be offered in Springfield only. A survey of the components of the immune system and how they interact with each other to produce responses that are important in the control or mediation of human disease. Two hours lecture. Prerequisite: MICR 301 or consent of instructor. Credit Hours: 2

MICR460 - Bacterial and Viral Genetics (Same as MBMB 460) The genetic mechanisms and regulatory events that control gene transfer, lambda phage infection, recombination, and metabolic pathways including a brief introduction to bioinformatics, genome analysis and global regulatory functions. Three hours lecture. Fall semester. Prerequisite: MICR 301 and 302, or consent of instructor. Credit Hours: 3

MICR470 - Prokaryotic Diversity Lecture (Same as MBMB 470) A consideration of the major groups of prokaryotes with special emphasis on their comparative physiology and ecology. Three hours lecture. Spring semester. Prerequisite: MICR 301 or consent of instructor. Credit Hours: 3

MICR477 - Microbial Ecology (Same as MBMB 477) Concepts of ecology applied to microorganisms; methods in microbial ecology; interactions of microbes with their living and non-living environment; microbial habitats and functions. Roles and regulation of microbes in natural and man-made environments, from cellular to community level. Prerequisite: MICR 301 or instructor's consent (based on proven background in both microbiology and ecology). Credit Hours: 3

MICR480 - Molecular Biology of Microorganisms Laboratory (Same as MBMB 480) Genetic and biochemical analyses of microorganisms using a variety of techniques in molecular biology, molecular genetics and biotechnology. Six hours laboratory per week plus two hours of supervised unstructured laboratory work in most weeks. Fall semester. Prerequisite: MICR 301 and 302 with a C grade or better and two (or concurrent enrollment in two) of the following: MICR 421, 423, 425 or 460. Lab fee: \$60. Credit Hours: 4

MICR481 - Diagnostic and Applied Microbiology Laboratory (Same as MBMB 481) Enrichment and isolation of prokaryotes from natural samples, diagnostic methods for the identification of pathogenic bacteria, and the nature of the immune response. Six hours laboratory per week plus two hours supervised unstructured laboratory work in most weeks. Spring semester. Prerequisite: MICR 301 and

302 with a C grade or better and two (or concurrent enrollment in two) of the following: MICR 403, 453 or 470. Lab fee: \$60. Credit Hours: 4

Quantitative Methods

QUAN402 - Basic Statistics A master's level terminal statistics course. Emphasis on descriptive statistics, graphical representation of data, correlation, and simple regression. Includes an introduction to hypothesis testing procedures and analysis of variance. Credit Hours: 3

QUAN506 - Inferential Statistics Covers basic descriptive techniques such as central tendency, measures of variability and graphical presentation of data. In addition, hypothesis testing, analysis of variance, nonparametrics and simple linear prediction will be covered. Credit Hours: 4

QUAN507 - Multiple Regression The general linear model is presented which allows for hypothesis testing including correlational analysis, analysis of variance and analysis of covariance. Non-linear relationships are presented. Emphasis is placed on testing the stated research hypotheses. Prerequisite: QUAN 506 or PSYC 522. Credit Hours: 4

QUAN508 - Experimental Design (Same as PSYC 522) Strategies of designing research studies and the analysis of data from studies using linear models are examined. Emphasis will be placed on internal and external validity and factors that affect power in variance designs including completely randomized designs, Latin square, repeated measures and analysis of covariance with each of the above designs. Prerequisite: QUAN 506 or equivalent. Credit Hours: 4

QUAN531 - Principles of Measurement (Same as PSYC 525) Intended to provide theoretical principles of measurement which are applicable to both teaching and research. Part of the course will be devoted to current issues in measurement and to practical applications to these theoretical principles. Prerequisite: QUAN 506 or PSYC 522. Credit Hours: 3

QUAN533 - Survey Research Methods Overview of survey methods covering topics such as the purpose of survey research methods, the process of survey research, ethical considerations in survey research, questionnaire design and administration, sampling designs, data processing, and reporting of survey research. Prerequisite: QUAN 506 or PSYC 522 & QUAN 531 or PSYC 525, or equivalent. Credit Hours: 3

QUAN580A - Doctoral Seminar in Quantitative Methods-Structural Equation Modeling A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 507. Credit Hours: 3-4

QUAN580B - Doctoral Seminar in Quantitative Methods-Factor Analysis A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 507. Credit Hours: 3-4

QUAN580C - Doctoral Seminar in Quantitative Methods-Multivariate Methods A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 507. Credit Hours: 3

QUAN580D - Doctoral Seminar in Quantitative Methods-Bayesian Inference A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 507. Credit Hours: 3-4

QUAN580E - Doctoral Seminar in Quantitative Methods-Program Evaluation A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 531 or PSYC 525. Credit Hours: 3

QUAN580F - Doctoral Seminar in Quantitative Methods-Advanced Experimental Design A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 508 or PSYC 522. Credit Hours: 3-4

QUAN580G - Doctoral Seminar in Quantitative Methods-Item Response Theory A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 531 or PSYC 525. Credit Hours: 3

QUAN580H - Doctoral Seminar in Quantitative Methods-Monte Carlo and Simulation Techniques A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 507. Credit Hours: 3-4

QUAN580I - Doctoral Seminar in Quantitative Methods-Selected Topics A series of advanced seminars on statistics and measurement. Sections A through H may be taken only once each. Section I may be repeated as topics vary. Prerequisite: QUAN 507. Credit Hours: 2-6

QUAN592 - Independent Study and Investigation For advanced graduate students. Topics of interest to the individual student are studied under supervision of a department staff member. Special approval needed from the department. Credit Hours: 1-6

QUAN593 - Individual Research For advanced graduate students in Quantitative Methods. Formulating, investigating and reporting of research problems in the area of Quantitative Methods. Special approval needed from the department. Credit Hours: 1-4

QUAN600 - Dissertation Credit Hours: 1-16

QUAN601 - Continuing Enrollment For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only. Credit Hours: 1

Science

SCI500 - Science Information Sources Methods and procedures to efficiently exploit the scientific literature are discussed. The two-hour class discussion will be supplemented by practical exercises in library usage. Special approval needed from the instructor. Credit Hours: 2

SCI501A - Research Transmission Electron Microscopy Theory of design of electron microscope, lenses, vacuum systems, alignment, specimen preparation and darkroom. Credit Hours: 2

SCI501B - Research Transmission Electron Microscopy Practical experience in use of transmission electron microscope and specimen preparation. Credit Hours: 2

SCI502A - Research Scanning Electron Microscopy Theory of design for scanning electron microscope, lenses, vacuum systems, alignment, specimen preparation for biologists and materials scientists, darkroom. Laboratory fee: \$100. Credit Hours: 2

SCI502B - Research Scanning Electron Microscopy Laboratory practical experience in use of scanning electron microscope and specimen preparation. Laboratory fee: \$100. Credit Hours: 2

SCI503A - Science for Elementary School Teachers In-depth studies of selected basic concepts in general science for teachers of upper-level elementary grades. Topics include cells and simple organisms, characteristics of vertebrates, plate tectonics, solar system, nature of matter and magnetism. Prerequisite: currently teaching in an elementary school. Credit Hours: 1-3

SCI503B - Science for Elementary School Teachers In-depth studies of selected basic concepts in general science for teachers of upper-level elementary grades. Topics include human biology, characteristics of high plants, Earth's building blocks, the atmosphere, forces and simple machines. Prerequisite: currently teaching in an elementary school. Credit Hours: 1-3

SCI504A - Selected Topics in Science for Teachers-Basic Stream Ecology (1 to 3 credits per topic). The course consists of selected basic concepts in general science for practicing teachers. Within a given semester a broad area is selected within either the biological sciences or the physical/earth sciences. Other topics may be added as deemed necessary. This course may not be used for graduate credit

by College of Agricultural, Life, and Physical Sciences majors. Prerequisite: currently teaching in an elementary school. Credit Hours: 1-3

SCI504B - Selected Topics in Science for Teachers-Biological Assessment of Polluted Streams (1 to 3 credits per topic). The course consists of selected basic concepts in general science for practicing teachers. Within a given semester a broad area is selected within either the biological sciences or the physical/earth sciences. Other topics may be added as deemed necessary. This course may not be used for graduate credit by College of Agricultural, Life, and Physical Science majors. Prerequisite: currently teaching in an elementary school. Credit Hours: 1-3

SCI504C - Selected Topics in Science for Teachers-Wetland Ecosystems (1 to 3 credits per topic). The course consists of selected basic concepts in general science for practicing teachers. Within a given semester a broad area is selected within either the biological sciences or the physical/earth sciences. Other topics may be added as deemed necessary. This course may not be used for graduate credit by College of Agricultural, Life, and Physical Sciences majors. Prerequisite: currently teaching in an elementary school. Credit Hours: 1-3

Spanish

SPAN401 - Studies on a Selected Topic A topic related to Hispanic cinema, literature, linguistics, or translation. Topic announced in advance. Credit Hours: 3-12

SPAN414 - Translation Techniques A practical introduction to the field of professional translation, from and into Spanish. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN420 - Studies in Literature of the Middle Ages Studies of the origins of Spanish literature emphasizing works such as the Cantar de M?Cid, Libro de buen amor, and La Celestina. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN430 - Golden Age: Drama Plays of Lope de Vega, Calderon, Tirso de Molina, and others. Prerequisite: A grade of C- or better in SPAN 320B, or equivalent. Credit Hours: 3

SPAN431 - Cervantes Study of Miguel de Cervantes' masterpiece Don Quixote and other Cervantine works. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN432 - The Golden Age: Prose and Poetry The most representative prose and poetry written during the 16th and 17th centuries in Spain. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN434 - Colonial Literature Study of the literature of Latin America before 1825. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN435 - Business Spanish Discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and documents dealing with trade, transportation, payment, banking and advertising. Does not count toward the M.A. in Languages, Literatures, and Cultures. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN450 - Neoclassicism and Romanticism Eighteenth and nineteenth century Spanish literature. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN451 - Studies in Latin American Literature of the 19th Century Modernism, Romanticism, Realism and Naturalism in Spanish America. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN455 - Spanish Realism and Naturalism Late nineteenth century Spanish literature. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN460 - Modern Spanish Literature and Culture (1898-Civil War) The Generations of '98 and '27. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN461 - Studies in Latin American Literature of the 20th Century The main currents and outstanding works in the literature of Spanish America since 1900. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN465 - Post-War and Contemporary Spanish Literature and Culture The study of important literary, philosophical, and artistic works of the post-war period and beyond, and of the socio historical context in which they were produced. Prerequisite: a grade of C- or better in SPAN 320B or equivalent or graduate standing. Credit Hours: 3

SPAN475 - Travel-Study in Latin America or Spain Travel-study course or project planned under supervision of Spanish faculty and carried out in a Spanish-speaking country. Credit Hours: 3-6

SPAN488 - Spanish as a Research Tool Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: one year of Spanish or equivalent. Credit Hours: 3

SPAN490 - Advanced Independent Study Individual exploration of some topic in Hispanic literature, language, or culture. Special approval needed from the instructor. Credit Hours: 1-3

SPAN501 - Studies of a Selected Topic A topic related to Hispanic cinema, literature, linguistics, or translation. Topic announced in advance. Credit Hours: 3

SPAN511 - Linguistic Structure of Spanish A comprehensive introduction to the study of various aspects of Spanish such as phonology, morphology, and syntax with a special emphasis on sociolinguistic variation. Theoretical implications of formal and functional linguistics will be discussed in relation to theories of sociolinguistic variation including colonial, post-colonial, and other contact-varieties of Spanish. Credit Hours: 3

SPAN512 - History of the Spanish Language This course examines the biological journey of Spanish and Spanish-based languages including topics on how Spanish emerged, and how different varieties of Spanish change, diffuse, and die. It explores models of biodiversity and phylogenetics applied to Spanish linguistics, historical linguistics models and current trends in contact linguistics to explore social dynamics of Spanish language change. Credit Hours: 3

SPAN520 - Literature of the Middle Ages Studies in epic and didactic literature, and lyric poetry, from the origins of Spanish literature to the fifteenth century. Representative works such as the Cantar de M? Cid, Libro de buen amor, Romancero viejo and La Celestina will be studied. Credit Hours: 3

SPAN530 - The Golden Age: Drama Study and discussion of plays by Lope de Vega, Tirso de Molina, Calder?and other Golden Age playwrights. Credit Hours: 3

SPAN531 - Cervantes Study of Miquel de Cervantes' masterpiece "Don Quixote" and of other Cervantine works. Credit Hours: 3

SPAN532 - The Golden Age: Prose and Poetry Appreciation and analysis of the poetry of Garcilaso de la Vega, Fray Luis de Le?G?ra, Quevedo, and of narrative forms such as picaresque fiction, pastoral fiction, and Moorish fiction. Credit Hours: 3

SPAN534 - Colonial Literature Study of the literature of Latin America before 1825. Credit Hours: 3

SPAN550 - Neoclassicism and Romanticism in Spain Eighteenth and nineteenth century Spanish literature. Credit Hours: 3

SPAN551 - Spanish-American Literature of the 19th Century Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester. Credit Hours: 3

SPAN555 - Spanish Realism and Naturalism Late nineteenth century Spanish literature. Credit Hours: 3

SPAN560 - Modern Spanish Literature and Culture (1898 to the Spanish Civil War) The Generations of '98 and '27. Credit Hours: 3

SPAN561 - Spanish-American Literature of the 20th Century Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester. Credit Hours: 3

SPAN565 - Post-War and Contemporary Spanish Literature and Culture The study of important literary, philosophical, and artistic works of the post-war period and beyond, and of the socio historical context in which they were produced. Credit Hours: 3

SPAN570 - Culture and Civilization The cultural patterns and heritage of the Hispanic peoples from earliest times to the present. Credit Hours: 3

SPAN601 - Continuing Enrollment For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only. Credit Hours: 1

Special Education

SPED405 - Introduction to Early Childhood Special Education Methods: Infants, Toddlers, and Preschoolers with This course focuses on effective methods, materials and programs for infants, toddlers, and preschoolers with special needs, including IEPs, IFSPs, working with families, service delivery, case-management, transition planning, and curriculum methods and procedures. Prerequisite: SPED 412 or consent of instructor. Credit Hours: 3

SPED408 - Characteristics and Methods for Teaching Exceptional Children (Same as EDUC 308) For pre-service teachers who serve children and youth with disabilities. The course focuses on essential disability characteristics, data-based decision-making, scientifically-based academic and behavioral interventions and strategies to differentiate instruction and accommodate learners with disabilities in general education classrooms. Credit Hours: 3

SPED409 - Cross-Cultural Studies Seminar and/or directed independent study concerned with socio-cultural variables affecting the educational needs of children and youth with a disability. Prerequisite: SPED 300 or consent of instructor and department chair. Credit Hours: 1-6

SPED410 - Instructional Planning for Students with Disabilities This course presents the learning characteristics of children and youth with learning disabilities, emotional/behavior disorders, intellectual disabilities and autism spectrum disorders. Instructional planning, classroom management and integration of related services will be examined. Prerequisite: SPED 300 or 420 or concurrent enrollment. Credit Hours: 3

SPED411 - Assessment in Special Education Course covers general assessment information, norm reference testing, curriculum based assessment, adaptive behavior scales and issues relating to cultural diversity. Prerequisite: SPED 300 or 420, 410, or concurrent enrollment. Laboratory fee: \$15. Credit Hours: 3

SPED412 - Introduction to Assessment and Curriculum Methods in Early Childhood Special Education This course presents an introduction to child and family assessment and the development of child and family goals in Early Childhood Special Education. Topics will include types of assessment commonly used, rationale for assessment, methods of assessment, reporting assessment results, writing

child and family goals. A fee for testing materials is required. Prerequisite: SPED 300/420 or concurrent enrollment or consent of instructor. Fee: \$15. Credit Hours: 3

SPED417 - Behavior Management for Children and Youth with Disabilities This course focuses on the implementation of behavior management strategies and tactics to be used with students with disabilities in a variety of educational environments. Prerequisite: SPED 300 or 420, 410, 411, 423, and must be admitted to the TEP as a special education major, or consent of instructor. Credit Hours: 3

SPED418 - Methods and Materials for Teaching a Functional Curriculum This course covers the principles of curriculum construction, program development and evaluation, classroom organization, instructional approaches, strategies and materials for teaching a functional curriculum. Prerequisite: SPED 300 or 420, 410, and 423, and must be admitted to the TEP as a special education major, or consent of instructor. Credit Hours: 3

SPED419 - Academic Methods and Materials for Student with Disabilities This course covers the academic methods, materials and strategies used with students with disabilities receiving special education services in school and community settings. Prerequisite: SPED 300 or 420, 410, 411, 423 and must be admitted to the Teacher Education Program as a special education major. Credit Hours: 3

SPED420 - Advanced Theories and Practices in Special Education The course is an advanced survey of exceptional populations and addresses educational, social, legal, cultural, and community practices associated with individuals with disabilities, ages 0 - 21 years old. Restricted to graduate students (SPED 300 for undergraduate students). Credit Hours: 3

SPED423 - General Procedures in Special Education Presents key provisions of Public Law 94-142 and subsequent amendments, including Individualized Education Programs (IEPs). Course content also includes principles of applied behavior analysis and effective instruction of students with disabilities. Prerequisite: SPED 300 or 420, 410, 411 or concurrent enrollment. Credit Hours: 3

SPED425 - Home-School Coordination in Special Education The course covers techniques used in parent interviews, conferences and referrals by school personnel; due process and procedural safeguards for parents and youth with disabilities. Prerequisite: SPED 300 or 420, 410, 411, 423 with grades of C or better or concurrent enrollment. Credit Hours: 3

SPED430 - Secondary Programming for Students with Disabilities Deals with modifications of and additions to school programs to ensure that they are appropriate to the needs of adolescents with disabilities. Content includes coverage of remedial and compensatory program models, transition programming, career and vocational education. Prerequisite: SPED 300 or 420, 410, 411, 423 with grades of C or better or concurrent enrollment. Credit Hours: 3

SPED431 - Work-Study Programs for Adolescents Labeled Severely Disabled This course is designed to prepare educators and other human service professionals to assist adolescents and young adults with severe disabilities for community integrated employment options. Content will include community-referenced curriculum objectives, community-based instruction for employment and functional skill development. Credit Hours: 3

SPED494A - Practicum in Special Education-Assessment This course includes clinical experiences in public school and community settings in the selection, administration and interpretation of norm-referenced and curriculum-based assessments, adaptive behavior scales, behavior rating scales and checklists and issues relating to cultural diversity. Prerequisite: SPED 300 or 420 and 410 with grades of C or better. Credit Hours: 1

SPED494B - Practicum in Special Education-Functional Curriculum This course includes clinical experiences in public school and community settings in planning, implementing and instructing a functional curriculum. Prerequisite: SPED 300 or 420, 410, 411, 423 and must be admitted to Teacher Education Program. Credit Hours: 1

SPED495 - Internship in Special Education An applied experience for students seeking certification in special education through alternative or subsequent certificate routes. Students will be required to complete a set of activities and prepare a number of products appropriate for the special education program and/or students with disabilities being served in the internship placement. Students will be

expected to complete a portfolio of products to demonstrate professional competence. Special approval needed from the Program Coordinator. Credit Hours: 1-6

SPED501 - Methods and Materials for Persons with Severe Behavior Challenges Deals with methods, materials and instructional management practices common to the instruction and management of student experiencing severe behavioral challenges in the schools and in residential settings. Credit Hours: 3

SPED505 - Organizing and Implementing Early Childhood Special Education Programs This course presents theoretical frameworks and current best practices involved in the development, implementation and evaluation of Early Childhood Special Education programs. Content will include discussion of models of teaming, ethical issues, interagency coordination, transition, mentoring and supervision. Prerequisite: SPED 300 or SPED 420, SPED 412 and SPED 405. Credit Hours: 3

SPED511A - Advanced Instructional Design and Methodology for Students with Disabilities Advanced study of evidence-based practices related to the development and delivery of effective educational programs for students with mild disabilities. Emphases will include instructional design, instructional strategies and techniques, include the use of technology to meet educational needs of students with mild disabilities. Credit Hours: 3

SPED511B - Curriculum for Instructional Remediation of Learners with Disabilities Advanced study of curriculum and curricular approaches to meeting the educational needs of students with mild disabilities in special education and general education classrooms. Emphasis include academic and functional curriculum for basic skills and content areas, direct instruction and curriculum modifications and adaptations. Credit Hours: 3

SPED512 - Advanced Child and Family Assessment, Curriculum Methods and Evaluation in Early Childhood Special E This course presents advanced coursework and practical experiences in child and family assessment, selection of curricula, and evaluation in Early Childhood Special Education. Students will review current assessment and curriculum packages, conduct evaluations and write assessment reports. Practical experience will be an integral part of this course. Prerequisites: SPED 300 or 420, 405 and 412. Credit Hours: 3

SPED513 - Organization, Administration, and Supervision in Special Education Emphasis upon the functions, underlying principles and cautions to be observed in the organization and administration of special education. The selecting and training of teachers, problems of supervision, special equipment, transportation, cooperating agencies and legal aspects of the problem. Prerequisite: SPED 300 or SPED 420. Special approval needed from program coordinator. Credit Hours: 3

SPED514 - Simulation of Administrative Tasks in Special Education Development of skills required of special education administrators and supervisors through the use of simulation materials focusing on developing administrative skills. Prerequisite: SPED 300 or 420. Special approval needed from program coordinator. Credit Hours: 3

SPED515 - Collaboration-Based Delivery Systems in Special Education Designed to provide students with a thorough knowledge and skill base in the collaboration process including problem-solving processes, communication skills and conflict resolution skills. Collaboration-based approaches will be examined as alternative systems and methods of meeting the educational needs of students with disabilities within a continuum of special education services. Credit Hours: 3

SPED516 - Advanced Assessment for Diverse Learners Develop practitioner's knowledge and skills to develop and implement standardized and informal assessment systems to guide program planning and instructional decision-making for students with disabilities in regular and special education programs. Furthermore, practitioners will identify, utilize, and implement modifications and accommodations to facilitate students' performance on informal and standardized assessment tools. Prerequisite: SPED 411 or consent of instructor. Credit Hours: 3

SPED517 - Systems of Care for Exceptional Children and Youth Survey and examination of social agencies and models of service delivery contributing to the welfare and care of exceptional children and

youth. Emphasis will be given to models, services, and organization of system of care serving youth with disabilities. Credit Hours: 3

SPED550 - Behavior Management of Exceptional Children and Youth This course deals with assessment, implementation, and monitoring procedures involved with the use of behavior change techniques in special education programming. Emphasis will be placed on the actual implementation of behavior change techniques with school aged students with disabilities. Special approval needed from the instructor. Credit Hours: 3

SPED578 - Legal Framework for Special Education Services Covers state and federal statutes and regulations including IDEA, Section 504: The Rehabilitation Act of 1973, and No Child Left Behind Act, as well as current legislation and litigation with respect to provision of educational services for children and youth/young adults with disabilities. Prerequisite: SPED 300 or SPED 420, or consent of instructor. Credit Hours: 3

SPED580 - Master's Seminar: Issues and Trends in Special Education Analysis of research, trends, and programs in the education of children with disabilities. Open to graduate students in special education or related field. Prerequisite: SPED 300 or 420. Credit Hours: 3

SPED582 - Post-Master's Seminar: Theories and Models in Special Education Critical discussion of eight major intervention models used historically and currently with handicapped children in educational settings. Special approval needed from the instructor. Credit Hours: 3

SPED583 - Post-Master's Seminar: Program Coordination in Special Education Analysis of organizational principles and practices required for the creation and maintenance of programs to meet the needs of persons who are handicapped and require specialized educational programs within the school setting. Special approval needed from the instructor. Credit Hours: 3

SPED584 - Issues in International Special Education This course is designed to examine major aspects of disability theory and issues in international special and inclusive education. It provides current knowledge on disability models, as well as on special education systems world-wide; it examines historical patterns, the international human rights law and country legislation, cultural issues and intervention practices related to special education; it reviews major concepts, issues and debates in the international field of special education. Credit Hours: 3

SPED586 - Proseminar in Special Education A topical seminar providing for the systematic discussion of current research in the field of special education. Specific content is determined by participating faculty and students, relative to current faculty research and dissertations in progress within the department. Doctoral students will register for a total of four credit hours, one per semester, after which they will audit the course during the pursuit of their dissertation. Master's students admitted with special approval from the adviser and department chair. Credit Hours: 1-4

SPED590 - Readings in Special Education Study of a highly specific problem area in the education of exceptional children. Open only to graduate students. Graded S/U only. Prerequisite: SPED 300 or 420. Special approval needed from the instructor. Credit Hours: 1-6

SPED591 - Independent Investigation A field study for graduate students. Conducted in a school system where full cooperation is extended. The study will involve selection of a problem, surveying pertinent literature, development of experimental design and procedures, recording results and appropriate interpretations and summaries. Special approval needed from the instructor. Credit Hours: 1-6

SPED594A - Practicum in Special Education-Behavior Interventions A capstone field-based experience for special educators seeking advanced preparation in the field of special education. Student will select the appropriate practicum experience as appropriate for his/her program of study or Learning Behavior Specialist II certification. Credit Hours: 1-6

SPED594B - Practicum in Special Education-Curriculum Adaptation A capstone field-based experience for special educators seeking advanced preparation in the field of special education. Student will select the appropriate practicum experience as appropriate for his/her program of study or Learning Behavior Specialist II certification. Credit Hours: 1-6

SPED594D - Practicum in Special Education-Early Childhood Special Education A capstone field-based experience for special educators seeking advanced preparation in the field of special education. Student will select the appropriate practicum experience as appropriate for his/her program of study or Learning Behavior Specialist II certification. Credit Hours: 1-6

SPED594E - Practicum in Special Education-Supervision A capstone field-based experience for special educators seeking advanced preparation in the field of special education. Student will select the appropriate practicum experience as appropriate for his/her program of study or Learning Behavior Specialist II certification. Credit Hours: 1-6

SPED595A - Internship-Research and Applied Studies The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors. Credit Hours: 1-6

SPED595B - Internship-Evaluation The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors. Credit Hours: 1-6

SPED595C - Internship-Administration The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors. Credit Hours: 1-6

SPED595D - Internship-University Teaching The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors. Credit Hours: 1-6

SPED595E - Internship-Program Planning and Management The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors. Credit Hours: 1-6

SPED595F - Internship-Supervision The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors. Credit Hours: 1-6

SPED595G - Internship-Specialized Delivery Systems The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors. Credit Hours: 1-6

SPED599A - Thesis Independent hours to be taken under the supervision of the student's Master's degree chair for the purpose of conducting and writing the Master's thesis. Graded S/U only. Special approval needed from the instructor. Credit Hours: 1-6

SPED599B - Research Paper Independent hours to be taken under the supervision of the student's Master degree chair for the purpose of conducting and writing the Master's research paper. Graded S/U only. Special approval needed from the instructor. Credit Hours: 1-6

SPED600 - Dissertation Special approval needed from the chair. Credit Hours: 1-16

SPED601 - Continuing Enrollment For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only. Credit Hours: 1

SPED699 - Postdoctoral Research Must be a Postdoctoral Fellow. Concurrent enrollment in any other course is not permitted. Credit Hours: 1

Women, Gender, and Sexuality Studies

WGSS400 - Sex and Scandal in Film and Literature Film, literature, and media-based exploration of historical and contemporary texts that feature sex and scandal. Using relevant cultural and literary criticism, this class explores how "scandalous" sexualities have their own specific histories and deployments. Topics to be considered include the meaning of the word "scandal" and how different sexual relationships can appear "scandalous" in a given context. The course will question how sex and scandal intersect with race, ethnicity, nationality, religion, class, ability, and more. Credit Hours: 3

WGSS401 - Introduction to Transgender Studies Global study of transgender representation in film, media, literature, and performance. This course utilizes a cultural theory approach and draws from the work of scholars, activists, and artists within the areas of transgender, queer, feminist, and disability studies. Credit Hours: 3

WGSS406A - Gender, Family and Sexuality in Pre-Modern Europe (Same as HIST 406A) A discussion of the history of the family, creation of gender roles, and importance of sexuality from medieval times to the French Revolution. Credit Hours: 3

WGSS406B - Gender, Family and Sexuality in Modern Europe (Same as HIST 406B) From the French Revolution. A discussion of the history of family, creation of gender roles, and importance of sexuality from the French Revolution to the present. Fulfills the CoLA Writing-Across-the-Curriculum (WAC) requirement. Credit Hours: 3

WGSS407 - Sociology of Sexuality (Same as SOC 407) Examines a range of social issues related to human sexuality and the interaction between sexuality and other social processes. Emphasis is on the relevant concepts, theories, and methods in the field of sexual studies, the social and historical construction of sexuality, and the ways in which social characteristics shape sexual behaviors and desires, sexual variation, including its causes and consequences, how basic social institutions affect the rules governing sexuality, the major moral and political controversies that surround sexuality, and the "dark side" of sexual life. Credit Hours: 3

WGSS410 - Transcending Gender (Same as ANTH 410L) How do humans become male and female in different societies? Can men become women and women become men? What other gender possibilities exist? Is male dominance universal? What are the sources of male and female power and resistance? Do women have a separate culture? What are the relationships between gender, militarism, and war? These and other questions will be examined in cross-cultural perspective. Credit Hours: 3

WGSS411 - Human Sexuality (Same as PH 410) Provides detailed information on dimensions of sexuality; characteristics of healthy sexuality; anatomy and physiology; gender roles; relationships; sexually transmitted infections/diseases; contraceptive issues and concerns; sexual victimizations; and sexuality through the life cycle. Credit Hours: 3

WGSS415 - Topics in Gender, Sexuality, and Communication (Same as CMST 415) An exploration of advanced theories and research in gender and sexuality from communication perspectives. Course may be repeated when topics vary. Credit Hours: 3

WGSS416 - Black Feminist Thought as Theory and Praxis (Same as AFR 416, CMST 416) Explore the roots, contemporary manifestations, and current embodiments of black feminist thought. Explore the works of black women to engage in critical thinking and thoughtful dialogue that positions the valuable knowledge, experiences, and perspectives of women of color at the center of inquiry while simultaneously

discovering spaces for multicultural alliances. Prerequisite: CMST 3011 or CMST 341 or consent of instructor. Credit Hours: 3

WGSS426 - Gender, Culture and Language (Same as ANTH 426 and LING 426) This course is designed for students who have had some exposure to gender studies. It will focus on readings in language and gender in the fields of anthropological and socio-linguistics. Issues to be addressed are the differences between language use by men/boys and women/girls, how these differences are embedded in other cultural practices, and the various methodologies and theories that have been used to study gendered communication. Credit Hours: 3

WGSS437 - Lesbian and Gay History in the Modern United States (Same as HIST 437) This course explores the social, political, and cultural history of lesbians, gay men, and other sexual and gender minorities in the United States from the turn of the twentieth century to the present. Themes to be taken up in the class include: the emergence of heterosexuality and homosexuality as distinct categories of identity; the intersection between sexual identity and identities of race, class, gender, and ethnicity; the relationship between homosexuality and transgenderism; the movement for gay liberation; the creation of lesbian and gay urban and rural subcultures; representations of homosexuality in popular culture; anti-gay backlash; and AIDS. Credit Hours: 3

WGSS438 - Women and the Law (Same as POLS 438) The course is an advanced seminar in public law with a focus on gender, law, and society. The course will engage with issues in feminist legal practice and the development of legal theories regarding gender. We will interrogate the relationship between theory and practice and the ways in which feminist jurisprudence has taken shape in the dynamics of this relationship. POLS 114 and 230 recommended prerequisites. Credit Hours: 3

WGSS440 - Queer Visual Culture (Same as CIN 469) Course discusses aspects of the aesthetics, history, theory, and politics of media representations of gender and sexuality. Cultural texts from one or a combination of media forms, genres, historical periods, and platforms will inform the historical and theoretical consideration of media representations of gender and sexual variation with a special interest on their bearings upon the present moment. May be repeated if topics vary. Credit Hours: 3

WGSS442 - Sociology of Gender (Same as SOC 423) Examines social science theory and research on gender issues and contemporary roles of men and women. The impact of gender on social life is examined on the micro level, in work and family roles, in social institutions, and at the global, cross-cultural level. Credit Hours: 3

WGSS446 - Gender and Global Politics (Same as POLS 456) An advance course examining gender systems and women's situations across cultures and countries. This course also studies the impact globalization has had on gender issues by looking at women's activism at international and transnational levels. Topics covered include women's political representation, gender and culture, women's social movements, gender and development, and gendered policy issues. Credit Hours: 3

WGSS448 - Gender and Family in Modern US History (Same as HIST 448) This course explores the history of gender and the family in the United States from the late 19th century to the present. Themes to be explored include: the family and the state, motherhood, race and family life, and the role of the "family" in national politics. Credit Hours: 3

WGSS449 - Advanced Human Sexuality (Same as PHSL 450) Advanced, comprehensive course intended to supplement and expand the critical examination of topics covered in PHSL 320, Reproduction and Sexuality. The objectives of this class are to examine the physiological and behavioral basis of human reproduction and sexuality. Examining how humans reproduce from a physiological perspective including all aberrations and clinically relevant dysfunctions, as well as, the spectrum of human sexual behaviors including typical and atypical sexual behavior, paraphilias, and diversity of human relationships. Prerequisite: PHSL 320. Credit Hours: 3

WGSS450A - Women in Music (Same as MUS 450A) Explores the creative contributions of women in music, examining women's participation across a range of genres, cultural/geographic areas, and time periods. Restricted to junior/senior/graduate music major or consent of instructor. Credit Hours: 3

WGSS452A - Traditions of Uppity Women's Blues (Same as AFR 452A and MUS 452A) Examines the tradition of "uppity" women's blues from the so-called "classic" blues singers of the 19th century

(Gertrude "Ma" Rainey, Bessie Smith, Ida Cox, etc.) to the contemporary blues of Saffire, Denise LaSalle and others. Explores ways blues women challenge conventions of gender and sexuality, racism, sexism, classism, and homophobia. Restricted to junior/senior/graduate music major or consent of instructor. Credit Hours: 3

WGSS456A - Feminist Philosophy (Same as PHIL 446A) A general survey of feminist theory and philosophical perspectives. Credit Hours: 3

WGSS456B - Special Topics in Feminist Philosophy (Same as PHIL 446B) A special area in feminist philosophy explored in depth, such as Feminist Ethics, French Feminism, Feminist Philosophy of Science, etc. Credit Hours: 3

WGSS456C - Women Philosophers (Same as PHIL 446C) Explores the work of one or more specific women philosophers, for example Hannah Arendt, Simone DeBeauvoir, etc. Credit Hours: 3

WGSS464 - Audio Documentary & Diversity (Same as RTD 464) The purpose of this course is the creation of short and long form audio documentaries by students, regardless of production background. It will introduce students to basic production techniques and diversity considerations during the making of a documentary. This course uses qualitative methods to investigate an issue or document an event, with an emphasis on observation and interview techniques. Topics will explore the role of gender, race, ethnicity, and class during the planning, gathering, and production stages of the documentary. Course open to non-majors. Lab fee: \$55. Credit Hours: 3

WGSS465 - History of Sexuality (Same as HIST 465) Comprehensive survey of sexuality from the early modern period to the present. Examines social trends, politics, and cultural debates over various forms of sexuality. Students will engage in discussion, research, and writing. Emphasis varies by instructor. Credit Hours: 3

WGSS470 - College Student Sexuality (Same as EAHE 470) Seminar designed to provide students with a strong grounding in the field of college student sexuality and sexual identity, covering the lived experiences of U.S. college students, the construction of sexualized collegiate identities through U.S. history, and how institutions of higher education have attempted to regulate, control, and (intentionally as well as inadvertently) effect college student sexuality. Credit Hours: 3

WGSS476 - Women, Crime, and Justice (Same as CCJ 460 and SOC 461) A study of women as offenders, as victims, and as workers in the criminal justice system. Credit Hours: 3

WGSS489 - Women, State and Religion in the Middle East (Same as HIST 489) Following an introduction to the question of women in Islamic law and Islamic History, this course will examine the changing status and experiences of women in a number of Middle Eastern countries in the 20th century, focusing on Egypt, Iran, and Turkey. Major themes will include legal, social, and political rights, participation in social and economic life, cultural and literary production, and recent secular and Islamist women's movements. Credit Hours: 3

WGSS493 - Individual Research Exploration of a research project under the supervision of a faculty member having graduate faculty status. The project must result in a written research report, which is filed with the Director of Women, Gender, and Sexuality Studies. Restricted to senior standing. Special approval needed from the instructor and Director of Women, Gender, and Sexuality Studies. Credit Hours: 2-6

WGSS494 - Community Service This course gives students the opportunity to serve the community through direct engagement with organizations and services that center issues of gender and sexuality. The setting may be in one's own field of study or in general content areas recognized by the Women, Gender, and Sexuality Studies Program. Students will devise their service plan in communication with the Coordinator of the WGSS program. Prerequisite: WGSS 201. Credit Hours: 1-3

WGSS496 - Advanced Special Topics in LGBTQ+ Studies Advanced study of a topic of interest in LGBTQ+ Studies not offered through regular course listings. Credit Hours: 3

WGSS497 - Independent Study in LGBTQ+ Studies Supervised readings in selected content areas in LGBTQ+ studies. This is a capstone, synthesizing experience for students in LGBTQ+ studies. Prerequisite: WGSS 201. Credit Hours: 3

WGSS504A - Performing Justice/Theory (Same as THEA 504A) Performance is more prevalent in society than ever before. Performance, in this class means: theatre, mass media, social media, entertainment, digital humanities, and everyday life. This course considers questions such as: How can performance help gender equality? How does literary, media, and performance theory relate to struggles for social justice? What does it mean to live in a "dramatized society"? Students will gain an understanding of the economic, psychological, and political strategies behind performance and theory that seeks to intervene in unjust social structures. Restricted to graduate standing or special approval from the instructor. Credit Hours: 3

WGSS507 - Seminar in the Sociology of Sexuality (Same as SOC 507) Examines the emerging body of work in the fast-growing field of sexuality studies. While the course focuses on sociological research, it takes a few side trips into other disciplines. We begin by discussing the evolution of theory and methodology in the sexual sciences. After briefly considering the contributions of early sexologists and the work of Sigmund Freud, we will survey the sociology of sexuality from its beginnings in quantitative research, through classical sociological theory, social constructionism, and feminism. We'll then examine Foucault's radical rethinking of sexuality and grapple with the challenges of queer theory. The second part of the course will take up several substantive areas in the sociology of sexuality, drawing on cutting edge quantitative and qualitative research. Credit Hours: 3

WGSS515 - Studies in Gender, Sexuality, and Communication (Same as CMST 515) How communicative activity creates and sustains human beings as gendered. Emphasis on gaining familiarity with contemporary research on gendering from a particular perspective (e.g., ethnography, performance, phenomenology, qualitative methods, rhetorical criticism). May be repeated when perspective varies. Perspective announced prior to each offering. Credit Hours: 3

WGSS525 - Theorizing the Body (Same as ANTH 525) This seminar explores a broad range of theoretical readings centering on the human body. Once the province of medical science and certain schools of philosophy, recent research in the social sciences and the humanities position "the body" as a primary site of socialization, gendering, social control. Credit Hours: 3

WGSS535 - Seminar: Gender in Higher Education (Same as EAHE 535I) A seminar for specialized study of administrative practice and policy in gender in higher education. Credit Hours: 1-3

WGSS542 - Seminar on the Family (Same as SOC 542) Overview of the theoretical approaches, substantive issues, and techniques of research and measurement in the study of American family life. Approaches include structural functionalism, conflict theory, and the feminist critique. Among the substantive topics are family roles and relationships, kinship, relationships of the family to other institutions and family change. Credit Hours: 3

WGSS544 - Sociology of Gender (Same as SOC 544) Examines major theories, themes, and research methods on the intersection of gender, race, class and sexuality. Topics may include: construction of gender, race, class and sexual identities; work; social movement; intersection of family and work; parenting and reproduction; historical and cross-national dimensions. Credit Hours: 3

WGSS545 - Gender and Work (Same as SOC 545) This course is designed to investigate how gender structures the workplace, as well as how men and women both reproduce and negotiate gender at work. Focusing on select topics, we will develop an understanding of workplaces as gendered organizations and discuss sex segregation, wage inequality, the glass ceiling, the glass escalator, sex work, men and women in nontraditional occupations, the body at work, emotional labor, aesthetic labor, immigration and work, globalization, and unemployment and welfare. Also, this class will take an intersectional approach to analyzing and discussing issues of gender inequality at work; meaning, we will take seriously how gender intersects with race, ethnicity, class, and sexuality to shape both inequality and resistance at work. Credit Hours: 3

WGSS546 - Language, Gender and Sexuality: Anthropological Approaches (Same as ANTH 546, LING 545) This course examines the study of language in society with a particular focus on how linguistic practices are part of the construction of gender and sexual identities, ideologies, social categories, and

discourses. Anthropological theories applied to the study of language, gender, and sexuality will be covered along with a variety of methodological approaches. Credit Hours: 3

WGSS547 - Gender and Social Change (Same as SOC 547) This graduate seminar is a sociology of gender course that focuses on changes in the subfield itself and in peoples' lived experiences in terms of gender, gender relations, and gender stratification. Readings and discussions will trace the development of the sociology of gender over the last several decades. We will discuss how ideas and theories have changed over the years including changes in concepts and in how sociologists define, problematize, and theorize about sex and gender as traits, identities, relations, structures, and systems. We will also explore 'objective' or actual change (or lack of change) related to gender in individuals, groups, and societies. Credit Hours: 3

WGSS550 - The Psychological Construction of Gender (Same as PSYC 550) This course will focus on the psychology of gender within a feminist perspective and using a feminist approach. The term feminism, as used here, primarily implies that we will consider information and ideas for more diverse than simple empirical data. In our reading and discussion, we will consider politics, discrimination, the history of science, the history of patriarchy, the development of theory and ideas in general and the development of feminism in particular, and objective versus subjective views of science, and within these contexts, we will consider and study the psychology of gender. Credit Hours: 3

WGSS560 - Gender and Sport: Sociological and Psychological Perspectives (Same as KIN 560) This course explores psychological and sociological dimensions underlying the concept of gender and critically examines how gender relates to sport and physical activity. Students will be introduced to non-traditional as well as traditional research that addresses the issue of gender in various physical activity contexts. Credit Hours: 3

WGSS565 - Continental Feminist Philosophy (Same as PHIL 565) An examination of major figures and problems in continental feminism, focusing on metaphysical, ethical, political, and aesthetic theories in the works of Beauvoir, Kristeva, Irigaray, Butler, and Kofman. Credit Hours: 3

WGSS575 - Women in Higher Education (Same as EAHE 575) The goal of this course is to provide an overview of women in higher education. Topics that will be considered are: feminism's impact on women in higher education; the division of labor for women (including faculty and professional staff positions); historical and sociological perspectives of access to higher education including curriculum and pedagogy. Credit Hours: 3

WGSS576 - College Men and Masculinities (Same as EAHE 576) This course is a readings-based seminar covering concepts of masculinity as demonstrated by collegiate men in the United States. The readings in this course cover cultural as well as identity elements of what being a "college man" means (and how that definition has changed over time and contexts). The readings consist of historical, contemporary and theoretical scholarship concerning collegiate masculinity. Credit Hours: 3

WGSS590 - Readings Supervised readings in selected advanced subjects. Special approval needed from the instructor and the Director of Women, Gender, and Sexuality Studies. Credit Hours: 1-3

WGSS591 - Special Topics Concentration on a topic of interest not offered through the regular course listings. Special approval needed from the instructor and the Director of Women, Gender, and Sexuality Studies. Credit Hours: 1-3

WGSS592 - Gender and Sexuality in Times of Pandemic This course explores how pandemics affect the social construction of race, gender, sexuality, and identity. Students will discuss the role of religion in health care and science and how women in religious contexts were primary caretakers during the Plagues, the Flu of 1918-1920, and the polio epidemic. The course will consider how the burden of care falls on women and sexual minorities in churches, mosques, synagogues, indigenous religious spaces and affiliated organizations in all times of public health crises, including during the Covid-19 pandemic. Students will also learn how religion has played both a divisive and positive role in the prevention and care of HIV/AIDS, particularly for Black, Indigenous, and People of Color (BIPOC) communities. The course will consider research from the fields of medicine, history, English, political theory, sociology, environmental humanities, and cultural theory. Credit Hours: 3

WGSS593 - Introduction to Critical Masculinity Studies Critical examination of masculinity in a global context. The course will explore the constructed nature of masculinity at the intersections of race, sexuality, class, national, and religious identifications. Takes an interdisciplinary approach and includes texts from the fields of history, sociology, English, film and media studies, and the visual arts. Credit Hours: 3

WGSS595 - Practicum in Educational Women, Gender, and Sexuality Studies This course provides students with supervision in their work toward course development in Women, Gender and Sexuality Studies. The instructor of record will meet with practicum members on a regular basis, and, together, they will work towards the research and syllabus construction necessary for a WGSS course. Pedagogical strategies will also be covered. Must have consent of the Director of Women, Gender, and Sexuality Studies. Graded by S/U only. Credit Hours: 1-3

WGSS596 - Advanced Feminist Theories This course introduces students to the past, present, and potential future of feminism and its various permutations. Readings are designed to stress historical, intellectual, and contemporary issues in order to inspire in-class discussion and to provide foundations for written assignments. Emphasis varies by instructor. Credit Hours: 3

WGSS597 - Graduate Pro-Seminar in Women, Gender, and Sexuality Studies This proseminar introduces graduate students to the field of Women, Gender, and Sexuality Studies (WGSS). The approach is both interdisciplinary as well as multidisciplinary. The course guides students through a process by which they build a detailed map of the intersection between their course of study and the field of WGSS. Emphasis varies by instructor. Credit Hours: 3

Last updated: 07/18/2023