

Graduate Course Descriptions

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ACG	5007	MBA Essentials: Accounting	0		A survey course related to both financial accounting and managerial accounting. An examination of accounting concepts for presentation of financial information to interested users as well as information generated for internal management.
ACG	5205	Advanced Financial Accounting	3	PR: ACG 3113	Accounting for business combinations, preparation of consolidated financial statements, home office/branch relationships, foreign operations and transactions, partnerships.
ACG	5505	Governmental/Not-For-Profit Accounting	3	CR: ACG 4632; PR: ACG 3113	Application of financial and managerial accounting, and auditing, principles and theory to both governmental and not-for-profit entities.
ACG	5675	Internal and Operational Auditing	3	CR: ACG 4632; PR: ACG 3113 and ACG 3401	The objective of Internal and Operational Auditing is to provide students with an opportunity to learn about the theory and practice of internal and operational auditing and to apply relevant audit principles and techniques to selected audit problems.
ACG	6025	Financial Accounting for Managers	2		Study of (1) accounting concepts and standards applicable to presentation of financial information to interested users, (2) structure and interpretation of financial statements, especially issues of income determination and assessment measurement.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ACG	6026	Accounting Concepts for Managers	3		A graduate level introduction to the role of accounting information in the decisions of internal and external users of financial information and statements; requires admission to the Certificate in Business Foundations.
ACG	6028	Measuring Organizational Effectiveness	3		This course provides a graduate level introduction to financial and non-financial performance measures. The course considers how stakeholders of private and public sector organizations use financial and non-financial measures to assess how well, and at what cost, these organizations are able to achieve strategic/operating goals and objectives.
ACG	6075	Management Accounting and Control	2	PR: ACG 6025	Deals with management accounting systems for different types of entities, cost behavior patterns, cost-volume-profit analysis, relevant information for decision making, and budgets and standard costs for planning and control.
ACG	6346	Contemporary Issues in Managerial Accounting	3	PR: ACG 3341 or equivalent	The evolution of cost accounting systems, and the impact of new managerial accounting philosophies in the modern international manufacturing environment, including a discussion of current issues and controversies involving managerial accounting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ACG	6405	Advanced Accounting Information Systems	3	PR: ACG 6453	This course focuses on business process modeling techniques for creating advanced enterprise-wide accounting systems. The course also focuses on information systems risks, controls and auditing, and enterprise resource planning systems.
ACG	6457	Accounting Systems Audit, Control, and Security	3	PR: ACG 3401 or equivalent, or BUL 5842	An in-depth study of contemporary systems control security from an audit perspective. Course topics will include: IS audit standards, contemporary AIS technologies, and the development and maintenance of AIS integrity.
ACG	6476	Contemporary Issues in Accounting Information Systems	3		An in depth study of current accounting information systems issue confronting the accounting profession. Graduate students research and study contemporary and emerging topics in the field.
ACG	6636	Contemporary Issues In Auditing	3	PR: ACG 4632	This course explores contemporary auditing issues and advanced topics concerning the changing role of the audit assurance function and changing audit processes. Topics include audit reporting, auditing in advanced computerized environments, audit judgment, quality control, and regulation of the profession.
ACG	6835	Accounting Skills, Values, and Information Technology	3		This course is designed to introduce Master of Accountancy students to the basic skills, competencies, and technologies of accounting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ACG	6875	Financial Reporting and Professional Issues	3	CR: ACG 6453	A study and evaluation of the evolution of current financial accounting theory. An examination of financial accounting objectives, measurement models, and controversial issues, from both a financial reporting and professional (auditing) perspective.
ACG	6905	Independent Study	1-19		Independent Study. Student must have a contract with an instructor.
ACG	6915	Directed Research	1-19		
ACG	6932	Integrative Accounting Seminar	3		Use of case studies to explore the interaction of accounting and business topics that have been previously emphasized in separate courses.
ACG	6936	Selected Topics in Accounting	1-4		The course content will depend on student demand and instructor's interest.
ACG	7156	Seminar in Financial Accounting	3	PR: ACG 6875	This course investigates advanced research and methodological issues in financial accounting. It focuses primarily on research which uses financial information in contexts external to the firm.
ACG	7356	Seminar in Management Accounting	3	PR: ACG 6346	Review and critical analysis of management accounting foundation with emphasis on the current research methods in organizational behavior aspects and multiple criteria decision methods.
ACG	7415	Seminar In Accounting Information Systems	3	PR: ACG 6405	Review and critical analysis of major topics and research methods in accounting information systems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ACG	7646	Seminar in Auditing	3	PR: ACG 6636 or equiv	This course involves a study of state-of-the-art research techniques as applied to major auditing issues and a critical analysis of the reported research findings.
ACG	7936	Seminar On Special Topics In Accounting	1-4		Coverage of particular topics of interest to doctoral faculty and students during any given semester.
ACG	7939	Executive Issues in Accounting	2-4		A research seminar for executives that explores contemporary issues in accounting. The specific theme of the seminar will be determined through consultations between the instructor and the students prior to the first class meeting.
ACG	7980	Dissertation in Accounting	2-21		Research and writing of a dissertation on an accounting topic.
ADE	6070	International Adult Education	3		Provides a survey of the field of international adult education. Current practices and historical efforts internationally will be explored.
ADE	6080	Adult Education in the United States	4		A study of the adult education movement in the United States from its beginnings to the present lifelong learning enterprise it has become. Economic and cultural factors of the past are examined with a view toward implications for the future.
ADE	6160	Program Management in Adult Education	3		An examination of the methods for establishing a productive adult education program, and the principles and procedures involved in designing, organizing, operating, and evaluating comprehensive adult education programs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ADE	6161	Curriculum Construction in Adult Education	4		Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation. Concentrates on basic principles affecting the planning of Adult Education activities, including an overview of the human forces that both impinge on and motivate human behavior in an adult learning environment.
ADE	6197	Adult Basic Education	4		An overview of adult basic education with an emphasis on current issues and problems of curriculum and instruction in program development and on culturally different adults.
ADE	6198	Effective Continuing Education for Professionals	3	PR: ADE 6385 and ADE 6080	This course will provide a description, explanation and critique of the goals, processes, outcomes, and issues related to the continuing education of professionals. The design, development and administration of these programs will be explored.
ADE	6287	Supervision of Local Adult Education Programs	4		A study of the factors involved in the supervision of instruction including plans for teacher education, improvement of instruction, coordination of activities, and personnel relations.
ADE	6360	Methods of Teaching Adult Education	3		An exploration of different methods, techniques, and materials available to help adults learn. Concentration on the process of designing effective learning experiences for adults and developing the competencies of self-directed learning.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ADE	6370	Human Resource Development	3		A study of learning, training, and education as it is practiced in the public, private and the non-profit sectors. Course covers HRD history, key competencies, and relevant theory.
ADE	6385	The Adult Learner	3		An investigation of the physiological and psychological changes in the adult life span and the implications these have for adult learning capabilities. Concentration on the identification of principles of adult learning, differences between adults and youth as learners, and a review of research on adult learning.
ADE	6389	Adult Learning and Cognitive Styles	3		The course focuses on a foundational knowledge of brain-based learning and its impact on adult learners, including critique and assessment of learning styles.
ADE	6906	Independent Study	1-19		Independent Study in which students must have a contract with an instructor.
ADE	6931	Selected Topics in ADE and HRD	1-5		Each topic is a course under the supervision of a faculty member. The title and content will vary according to the topic.
ADE	6946	Practicum in Adult Education	2-6		A problem-centered field study in the local community, school, government, office, social agency, business, or industry setting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ADE	6966	Final Master's Seminar	4		This course is designed to provide in-depth review of various areas of adult education. It is designed to prepare individuals for the comprehensive exams. Emphasis also will be on developing familiarity with formal research literature.
ADE	6971	Thesis: Masters/Education Specialist	2-19		Thesis/Specialist project hours.
ADE	7076	Continuing Education in Higher Education	3	PR: ADE 6385 and ADE 6080	This course will explore the history, relevant research and the current practices in community college and higher education continuing education program and administrative units.
ADE	7169	Instructional Development Using Adult Education	3		This course is designed to develop competencies in a systematic approach to instructional improvement including the knowledge and application of developing curriculum models applied to ACE and HRD.
ADE	7268	Leadership in Adult Continuing Education and HRD	3		This course is a study of leadership theory, public policy analysis, best practices and related leadership research in adult continuing education and human resource development.
ADE	7269	Organization and Administration of ACE and HRD	3		This course provides knowledge and examples of the organization of ACE and HRD and also examines management principles and practices applied to ACE and HRD units including the tasks, responsibilities and guidelines used to manage these units effectively.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ADE	7388	Adult Development and Learning	3	PR: ADE 6385 or equiv	This is an advanced, in-depth study of the distinctive characteristics of adult life and learning.
ADE	7676	Human Resource Development Policy Seminar	3	PR: ADE 6370	This course emphasizes complex skills, concepts and strategies related to the adult teaching/learning component and policy formation of human resource development in business, industry, government, education, and voluntary organizations.
ADE	7677	Emerging Trends in Adult Education: Critical Race Theory	3		Seminar for doctoral students(master's students by permission of the professor) where we critically examine and explore critical race theory regarding the degree of its theoretical relevance and contribution to educational practice.
ADE	7910	Directed Research In Adult Education	1-4		Directed research on topics related to adult education.
ADE	7930	Seminar in Adult Education	4	PR: ADE 6385 and ADE 6080	This is an intensive induction into doctoral studies in adult education stressing scholarly inquiry, professionalism, collegiality, and the doctoral degree process.
ADE	7937	Seminar In Adult Education	1-4		Seminar in advanced topics in Adult Education.
ADE	7947	Advanced Internship: Adult Education	2-4		Practical application in a clinical setting of knowledge acquired in the classroom. Hours may vary. May vary within an institution.
ADE	7980	Dissertation	2-30		Dissertation hours.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ADV	5005	Advertising Planning	3		Introduction to the process of developing advertising strategy, emphasizing theory and research methods. Applied research course to bridge research methods with execution of creative messaging strategies that drive business success.
ADV	6602	Advanced Advertising Management	3		Focuses on application of management principles and practice to effective development of advertising plans. The course includes case studies and discussion of current problems in research, planning, operations, administration, and evaluation.
AFA	6108	Social Construction of Race and Racism	3		Examinations of the social construction of race, racism, racial identities and cross-racial relationships in the US from the colonial period to present.
AFA	6120	Social Theory and Social Thought	3		Course examines the nature of social theory as an analytical tool and its relevance for understanding social thought and the historical and contemporary experiences of peoples of African descent in Africa and the Diaspora.
AFA	6207	African American Historiography	3		This course introduces graduate students to some of the major topics and texts in African American history. Readings will include both classic studies and recent innovative works in the field. The course is open to majors and non-majors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
AFA	6355	African American Community Research: Ethnography	3		This course is designed to assist students in understanding the dynamics of African American communities and community research in urban settings.
AFA	6387	Seminar on Genocide and Human Rights	3		Examines "genocide" and "human rights" as concepts and crimes; the debates that have developed around them and the circumstances in which perpetrators of these crimes deprive particular groups of people of their "right to life."
AFA	6805	African Historiography	3		The course deals with the history of the writing of African history. It pays attention to the sources and methods that Africanists use to study Africa and major themes in the continent's history, and the debates and interpretations they have generated.
AFA	6905	Independent Study	1-19		Course consists of advanced graduate research on Africana studies topics selected by student and professor. The topics vary. The course allows students to develop research skills and independent work disciplines.
AFA	6910	Directed Research	1-12		Course consists of directed research on Africana studies topic selected by student and professor. The topics vary. The course allows students to develop research skills and independent work disciplines.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
AFA	6932	Topics in Africana Studies	3		Variable topics course focusing on the history, culture, and lived experiences of African, African-American, and/or other peoples of African descent worldwide. Rpt. Up to 12 hours as topics may vary.
AFA	6945	Internship	1-3		This course involves working with a local agency (gov't., NGO, private, etc.) on topic related to the theme of the MA degree, researching and documenting the process and preparing the data for writing the masters thesis.
AFA	6971	Thesis	2-19		Thesis.
AML	6017	Studies in American Literature to 1860	3		Selected focused studies in American literature before 1860: the Puritans, Franklin, Cooper, Irving, Poe, Emerson, Hawthorne, Melville, and others.
AML	6018	Studies in American Literature 1860 to 1920	3		Selected focused studies in American literature: Dickinson, Whitman, Twain, Howells, James, Jewett, Chopin, Crane, Dreiser, and others.
AML	6027	Studies in Modern American Literature	3		Modern American drama, poetry, fiction, and literary criticism; authors include Faulkner, Hemingway, Fitzgerald, O'Neill, Miller, Anderson, Wolfe, Cummings, Frost, Pound, and Eliot.
AML	6608	Studies in African American Literature	3		Focuses on varied topics in African American literature such as African American Fiction and the Harlem Renaissance. Topics will supply greatly needed coverage of increasingly important areas of American and African American literature, history, and culture.

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AML	6637	Studies in US Latina/Latino Literatures	3		Students will explore the major strands of US Latina/o Literatures including immigration narratives, auto ethnography, and historical fiction from or about the perspective of US Latinas/os.
AMS	6002	American Lives	3		Open to non-majors. An interdisciplinary approach to the study of autobiography. Examines the relationship between identity and community in classic American autobiographies. Utilizes autobiography as a resource of social and cultural history which provides insights regarding the complex interaction between a life, a mind, and a text.
AMS	6156	Theories and Methods of Cultural Studies	3		This course examines the relationship between the arts and society by introducing various approaches to the study of literature, art, and culture that are of contemporary relevance to graduate students in the liberal arts and American Studies.
AMS	6254	Cultural Era	3		Open to non-majors. Interdisciplinary analysis of American life during a specific cultural era.
AMS	6805	Enduring Questions in American Culture	3		Open to non-majors. Explores the historical changes and continuities of an enduring theme, issue, pattern, or practice in American culture across multiple cultural eras. E.g., democracy, wilderness, jazz, domesticity, regionalism, ethnicity.
AMS	6901	Directed Readings in American Studies	1-3		Open to non-majors. A supervised program of intensive reading.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
AMS	6915	Directed Research	1-12		Directed research course.
AMS	6934	Selected Topics	1-3		Open to non-majors. Variable topics such as American Autobiography, Film in American Culture, and Photography in American Culture.
AMS	6938	Research Seminar	3		A course emphasizing the practical aspects of research in American Studies including analyzing primary sources, assembling a bibliography, synthesizing secondary sources, and defining an argument. Topic varies.
AMS	6940	Internship in American Studies	1-3		A structured, out-of-class learning experience providing first hand, practical training in American Studies-related professional careers.
AMS	6971	Thesis: Master's	2-19		A Master's thesis course.
ANG	5395	Visual Anthropology	3		This class will examine the major dimensions of visual anthropology with an emphasis on the visual means of presenting anthropology to the discipline and general public. The course will focus on visual documentation and study of visual images.
ANG	5486	Quantitative Methods in Anthropology	3		This course is an introduction to quantitative methods for the anthropologist covering both classical statistical approaches and exploratory data analysis, using computers with statistical software.
ANG	5901	Directed Reading	1-4		Individual guidance in concentrated reading on a selected topic in Anthropology. Contract required prior to registration.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	5910	Individual Research	2-4		Individual guidance in selected research project.
ANG	5937	Seminar In Anthropology	2-4		Topics to be chosen by students and instructor.
ANG	6081	Museum Methods	4		The class introduces students to contemporary issues in exhibit practice in anthropology museums, and offers practical, hands-on experience in the design and fabrication of a museum exhibit based on anthropological concepts.
ANG	6084	Anthropological Theory Today	3		This course provides an overview of contemporary theorizing in social and cultural anthropology for graduate students.
ANG	6100	Topics in Archaeological Science	3		This course focuses on the application of scientific methods of analysis to archaeological materials, including bone, stone, pottery, and metal. Repeatable for up to 6 hours.
ANG	6110	Archaeology Theory and Current Issues	3		Methodology and theory in archaeology, analysis, interpretation of data.
ANG	6115	Seminar In Archaeology	3		An advanced critical survey of archaeology emphasizing contributions to applied anthropology.
ANG	6153	Topics in North American Archaeology	3		Comprehensive understanding of the prehistoric development of American Indian cultures in the main geographical regions, with emphasis on current issues in cultural resource management. Repeatable for up to 6 hours.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6155	Southeastern U.S. Archaeology	3	PR: ANT 3101	The course examines the culture history and processes of change or continuity throughout the region of the Southeast, as well as the often differing record for various local areas, from prehistoric through historic times.
ANG	6163	Topics in Mesoamerican Archaeology	3		This course explores the distinctive features of the evolving cultural traditions of Mesoamerica. This course identifies the major issues and methodological approaches of Mesoamerican archaeology. Repeatable for up to 6 hours.
ANG	6165	Topics in South American Archaeology	3		This course introduces the prehistoric and early historic cultural chronology of the South American continent, with an emphasis on current research and controversies and perspectives from cultural ecology. Repeatable for up to 6 hours
ANG	6175	Topics in Mediterranean Archaeology	3		A graduate seminar in Mediterranean archaeology, spanning prehistory and the early historical period, and will examine subsistence adaptations, island settlement, trade, technology, religion, rise of complex societies and early states. Repeatable to 6 hr.
ANG	6189	Ancient Diets	3		This course focuses on archaeological remains and studies about ancient diet, a fundamental practice by all world cultures.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6195	Ancient Trade	3		This course focuses on long-distance trade and contact in ancient times, based on archaeological evidence and scientific studies, and how this informs us about sociopolitical systems and economic relations and how they vary over time and space.
ANG	6197	Public Archaeology	3		This graduate-level course surveys archaeological practice as part of applied anthropology, in the public and private sector, from local to international.
ANG	6198	Regional Problems in Methods of Public Archaeology	3		Contemporary problems in Public Archaeology in the context of a specific region. Open to non-majors.
ANG	6270	Chiefdoms	3		This course examines theory and data on the emergence of chiefly forms of social organization using case studies from both ethnography and prehistory, and focusing on classic works of cultural evolution and recent critiques of the chiefdom concept.
ANG	6302	Gender in Cross-Cultural Perspective	3		Examines roles of women, men, other genders and social, economic, and political aspects of sex and gender, from a biocultural, 4-field anthropological perspective, emphasizing non-Western societies and cross-cultural comparison in past and present.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6392	Engaging Ethnography	3		What does engaged research and writing look like, and to what effect? Explore ethnographic monographs to discover how various forms of engagement can transform research epistemologies, questions, methodologies, and products, and define own approach.
ANG	6393	Anthropology, Contemporary Culture and the Media	3		Course entails the anthropological study of the roll of media in contemporary culture. Selected issues include the cultural impact of images and gender/ethnic stereotypes. Special attention will be paid to ethnographic studies of media audiences, and a central theme will be the roll of media in a global, multi-cultural context.
ANG	6404	Health and Medical Systems	3		An explicitly medical anthropological approach to systems-level issues in health and medicine.
ANG	6436	Issues in Heritage Tourism	3		The purpose of this course is to introduce students to the theoretical and practical issues in heritage tourism and the business of heritage resource management from an anthropological perspective.
ANG	6447	Selected Topics in Urban Anthropology	3		Current topical issues in Urban Anthropology. Open to non-majors.
ANG	6448	Regional Problems in Urban Anthropology	3		Contemporary problems in Urban Anthropology in the context of a specific region. Open to non-majors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6463	Social Epidemiology Applied Anthropology	3		An advanced medical anthropology course on the application of methods and concepts from social epidemiology as relevant to cultural analysis.
ANG	6465	Regional Problems in Medical Anthropology	3		Contemporary problems in Medical Anthropology in the context of a specific region. Open to non-majors.
ANG	6469	Selected Topics in Medical Anthropology	3		Current topical issues in Medical Anthropology. Open to non-majors.
ANG	6490	Seminar in Cultural Anthropology	3		A critical advanced survey of Cultural Anthropology emphasizing contributions to Applied Anthropology, required of all MA students.
ANG	6495	Oral History and Life History: Approaches to Qualitative Research	3		A in-depth survey of the methods, concepts, and practical applications of narrative-based qualitative research, featuring critical readings in case studies, and individual and group projects.
ANG	6497	Qualitative Research Methods in Anthropology	3		This course is designed to acquaint students with the philosophical foundations of qualitative research, and to provide the opportunity for students to develop skills in the variety of data collection methods and analysis typical of qualitative research.
ANG	6511	Seminar in Physical Anthropology	3		A critical advanced survey of Physical Anthropology emphasizing contributions to Applied Anthropology.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6533	Anthropology of Human Growth and Development	3		Overview of human growth and development from a perspective that combines biological and cultural approaches in anthropology.
ANG	6536	Bioarchaeology	3		Overview of methods and theories used to study the relationship between behavioral, cultural, and environmental factors and human biology, as reflected in human skeletal remains.
ANG	6570	Nutritional Assessment	3		Overview of basic nutritional assessment methods used in anthropology, nutritional sciences, and public health.
ANG	6585	Theories in Applied Bioanthropology	3		A survey of the major theoretical frameworks and quantitative and qualitative methodologies commonly used in biological anthropology research.
ANG	6701	Contemporary Applied Anthropology	3		A critical survey of Applied Anthropology as practiced today in the major branches of Anthropology, focusing on Applied, Medical, and Urban Anthropology. Open to non-majors.
ANG	6705	Foundations of Applied Anthropology I	3		MA Foundations of Applied Anthropology I provides graduate students with an introduction to the philosophical basis of contemporary anthropology.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6706	Foundations of Applied Anthropology II	3	PR: ANG 6705	This course is the second part of a two-course sequence required of all MA students in the anthropology department. This course provides students with foundational understandings of the epistemologies underlying contemporary applied anthropology.
ANG	6730	Socio Cultural Aspects of HIV/AIDS	3		This course is designed to provide an overview of the different social, economic, cultural, political, and ethical issues surrounding the spread of HIV/AIDS around the world.
ANG	6731	Health and Disasters	3		Disasters like Katrina and complex emergencies like Bosnia exacerbate social divisions and impact the health status of individuals, communities, and nations. This course considers mitigation policies and humanitarian responses.
ANG	6732	Global Health from an Anthropological Perspective	3		The aim of the course is to situate the debate about what is "global health" clearly in an anthropological perspective.
ANG	6733	Issues in Migrant Health	3		This course provides an overview of health issues associated with transnational migration from an anthropological point of view.
ANG	6735	Reproductive Health	3		An in-depth examination of major issues related to sexual and reproductive health in both domestic and international settings, with emphasis on perspectives from medical anthropology, public health, and women studies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6739	Applied Anthropology and International Health	3		An advanced international anthropology course on the health issues, organization, people, policies and limitations of the arena of international health.
ANG	6741	Introduction to Forensic Sciences	3		Provides a general introduction to the methods and techniques used in the interdisciplinary field of forensic sciences.
ANG	6745	Forensic Anthropology	3		Provides a general introduction to the methods, theories, and techniques of Biological Anthropology as applied to medico-legal death investigations.
ANG	6746	Investigation of Violent Crimes Against Children	3		Advanced instruction for students to help them to understand the definitions of various forms and aspects of neglect, abuse, exploitation, abduction, and murder involving child victims.
ANG	6766	Research Methods in Applied Anthropology	3		Research design, data collection, and data analysis for Applied Anthropologists with urban and medical interests. Emphasis will be on non-quantitative research methods. Open to non-majors.
ANG	6770	Crime Scene Reconstruction	3		Surveys theories and methods of crime scene management and administration for violent crimes. Specifically it is designed to explore the ways in which evidence is recognized, preserved, documented, and collected in cases of violent crimes.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	6771	The Science of Missing and Unidentified Persons	3		Surveys scientific methods for the investigation of missing, endangered, and unidentified persons. Topics include forensic anthropology, archaeology, odontology, forensic pathology, crime scene, victimology, homicide, and facial approximations.
ANG	6772	Homicide Investigations	3		Provide an introduction to the theoretical and practical issues in the field of criminal homicide investigations, and to teach the methods and tools necessary to collect, preserve, interpret and analyze evidence from violent crime scenes.
ANG	6905	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
ANG	6915	Directed Research Internship	1-19		
ANG	6971	Thesis: Master's	2-19		
ANG	7487	Advanced Quantitative Research Methods Applied Anthropology	3		Critical review of quantitative approaches to the development, management, and analysis of sociocultural data. Open to non-majors.
ANG	7703	History and Theory of Applied Anthropology	3		The history and theoretical development of Applied Anthropology, including cultural resources management are discussed in the context of the overall development of Anthropology as a discipline and profession.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	7704	Legal and Ethical Aspects of Applied Anthropology	3		Development and nature of professional ethics in Applied Anthropology, including legal and quasi-legal regulations pertaining to human subjects research, cultural resources management, historic preservation, privacy, and freedom of information. Open to non-majors.
ANG	7708	Selected Topics in Applied Anthropology	3		An overview of Applied Anthropology in its relation to a major mode of public/private activity, e.g., planning, clinical practice, policy process, or advocacy. Open to non-majors.
ANG	7709	Applied Anthropology and Human Problems	3		Examination of specific problem areas of social significance and policy relevance. Typical offerings include: substance abuse, disease, mental health, international development, urban design, and education. Open to non-majors.
ANG	7905	Directed Individual Study	1-15		An advanced reading program of selected topics in Applied Anthropology under the supervision of an anthropology faculty member. A written contract describing requirements must be signed by the student and faculty member prior to registration.
ANG	7910	Directed Research	1-15		An advanced directed research program in a selected topic of Applied Anthropology under the supervision of an anthropology faculty member.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ANG	7938	Doctoral Proseminar in Applied Anthropology	3		Emphasizing the process of doing \"four-field\" anthropology (biological, archeological, linguistic, and cultural), conceptualizing research questions, identifying, gathering and analyzing data. How application and theory are integrated and how this integration is vital to the conduct of good anthropology with a variety of anthropological ideas."
ANG	7940	Doctoral Internship in Applied Anthropology	1-15		Supervised training in practicing Anthropology in a non-academic setting, focusing on the applications of Anthropology. A written contract describing requirements must be signed by the student, the faculty advisor, and the agency supervisor prior to registration.
ANG	7980	Dissertation: Doctoral	2-15		
APK	6104	Developmental Exercise Physiology	3	PR: APK 3120 (or equivalent)	The course covers normal growth and physiological development in children and adolescents with an emphasis on the changes in physiological adaptations with exercise as a result of maturation.
APK	6109	Cardiorespiratory Aspects of Exercise Physiology	3		Covers selected topics regarding cardiorespiratory aspects of exercise physiology. Some of the topics to be covered include: gas exchange and transport during exercise; aerobic metabolism, and acute & chronic adaptations to exercise training.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
APK	6111	Advanced Exercise Physiology	3	PR: APK 3120 (or equivalent)	The course will address advanced principles of basic and applied exercise physiology. Cardiovascular and respiratory physiology and physiological responses of these systems to acute and chronic exercise will be discussed, as well as thermal stress.
APK	6116	Neuromuscular Aspects of Exercise Physiology	3		Covers selected topics regarding neuromuscular aspects of exercise physiology. Some of the topics to be covered include: neuromuscular anatomy and physiology, theory of skeletal muscle contraction, protein synthesis and degradation.
APK	6406	Psychology of Exercise	3		Covers selected topics regarding the psychological aspects of exercise. Topics to be covered include: stress, anxiety, depression, mood, pain, exertion, and body image. Research methodology will be an important consideration throughout.
ARC	5175	Computer Technology	3		Introduction to the application of computer technology in current architectural practice. The exploration of available software, programs, and computer services for word processing, information handling, specification writing, feasibility analysis, cost estimating, economic performance and life cycle cost analysis, project management (network programming and analysis), computer graphics, computer aided design and drafting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	5216	The Building Arts	3		Introduction to the man-made environment. The study and profession of architecture. The various facets of the process of shaping the built environment as it manifests itself in the different roles and specialization of the experts involved the process, and in the various academic courses that prepare the architect for practice.
ARC	5256	Design Theory	3		Survey of major schools of thought in design theory, methods of design and problem-solving, and design research. The nature of the design activity and its recurring difficulties. The nature and different types of problems. Traditional approaches to problem-solving and design in architecture; recent systematic as well as intuitive approaches to problem-solving based on developments in other fields. Scientific method; the systems approach and design.
ARC	5361	Core Design I	9		First of two semester Design Fundamentals/Design Graphics sequence focusing on design abstractions and analysis of the factors influencing conceptual design. Emphasis is placed on ordering principles, pattern recognition and utilization, and figure-ground relationships. Development of craftsmanship, drawing as a means to design, and perceptual acuity are stressed.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	5362	Core Design II	9	PR: ARC 5361	Second of a two semester Design Fundamentals/Design Graphics sequence focusing on synthesis of design concepts and application of ordering principles in architectural design. Emphasis is placed on developing an understanding and awareness of architectural elements and compositions. Students examine the work of significant architects and use it as a basis for design exploration. Graphic documentation, diagramming, and model studies are stressed.
ARC	5363	Core Design III	6	CR: ARC 5689; PR: ARC 5362, ARC 5467, ARC 5587, ARC 5731	Study of the various phases of the building delivery and design process, and of different approaches to ordering that process in a systematic fashion. The student will use one such systematic approach in the investigation and development of design solutions for a project of moderate scale and complexity. Studies of built form ordering principles, mass/void relationships, scale and proportion, color, texture, contextual relationships, meaning/imagery, and building technology (awareness of structural organization, services networks, construction processes and materials). Aspects of human behavior as design determinants.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	5364	Advanced Design A	6	CPR: ARC 5588, ARC 5467; PR: ARC 5363.	Application of orderly design processes to building projects of moderate complexity and scale. Continued investigation of the relationship between human behavior and the environment. Analysis and integration of site relationships into the development of design solutions. Legal aspects of zoning, building codes, and regulations regarding access for accessibility, fire escape, etc.
ARC	5365	Advanced Design B	6	CPR: ARC 5588, ARC 5467.; PR: ARC 5363	Investigation of the interaction between user requirements, environmental determinants, site and urban context conditions, technological factors, and design intentions in the development of design solutions for projects of medium scale and complexity. The analysis, design, and coordination of the various resulting systems, including structural, circulation, service networks, space zoning and use, environmental control systems at the interface between interior and exterior of a building. Representation of these relationships and systems in diagrams and models, and their manifestation in design and construction details.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	5366	Advanced Design C	6	CPR: ARC 5588, ARC 5467.; PR: ARC 5363	Design of multi-purpose buildings of medium to large scale and complexity. Issues of community and neighborhood design as they relate to the design of buildings. Restoration and adaptive re-use of existing historic buildings. Focus on thinking through as well as documenting the complete building system and process.
ARC	5467	Materials and Methods of Construction	3	PR: ARC 5470	Overview of properties of primary construction materials and systems that make up building structures and enclosures. Emphasis on elements and assemblies relative to various climates, technologies, costs, building codes, and craftsmanship.
ARC	5470	Introduction to Technology	3		Introduction to architectural technology, including structures, materials and methods of construction, and environmental controls. Overview of building systems and components and their integration into architectural design projects.
ARC	5587	Structures I	3	PR: Calculus, Physics, and ARC 5470	Review of static and mechanical principles of materials. Analysis and evaluation for appropriate selection of structural systems and elements. Analysis and design of timber and steel structures, based on moment, shear, and deflection. Fundamentals of wind and seismic design as they apply to wood and steel construction. Truss analysis, beam and column behavior.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	5588	Structures II	3	PR: ARC 5587	Introduction to the concepts and theories of structural analysis and design of reinforced concrete systems and elements, including practical application in building construction. Prestressing, post-tensioning, hybrid assemblies. Fundamentals of wind and seismic design. Formwork, placement, and assembly techniques.
ARC	5689	Environmental Technology	3	PR: ARC 5467 and ARC 5470	Comprehensive overview of mechanical systems for buildings including: water and waste: fire protection and suppression; heating, cooling and controls; electric power distribution and illumination; communications; transportation systems, and acoustics.
ARC	5731	Architectural History I	3		Overview of the built environment from prehistory through the Middle Ages. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological and economic context. Varieties of methodological approaches to the analysis of historical architecture. The focus will be on the built environment of Europe and the Mediterranean basin.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	5732	Architectural History II	3		Overview of the built environment from the Renaissance to the present. Buildings and cities in their geographical, topographical, political, aesthetic, social, technological, and economic context. Study of various methodological approaches to the analysis of historic architecture, and development of student's own approach. Emphasis will be on the built environment of Europe and America.
ARC	5789	Modern Architecture History	3		Exploration of the philosophic, economic, aesthetic, social, historical and moral imperatives used by modern architects and historians in their attempt to design the appropriate physical environment for a new social order. The course will investigate the writings and works of the proponents of the modern style of architecture and study the new "Architecture" as defined by those who broke tradition and expressed the new era using modern construction materials and techniques."
ARC	5793	History Abroad	3		Summer study abroad. Location and description varies from year to year.
ARC	5794	Florida Architectural History	3		An examination of the environmental, sociological, technological, political, economic, cultural, and other factors that influenced the discovery, growth, and urbanization of Florida as manifested by its architecture.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	5920	Architectural Design Studio Abroad	5		Summer study abroad. Location and description varies from year to year.
ARC	5931	Special Studies in Architecture	1-5		Variable titles offered on topics of special interest.
ARC	6176	Advanced Computer Technology	3	PR: ARC 5175	Elective course dealing with further development of CAD skills, focusing on three-dimensional modeling. A wide range of software programs is included which explores painting and shading, surface textures, 3D detail studies, perspectives, and oblique representations.
ARC	6287	Professional Practice I	3	PR: ARC 5216, ARC 5364	Introduction and overview of professional practice, emphasizing business, organization, management, and marketing. Legal, economic, and ethical aspects of project procurement, design services, and delivery. Contracts, owner-contractor-architect roles and responsibilities.
ARC	6288	Professional Practice II	3	PR: ARC 6287	Continued overview of professional practice, emphasizing legal, economic, and ethical aspects of practice. Project planning, funding, administration, risk management, and performance. Topics include: estimating, financing, life-cycle cost analysis, information resources and management.
ARC	6367	Advanced Design D	5	PR: ARC 5366, ARC 6481	Comprehensive studio problems emphasizing the integration of disciplinary and professional skills through the formulation of architectural propositions grounded in critical, speculative, and creative research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	6372	The Neighborhood	3		Introduces students to the range of urban and suburban neighborhood typologies. We will discuss the purpose of the neighborhood as a physical and social construct, the history of neighborhoods, and the meaning of the neighborhood in present.
ARC	6373	Community Design Studio	6	CR: ARC 6398	(Varies depending on topic) The Community Design Studio is a six credit hour physical design lab course. Its focus is on design at the scale of urbanism – the metropolitan region, the city, the district, the block, the street, and the building complex.
ARC	6397	Introduction to Urban Design Theory, Methods & Processes	3		Introduction to the concepts, methods, and manifestations of urban design and city-building. Focus on both traditional city and modern city conditions. Student will gain a basic understanding of the design structure, order, function and character of cities and towns and assess various qualitative aspects of these conditions. Relationships between processes of architecture, landscape architecture, site planning, preservation and other relevant acts of city-building will be considered as referential points-of view in assessing certain complexities of urban morphology.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	6398	Introduction to Community and Urban Design	3		Introduce community and urban design as an academic discipline and professional practice that incorporates architecture, planning, landscape architecture, real estate development, and engineering. Major topics include urban form, function, and perception.
ARC	6471	Advanced Topics in Materials and Methods	3	PR: ARC 5175, ARC 5587, and ARC 5588	Analysis and design of advanced construction assemblies. Specific focus on application and integration of multiple systems and components. Research in new materials and methods. Documentation and model and analysis.
ARC	6481	Design Development	3	PR: ARC 5689 and ARC 5364.	The summary course of the building technology sequence in which construction, structural and environmental technologies are integrated within an architectural design project. Emphasis is placed on poetic and technical aspects of building systems.
ARC	6692	Advanced Topics In Environmental Technology	3	PR: ARC 5175, ARC 5689	Analysis and preliminary design of advanced environmental control systems; specific focus on architectural applications; integration with structural and construction systems. Research of special aspects of ET systems, computer simulation and analysis techniques.
ARC	6930	Special Topics in Urban and Community Design	1-6		Special topics related to urban and community design and planning issues.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	6936	Research Methods in Architecture	2	PR: ARC 6311, ARC 5365, and ARC 6481	A seminar course with the primary purpose of providing tools to conduct the independent research necessary for the two-semester, independent Master's Thesis requirement.
ARC	6971	Master's Thesis	5	PR: ARC 5364, ARC 5365, ARC 5366, ARC 6481, and ARC 6936	This represents the most significant project and provides for a demonstration of the ability to synthesize learned skills into a convincing independent work of professional quality. 10 credit hours of ARC 6971 is required. See also the USF Graduate Catalog.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARC	6974	Master's Project Planning	3	PR: Two of ARC 5364, 5365, 5366	The Master's Project (ARC 6971) will call for the student's independent selection, organization, programming and design of a complex project. This course aims at preparing students for these tasks by exploring potential topics for master's projects and theses, introducing the concepts of architectural facility programming, methods of gathering, organization, analysis and evaluation of information needed for the project, and by studying the process of writing proposals for the master's project that clearly communicate the problem or task, goals and objectives, the proposed approach and procedure, the expected outcome, as well as the work plan and schedule for such a project and the time and resources required. At the end of the course, students will have prepared an acceptable master's project proposal which will allow them to proceed with the master's project during the following term.
ARC	6976	Terminal Master's Project	5	PR: ARC 6936	Students will independently investigate an architectural topic of personal interest. The requirements include the submission of a research and design document and the preparation of juried presentation of the work.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ARH	5813	Methods of Art History	4		This course introduces students to various methods which art historians have used to analyze the form and content of individual works of art, and to various modes of historical explanation.
ARH	5836	Collection and Exhibition Management	3		This class will introduce students to the basic principles of collections care and management and to the intellectual and practical tasks of preparing an exhibition. Sessions will include art handling, registration and condition reporting, preparing works of art for transit, environmental standards for collections storage and exhibition, and the professional responsibilities of the curator.
ARH	6055	Art History	1-4		A contract for research in any elective area of Art History.
ARH	6798	Seminar In Art History	4		Var. Specialized topics in art history.
ARH	6891	Paris Art History	4	PR: At least 8 hours art history at the undergraduate level	This course will explore issues central to the history and criticism of art through the rich and visual culture that Paris offers. The goal of this course is to provide students with an experience of the cultural life of the city through an exploration of its major art collections, monuments, art collections and historical sites. Thematically-organized topic will include: art and national identity, patronage, orientalism, the birth of the avant-garde and the role of the museum in the evolution of modernism and modern art.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ART	5390C	Drawing	4	PR: ART 4320C	Advanced problems in various drawing techniques. Emphasis on individual creative expression. Repeatable.
ART	5448C	Intaglio	4		Investigations into more complex intaglio processes including photoengraving and color printing procedures. Emphasis on personal conceptual development in graphic media.
ART	5580C	Painting	4		Research in painting
ART	5740C	Sculpture	4	PR: ART 2701C	Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. Repeatable.
ART	5790C	Ceramics	4	PR: ART 2750C	Advanced problems in the various ceramic techniques, including throwing and glaze calculation. Repeatable.
ART	5910	Research	1-4		
ART	6391C	Drawing	4		Advanced graduate research in drawing.
ART	6449C	Intaglio	4		Advanced graduate research in intaglio process.
ART	6581C	Painting	4		Advanced graduate research in painting.
ART	6688	Electronic Media	4		Advanced projects in the exploration of the issues and practices involved in the creation of experimental computer art at the graduate level. Emphasis on individual creative expression. May be repeated.
ART	6791C	Ceramics	4		Advanced graduate research in ceramics.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ART	6792C	Sculpture	4		Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. Repeatable.
ART	6811	Paris Art Studio	3		This course will explore the experience of modern life in the city as a source for art making. Projects will encourage students to encounter the dense and varied space and time of Paris toward a better understanding of the part that this city has played in the shaping of modern and post modern sensibilities. We will draw upon a range of avant-garde strategies that have imagined and conceptualized Paris by movement through city spaces and close observation of the ordinary and extraordinary aspects of everyday life.
ART	6816	MFA Professional Practices	3		MFA students will analyze their experiences and explore options available to visual artists after completion of their degree. Restricted to majors; not repeatable for credit.
ART	6895	Graduate Seminar I	3		This seminar will expand students understanding of the complexities of contemporary art. Students will develop an awareness of current critical theories through readings, writings and discussions. Restricted to majors and is non-repeatable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ART	6896	Graduate Seminar II	3	PR: Graduate Seminar I.	This course facilitates a critical awareness of the self-reflexive nature of artistic vision within a larger cultural context including the relevance of one's work in relationship to contemporary art theory. Restricted to majors and is non-repeatable.
ART	6897	Critical Writing Seminar	3		Significant texts of the 20th Century and contemporary criticism introduce multiple lenses through which art is encountered, inviting self identification within a broad range of engaged positions. This forms the core of the MFA Research Project Proposal.
ART	6907	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
ART	6911	Directed Research	1-19		Directed Research in which student must have a contract with an instructor.
ART	6937	Graduate Instruction Methods	1-4		Special course to be used primarily for the training of graduate teaching assistants.
ART	6940	Selected Topics In Art	1-4		Variable credit depending upon the scope and magnitude of the work agreed to by the student and the responsible member of the faculty.
ART	6956	MFA Research Project	2-19		Development/Finalization of MFA Research Project, including the planning and realization of an exhibition and a written document articulating ideas, processes, and sources related to the project. Usually taken during last year.
ART	6971	Thesis: Master's	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ATR	5105C	Athletic Training Techniques	3		Overview course including basic components of the athletic training profession including the prevention, recognition and evaluation and immediate care of athletic injuries.
ATR	5125	Anatomical Basis of Clinical Practice in Sports Medicine	3		By way of laboratory prosection of cadavers, this class will provide an opportunity for students to gain an in-depth understanding of human anatomy. This course examines anatomy of the extremities, back, thorax, abdomen, pelvis and perineum.
ATR	5217C	Physical Examination I	4		The study and practice of skills and techniques essential for the evaluation of orthopaedic injuries. Students will learn to formulate an impression of the injury/condition in order to provide the basis for an initial treatment plan and medical referral.
ATR	5218C	Physical Examination II	4		The study and practice of skills and techniques essential for the evaluation of orthopaedic injuries. Students will learn to formulate an impression of the injury/condition in order to provide the basis for an initial treatment plan and medical referral.
ATR	5306C	Therapeutic Interventions I	4		Theoretical and clinical bases for the use of therapeutic modalities, pharmacology in the rehabilitation setting, including basic physics, physiological effects, indications, contraindications, and applications of therapeutic modalities in rehab.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ATR	5307C	Therapeutic Interventions II	4		Theory and application methods of comprehensive therapeutic treatment and rehabilitation programs for injuries commonly sustained by the physically active.
ATR	5308C	Therapeutic Interventions III	1		This course will provide an overview of manual therapy techniques, including myofascial release, joint mobilization, and traction as they are incorporated into a therapeutic rehabilitation program.
ATR	5319	Rehabilitation Considerations for Children	3		Addresses the principles of rehabilitation for children. This course will entail advanced anatomical, physiological and psychological aspects of sports injury in the youth population.
ATR	5346C	Health and Wellness Promotion Across the Lifespan I	3		Integrates physiological, psychological, and social understanding of humans in relationship to physical activity as a lifelong pursuit. Includes physical fitness, nutrition, stress reduction, socialization, and individual differences in human behavior.
ATR	5347C	Health and Wellness Promotion Across the Lifespan II	1		Techniques in conducting health fitness tests and exercise prescription including cardiorespiratory fitness, flexibility, weight control and nutrition as it relates to a healthy lifestyle.
ATR	5348C	Health and Wellness Promotion Across the Lifespan III	1		This course will introduce concepts of neuromuscular system training, specifically addressing sport specific strength training, exercise selection, and physiological needs analysis.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ATR	5435	Medical Conditions	3		Pathology, physical examination, referral and treatment related to non-orthopedic conditions in the active population. Specific diagnostic tests and physical examination procedures will also be addressed.
ATR	5508	Contemporary Issues in Athletic Training	3		Takes a unique look at the current issues facing the profession of athletic training. Historical perspectives, current implications, and futuristic opportunities and threats are discussed.
ATR	5515	Administration of Injury Prevention Programs	3		Discusses the development and implementation of injury prevention programs for youth sports. Issues such as research, budgeting, marketing, and measuring effectiveness are identified.
ATR	5534	Documentation in Athletic Training	1	CR: ATR 3202	Documentation in Athletic Training is designed to prepare athletic training students with an introduction to the foundation of appropriate terminology, documentation, and communication methods as they relate athletic training and sports medicine.
ATR	5605	Youth Injury Epidemiology	3		Key issues in epidemiology, injury etiology, risk factors related to both internal and external variables, and the efficacy and effectiveness of preventive measures in regard to youth sport injury will be analyzed and discussed.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ATR	5612	Evidence Based Medicine in Athletic Training	2		This class will introduce the concept of evidence-based medicine and provide the student with information on how evidence-based medicine can affect the clinical practice of athletic training and enhance the care given to patients.
ATR	5815	Clinical Experience in Athletic Training - I	3		Performance of basic athletic training skills under the supervision of a clinical instructor at various sites. Students develop competence in introductory athletic training skills. Focus on equipment intensive sports. A weekly seminar also required.
ATR	5825	Clinical Experience in Athletic Training - II	3		Performance of basic athletic training skills under the supervision of a clinical instructor at various sites. Students develop competence in introductory and mid-level athletic training skills. Weekly seminar is also required.
ATR	6114	Preventing Sudden Death in Sport I	2		The purpose of the course is to provide athletic training students an overview of the general concepts and principles related to the causes of sudden death in sport. This course will deal with specific and potentially life-threatening conditions.
ATR	6115	Preventing Sudden Death in Sport II	2		Provide an overview of the general concepts and principles related to the causes of sudden death in sport. This course will deal with specific and potentially life-threatening conditions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ATR	6116	Preventing Sudden Death in Youth Sports Settings	3	PR: ATR 6236	Preventing Sudden Death in Youth Sports Settings will familiarize students with the common causes of fatalities in young athletes. This course is limited to those in the post-professional athletic training program (M.S. in MS, Athletic Training concentration).
ATR	6226	Advanced Athletic Training	3		This course designed to expose the Senior Athletic Training Students to current concepts and techniques in the evaluation and treatment of musculoskeletal conditions. Didactic sessions will be supplemented with physical exam assessment skills.
ATR	6235	Motor Development and Skill Acquisition	3	CR: ATR 6236	Motor Development and Skill Acquisition will familiarize students with the theories and approaches of skill acquisition in young athletes. This course is limited to post-professional athletic training program (M.S. in MS, Athletic Training concentration).
ATR	6236	Pediatric Sports Medicine	3		Addresses the unique orthopaedic conditions commonly seen in adolescents. Musculoskeletal issues, such as disease process, genetic abnormalities, infectious disease, mechanism of injury, overuse, protective equipment, immature skeletal disruption, etc.
ATR	6446	Medical Conditions of Adolescents	3		Focuses on non-orthopedic conditions in children such as review of pharmacology, guidelines for pre-participation examinations, diabetes, exercise induced bronchospasm, sudden cardiac death, concussions, and infectious diseases in the adolescent athlete.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ATR	6516	Ethical & Legal Issues in Healthcare	1		Designed to develop awareness of ethical & legal issues required for athletic trainers to deliver healthcare. Develops a broad understanding of the ethical & legal issues related to healthcare delivery, emphasizing legal terminology and applicability.
ATR	6517	Professional Practice	4		The advanced study, writing and discussion of specialized topics and contemporary issues related to professional practice. Emphasis will be on historical perspectives, professional preparation, credentialing, governance, ethics, and scope of practice.
ATR	6615	Evidence Based Research and Writing	3		A thorough look at the process of utilizing evidence-based medicine to advance healthcare. The importance of applying medical outcomes to clinical practice; recent research; & components of conducting & publishing research in the field of sport medicine.
ATR	6616	Research in Athletic Training	3		The capstone project is the final cumulative work that exemplifies a body of knowledge that significantly contributes a worthy product to the profession of athletic training and one's own professional endeavors.
ATR	6617	Capstone Project 1	3	PR: ATR 5508, ATR 5515, ATR 6615	The capstone project is a cumulative work that exemplifies a scientific body of knowledge that contributes to the field of AT. CP-1 focuses on identifying a problem, reviewing literature, & developing a plan to enhance the healthcare of young athletes.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ATR	6618	Capstone Project 2	3	PR: ATR 6617	Focus on completing a SWOT analysis of the plan & a formal written document. The final project will be used for immediate implementation, submission for publication/presentation & will ultimately result in improvement of healthcare for young athletes.
ATR	6835	Clinical Experience in Athletic Training - III	3		Performance of mid-level athletic training skills under the supervision of a clinical instructor at various sites. Experience will also include general medical experience and surgery observation. Weekly seminar also required.
ATR	6845	Clinical Experience in Athletic Training - IV	3		A Capstone experience under the supervision of a preceptor at various sites. Students develop competence in mid and advanced athletic training skills and prepare for the BOC examination.
ATR	6920	Athletic Training Professional Colloquium	3		The Athletic Training Professional Colloquium course is a week-long in-residence course led by leaders in the profession of athletic training. A variety of topics are covered, including national trends, association issues, and professional challenges.
BCC	7114	Emergent and Urgent Care Clerkship	var		Students participate in patients with emergent and urgent medical presentations and assist in the development of a differential diagnosis and preliminary diagnostic and therapeutic plans.
BCC	7134	Maternal and Newborn Health	var		Students participate in maternal care and newborn care.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BCC	7144	Integrated Internal Medicine - Pediatrics	var		This clerkship introduces students to basic principles and practices of hospital-based internal medicine and pediatrics. When possible, it integrates interdisciplinary principles of internal medicine and pediatric disease management.
BCC	7154	Neuropsychiatry Clerkship	var		The Neuropsychiatry Clerkship is 4 weeks consultation liaison service, 4 weeks inpatient psychiatry, and 2 weeks outpatient neurology.
BCC	7164	Surgical Care Clerkship	var		The Surgical Care clerkship focuses on the development of the fundamental principles in the surgical care of patients.
BCC	7184	Primary Care and Special Care Populations Clerkship	var		The Primary Care and Special Care Populations Clerkship introduces students to the principles of primary care medicine (Internal Medicine, Family Medicine, and Pediatrics) in the ambulatory setting.
BCC	8116	Skin and Bones Medicine Clerkship	var		The Skin and Bones Medicine clerkship is 4 weeks in duration dealing with the content areas of musculoskeletal and dermatology.
BCC	8117	Interdisciplinary Oncology	var		This is a four-week block in which all students will be expected to learn the fundamental principles of oncology and the multidisciplinary approach to the prevention, diagnosis, treatment, and rehabilitation of cancer patients.
BCH	5045	Biochemistry Core Course	3	PR: Either CHM 2211, CHM 2211L, and CHM 3400 or CHM 4410	A one-semester survey course in biochemistry for graduate students in chemistry, biology, and other appropriate fields and for particularly well-qualified undergraduates.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BCH	5105	Biochemistry Laboratory Rotations	1-3		A course in which first year graduate students rotate through selected professor's laboratories to learn techniques, become familiar with ongoing research in the Department and facilitate the selection of a mentor.
BCH	6135C	Methods in Molecular Biology	4		An introduction to modern molecular biological techniques and instrumentation. Lec. Lab.
BCH	6411	Biomedical Genomics and Genetics	4	PR: GMS 6001 or GMS 6200C	An overview of Biomedical Genomics & Genetics and current and potential applications in biology & medicine, including identification of gene defects and the use of genetic tools for diagnosis and treatment of disease.
BCH	6627	Molecular Basis of Disease	4	PR: GMS 6200C	The course will deal with the genetic, molecular, and biochemical basis of human diseases.
BCH	6746	Structural Biology	3	PR: GMS 6001	The theory and application of modern physical biochemical techniques.
BCH	6886	Fundamentals of Structural Bioinformatics	4		This lecture-based, nonrestrictive course covers basics of molecular bioscience data management/analysis. This course comprises a mixed delivery mode consisting of traditional didactic lectures coupled with student assignments and presentations.
BCH	6888	Bioinformatics	3		An introduction to computer software applications for research in Biochemistry and Molecular Biology. Emphasis on database searching and submission, data analysis and graphical presentation, DNA and protein sequence analysis and molecular modeling. Lec./Pro.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BCH	6889	Bioinformatics II	3	PR: BCH 6888	Bioinformatics II focuses on four aspects: genome analysis; software suites; homology modeling and DNA micro arrays; all of which have become essential tools in modern day analyses of both genome organization and protein structure-function relationships.
BCH	6935	Grant Writing & Scientific Communication	2	PR: GMS 6001	Development of skills related to scientific communication, including the preparation of effective scientific manuscripts and related communications, and the preparation of fundable grant proposals.
BCH	6942	Bioinformatics Internship I	4-6	PR: BCH 6888	This course focuses on applications of bioinformatics and computational biology principles in a practical environment necessary for an "in-depth" understanding of how the methodologies of bioinformatics can be applied to solve bioscience problems.
BCH	6943	Bioinformatics Internship II	2	PR: BCH 6888	This course focuses on applications of bioinformatics and computational biology principles in a practical environment necessary for an "in-depth" understanding of how the methodologies of bioinformatics can be applied to solve bioscience problems.
BME	5040	Pharmaceutical Engineering	2		Introduction to pharmaceutical engineering, including dosage forms (tablets, capsules, powders, liquids, topical forms, and aerosols), excipients, regulatory issues, clinical studies, and good manufacturing practices.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BME	5320	Theory and Design of Bioprocesses	3		Introduction to biotechnology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biosystems.
BME	5910	Directed Research in Bioengineering	1-3		Directed research in an area of biomedical engineering or engineering biotechnology.
BME	5937	Selected Topics in Biomedical Engineering	1-3		Selected topics in biomedical engineering, including biomedical engineering, biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems. May be taken by non-engineering students with CI. Repeatable as subjects vary.
BME	6000	Biomedical Engineering	3		Biomedical engineering analysis, including biomedical thermodynamics, biomechanics, biomaterials, medical imaging, biomedical instrumentation, tissue/cellular engineering, clinical engineering, prosthetic/medical devices, and regulatory issues.
BME	6001	Biomedical Engineering II	3		This course will address a wide range of fundamental topics in biomedical engineering, focusing on the application of engineering fundamentals to the analysis of the human biomedical system.
BME	6055	Modern Biomedical Technologies	3		In this class students will learn about new possibilities brought by development of interfaces between human body and computers, creation of artificial body parts, deciphering of brain signals and design of new generation biomedical instruments.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BME	6107	Biomaterials I: Material Properties	3		Properties and characterization of biomaterials, including ceramics, glasses, metals, natural materials, polymers, and composites. Applications include dental, orthopedic, soft tissue, and tissue scaffolds. Design and sterilization issues.
BME	6108	Biomaterials II Biocompatibility	3		Biocompatibility issues of biomaterials, including inflammation, wound healing, foreign body response, toxicity, blood coagulation, tumorigenesis, infection, and related issues including testing. Degradation of materials in the biological environment.
BME	6235	Tissue Biomechanics	3		Biomechanical properties of hard and soft tissues, including measurement procedures, influences on properties (gender, aging, physical conditioning, disease processes), tissue repair, and implant devices. Open to non-majors with CI.
BME	6340	Biomedical Fluids and Cardiovascular Engineering	3		Roles of mechanics & transport phenomena in pathology, diagnosis & treatment of cardiovascular disease. Intro to methods for assessing hemodynamics & cardiovascular health -Doppler echocardiography & MRI. Cardiovascular devices. Open to non-majors.
BME	6410	Engineering Physiology	3	PR: ECH 4846, EGN 3433, PHY 2048, PHY 2049, or CI	General physiology of nerve, muscle, heart, and lung tissue, along with quantitative models of physiological processes at cell, tissue, and/or system level.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BME	6420	Human Sensory Processes	3		Biological and engineering aspects of the human sensory system (vision, hearing, taste, smell, touch, pain, etc.), including normal and impaired performance, engineering models, and prosthetic device design considerations.
BME	6430	Cardiovascular Systems for Engineers	3		Cardiovascular basic and medical science from an engineering viewpoint. Topics explored: cardiovascular anatomy and physiology, physical and mathematical aspects of current therapies and diagnostics, imaging, hemodynamics, and cardiovascular disease.
BME	6573	Nano-medicine	3		This course will provide a basic knowledge of the principles, technology and applications of nanotechnology in medicine with special emphasis on recombinant DNA technology, protein engineering, drug delivery, biomaterials, MEMs & tissue engineering.
BME	6634	Biotransport Phenomena	3		Analysis and applications of biofluids, including non-newtonian and particulate systems, bioheat transfer, including energy balances, and biomass transport, including mass balances and membrane processes. Open to non-majors with CI.
BME	6905	Directed Independent Study	1-6		Directed independent study in biomedical engineering.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BME	6911	Research Methods in Biomechanics	1-3		Research methods in biomechanics, including materials testing, gait analysis, modeling techniques, and related issues. Open to majors and non-majors. May be repeated for credit as the subject varies up to six total credits.
BME	6920	Seminar in Biomedical Engineering	1		Seminar in biomedical engineering. Speakers will address current research topics in biomedical engineering, including biomechanics, cardiovascular engineering, sensors, tissue engineering, and drug delivery. Can be repeated up to 3 total credits.
BME	6931	Selected Topics in Biomedical Engineering	1-3		Selected topics in biomedical engineering, including focused topics in biomechanics, biomedical imaging, biomaterials, biomedical instrumentation and sensors, tissue and cellular engineering, and clinical engineering & health systems.
BME	6944	Biomedical Engineering Industrial Internship	1-6		Individual study as practical engineering work at an industrial facility or laboratory under the supervision of a faculty member interacting with the sponsoring industrial facility or laboratory.
BME	6971	Research for Master's Thesis	2-6		Research for the Master's Thesis in Biomedical Engineering. Students may count up to six hours total maximum towards the M.S. degree. Students must have an approved Master's committee for registration.
BME	7915	Directed Research in Biomedical Engineering	1-6		Directed research in an advanced topic in biomedical engineering.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BME	7980	Ph.D. Dissertation	2-19		Dissertation research for the Ph.D. in Biomedical Engineering.
BMS	5005	Professions of Medicine: Foundations of Doctoring	1-19		This three-week course placed at the beginning of the medical school curriculum will introduce the students to principles that will be used through the entire medical school education and beyond. Basic scientists and clinicians present information in an integrated approach. Topical areas include: use of information resources (library/computer), the medical article, intro to evidence based medicine, effective study techniques, intro to the physical exam, cultural diversity, ethics and professionalism, and state of the art presentation. The course will use both large and small group learning techniques and students will demonstrate achievement of knowledge.
BMS	5015	Clinical Diagnosis and Reasoning	var.		This course aims to provide the student with the opportunity to \think like a physician.\" It will provide the venue to integrate clin diagnosis/reasoning strategies with complementary aspects of clin problem solving/phys diagnosis/evidence based medicine."
BMS	6100C	Gross Anatomy	5-10		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BMS	6206	Molecular Medicine	var.		Emphasis of biochemistry, cell biology, and genetic that have immediate relevance for clinical medicine while also providing a fundamental foundation of understanding that will permit life-long learning. The pathogenesis of disease will be understood based on a practical understanding gained from the students address in this course.
BMS	6300	Principles of Immunology and Infectious Diseases	var.		This course consists of lectures, laboratory, and small-group conferences. Principles of infectious disease are presented with emphasis on both the characteristics of the causative agent and the host response to colonization activities.
BMS	6633	Cardiovascular & Pulmonary Systems	var.		A comprehensive description of the cardiovascular and pulmonary systems including anatomy, physiology and nervous control.
BMS	6639	Excretory and Reproductive Systems	var.		A comprehensive description of the Gastrointestinal, Reproductive and Renal Systems and some of the Disorders of Behavior that affect human homeostasis.
BMS	6640	Core Principles of Med Science/Musculoskeletal Sys	var.		A comprehensive/integrated discussion of the basic principles of Anatomy/Biochemistry/Cell Biology/Genetics/Molecular/Biology/Neuroscience/ Physiology & Human Behavior plus a discussion of the anatomy/biochemistry/physiology of the musculo-skeletal system.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BMS	6641	Communications: Neuroscience & Endocrinology	var.		A comprehensive description of the major communication systems found in the human body.
BMS	6825	Doctoring I	var		This course will instruct students in clinical skills essential to medical practice: effective history taking, patient-centered communication, professionalism, ethics, cultural competence, basic physical diagnosis, humanities related to medical practice.
BMS	6836	Evidence Based Clinical Reasoning	var.		This course will instruct students in infomatics, acquisition of data from the medical literature, and application of research by application to selected clinical cases using problem-based learning.
BMS	6991	Scholarly Concentration I	var		Provides opportunities for scholarly endeavors in areas of special interest. Year 1 students will take a core curriculum, participate in journal clubs, and start a scholarly legacy project.
BMS	6992	Scholarly Concentration II	var		Each topic includes elements of course work, practical application, and scholarly presentation. Year 2 students will take a leadership role in journal clubs, continue working on their scholarly legacy projects, make use of on-line portfolios.
BMS	6993	Scholarly Concentration III	var		Provides opportunities for scholarly endeavors in areas of interest. Year 3 students will participate in journal clubs, continue work on their scholarly legacy projects, and make use of on-line portfolios.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BMS	6994	Scholarly Concentration IV	var		This Year 4 elective provides opportunities for scholarly endeavors in areas of special interest. Includes active participation in journal clubs, use of on-line portfolios including opportunities for reflection, & generation of a scholarly legacy project.
BMS	7303	Clinical Microbiology and Immunology	var.		This course will focus on an experiential approach to issues in clinical microbiology and immunology of relevance to the practicing physician.
BMS	7304	Review of Immune and Infectious Diseases	var.		This course will focus on a review of the major immune and infectious diseases that may be encountered by the general physician.
BOT	4184C	Biology of Coastal Plants	4	PR: BOT 3373C and PCB 3043	A field course in coastal plants with emphasis on ecology and functional morphology. Fieldwork will stress the ecological aspects of plants in the coastal environment of Florida. Fieldwork required. Lecture and Lab.
BSC	4052	Conservation Biology	3	PR: PCB 3043, BSC 2010, BSC 2010L, BSC 2011, BSC 2011L, CHM 2045, CHM 2046 and Calculus (MAC 2241/2281/2311).	This course provides an extensive introduction to current models and empirical study in conservation biology, including substantial hands-on experience with programming methods for study of data and models.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BSC	4444	Genomics	3	PR: PCB 3063	We will be using genomic data available from multiple bioinformatics databases to answer an open-ended question fundamental to organismal evolution. The emphasis is to hone scientific inquiry skills in fledgling researchers.
BSC	5425	Genetic Engineering and Recombinant DNA Technology	3	PR: PCB3023, PCB3063, either PCB3023L or PCB3063L	This lecture-based course will use a problem solving approach, provide fundamental knowledge of scientific concepts and principles that form the basis of experimental methodologies in genetic engineering and recombinant DNA technology. For majors/nonmajors.
BSC	5931	Selected Topics in Biology	1-4		
BSC	6436	Introduction to Biotechnology	3		The course focuses on biotechnology, the integration of biology and technology and its applications in genomics, forensics, agriculture, engineering and medicine that have resulted in new products and services and solved biological/biomedical problems.
BSC	6437	Biotechnology and Bioethics	3		Provides students a basic understanding of what biotechnology is and how it is employed throughout the world. Students are to learn the ethical and legal issues facing this technology, and how biotechnology is regulated. Course is not repeatable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BSC	6457	Modern Basic Tools of Research	2		An introduction to modern core research facilities and methodologies used in cancer research. Lec., Lab., Dem. Department Approval Required.
BSC	6905	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
BSC	6910	Directed Research	1-19		
BSC	6930	Lectures in Contemporary Biology	1		This Biology lecture series includes a diversity of contemporary topics including: molecular regulatory mechanics, evolutionary genetics, organismal physiology and community ecology.
BSC	6932	Selected Topics in Biology	1-4		
BSC	6935	Graduate Seminar in Biology	1		
BSC	6936	Scientific Grant Writing	3		Course provides instruction on becoming a successful grant writer as well as understanding the grant proposal writing and review process. Responsibilities of the principle investigator for compliance, fiscal matters, and scientific management of the funded grant will also be covered with guest lecturers from the Division of Sponsored Research.
BSC	6939	Selected Topics in Cancer Biology	1-4		Provides in-depth study of a single aspect of cancer biology. Topics offered vary by semester.
BSC	6945	Graduate Instruction Methods	1-3		Special course to be used primarily for the training of teaching assistants.
BSC	6971	Thesis: Master's	2-19		Thesis: Master's

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
BSC	7910	Directed Research	1-19		
BSC	7911	Directed Research in Cancer Biology	1-12		Student research will be performed under the guidance of Ph.D. prior to formation of dissertation committee.
BSC	7936	Doctoral Seminar	1		Graduating Ph.D. students will present a formal seminar based upon their dissertation to the Department of Biology and the public. Restricted to majors.
BSC	7980	Dissertation: Doctoral	2-19		
BUL	5332	Law and the Accountant	3	PR: BUL 3320	A comprehensive study of commercial law as it affects the practice of accounting.
BUL	5842	Risk Management and Legal Compliance	3		This course is designed for non-accounting students who need to understand, monitor and control risks. The content of this course spans corporate governance, risk strategy and legal/regulatory compliance including analysis of significant laws/regulations.
CAP	5400	Digital Image Processing	3	PR: COP 4530.	Image formation, sources of image degradation, image enhancement techniques, edge detection operators and threshold selection, low-level processing algorithms for vision, image data compression.
CAP	5625	Introduction to Artificial Intelligence	3	PR: COP 4530.	Basic concepts, tools, and techniques used to produce and study intelligent behavior. Organizing knowledge, exploiting constraints, searching spaces, understanding natural languages, and problem solving strategies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CAP	5771	Data Mining	3	PR: Undergraduate Statistics.	An introductory course to mining information from data. Scalable supervised and unsupervised machine learning methods are discussed. Methods to visualize and extract heuristic rules from large databases with minimal supervision is discussed.
CAP	6011	Multimedia and E-Commerce for IT	3	PR: CGS 3823	Introduces the design principles of multimedia authoring and communication systems. It covers the interface and characteristics and video processing, multimedia, media encoding/compressions, multimedia editors, current communication standards.
CAP	6100	Human Computer Interface	3		Introduction to the design and evaluation of the interface between a computer based application and a human user.
CAP	6415	Computer Vision	3	PR: CAP 5400.	Techniques for description and recognition of objects, use of stereo, texture, and motion information for scene segmentation and description, consistent labeling and matching, use of knowledge and planning in computer vision.
CAP	6455	Advanced Robotic Systems	3	PR: Control Systems, Intro to Robotics, MatLab	Unmanned ground, aerial and underwater robots. Modeling, kinematics dynamics and control; navigation and collision avoidance; sensor fusion; vision-based navigation; sensor fault detection and isolation; system architectures and robot swarms.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CAP	6615	Neural Networks	3	PR: CAP 5600.	Defines models of artificial neural networks, compares these models, and investigates the relationship of neural network learning to other symbolic learning methods.
CAP	6638	Geometric/Statistical Pattern Recognition Techniques	3		Principles and applications of statistical pattern recognition methods, Bayes decision theory, parametric and nonparametric techniques, discriminant functions, unsupervised classification and clustering.
CAP	6663	IT Robotics Application	3		Introduction to Robotics and its different applications. Robotics technology is being used in a wide variety of applications that involve ground, aerial and marine systems. Robotics technology and applications will be explored and discussed.
CAP	6671	IT Intelligent Agents	3		Introduction to Intelligent Agents and its different applications. Intelligent agent technology relates to important areas that include artificial intelligence, neural networks, and expert systems. These areas will be discussed during the class.
CAP	6672	Robot Intelligence and Computer Vision	3	PR: COP 2400 or equiv.	An introduction to robotic systems with emphasis on the computational aspects of robot control. Topics for discussion: overview of the robotics field, analysis of robot arm kinematics and coordinate transformation, real-time computer control of robot arms, and computer vision. Practical experience in programming robotic systems will be included.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CAP	6736	Geometric Modeling	3	PR: Data Structures, Programming in a higher level language.	The course deals with the representation, design, analysis, processing and visualization of shape information used in a variety of fields of science and engineering.
CAP	6940	IT Graduate Practicum	3-6		An information technology project-based course that requires the student to investigate, design and implement a real-world application over two semesters or, with approval, one semester.
CCE	5035	Construction Management & Planning	3	PR: EGN 3613C.	Fundamentals of construction management. Topics include: general definitions, organizational roles, types of contracts, analysis of labor and equipment, cost estimating, contractor cash flow analysis, planning and scheduling, project control, construction administration, quality and safety management, and use of computer software in construction management.
CCJ	6118	Introduction to Criminology Theory	4		An introduction to, and comparison of, major historical and contemporary theories that seek to explain criminal behavior or the existence of crime in society.
CCJ	6406	Theory, Practice, and Research in Law Enforcement	3		This issue-oriented course explores the relationships among theory, practice, and research as these are reflected in the problems and challenges that confront law enforcement.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CCJ	6485	Criminal Justice and Public Policy	3		In this course, students will learn about the structure, function, theory and key issues of the criminal justice system. Students will also acquire the skills necessary to analyze public policy in criminal justice.
CCJ	6624	Seminar in Violence	3		This course utilizes psychological, sociological, and biological perspectives to help students to understand different types of violent offenders and various intervention strategies.
CCJ	6638	Seminar in Nature and Causes of Crime	3		Examination of some of the issues green criminologists study and investigate why it is important to study these issues from a criminological perspective. Topics include crime against animals, forests, and water.
CCJ	6654	Seminar in Drugs and Crime	3		The objective of this course is to provide the student a comprehensive understanding of the dynamics of drug use in American society.
CCJ	6669	Seminar in Social Inequality and Crime	3		In this course, students will examine one of the most persistent and divisive issues in criminal justice—racial, and to a lesser extent ethnic, disproportionality in the U.S. criminal justice system (CJS).

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CCJ	6705	Research Methods in Criminology	3-4		Introduction to the basic methods of criminological research; overviews philosophy of science, research ethics, research design issues such as sampling and measurement, and methods of data collection, including survey, experimental, and evaluation research.
CCJ	6706	Quantitative Analysis in Criminology I	4	PR: CCJ 6705	Introduction to data management utilizing computer statistical packages and elementary statistical techniques used in criminological research: descriptive and inferential statistics, group comparisons, measures of association, linear regression.
CCJ	6707	Quantitative Analysis in Criminology II	3	PR: CCJ 6706	Intermediate-level data analysis and statistical techniques applied to problems in criminology. Emphasis on multivariate techniques, including multiple regression, path analysis, and nonlinear models.
CCJ	6708	Quantitative Analysis in Criminology III	3	PR: CCJ 6707 or equivalent.	This course familiarizes students with advanced multivariate linear and nonlinear statistical procedures appropriate for analyzing criminological data.
CCJ	6905	Directed Independent Study	1-12		Independent study in which student must have contract with instructor.
CCJ	6910	Directed Research	1-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CCJ	6930	Current Issues in Corrections	3		This course is designed to review and analyze the major issues and dilemmas that confront corrections today, including overcrowding, inmate rights, privatization, control of gangs, control of inmates, and the availability of programs and services. Attention will also focus on the strategies and/or controversies associated with these issues.
CCJ	6931	Seminar in Criminological Theory	3	PR: CCJ 6605	This course is designed to provide an in-depth analysis of specific theoretical issues in criminology.
CCJ	6935	Topics in Criminology and Criminal Justice	3		Analysis and discussion of topics of major concern in criminology and criminal justice that are not covered in regular courses.
CCJ	6936	Current Issues in Law Enforcement	3		This course will focus on some of the most significant issues facing law enforcement agencies today. Some topics included will be: police use of deadly force; review of police conduct; police unionization; police corruption; media relations; civil liability; and community/problem-oriented policing.
CCJ	6937	Pro Seminar in Criminology	1		Provides a forum for presentation and discussion of research ideas by faculty, students, and guests, with a view toward the development of thesis topics.
CCJ	6971	Thesis: Master's	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CCJ	7065	Professional Development in Criminology	2		Engage in a range of professional activities that form the core of a successful career in the field of criminology. Topics will include: writing a dissertation, teaching, presenting at professional conferences.
CCJ	7605	Theories of Criminal Behavior I	3		The course is part 1 of a two semesters designed to expose students to the foundations of social scientific theory and the major paradigms within sociology, social psychology, and criminology on which most criminological theories are based.
CCJ	7606	Theories of Criminal Behavior II	3	PR: CCJ 7605	An advanced course that builds upon the knowledge base of criminological theory attained in prior coursework.
CCJ	7910	Advanced Research	1-12		Course is designed to give students an opportunity to conduct independent research under the supervision of a faculty member. May be repeated.
CCJ	7940	Teaching Practicum in Criminology	1		In this course, a student will receive supervision and mentoring from an experienced teacher in the context of a single undergraduate "live" (not on-line) course, the primary instructor of which is the experienced faculty member.
CCJ	7980	Doctoral Dissertation	2-12		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CDA	5416	Computer System Verification	3	PR: CDA 3201, COT 3100, COT 4400, COP 4530.	This course introduces basic concepts of formal verification. Topics include formal specification, algorithms, and methodologies for scalable verification. It is only for CSE majors or non-majors with permission from the instructor, not repeatable.
CEG	5115	Foundation Engineering	3	PR: CEG 4011	Design of shallow foundations, cantilevered and anchored retaining walls, piling, drilled piers and special foundations. Computer applications to geotechnical engineering are covered.
CEG	5205	Laboratory Testing for Geotechnical Engineers	3	PR: CEG 4011	Both routine and advanced forms of soil testing are covered. Emphasis is placed on procedures and application of results to design.
CEG	6015	Advanced Geotechnical Topics	3	PR: CEG 4011, CEG 4011L, CEG 5205.	Advanced concepts of shear strength and consolidation of soils; slope stability, nonlinear and secondary consolidation, numerical methods.
CEG	6065	Soil Dynamics	3	PR: CEG 4011, CEG 4011L, CEG 4012.	Fundamentals of vibrations, wave propagation, design of foundations, retaining walls and slopes to resist vibrations, liquefaction of soils.
CEG	6415	Seepage and Subsurface Drainage	3	CR: CEG 4011	Design of underdrains, wells, soil filters, fabric filters, and dewatering systems with special emphasis on case studies.
CEN	6084	Advances in Object Oriented Programming for IT	3		This course will explore advanced object oriented principles. Topics will include meta-object protocols, reflexive languages, meta classes and class/object hierarchies™ structures and bootstrapping.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CES	5105C	Advanced Mechanics of Materials I	3	PR: EGN 3331, MAP 2302	Analytical study of the mechanical behavior of deformable solids. Basic concepts, stress and strain transformations, special topics in beams, theory of elasticity, criteria of failure, beams on elastic foundation.
CES	5209	Structural Dynamics	3	PR: CES 3102, EGN 3321.	Behavior of structural components and systems when subjected to periodic dynamic loads.
CES	5715C	Prestressed Concrete	3		Fundamental principles of prestressing; calculation of losses; stress analysis and design of simple beams for flexure and shear. Examples of pressures applications.
CES	6010	Structural Life Prediction	3		Prediction of durability of structures, detection and evaluation of structural corrosion damage in steel/cementitious system, structure corrosion damage prevention, control and rehabilitation techniques.
CES	6103	Experimental Stress Analysis	3	PR: EGN 3331, EGN 3373	This course will provide the tools of research necessary to design experiments and/or instrumentation schemes for directed studies. It is intended for structural and geotechnical engineering graduates conducting master's or doctoral research.
CES	6107C	Advanced Mechanics Of Materials II	3	PR: CES 5105C.	Continuation of CES 5105C. Structural stability of beam-columns and frames, calculus of variations and energy methods, introduction to viscoelasticity and plasticity.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CES	6118	Applied Finite Elements	3	PR: CES 3102	The course focuses on applying the finite element method to types of problems encountered in various fields of engineering. In the course, underlying theories are presented, enough hand calculations are done to ensure an understanding of the methods, and then students solve problems using the ANSYS finite element program. The course is ideally suited for engineers wanting an understanding of the finite element method as applied to their jobs, graduate students wishing to apply the finite element method to their research problems, and students wanting a preparation for the Department's computational mechanics course sequence.
CES	6326	Design of Concrete Bridges	3	PR: CES 4702, CES 5715C.	Bridge Classification, AASHTO loads and load combinations, load distribution, design of typical superstructures and substructures for concrete and prestressed bridges.
CES	6586	Design of Structures to Resist Natural Hazards	3		Study of natural hazards (wind, earthquakes & ocean waves) and their interaction with structures. Use of exact and approximate methods of analysis, computer modeling, and design provisions for structures to resist the aforementioned loads.
CES	6609	Advanced Steel Design	3	PR: CES 4605.	Advanced topics in steel design. Topics covered include connection design, torsion of wide range sections, and optimum structural design.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CES	6706	Advanced Concrete Design	3	PR: CES 4702	Advanced topics in concrete designs. Topics include torsion two way floor systems, composite construction, slabs on grade, and deep beams.
CES	6716	Design of Continuous Post-Tensioned Structures	3		Methods of analysis and design of post-tensioned statically indeterminate structures. Emphasis will be on the design of two-way slabs for floor systems using the equivalent frame method and load balancing.
CES	6835	Design of Masonry Structures	3	PR: CES 4702.	This course provides an overview of the design of masonry structures using concrete masonry units. It covers both working stress and strength design of typical elements such as walls and lintels and simple structures.
CES	6841	Infrastructure I: Repair/Rehab of Structures	3	CR: CES 5715C; PR: CES 4702	This course focuses on the repair of structures using fiber reinforced polymers.
CGN	5933	Special Topics in Civil Engineering and Mechanics	1-5		New technical topics of interest to civil engineering students.
CGN	6720	Electrochemical Diagnostic Techniques	3	PR: EGN 3365 or equivalent basic Materials Science course.	Fundamentals and applications of electrochemical diagnostic techniques. Focus on electrochemical impedance spectroscopy to evaluate reaction rates in corrosion and interfacial phenomena of materials. Includes research project.
CGN	6906	Independent Study	1-19		Independent study in which students must have a contract with an instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CGN	6915	Directed Research	1-19		Course consists of directed research on topics selected by student and professor. The topics vary. The course allows students to develop research skills and independent work disciplines.
CGN	6933	Special Topics in Civil and Environmental Engineering	1-4		Topics to be chosen by students and instructor permitting newly developing subdisciplinary special interests to be explored.
CGN	6941	Graduate Instruction Methods	1-5		Special course to be used primarily for the training of graduate teaching assistants.
CGN	6945	Graduate Research Methods in Civil & Environmental Engineering	1		Course covers proposal writing including review of successful proposals and scientific literature, developing research hypotheses and objectives, presenting preliminary results and developing a research program. Required core course for doctoral students.
CGN	6971	Thesis: Master's	2-19		Thesis/Specialist project hours.
CGN	7915	Directed Research	1-19		Course consists of directed research on topics selected by student and professor. The topics vary. The course allows students to develop research skills and independent work disciplines.
CGN	7980	Dissertation Doctoral	2-19		Research and writing of a dissertation.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CGS	6210	Computer Hardware Systems for Education	3		This course focuses on the development of an understanding of microcomputer hardware that allows individuals to teach as well as make decisions concerning purchase, repair, and appropriate use. Topics include: basic concepts of digital electronics, the operation of a digital computer system, major categories of computer peripherals, historical development of electronic computers, and selection and maintenance of computers in an educational setting.
CGS	6842	IT and Systems for E-Business	3		This course provides a managerial perspective on how Web Design and Computing are evolving and how they will impact future enterprise e-solution. It will cover both the foundations of Web design/Computing and the important technological advancements.
CHM	5225	Intermediate Organic Chemistry I	3	PR: CHM 2211, CHM 2211L, or equivalent	This course will extend organic chemistry beyond the undergraduate level and will emphasize concepts of stereochemistry and reaction mechanisms.
CHM	5226	Intermediate Organic Chemistry II	3	PR: CHM 5225	An introduction to synthetic organic chemistry for graduate students and advanced undergraduates. Semester II.
CHM	5452	Polymer Chemistry	3	PR: Either CHM 2211, CHM 2211L, and CHM 3400 or CHM 4410	Fundamentals of polymer synthesis, structure, properties, and characterization.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CHM	5621	Principles of Inorganic Chemistry	3	PR: CHM 4411, CHM 4610	Chemical forces, reactivity, periodicity, and literature in organic chemistry; basic core course.
CHM	5931	Selected Topics in Chemistry	1-3		The following courses are representative of those that are taught under this title: Natural Products, Stereochemistry, Reactive Intermediates, Photochemistry, Instrumental Electronics, Advanced Lab Techniques, Heterocyclic Chemistry, etc.
CHM	6036	Chemical Biology	3	PR: BCH 3053 or BCH 4033	Current research directions in chemical biology. Topics include chemical and biosynthesis of peptides, proteins and nucleic acids, genetic and protein engineering, combinatorial chemistry, targeted probes and imaging, bioorthogonal reactions, etc.
CHM	6150	Advanced Analytical Chemistry	3		A study of complete analytical process, including sample handling, separations, the analysis step, and statistical interpretation of data. Emphasis placed on separations and statistics. Lec.
CHM	6235	Spectroscopic Analysis of Organic Compounds	3	PR: CHM 2211	This course provides the student with a thorough understanding of the theory and use of spectroscopic techniques (MS, IR, UV-vis, and NMR,) and their use in identification of organic compounds from the spectroscopic data from techniques discussed.
CHM	6250	Advanced Organic Chemistry I: Synthesis	3	PR: CHM 5225	Detailed consideration of modern synthetic methods. Lec.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CHM	6263	Advanced Organic Chemistry II: Physical-Organic	3	PR: CHM 5225	Organic reaction mechanisms emphasizing the interpretation of experimental data. Lec.
CHM	6279	Introduction to Drug Discovery	3	PR: BSC 2011, CHM 2211	Explores the entire drug discovery process, from initial target identification and hit generation through lead optimization and clinical trials to FDA approval. Case studies will be used to illustrate the process.
CHM	6810	Methods of Instruction in Higher Ed Chemistry	3		This course presents pedagogical approaches associated with evidence-based effective instruction for postsecondary chemistry education.
CHM	6907	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
CHM	6935	Graduate Seminars in Chemistry	1		Required every semester (when offered) for all students enrolled in Chemistry graduate program. Requires participation in and attendance at the weekly departmental seminar.
CHM	6936	Chemistry Colloquium	1		Frequent (usually weekly) small-group analysis of current developments.
CHM	6938	Selected Topics in Chemistry	1-3		Representative titles taught include: Symmetry and Group Theory, Photochemical Kinetics, Quantum Mechanical Calculations, Advanced Chemical Thermodynamics, Reaction Mechanisms, Advanced Instrumentation, Separations and Characterizations, Spectroscopy, etc.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CHM	6945	Investigating Chemical Education Research in the United States	3		Introduction to the field of Chemical Education Research including the types and kinds of research conducted, primary publication venues, seminal and recent research contributions.
CHM	6946	Graduate Instruction Methods	1-4		Special course for the training of teaching assistants.
CHM	6971	Thesis: Master's	2-19		
CHM	6973	Directed Research	1-19		
CHM	7820	Directed Research	1-19		
CHM	7980	Dissertation: Doctoral	2-19		
CIS	6373	Foundations of Software Security	3		Introduction to research in foundations of software security. Basic static and dynamic enforcement of security policies. Roles and meanings of policies, properties, mechanisms, and enforcement. Language-based security and tools for specifying security.
CIS	6377	Information Security Architecture for IT	3		The course outlines a complete road map to a successful adaptation and implementation of a security program based on a code of practice for information security management.
CIS	6511	IT Risk Management	3		Various aspects of Risk Managements throughout the life of a project. The course will also present various quantitative/qualitative risk assessment models.
CIS	6900	Independent Study	1-19		Independent study in which students must have a contract with an instructor. Requires completed contract prior to enrollment.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CIS	6930	Special Topics	1-5		
CIS	6940	Graduate Instruction Methods	1-4		Special course to train graduate teaching assistants.
CIS	6946	Internships/Practicums /Clinical Practice	0-3		Practical computer science and/or computer engineering work under industrial supervision with a faculty approved outline and end-of-semester report. One semester for variable credit and S-U only.
CIS	6971	Thesis: Master's	2-19		
CIS	7910	Directed Research	1-19		Requires completed contract prior to enrollment.
CIS	7980	Dissertation: Doctoral	2-19		
CJC	6020	Theory, Practice, and Research in Corrections	3		Examination of the interrelationships between theory and practice in corrections, as these are affected by empirical research and systematic program evaluation.
CJE	6025	Policy Organization, Behavior, and Administration	3		Graduate seminar focusing on the topics of police behavior, organization, and administration.
CJE	6029	Advanced Seminar in Law Enforcement	3		Students integrate theory and empirical data to critically analyze issues in law enforcement practice and policy.
CJE	6624	Introduction to Digital Evidence	3		This course is designed to facilitate development of the basic knowledge and skills necessary to recognize, identify, collect, and preserve digital evidence in any kind of criminal investigation. Focus is upon a wide array of digital technologies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CJE	6625	Network Forensic Criminal Investigations	3		As applied to criminal investigations, this course focuses on forensic security issues involving access to data stored on networked computer systems and the transmission of data between systems.
CJE	6627	Digital Evidence Recognition and Collection	3		Instructs participants in the basics of recognizing potential sources of electronic evidence, preparing them to respond to an electronic crime scene, and to collect items of evidentiary value to be used in court proceedings.
CJE	6688	Cybercrime and Criminal Justice	3		Introduction to the topic of criminality in online environments. Topics include hacking, online identity theft, fraud, trade in illicit substances/items, sexual crimes online, and responses to cybercriminality.
CJE	6716	Criminal Justice Graduate Capstone Seminar	3		In this capstone seminar students will be required to demonstrate an in-depth knowledge of a specific problem within their agency as well as a proposed solution(s).
CJL	6421	Law, Crime and Justice	4		An exposition of historical and contemporary legal principles, procedures, and issues as reflected in Constitutional provision, statutes, and case law.
CLP	6166	Psychopathology	3		Exploration of current approaches to the understanding of pathological behavior and implications for theories of personality. A survey of treatment methods is included.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CLP	6438	Psychological Assessment: Theory and Research	1-4		Courses cover theory, research, and applications of psychological assessment in areas, such as interviewing, intellectual and cognitive functioning, neuropsychodiagnostics, and personality testing.
CLP	6937	Topics in Clinical Psychology	1-3		Courses on topics, such as humanistic psychology, community psychology, and clinical neuropsychology.
CLP	7188	Clinical Psychology Interventions	1-4		Study of the theoretical, empirical, and applied foundations of the major systems of therapeutic intervention.
CLP	7379	Graduate Seminar in Clinical-Community Psychology	1-3		Seminars on topics, such as psychopathology, community psychology, clinical issues, personality, and developmental psychology.
CNT	6215	Computer Networks	3		Design and analysis of data communication networks with an emphasis on the Internet and its protocols. Key topics include protocol models, HTTP, TCP, IP, local area networks, routing, flow control, multimedia networking, and performance evaluation.
CNT	6410	Emerging Topics in Network Security	3		Covers basic concepts of network security, network security primitives, authentication techniques, security and privacy issues in modern wireless systems, and vulnerability analysis of electric power grids.
COM	5930	Topics in Communication Studies	3		Topical issues in communication.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
COM	6001	Theories and Histories of Communication	3		An introduction to the history and theory of communication as a discipline: its relationship to the arts and sciences, and a survey of the historical development of the field, emphasizing current issues in theory, research, and practice.
COM	6017	Gender in the Workplace	3		This course focuses on the workplace as a site of gendered communication practices. A variety of work settings will be analyzed in terms of how they construct gender identities, reinforce public-private distinctions and maintain traditional career models.
COM	6025	Health Communication	3		Application of communication theory and research to the health context including provider-patient communication, health information campaigns, and health beliefs and behavior. Special attention to the value issues in health communication.
COM	6045	Communicating Leadership	3		Effective leadership today focuses less on control and more on the strategic use of communication to build relationships and guide behavior. This course examines the various ways leaders can communicate more effectively in contemporary organizations.
COM	6121	Organizational Communication	3		A study of communication theory and behavior within organizational settings: role of communication, communication climates, communication networks, leadership.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
COM	6248	Historical Perspectives on Communication	3		Explores prominent figures and theoretical movements in area of Communication (Interpersonal or Organizational Communication, Cultural Studies, Rhetorical Studies, or Performance Studies). [Repeatable for credit as topics vary.]
COM	6306	Action Research	3		Action research is rooted in engagement, involving collaboration with community or organizational partners who will be affected by the research. Through hands-on projects we learn principles of action research and explore communication and ethical issues.
COM	6313	Interpreting Communication Research	3		This course is designed to give students tools to help them interpret the mainstream research literature in communication and to judge research on a quality continuum. No assumptions are made about student understanding of quantitative research methods.
COM	6345	Contemporary Cultural Studies	3		Examines theoretical issues and interpretive approaches for exploring questions of knowledge, identity, experience, meaning and value in modern culture through the study of communication.
COM	6400	Communication Theory	3	PR: COM 6001.	An examination of communication theory through selected reading in the works of major theorists past and present.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
COM	6418	Communication and Systems Practice	3		Systems theories offer possibilities for understanding interconnections and emergence, identities and environments, and stability and change, with communication processes being central. We explore social systems principles by linking theory and praxis.
COM	6605	Media Studies	3		Study of the impact of mass and mediated forms of communication on individuals, groups, societies, and cultures. Several theoretical and critical perspectives are considered.
COM	6724	Communication Training in Organizations	3		Provides holistic understanding of how communication training is developed and conducted in organizations. Students learn to assess communication training needs, design/deliver effective communication training programs, and evaluate their effectiveness.
COM	7325	Seminar in Communication Research Methods	3		Examines the research practices and methodologies of communication as a discipline, including bibliographical resources, research designs, research techniques, and forms of scholarly presentation.
COM	7933	Seminar in Communication Studies	3		Variable topics course.
COP	5016	Introduction to Unix and C	3		Unix operating system. Internet resources. Netscape, WWW and HTML. ANSI C language, syntax. Arrays and pointers. Iterations and recursions. Header files and macros. C libraries. Structuring data. File I/O.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
COP	6021	Programming Languages: Design and Analysis	3		In-depth, graduate-level study of the design and analysis of programming languages. Functional programming, deductive systems, operational semantics, type systems, and proofs of type safety.
COP	6611	Operating Systems	3		Operating systems functions and design, resource management, protection systems, process communication, and deadlocks.
COP	6621	Programming Languages and Translation	3		Grammars and languages, symbols, strings, syntax, parsing, the design of a compiler, storage organization and symbol tables, translator writing systems.
COP	6625	Compilers	3		In-depth, graduate-level study of compiler design and implementation. Lexical, syntactic, and semantic analysis. Type safety. Code generation. Run-time support. Garbage collection. Code optimizations.
COT	6405	Introduction to the Theory of Algorithms	3	PR: COT 3100, COT 4400, or equiv.	Analysis techniques for algorithms. Characterizing algorithms in terms of recurrence relations, solutions of recurrence relations, upper and lower bounds. Graph problems, parallel, algorithms, NP completeness and approximation algorithms, with relationship to practical problems.
CPO	5934	Selected Topics in Comparative Politics	3		Studies specific substantive areas in Comparative Politics, such as political economy or the politics of specific countries or regions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CPO	6077	Social Movements	3		Introduces students to the main theoretical perspectives of social movement scholarship and investigates core social movements in the US and beyond.
CPO	6091	Seminar in Comparative Politics	3		Extensive examination of the major theories and approaches used in the study of Comparative Politics. Seminar format.
CRW	6025	Special Topics in Creative Writing	3		This course will offer coverage of current topics in creative writing based on student demand and instructor interest. Topics offered may include memoir, novel writing, screenwriting, and editing and publishing.
CRW	6130	Fiction Writing	3		A study of the process of fiction writing and the artistic demands associated with its forms, from microfiction to the novel.
CRW	6164	The Craft of Fiction	3		A study in the forms and technique of fiction writing. Students will examine how novels and stories are constructed, analyze craft (plotting, characterization, point of view) and the relationship of form and craft, and study the variety of approaches to storytelling (realism, magic realism, minimalism, and metafiction).
CRW	6236	Nonfiction Writing	3		An exploration of the different types of nonfiction writing, such as memoir, travel, nature, commentary, book review, essay, and biography.
CRW	6331	Poetry Writing	3		A study of the process of poetry writing and the demands associated with its form, both free verse and metrical.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CRW	6352	The Craft of Poetry	3		An intensive examination of established schools of poetic writing: their themes, imagery, and approach to subject matter. Students also will write and submit original poetry for private and group constructive evaluation.
CRW	6726	Practicum in Literary Editing and Publishing	3		Introduction to the publishing industry, including book publishing, literary magazines, editing, agents, book design and packaging, book marketing and publicity, interviewing, and book reviewing. Students assist in publication of a literary magazine.
CST	6920	Non-Credit Graduate Study	0		This course is used for students on educational experiences to maintain continuous enrollment/good standing (i.e., Peace Corps).
CST	6934	Special Topics in Graduate School: Research Practicum	3		Variable titles offered on topics of special interest pertaining to research practices.
CST	6935	Special Topics in Graduate School: Professional Development	3		Variable titles offered on topics of special interest pertaining to professional development.
CTS	6716	Network Programming for IT	3		Network programming using high level languages. Topics covered will include distributed computing using remote method invocation technologies, peer-to-peer protocols, w-level socket-based programming and mobile code.
CWR	6235	Free Surface Flow	3	PR: CWR 4202	Fundamental and applied aspects of free surface flow, including river hydraulics, canal flow, and open channel design.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CWR	6239	Waves and Beach Protection	3	PR: CWR 6820	A study of the fundamentals of shoreline dynamics including distribution of wave energy, motion of beach sand, stable configurations and protective measures.
CWR	6305	Urban Hydrology	3		A study of the quantity and quality problems and solution techniques associated with urban runoff.
CWR	6533	Water Quality Modeling	3		This course will develop the fundamental principals and concepts of water quality modeling and apply water quality models in a variety of contexts. The mathematical representations of environmental transport and transformation processes will be elucidated. Models of different complexity will be applied to a variety of environmental contexts.
CWR	6534	Coastal and Estuary Modeling	3		Digital modeling of coastal and estuary systems, currents tide heights, sediment transport, erosion, data collection, temperature distribution, source and sinks. Special emphasis on Florida regions.
CWR	6535	Hydrologic Models	3		A study of the theoretical principles of hydrologic modeling and an examination of various numerical hydrologic models available. Students will be required to develop and apply computer models.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
CWR	6538	Advanced Hydrologic Models	3	PR: CWR 6535 and GLY 6739.	To present the theoretical and applied concepts of advanced hydrologic modeling and especially integrated surface water/ground water modeling and to examine various numerical hydrologic models used in engineering practice.
CWR	6820	Coastal Waves And Structures	3		Fundamentals of wave motion and the mutual interaction of waves and structures. A design project is included.
DEP	6058	Developmental Psychology	3		Basic survey of research and theory in human developmental processes.
DIE	6127	Principles of Leadership and Management of Food and Nutrition	2		Course equips students with leadership and management skills needed to establish and maintain effective food and nutrition programs. Food service and clinical nutrition management is addressed so students can adapt to a changing healthcare environment.
DIE	6248	Advanced Clinical Nutrition	3		An integration of pathophysiology, biochemistry, and nutrition concepts that form the basis for medical nutrition therapy in health care.
EBD	6215	Advanced Theories and Practices in Emotional Handicaps	3	PR: Introductory course in special education.	In-depth study of specific behavioral disorders of children and youth, with an emphasis on educational implications and interventions.
EBD	6216	Educational Strategies for Students With Behavior Disorders	3		Advanced methods and materials for planning, implementing, and evaluating educational interventions with students with behavior disorders. For certification.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EBD	6246	Educating Students with Autism	3		This course provides an overview of the characteristics, etiology, and prevalence of autism spectrum disorders, along with the knowledge and skills necessary to support the learning of children with autism spectrum disorders.
EBD	6943	Supervised Practicum in Behavior Disorders	1-12		Supervised graduate practicum experiences with children who have behavior disorders. For students seeking certification only.
ECH	5320	Chemical Process Engineering I	4		The course presents the principles of mass balances, classical thermodynamics, phase equilibria, energy balances, and psychrometrics. The student will learn by doing many case studies. Computer software will be used to obtain solutions to many problems.
ECH	5321	Chemical Process Engineering II	4		Basic concepts of fluid mechanics, including viscous fluids, pipe flow with minor losses, simple fluid machinery, momentum and external flow. Steady state conductive and convective heat transfer. Not available for chemical engineering students.
ECH	5322	Chemical Process Engineering III	4		Basic concepts of fluid phase equilibrium, chemical equilibrium, separation processes, and chemical reactors. Not available for chemical engineering students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECH	5324	Automatic Process Control II	3	PR: ECH 4323C	The course covers the root locus and frequency response methods to study stability of control loops. The techniques of ratio, cascade, feed forward, selective, override, and multi-variable control techniques are discussed in detail and shown how to utilize to design control systems, z-transforms and discrete controllers including PID, Dahlin and deadline compensation.
ECH	5327	Chemical Process Control	4		Basic concepts of feedback control, process dynamics, process controllers (PID) including tuning, control loop stability, cascade, ratio, selective, override, feedforward, and multivariable control. Not available for chemical engineering students.
ECH	5740	Theory and Design of Bioprocesses	3		Introduction to biotechnology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biosystems.
ECH	5747C	Selected Topics in Chemical Engineering Biotechnology	1-3		Selected topics in engineering in biotechnology, including cell separation technology, immobilized enzymes and cells, food engineering, biohazardous waste, and bioseparations.
ECH	5748	Selected Topics in Biomedical Engineering	1-3		Selected topics in biomedical engineering, including biomedical engineering, biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECH	5785	Sustaining the Earth: An Engineering Approach	3		An approach of global perspective on ecological principles revealing how all the world's life is connected and sustained within the biosphere and how engineering provides the tools to design solutions engaging materials science & environmental ethics.
ECH	5786	Green Engineering	3		Synthesis and design of green chemical, biological and energy conversion processes and products. Environmental impact analysis; green chemistry and materials; life cycle analysis; industrial ecology; systematic methods and real-life examples.
ECH	5930	Special Topics III	1-4		
ECH	5931	Special Topics IV	1-4		
ECH	5945	Chemical Engineering Industrial Internship	1-6		Individual study as practical engineering work at an industrial facility or laboratory under the supervision of a faculty member interacting with the sponsoring industrial facility or laboratory.
ECH	6105	Advanced Thermodynamics I	3		Selected topics in classical and irreversible thermodynamics.
ECH	6285	Advanced Transport Phenomena	3		Formulation of flux equations for fluid, heat & mass transport. Development & resolution of unsteady state and multidimensional models in various co-ordinate systems. Analytical & numerical techniques to solve the resulting equations will be presented.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECH	6412	Processes Analysis and Modeling	3		Computer-controlled data acquisition and analysis aimed at development and evaluation of empirical and physical models of chemical and mechanical engineering processes.
ECH	6417	Bioseparations	3		Design and analysis of bioseparation processes, including crystallization, membrane separations, chromatography, liquid-liquid extraction, electrophoresis, and emerging technologies. Open to non-majors with CI.
ECH	6506	Chemical Engineering Kinetics	3		Fundamental aspects of chemical reactions, including collision theory, transition rate theory, unimolecular rate theory, homogeneous gas and liquid phase kinetics, heterogeneous kinetics, and mass-transfer limited kinetics.
ECH	6515	Reacting Systems	3	PR: ECH 4415C	Economic factors in the design of chemical reactors. Simulation of complex reacting systems.
ECH	6840	Mathematical Methods for Chemical Engineering	3		Mathematical modeling of chemical engineering systems. Numerical and analytical solution methods for algebraic equations, ordinary differential equations, coupled differential and algebraic equations and partial differential equations.
ECH	6906	Directed Research	1-19		
ECH	6907	Independent Study - Variable Title	1-19		Independent study in which students must have a contract with an instructor.
ECH	6930	Special Problems I	1-3		
ECH	6931	Special Problems II	1-3		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECH	6971	Thesis: Master's	2-19		
ECH	7915	Directed Research	1-19		
ECH	7980	Dissertation: Doctoral	2-19		
ECO	6005	Introduction to Economic Concepts for Managers	3		A graduate level introduction to the economic foundations of decision making, this course addresses the fundamental tools of micro and macroeconomic analysis and how they can be applied to firms operating in both domestic and global markets.
ECO	6115	Microeconomics I	3	PR: ECO 3101 or ECO 6114, ECO 4401	Microeconomic behavior of consumers, producers, and resource suppliers, price determination in output and factor markets, general market equilibrium.
ECO	6120	Economic Policy Analysis	3	PR: ECO 3101 or ECO 6114	Conditions for efficient resource allocation in a market economy; how inefficiency arises in markets and government; ways to reestablish efficiency; social welfare and equity. Introduction to benefit-cost analysis.
ECO	6205	Macroeconomic Theory and Policy	3		Determination of income, employment, wages, prices, and interest rates, contemporary policy issues, long-run economic growth.
ECO	6206	Macroeconomics I	3	CR: ECO 6115; PR: ECO 6405	Advanced macroeconomic analysis of income, employment, prices, interest rates and economic growth rates.
ECO	6305	History of Economic Thought	3	PR: ECO 3101 or ECO 6114	Currents of modern economic thought in the last hundred years.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECO	6405	Mathematical Economics I	3	PR: ECO 3101, ECO 3203, ECP 6702, ECO 6708	This course provides the basic mathematical background necessary to undertake graduate-level work in economics. Several topics from calculus and linear algebra are covered.
ECO	6424	Econometrics I	3	PR: ECO 3203 or ECO 6204, QMB 3200, QMB 6305	Theory and use of multiple regression to estimate relations in causal models, use of standard software packages.
ECO	6425	Econometrics II	3	PR: ECO 6424	Advanced econometric techniques; model building, estimation and forecasting; design and execution of research projects.
ECO	6505	Public Finance	3	PR: ECO 3101 or ECO 6114	Effects of tax and expenditure policies on resource allocation and income distribution.
ECO	6525	Public Sector Economics	3	PR: ECO 3101 or ECO 6114	The economic role of government in the allocation of resources in the presence of market failure.
ECO	6705	International Economic Issues	3	PR: ECO 6114 and ECO 6204 or equivalent	Analysis of international economic relations and institutions. Analysis of the effects of changing economic conditions and policy on the climate for international business and investment.
ECO	6706	International Trade: Theory and Policy	3	PR: ECO 3101 or ECO 6114	Causes of international trade, international trade policy, economic integration, trade problems of developing countries, role of multinational corporations in world trade.
ECO	6708	Global Economic Environment of Business	2		Determination of prices, employment, and output in domestic and international settings.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECO	6716	International Monetary Economics	3	PR: ECO 3203 or ECO 6204	International macroeconomic relationships, foreign exchange market, the international monetary system, balance of payments adjustments, macroeconomic policy in the open economy.
ECO	6906	Independent Study	1-19		Independent study. Student must have a contract with an instructor.
ECO	6917	Directed Research	1-19		
ECO	6936	Selected Topics in Economics	1-4		The course content will depend on student demand and instructor's interest.
ECO	7116	Microeconomics II	3	PR: ECO 6115	Topics in advanced microeconomic theory, including general equilibrium, welfare economics, intertemporal choice, uncertainty, information, and game theory.
ECO	7207	Macroeconomics II	3	CR: ECO 6245; PR: ECO 6206	Empirical study of economic growth, business cycles, and the other macroeconomic phenomena.
ECO	7406	Mathematical Economics II	3	PR: ECO 6115 and ECO 6405	This course provides a continuation of ECO 6405, Mathematical Economics I. Students will become familiar with certain additional mathematical tools needed to pursue a graduate degree in economics.
ECO	7426	Econometrics III	3	PR: ECO 6425 and ECO 6405	The aim of this course is to provide students several important advanced econometrics techniques and how they can be used in empirical research and practical applications. Emphasis will be on cross-sectional and panel data models.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECO	7427	Econometrics IV	3	PR: ECO 7426	Advanced econometric techniques with emphasis on applying the proper method to actual data and to situations where various techniques are appropriate.
ECO	7980	Dissertation	2-19		Dissertation Research
ECP	6205	Labor Economics I	3	PR: ECO 3101, ECO 6114, or ECO 6115	Labor demand and supply, unemployment, discrimination in labor markets, labor force statistics.
ECP	6305	Environmental Economics and Policy	3	PR: ECO 2023 or ECO 6114	An economic analysis of business's and the government's approach to managing environmental issues. The focus of the course is on the analysis of case studies of specific environmental issues using fundamental efficiency analysis.
ECP	6405	Industrial Organization I	3	PR: ECO 6115	Structure of industry and its effect on economic efficiency.
ECP	6408	Economics of Organization	3		Theory of the evolution of firms and other hierarchies as alternatives to markets. Topics include the market mechanism as a coordinating system, agency theory, risk-sharing and incentive mechanisms, ownership versus control of organizations, and organizational forms. Intended for PhD and MA in Economics students.
ECP	6415	Issues in Regulation and Antitrust	3	PR: ECO 3101 or ECP 3703 or GEB 6114	Issues concerning rationale, structure and performance of government regulation and antitrust policy.
ECP	6456	Law and Economics	3	PR: ECO 3101 or ECO 6114	Impact of Tort, Criminal, Property, and Contract Law on the allocation of resources.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECP	6535	Analysis of Health Care Issues	3	PR: ECO 6114 or equivalent	Evolution of medical care industries and government healthcare policies. International comparisons. Measures of cost benefit and of cost-effectiveness.
ECP	6536	Economics of Health Care I	3	PR: ECO 3101 or ECO 6114	Analysis of the supply and demand for health care, health insurance and the pharmaceutical industry.
ECP	6614	Urban Economics	3	PR: ECO 3101 or ECO 6114	Economics of growth and development of urban areas, interurban location patterns.
ECP	6624	Regional Economics	3	PR: ECO 3101 or ECO 6114	Geographical allocation of resources within and among regions, location of households and firms, inter-regional migration of labor and capital, regional growth and development, regional policy.
ECP	6702	Managerial Economics	2		This course presents the microeconomic theory of price determination in an exchange economy with special emphasis on the behavior of firms in various market structures.
ECP	7207	Labor Economics II	3	PR: ECP 6205	Advanced study of labor economics including analysis of the wage structure, labor unions, labor mobility, and unemployment.
ECP	7406	Industrial Organization II	3	PR: ECO 6115, ECO 6424, ECP 6405	This course will introduce students to advanced topics in empirical industrial organization. Particular emphasis will be placed on techniques to estimate the behavior of firms, market equilibrium, and the impact of economic policy on markets.
ECP	7537	Economics of Health Care II	3	PR: ECO 6536	Advanced analysis of health economics with emphasis on recent empirical studies of health care.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECS	6015	Economic Development	3	CR: ECO 6115; PR: ECO 3101 and ECP 6702	The course studies human economic development focusing on explaining cross-country and intertemporal differences in living standards in the world. The course focuses on the microeconomic aspect of economic development.
ECT	5386	Preparation and Development for Teaching	4		The development of selected instructional materials, use of new educational media, performance evaluation instruments, and counseling techniques.
ECT	6197	Enhancing Career and Technical Education Curriculum	3		Enhancing career & technical education curriculum including broadening mission, goals & outcomes, integration with academics, work-based learning, contextual learning, appropriate technology & certifying student mastery. Open to majors & non-majors.
ECT	6661	Trends and Issues in Career and Technical Education	3		Historical influences and current trends and issues in career and technical education. Emphasis on forces significantly shaping the course of CTE and its relationship with workforce development and academic education. Open to majors and non-majors.
ECT	6766	Emerging Workplace Competencies	3		An interactive exploration of emerging workplace competencies through research, analysis, and work-based experiences for the purpose of professional development and program improvement.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECT	6767	Improving Career and Technical Education Programs	3		The purpose of the course is to facilitate the development of essential understandings on the nature and use of action research strategies as a means to support improvement strategies involving data collection and analysis, and reporting skills.
ECT	6926	Staff Development	1-5		Implementation of new procedures addressed to discrete developmental needs of the staff as identified by an educational agency.
ECT	6930	Seminar	3		Focuses on special topics, interaction with visiting scholars, recent research and major initiatives within the profession.
ECT	6948	Practicum: Industrial-Technical Education	3-6		A problem-centered field study in the local community, school, government, office, social agency, business, or industry.
ECT	7768	Information Research Strategies	1	PR: ECT 7791.	This course provides an introduction to information research strategies involving planning, locating, accessing, evaluating, organizing, and managing information as a means to support and document a research proposal or dissertation chapters.
ECT	7791	Research Seminar In Vocational, Technical, And Adult Education	3		Examination and critical evaluation of research in a particular specialization area of Vocational, Technical, or Adult Education. Preparation of an individual research prospectus.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECT	7910	Directed Research in Vocational Education	1-19		This course permits a doctoral student to conduct advanced research and to pursue specific areas of interest with a faculty member as supervisor. A contract is required with the faculty member.
ECT	7980	Dissertation	2-30		
ECT	7981	Scholarly Writing for Doctoral Students	1	PR: ECT 7791.	The purpose of this course is to facilitate the development of scholarly writing skills required for the synthesis and reporting of research literature resulting in research proposals or manuscripts in career in workforce education.
ECW	5315	Program Management: Diversified Cooperative Training	3		Organization, coordination, and budgeting of adult, cooperative, and special programs.
ECW	6205	Administration Of Local Programs: Vocational	3		Organization, personnel selection and assignment, and establishment of policies and procedures for local vocational programs within federal, state and local requirements.
ECW	6206	Supervision Of Local Programs: Vocational Education	3		A study of the factors involved in the supervision of instruction including plans for teacher education, improvement of instruction, coordination of activities, and personnel relations.
ECW	6695	School Community Relations	3		Maintaining positive relations between career and technical education programs and stakeholders, enhancing CTE image, interacting positively with customers, positive relations with businesses and marketing the program. Open to majors and non-majors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECW	6696	Equity and Access in the New Economy	3		Examine workplace/workforce education regarding equity and access issues of gender, race, class and age through reflective practice, research, dialogue, field experience, product development with implications for education, training, personal and systems change.
ECW	7066	Foundations And Philosophy Of Vocational, Technical And Adult Education	3		Historical development and contemporary philosophies, cultural bases and practices of Vocational, Technical, and Adult Education.
ECW	7105	Vocational And Adult Education Program Planning And Implementation	3		Knowledge and skills necessary to participate in the initial determination, planning, organization, and implementation of new or expanded adult, vocational and technical education institutions or programs.
ECW	7167	Career Development in Career and Workforce Education Change	3		This course provides an overview of major theories of career development, examines related research in career and workforce education context, and addresses the implications for integration in the curriculum and service supports in different settings.
ECW	7168	Instructional Development For Vocational, Technical, And Adult Education	3		The systematic approach to vocational, technical, and adult education curriculum improvement and instructional development. Students will apply an instructional systems approach to the development of practical solutions to critical teaching and learning problems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ECW	7195	Comparative Study of Career Workforce Education Systems	3		This online course provides an overview of global perspectives and models for career and workforce education with an emphasis on comparative analyses of national, state, and international systems.
EDA	6061	Principles of Educational Administration	3		Educational administration as a profession. Consideration of organization, control, and support of the educational system.
EDA	6106	Administrative Analysis and Change	3	PR: EDA 6061.	Change and change strategies in formal and informal organizations are foci. Students will develop change strategies and will apply them to selected situations.
EDA	6192	Educational Leadership	3	PR: EDA 6061.	Administration course that addresses change, influences, and planning systems. Also examines personnel functions for administrators.
EDA	6194	Educational Leadership II: Building Capacity	3	PR: EDA 6192	Three major themes to improve schools within a clear/compelling moral purpose: 1) communities of differences; 2) teacher development through professional community building; and 3) learners and learning through capacity building at the school level.
EDA	6195	Policy Development	3	PR: EDA 6061.	Contemporary research on diffusion of innovations, political power in policy decision making. Role of establishing educational policies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDA	6213	Culturally Relevant Leadership	3		This course prepares culturally responsive leaders to attend to diverse needs of all students. It is organized with the understanding that school leaders are moral stewards and public intellectuals who reflect notions of instructional accountability.
EDA	6232	School Law	3	PR: EDA 6061	Basic essentials of School Law. A review of court decisions affecting American education with emphasis on Florida State statutes.
EDA	6242	School Finance	3	PR: EDA 6061	Financial support of education by local, state, federal sources, with emphasis on Florida; introduction to educational budgeting.
EDA	6262	Planning Educational Facilities	3	PR: EDA 6061	Problems in the planning, construction, and use of educational facilities. Visitation and/or evaluation of selected schools.
EDA	6271	Data-based Decision Making Strategies for Educational Leaders	3		Beginning with a truncated review of purposes and applications of statistical methods utilized in academic, legislative, and district-level research, this course acquaints students with various ways of framing data-based questions and interpreting data.
EDA	6503	The Principalship	3	PR: EDA 6061	Organization and administration of the school. Emphasis on the competencies necessary for leadership and management by the principal as the administrator and instructional leader.
EDA	6910	Directed Research	1-19	PR: EDA 6061	

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDA	6931	Case Studies in School Administration	3	PR: EDA 6061	Helps prospective administrators understand administrative problems, propose feasible solutions, and evaluate courses of action. Develops skill in decision making.
EDA	6945	Administration Practicum	3-8	PR: EDA 6061	Field experiences in school systems for identifying and analyzing educational problems and their solutions. Application of concepts developed in the student's program.
EDA	6971	Thesis: Masters/Educational Specialist	2-19		
EDA	7069	Ethics and Educational Leadership	3		The purpose of this course is to read about, examine, discuss, and critique competing theories of ethics and educational leadership. Students will construct critical cases & statements of responsibility in terms of ethics applied to leadership.
EDA	7193	Organizational Leadership and Systems Theory	3		The course examines K 12 educational systems through the theoretical frameworks of organizational learning and change applying problem-based approaches that emphasize socio-political and local , state, and federal influences.
EDA	7197	Current Readings and Discourse in Educational Leadership	3		The purpose of this course is to identify the discourses that have shaped and are shaping the dialogue, scholarship, and practice of public education and to contextualize leadership as a social practice that holds unique values and ideologies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDA	7206	Appreciative Inquiry and Organizing in Public Education	3		This course introduces Appreciative Inquiry and Appreciative Organizing in Public Education as a strength-based, problem solving and continuous improvement approach to inform and build school and district leadership capacity.
EDA	7215	Educational Politics and the Engagement of Communities	3		Students explore political frameworks and communication strategies in order to effectively engage multiple communities within and outside schools.
EDA	7222	Administration Of School Personnel Policies And Practices	3	PR: EDA 6061	Administration of school personnel policies and practices relating to professional staff, supporting staff, and students.
EDA	7233	Legal Dimensions Of School Administration	3	PR: EDA 6232	Historical perspective in law and education with in-depth reviews of case law showing the evolution of courts as educational policy makers.
EDA	7238	Special Education Law and Policy Issues	3		This course is focused on the framework of special education law and its application in school systems.
EDA	7247	Advanced School Finance	3	PR: EDA 6242	Advanced treatment of school finance. Development, implementation, and evaluation of financial resource and allocation systems. Emphasis is on intradistrict allocation.
EDA	7280	Curriculum Theory	3		The purpose of this course is to prepare critical and culturally responsive curriculum leaders to engage curriculum theory in the work of curriculum policy, development, and inquiry.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDA	7281	Policy Analysis and Implementation Strategies for Educational	3		This course has students apply systematic frameworks for policy analysis and implementation - utilizing multiple analytical and implementation concepts - to improve educational system, district, school, and student performance.
EDA	7287	Educational Politics and Policy: Theory & Issues	3		This course seeks to habituate students'™ conceptualization of schooling as political and to develop students'™ understanding of how educational politics and policies permeate educational systems.
EDA	7410	Qualitative Case Methods in Educational Leadership	3		Introduces qualitative Case methods, design, data collection, analysis and interpretation of data. Includes theories and sample software tools used in analysis.
EDA	7980	Dissertation	2-30		
EDE	6076	Teacher Leadership for Student Learning	3		Prepares teachers as facilitators as they explore leadership roles in the K-12 contexts, including exemplary practitioner, curriculum decision-maker, researcher, advocate, and facilitator or job-embedded professional development.
EDE	6225	Problems in Curriculum and Instruction: Elementary	1-3	PR: EDG 4620, EDG 6627.	For teachers, supervisors, and administrators. Curricular and instructional problems of the elementary school. Common problems or problems of special interest to the participants. Normally, for certification requirements only.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDE	6326	Instructional Planning for Diverse Learners	3		Introduction to the theories and practices that support children's learning. Includes accessing resources that support teaching, developing lessons, designing appropriate assessments, and the elements that influence instructional decision-making.
EDE	6366	Professional Development for Student Learning	3	PR: EDE 6076, EDE 6486, EDE 6366.	This course prepares effective teacher leaders for facilitating job-embedded educator learning with a specific focus on P-6 student learning.
EDE	6458	Reflecting on Instructional Decision Making	1-3	CR: For first hour: EDE 6946. For second hour EDG 6947.	Develops the students' abilities to reflect upon teaching practice and evaluate instructional decisions on K-6 student learning. The first hour is taken with the practicum. The second hour is to be taken in conjunction with final internship.
EDE	6486	Teacher Research for Student Learning	3	PR: EDE 6076.	Familiarizes practicing teachers with the application of research methodologies to strengthen teaching & learning in elementary schools. This course cultivates the literacy skills the educators need for professional accountability for student learning.
EDE	6506	Managing and Differentiating the Instructional Environment in Elementary Schools	3		Examines the legal issues affecting classroom/school management, school safety and professional ethics. Explores research and knowledge of best practices and a variety of teaching and management strategies for a diverse elementary classroom setting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDE	6556	Coaching for Student Learning	3	PR: EDE 6076, EDE 6486.	Prepares coaches for facilitating preservice & inservice educator learning with specific focus on P-6 student learning.
EDE	6906	Independent Study: Elementary/Early Childhood Education	1-6		Independent study in which students must have a contract.
EDE	6946	Practicum Field Experience	3	CR: EDE 6458-I.; PR: RED 6514, FLE 5345, and 9 additional credits in program courses	This intensive practicum experience is designed to complement foundational MAT course work and is completed during the second block of the MAT program. This course is restricted to majors and is not repeatable. S/U only..
EDE	6971	Thesis: Masters/Educational Specialist	2-19		
EDE	7206	Critical Analysis of Curriculum in Elementary Schools	3		The purpose of this course is to critically analyze curriculum in the elementary schools from its historical foundations through the current educational climate. This will enable educators to make informed decisions on curriculum issues.
EDE	7327	Differentiated Supervision & Teacher Professional Development	3		This course cultivates the knowledge of job-embedded professional development tools that facilitates teacher effectiveness through collaborative instructional and school improvement efforts.
EDE	7481	Teacher Education Seminar	3		This course prepares doctoral students to integrate, assimilate, and evaluate major research and research issues confronting the field of teacher education.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDE	7910	Directed Research in Elementary Education	1-19		Independent student-faculty research course.
EDE	7980	Dissertation	2-30		
EDF	5607	Trends in Education Politics	3		Contemporary education politics in the U.S. with interdisciplinary social-science perspectives.
EDF	6165	Group Processes for Educational Personnel	1-3		Application of group process research to the needs of professional educators and training officers.
EDF	6166	Consulting Skills for Staff Development	1-3		Knowledge and skill training for consulting with organizational clients to solve educational problems and design learning environments or programs.
EDF	6211	Psychological Foundations of Education	3		Selected topics in psychology of human development and learning, related to schools and educational settings.
EDF	6213	Biological Bases for Learning Behavior	3	PR: One course in Educational Psychology.	Human biological development and its influence upon learning and behavior.
EDF	6215	Learning Principles Applied to Instruction	4		Learning principles and their application to classroom instruction.
EDF	6217	Behavior Theory and Classroom Learning	4	PR: EDF 6215	Theory and practical applications of behavior modification; introduction to experimental methods for behavior modification; operant methods in behavior and development; analysis and field work.
EDF	6281	Workshop and Conference Design	3		Knowledge and skills to design, conduct and/or administer, and evaluate both workshops and conferences.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	6284	Problems in Instructional Design for Computers	3		This course focuses on the systematic design of instructional courseware, including analysis, media selection, and evaluation. Topics include instructional strategies, screen design, response analysis, feedback and interactivity.
EDF	6288	Instructional Design I	3	PR: EDF 6215	Instructional design models/theories and their systematic application to instructional goals.
EDF	6354	Human Development and Personality Theories	4		A study of psycho-social and cognitive development throughout a person's life span with an analysis of the major personality theories.
EDF	6407	Statistical Analysis For Educational Research I	4		Theory and application of statistical procedures to problems in education: (1) descriptive statistics, (2) Probability-sampling distributions, (3) Inferential statistics-interval estimation, tests of significance (z, t, F-one way ANOVA). Coordinated use of computer included.
EDF	6432	Foundations Of Measurement	3		Basic measurement concepts, role of measurement in education, construction of teacher-made tests and other classroom assessments, interpretation of standardized tests, and fundamental descriptive statistics for use in test interpretation.
EDF	6446	Development and Validation of Tests in Education	3	PR: EDF 6432, EDF 6407	Design, construction, and validation of state-wide tests. Special emphasis on domain sampling, item response theory, item scaling, item fit, and constructing, maintaining, and updating item banks.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	6461	Foundations of Applied Evaluation	3	PR: EDF 6481.	Fundamentals of evaluation approaches and practices; tools & techniques used in evaluation; standards of quality for professional practice; evaluation ethics; appropriate evaluation uses; and impact of evaluation on decision making.
EDF	6481	Foundations of Educational Research	3	PR: EDF 6432	Analysis of major types of educational research designs, including experimental, correlational, ex post facto and case studies.
EDF	6492	Applied Educational Program Evaluation	3	PR: EDF 6432, EDF 6446	Design, development, implementation, interpretation, and communication of both formative and summative educational program evaluation studies.
EDF	6517	Historical Foundations of American Education	4		History of the origins and development of American education, events, and movements that have shaped school policies and practices, and their relationship to contemporary developments.
EDF	6531	History of Childhood	3		History of modern childhood, including diversity of childhood experiences and social construction of age categories.
EDF	6606	Socio-Economic Foundations of American Education	4		Socio-economic factors as they relate to the work of professional educators and the role of public education in American society.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	6705	Gender and the Educational Process	3		Course is designed to enable public school personnel, teachers, counselors, administrators, and other professionals to identify those aspects of public education that perpetuate sex role stereotyping. Emphasis will be placed on how the law and formal and informal affirmative action activities can be employed to correct sexism in schools.
EDF	6736	Education, Communication, and Change	3		Developments in communication as a process of social change as it affects students, teachers, and traditional school arrangements.
EDF	6765	Schools and the Future	4		Estimates of future demands upon schools; critique of current paradigms, techniques, and literature.
EDF	6883	Issues in Multicultural Education	4		Lecture/discussion course, open to both majors and non-majors; address both fundamental concepts and timely issues in multicultural education and working with culturally diverse students.
EDF	6906	Independent Study: Educational Foundations	1-6		Independent study in which students must have a contract with an instructor.
EDF	6935	Wellness Programming Seminar	2		This course familiarizes students with the array of extant programs to facilitate wellness and prevent problems that often affect college students. Through review and critique of such programs, participants will be able to design and administer wellness programs in their professional roles.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	6938	Selected Topics	1-4		Exploration and demonstration of knowledge in an area of special interest to the student and/or in an area for which the student needs to demonstrate a higher level of competence. Designed to fit the needs of each student.
EDF	6941	Practicum in Measurement, Evaluation, and Research	1-4		Practicum provides individuals in the M.Ed.in Measurement and Evaluation opportunities to apply research and evaluation skills in applied settings (e.g., local school districts, Centers within the University). May be repeated up to 8 hours.
EDF	6944	Field Experience	1-4		Demonstrate skills in the practice of the student's specialty. Objectives will be defined by the needs of the individual student.
EDF	6971	Thesis: Masters/Educational Specialist	2-19		
EDF	7138	Adolescent Development	4		This course examines adolescent development in the physical, cognitive, social, and motivational domains. Academic achievement, social and cultural contexts, developmental theory, methodology, and educational practices and policies are discussed.
EDF	7145	Cognitive Issues in Instruction	4	PR: EDF 6215.	Selected cognitive models of intelligence, memory, problem solving, thinking, and motivation applied to instructional strategies.
EDF	7167	Experiential Learning: Theory and Methods	3		Theory and methods of experiential learning in both formal and organizational contexts.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	7227	Topics in Behavior Analysis and Automated Instruction	1-12	PR: EDF 6215 or EDF 6217	Seminar in experimental analysis of functional relationships between behavior and relevant environmental variables. Interpretation of complex human behavior and formulation of procedures which expedite instruction in educational procedures for computer delivery.
EDF	7265	Psychology of Oral and Written Language Development	4		The course focuses on theoretical and empirical perspectives of monolingual and bilingual language and literacy development. A foundational understanding of language and literacy allows a student the ability to critically analyze practical implications.
EDF	7357	Applications Of Developmental Theories	4		Doctoral course fulfilling the psych. Foundation requirement in the college of education. It reviews theories of development having implications for curriculum, learning, and other educ./mental health practices. Offered via distance learning periodically
EDF	7359	Resilience in Human Development	4		This course explores developmental, neuro-psychological, socio-emotional, and cultural perspectives on resiliency in various areas of development (e. g., academic achievement, mental and physical health) from infancy to late adulthood.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	7408	Statistical Analysis For Educational Research II	4	PR: EDF 6407 or equiv	Theory and application of statistical procedures to problems in education: (1) ANOVA-factorial; ANCOVA; (2) multiple correlation and regression -- a specific technique and a general approach to data analysis. Coordinated use of computer included.
EDF	7410	Design Of Systematic Studies In Education	4	PR: EDF 6407, EDF 7408 or equiv	Theory and application of major design models to systematic inquiry, from experimental to naturalistic models. Nature and role of sampling in systematic studies.
EDF	7412	Application of Structural Equation Modeling in Education	3	PR: EDF 7408 or equivalent	Application of structural equation modeling in educational research, including path models, confirmatory factor analysis, structural modeling with latent variables, and latent growth curve models.
EDF	7426	Action Research in Schools	3		Introduction to action research, a form of self-reflective systematic inquiry by practitioners on their own practice. The major assignment for the course will be the completion of an action research project.
EDF	7436	Rasch Measurement Models	3	PR: EDF 6432 or equivalent.	Introduction to a family of Rasch models. Estimation procedures of item and ability parameters. Applications of Rasch models for dichotomous and polytomous data, such as item construction/selection and differential item functioning (DIF).

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	7437	Advanced Educational Measurement I	3	PR: EDF 6432 or equiv.; EDF 6407 or equiv.	Logical, empirical, and statistical models of measurement processes. Examination of issues relative to scaling with a focus on reliability of measurement. Critique of available instruments for measurement in psychology and education. Examination of issues relative to scaling with a focus on reliability of measurement. Critique of available instruments for measurement in psychology and education.
EDF	7438	Advanced Educational Measurement II	4	PR: EDF 7437	Scaling techniques in educational and psychological measurement. Item analytic theories and practices. Validation theory, and construction and validation of instruments for measurements in education.
EDF	7439	Foundations of Item Response Theory	3	PR: EDF 6432.	Basic foundation underlying Item Response Theory (IRT) as well as most common applications in educational and psychological measurement, in terms of the theoretical basis, practical aspects, and specific applications.
EDF	7462	Metaevaluation	4	PR: EDF 7940.	In-depth study of the theory and practice of metaevaluation; planned field applications of principles of metaevaluation; and use of metaevaluation checklists and standards of quality for professional practice to conduct metaevaluations.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	7469	Introduction to Computer-Based Testing	3	PR: EDF 6432.	This course should serve as an introduction to the field of computer-based testing. The material covered will be applicable to most operational educational, psychological, credentialing and licensure assessments, for research and measurement.
EDF	7474	Applied Multilevel Modeling in Education	3	PR: Multiple Regression.	Helps students develop skills in defining, estimating, testing, and reporting the results of multilevel models. Design issues, model specification, estimation, statistical software, and model evaluation will be discussed.
EDF	7477	Qualitative Research in Education Part I	4		First of two sequenced seminars examining the theoretical and pragmatic aspects of conducting qualitative research in educational settings.
EDF	7478	Qualitative Research in Education Part II	4	PR: EDF 7477	Second of two sequenced seminars examining the theoretical and pragmatic aspects of conducting qualitative research.
EDF	7484	Statistical Analysis For Educational Research III	4	PR: EDF 7408	Theory and application of selected multivariate statistical procedures, including multivariate analysis of variance, structural equation modeling, and multilevel modeling.
EDF	7485	Theory and Practice of Program Evaluation	3	PR: EDF 6481.	Comparative analysis of contemporary evaluation approaches; theory and scientific basis of evaluation; social and political impact of evaluation on educational decision making; and the design, implementation and reporting of evaluation studies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	7488	Problems in Educational Data Analysis	2	PR: EDF 7408	Strategies and techniques for data processing and quantitative analysis using statistical software, including data screening, transformation, diagnostic indices, and interpretation.
EDF	7491	Consulting and Project Management Skills for Evaluators	3	PR: EDF 7485	In-depth study of consulting and management skills applied to highly complex evaluations; techniques to use and control resources such as scope, time, risk, communications, and human resource management in a broad range of evaluation activities.
EDF	7493	Systems Approaches for Program Planning, Evaluation and Development	4		Systems theory applied to problems in program planning, evaluation, and development. Analysis of evaluation models and policy analysis. Application of Networking, PERT, and Modeling procedures to selected problems in education. Emphasis on decision oriented research.
EDF	7497	Theory and Practice of Personnel Evaluation	3	PR: EDF 7485	In-depth theoretical and practical knowledge of evaluation systems and standards for personnel evaluations, and interpersonal dynamics as related to the major personnel evaluation functions.
EDF	7498	Analysis for Single-Case Experiments	3	PR: EDF 7408	Methods for analyzing data from single-case experiments (e.g., multiple baseline, reversal, and alternating treatment studies) including applications of visual analysis, effect size estimation, randomization tests, and multilevel modeling.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	7530	History of Higher Education in the United States	3	PR: EDF 6517 or its equivalent	Historical overview of American higher education from Colonial period to present. History of undergraduate curriculum, changing purpose of higher ed, and growth in hierarchical categorization of higher ed as college became more accessible to students.
EDF	7555	Moral Development and Education	3-4		This course will examine the dynamics of moral development. We will study the psychological foundations of moral education through examining the empirical research and philosophical work underlying social scientists'™ conceptions of morality.
EDF	7586	Classics in Educational Research	4	PR: EDF 6517, EDF 6544, EDF 6606	Examination of the context, methods, and significance of selected research studies in education.
EDF	7682	Education in Metropolitan Areas	3	PR: EDF 6517, EDF 6544, EDF 6606	Modern public education and its relationship to national development.
EDF	7910	Directed Research in Measurement and Evaluation	1-19		Independent student-faculty research course.
EDF	7930	Professional Seminar	1		Ph.D. course fulfilling Educational Psych.concentration requirement under the Curr. & Instruc. doctoral program. It covers professional issues of working as an academic in research intensive or teaching college as well as working in non-academic settings.
EDF	7934	Seminar in Social Foundations of Education	4	PR: EDF 6517, EDF 6544, or EDF 6606	Significant research on socio-cultural issues in Education.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDF	7940	Practicum In Educational Planning, Evaluation, And Development	1-8	PR: EDF 7408, EDF 7493	Supervised practicum in which the student assumes major responsibility for significant planning, evaluation, research, or development activity.
EDF	7946	Supervised Experience in College Teaching	1		A seminar to increase knowledge and competencies in college instruction. Students must have advanced graduate standing, be currently teaching a college level course, willing to be observed, and able to discuss ongoing classroom practices and problems. Open to all doctoral level Education majors, other doctoral students if space available. S/U optional.
EDF	7947	Research Practicum	1		Provides research experience for students who plan to pursue teaching and research. Registration is restricted to doctoral students in College of Education or by permission. This doctoral course fulfils Educational Psychology concentration requirement.
EDF	7980	Dissertation	2-30		
EDG	6285	School Curriculum Improvement	3		Open only to teachers in service. Complete faculty participation required.
EDG	6344	Project T.E.A.C.H. (Teacher Effectiveness and Classroom Handling)	3		Topics and techniques in verbal communication skills, questioning, paraphrasing, positive support skills, problem solving, counseling techniques, non-confrontation strategies, group dynamics, and discipline decision making.
EDG	6436	Cybersecurity in the Schools	3		Knowledge in developing and implementing cybersecurity policies that govern schools and districts.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDG	6627	Foundations Of Curriculum And Instruction	3	PR: EDG 4620	Open to all graduate students. Introductory course in curriculum and instruction at the graduate level, basic to all specialized courses in the field. Emphasis on foundations, design, basic concepts, theory, and trends of curriculum from early childhood through secondary levels.
EDG	6906	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
EDG	6931	Selected Topics in Education	1-4		Each topic is a course under the supervision of a faculty member. The title and content will vary according to the topic.
EDG	6935	Seminar in Curriculum Research	1-3		Critical evaluation of current research and curriculum literature, design and analysis of individual research topics leading to satisfaction of research requirements.
EDG	6947	MAT Final Internship	1-9		Open to graduate degree candidates only. Supervised teaching at the secondary or junior college level as appropriate.
EDG	6971	Thesis: Masters/Education Specialist	2-19		
EDG	6975	Project: Master's/Specialist	1-9		Individual scholarly project planned and completed with the approval of the advisor and program committee.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDG	7035	Design and Evaluation of Teacher Education Programs	3		Students in this course will examine theories for design and evaluation of teacher ed programs. The course uses a problem-based approach in which instruction is structured around the design and evaluation of model teacher education programs.
EDG	7046	Trends and Issues in Educational Policy: Literacy and Teacher	3		Offers the opportunity for wide reading and vigorous discussion of a variety of texts focused on the historical and current educational policies impacting literacy, elementary, and teacher education.
EDG	7066	Critical Pedagogy in Teacher Education	3		Introductions to key concepts and frameworks related to critical pedagogy. Graduate students will develop connections between theoretical exploration to teaching and scholarship in teacher education.
EDG	7069	Sustainable Innovation in Education	3		Research and theory on sustainable innovation, including life-cycles and evolution. Includes development of case study of existing or defunct innovation's origins, development, effectiveness and current status. Open to doctoral students in COEDU.
EDG	7207	Transforming the Curriculum	3		Theory and research in curriculum development, including historical perspectives on curriculum movements, comparative global curriculum issues, and curriculum theories and models in use. Special attention given to innovations that succeed or fail.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDG	7357	Mentoring Theory and Leadership Practice	3		This cross-disciplinary doctoral course is for students interested in the topic and process of mentoring in education. Students from inside and outside the College of Education are eligible.
EDG	7368	Visual Research Methods in Education	3		Introduces students to analytical and interpretative methods for understanding visual and media culture within an education context.
EDG	7667	Analysis of Curriculum and Instruction	3	PR: EDG 6627	Various theoretical frameworks for analyzing curriculum and instruction. Emphasis on rational models of curriculum inquiry.
EDG	7692	Issues in Curriculum and Instruction	3	PR: EDG 6627	Identification and analysis of major problems and issues in curriculum and instruction. Critical examination of efforts to deal with these issues.
EDG	7695	Problems of Practice in Education	3		Theory and research in curriculum development, including historical perspectives on curriculum movements, comparative global curriculum issues, and curriculum theories and models in use. Special attention given to innovations that succeed or fail.
EDG	7910	Directed Research	1-19		
EDG	7931	Selected Topics	1-4		Selected topics in advanced Education.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDG	7936	Graduate Seminar: Leader-Scholar Community	3	PR: EDG 7046	Participation in leader-scholar learning community to develop dissertation/capstone project concept, review literature, plan intervention, and design research. Registration begins in second year of program and continues until candidacy.
EDG	7937	Graduate Seminar	1-4		Seminar in advanced Education.
EDG	7938	Advanced Graduate Seminar: Introduction to Research	3		Students will survey educational theories that contribute to the scholarly literature in Childhood Education & Literacy Studies and acquire academic literacies that are used to share information within the doctoral program and across academic texts.
EDG	7939	Advanced Graduate Seminar: Research in Progress	3	PR: EDG 7938	Interdisciplinary work and collaborative research will be fostered through an inquiry group. The group will work as a community of discursive social practice with the goal of more fully engaging doctoral students in the intellectual life of the discipline.
EDG	7941	Practicum in Educational Innovation	1-4	PR: EDG 7046	Requires doctoral students to actively engage in the development and operation of an innovative educational practice or program in the student's workplace or other institution.
EDG	7980	Dissertation	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDH	6051	Higher Education in America	3		For current and prospective faculty, administrators, policy analysts, and staff seeking to learn about American higher education. The topics addressed include the history, recent developments, and projections for the future of various aspects of higher education, including its missions, purposes, students, faculty and staff, administration, finance, organization, governance, and role in American society.
EDH	6081	Junior College in American Higher Education	3		Philosophical and cultural bases for definition of its role and contemporary issues, such as control, financing, and curricular patterns. Emphasis on the place and problems of the community junior college.
EDH	6406	Ethics and Higher Education	3		The purpose of this course is to assist students in developing a detailed ethical framework that will guide their actions and decision-making as they serve in leadership and teaching positions in higher education. Areas of emphasis include (a) learning selected philosophies of ethics; (b) exploring student, faculty, and classroom ethical issues; (c) discussing administrator/board ethical issues; (d) examining the college or university as an ethical organization.
EDH	6906	Independent Study	1-19		Independent study in which students must have a contract with an instructor. Rpt. S/U.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDH	6938	Seminar in College Teaching	3		Implications of learning theory and student characteristics for teaching at the college level. Types of teaching procedures, innovation, evaluation, student freedom, and responsibility for learning.
EDH	6947	Internship in Higher Education	1-6		This course provides higher education program graduate students with an extensive, semester-long, field experience in a two- or four-year college, under the dual guidance of a campus-based supervisor and a USF higher education program faculty member. The internship experience must relate to the student's goals in the doctoral program. Students should be at or near the end of their graduate program.
EDH	7057	Introduction to Research Studies in Higher Education	3		This course introduces key studies in higher education selected from across areas of focus and a brief overview of research methodologies. Must be completed early after admittance to the doctoral program.
EDH	7225	Curriculum Development In Higher Education	3		Emphasis on curriculum perspectives, procedures, and practices in higher education; principles of curriculum and instruction in higher education; theory and practices in goal setting, curriculum planning, instructional improvement, and curriculum design.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDH	7325	Supervised Teaching in Childhood Ed & Literacy Studies I	3		The purpose of this course is for graduate assistants to consider challenges and issues involved in preservice education. Students will reflect on their instruction, survey preservice teacher literature and develop an inquiry plan to study their teaching.
EDH	7326	Supervised Teaching in Childhood Ed & Literacy Studies II	3		The purpose of this course is to provide new graduate assistants a foundation for studying their teaching at the collegiate level.
EDH	7405	Policy and Legal Dimensions in Higher Education	3		This course is a doctoral level course with primary focus on the interface of policy and law as they address the nature, process and product of community college and higher education in the United States and Florida. Constitutional, statutory and contract law is also discussed, as are critical legal and policy issues in higher education, including governance, academic freedom, student rights, discrimination, tort liability, contracts and collective bargaining.
EDH	7505	Higher Education Finance	3		Emphasis on financial policies, planning, and budgeting; allocation; financial analysis and management, patterns of expenditure, sources of income. Relationships between educational objectives and resource allocations.
EDH	7632	Leadership in Higher Education	3		This cross-disciplinary doctoral course is for students interested in the topic and process of mentoring in education. Students from inside and outside the College of Education are eligible.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDH	7633	Governing Colleges and Universities	3		Students in this course will examine and compare existing models of state and local college and university governance structures. Demographic, social, legal, financial, and planning issues and forces that effect how colleges and universities are governed will also be explored. Policy analysis and research will be explored as it relates to governance in higher education.
EDH	7635	Organization And Administration Of Higher Education	3		Examines the concepts about higher education organizations and administration, the behaviors of those organizations and administrators, and the relationships between concept and practice.
EDH	7636	Organizational Theory and Practices in Higher Education	3		Explores theories and models of organizations and their applicability to colleges and universities and the work done in the influence of internal and external actors. Also examines many of the administrative practices and processes common in colleges and universities today.
EDH	7910	Directed Research	1-19		This course provides higher education program graduate students with an opportunity for directed research, under the supervision of a higher education program faculty member.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDH	7935	Higher Education Capstone Seminar	3		The course is designed to encourage students'™ integration and synthesis of theories, concepts and themes in previous coursework; to critique research in the field; and to provide some in-depth study of selected areas in higher education. Advanced Graduate Standing. Instructor approval required – majors only.
EDH	7980	Dissertation	2-30		
EDM	6256	Problems In Curriculum And Instruction: Middle School	1-3	PR: EDG 4620, EDG 6627.	For teachers, supervisors, and administrators. Curricular and instructional problems of the middle school. Common problems or problems of special interest to the participants. Normally, for certification requirements only.
EDM	6622	Client Centered Middle Schools	3		Combination lecture/discussion/independent study course that examines in depth the current research on needs/characteristics of the early adolescent and its implications for both organization of the middle grade school and its delivery of curriculum and instruction.
EDM	6624	Effective Instruction for Middle Schools	3	PR: EDM 6622 and EDM 6623	Combination lecture/discussion/individual study course that examines in depth the current research on both alternative instructional strategies and assessment practices that are successful with middle level students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EDM	6935	Middle School Issues Seminar	1-3		Combines discussion/individual study seminar modeling the advisory concept in a university setting and examining the current research on a variety of important trends/issues affecting middle level education.
EDS	6131	Clinical Supervision	3	PR: EDS 6050	Trains administrators, supervisors, and peer teachers in observing and diagnosing teacher classroom performance, writing remedial plans, conducting post observation conferences, and evaluating performance.
EDS	6239	Problems In Supervision	3	PR: EDS 6050	Analysis of instructional problems in schools. Emphasis on supervisory tasks, case studies, and the application of problem solving techniques and strategies.
EDS	7130	Teacher Evaluation: Process and Instruments	3	PR: EDA 6061, EDF 6432	Examines procedures for establishing content validity, reliability, norms, and predictive validity of teacher evaluation systems. Examines the psychometric qualities of selected instruments.
EEC	6055	Advocacy and Leadership in Early Childhood Education	3		This course focuses on developing leadership skills and knowledge necessary to help individuals build coalitions and design effective public policy/advocacy initiatives. This course is open to graduate non-majors and is repeatable for 3 hours credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEC	6205	E.C.: Curriculum and Authentic Assessment	3		This course focuses issues, strategies and research associated with curriculum and authentic assessment. This course is open to graduate non-majors and is repeatable for three hours credit.
EEC	6265	Early Childhood Programs and Advanced Curriculum	3		Historical traditions and contemporary programs and curriculum models analyzed with an emphasis on dominant practices, methodologies, and current research that influences curriculum development in programs serving young children. Open non-majors/RTHC.
EEC	6415	EC: Diversity in Home and School	3		Focuses on issues of diversity that affect classroom practices with emphasis on analyzing and synthesizing pertinent literature and research. This course is open to graduate non-majors and is repeatable for three credit hours.
EEC	6517	Social Justice in Early Childhood Education	3		This course uses a social justice lens to examine the impact of diversities on social functioning and development of young children. Research skill development includes analysis of social policies. Course is open to non-maj and is rpt for 3 credit hours.
EEC	6525	Early Childhood Program Development and Administration	3		An analysis of current educational programs for young children with emphasis on designing, developing, and administering a program commensurate with the needs of young children. This course is open for non-majors and is repeatable for 3 credit hours.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEC	6626	EC: Play and Learning	3		This course includes an analysis of play theories, the role of play in the total development of young children, and the role of play as a curricular tool and implications for program planning and evaluation. Open non-majors/RTHC.
EEC	6678	Research Seminar: Issues and Trends in Early Childhood Education	3		This course is designed to create an awareness of developing trends and issues facing the field of early childhood education. Relevant research is reviewed and possible avenues for advocacy are explored. Course open to non-majors, repeatable for 3 credit hours.
EEC	6926	Workshop In Early Childhood Education	3		Individual problems and innovations related to methods and materials of instruction in early childhood.
EEC	7056	Leadership and Advocacy: Issues Affecting Young Children	3		This course focuses on developing leadership and advocacy knowledge and skills necessary for designing public policy/advocacy initiatives directly affecting children and families. Open to all adv. grad stud & may not be repeated for credit.
EEC	7057	Critical Perspectives in Early Childhood Education	3		An exploration of how philosophical ideas of education impact today's practice in early childhood education. Open to all adv. grad stud & may not be repeated for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEC	7306	Teaching and Learning in Early Childhood	3		Policies and research focusing on teaching and learning in Early Childhood Education with an naturalistic inquiry / action research component. Course is open to all adv. grad students and may not be repeated for credit.
EEC	7317	ICT in the Early Years	3		Explores the interface between young children and information and communication technology (ICT) from a developmental perspective.
EEC	7416	Sociocultural Approaches to Working with Children and Families	3		Focuses on issues relevant to young children within the context of their families and communities. Foundational and current research is examined in light of social policies. Open to all adv. grad stud & may not be repeated for credit.
EEC	7417	Family Literacy	3		Students will examine how literacy is acquired, how culture, language, and family life relate to literacy development, and how home, school, and community contexts influence literacy acquisition.
EEC	7615	Trends and Issues in Early Childhood Education	3		This course will focus on current issues and trends in the field of Early Childhood Education, which serves young children from birth to age 8. Open to all adv. grad stud & may not be repeated for credit.
EEC	7617	Assessment In Early Childhood Education	3		Focuses on the goals, benefits & uses of assessment for young children & their teachers. It explores evaluation and accreditation of programs serving young children & ec teacher educators. Open to all adv. Grad stud & may not be repeated for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEC	7627	Arts & Aesthetics in Early Childhood Education	3		Provides a synthesis of theoretical perspectives on aesthetic issues and the ramifications for the development, teaching, and the critique of arts in early childhood curriculum.
EEC	7910	Directed Research in Early Childhood Education	1-19		Independent student-faculty research course.
EEC	7980	Dissertation	2-30		
EEE	5344C	Digital CMOS/VLSI Design	3	PR: EEL 4705	Design, layout, simulation, and test of custom digital CMOS/VLSI chips, using a CMOS cell library and state-of-the-art CAD tools. Digital CMOS static and dynamic gates, flip flops, CMOS array structures commonly used in digital systems. Top down design example of a bit slice processor.
EEE	5356	Integrated Circuit Technology	3	PR: EEL 4351	Physics and Chemistry of integrated circuit and discrete device fabrication, materials limitations, processing schemes, failure and yield analysis. A laboratory is integral to the course.
EEE	5357	Analog CMOS/VLSI Design	3	PR: EEE 4301	Design of analog circuits for CMOS/VLSI design. Op amps, comparators, D to A and A to D converters. Switched capacitor filters. Analog simulation.
EEE	5382	Physical Basis Of Microelectronics	3	PR: EEL 4471	Quantum mechanics with emphasis on electronic properties in atoms, molecules, and crystals; quantum statistics; energy band theory; crystal structures; defect chemistry; semiconductor properties.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEE	6205	Personal Health Systems	3		The theory and design of personal health systems. Students design, build and evaluate personal health systems that are patient-facing; enable ubiquitous interaction with health; and employ persuasive techniques for behavior change.
EEE	6273	Chemical/Biological Sensors and Microfabrication	3		This course discusses general concepts of MEMS, microfabrication and chem/bio sensors. The course concentrates on basics of MEMS, different processes involved and principles of sensing and understanding systems approaches to problems that require Sensors/MEMS.
EEE	6277	Bioelectronics	3		Second course in the series covering bioelectrical phenomena and systems. The focus is electronics for biomedical applications.
EEE	6282	Biomedical Systems and Pattern Recognition	3		Covers 'models for analysis of biomedical systems, both theoretical and computer-based' and 'biomedical pattern spaces, feature extraction and statistical pattern recognition' for insight into bio-systems and efficient integration with medical systems.
EEE	6318	Characterization of Semiconductors	3		Electrical, optical, chemical, and physical methods used to characterize semiconductor materials and devices; includes surface and near surface spectroscopies. Available to non-majors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEE	6345	VLSI for Signal Processing	3		VLSI applications in signal processing and telecommunications. General purpose DSP architectures. ASIS architectures: systolic arrays, data-flow multiprocessing, wavefront arrays. Case histories: modems, echo cancelers, digital PLL, etc. High-speed arithmetic and algorithms.
EEE	6353	Semiconductor Device Theory I	3		Theory of operation and application of circuits and devices.
EEE	6355	Compound Semiconductor Technology	3		Bulk crystal and epitaxial growth technologies of III-V and II-VI compound semiconductors. The properties, characterization, and device applications of these compounds will be emphasized.
EEE	6358	Semiconductor Device Theory II	3	PR: EEL 6353	Theory of operation and application of circuits and devices.
EEE	6368	RF/MW Power Amp Design	3	PR: EEL 6427	The emphasis of this course is on microwave power amplifier design for hybrid and monolithic microwave integrated circuit implementations.
EEE	6407	Semiconductor Materials and Devices	3		This is a course in semiconductor materials basics leading to a detailed discussion of semiconductor device structures and operation, with a review of current topics. Topics will include a review on semiconductor theory, industry drivers from a systems perspective.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEE	6412	System on a Chip	3		Fundamental concepts: 2D and 3D SoCs. Digital, analog, MEMS, sensors, optoelectronics, and communication/networking blocks for SoC. DNA chips. Fabrication techniques including photolithography, TFD, and etching. Platform based design. Applications.
EEE	6425	Introduction to Nanotechnology	3	PR: Physics I, Chemistry I and Calculus I and II	Basic nanotechnology fabrication and characterization techniques. Nanomaterials, Top-down and bottom-up assembly processes. Applications of nanotechnology.
EEE	6432	Nanostructures and Nanomaterials for Sustainable Systems	3		Introduction to nanostructures (tubes, wires, fibers, laminates, spheres, etc.) and materials used to create these structures for sustainable systems to solve global issues for the environment, alternative energy, medicine, pharmacy, sports, space, etc.
EEE	6502	Digital Signal Processing I	3		Digital signals and fourier transforms. Z-transforms, digital filter networks; dft, dct, and fast transforms. Design of iir and fir filters; quantization effects. Multirate processing; interpolation and decimation.
EEE	6514	Biomedical Image Processing	3		2D signal processing: image enhancement; edge detection and image segmentation. Medical imaging: 3D computerized tomography, magnetic resonance imaging; single photon emission computed tomography; positron emission tomography; radiographs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEE	6542	Random Processes In Electrical Engr	3		Review of probability theory, functions of random variables; examples in electrical engineering. Sequences of random variables. Concepts in random processes, correlation functions, power spectrum, random inputs to linear systems. Spectral analysis. Applications to engineering systems.
EEE	6586	Speech Signal Processing	3	PR: EEL 6502.	Speech models: acoustic tube, source-filter. Time and frequency domain properties. Linear prediction analysis of speech. Speech coding: apcm, dpcm, adpcm, sub-band, vq, etc. Speech synthesis and recognition. Speech processing hardware.
EEL	5250	Power System Analysis	3	PR: EGN 3375.	Analysis and design technique for AC power systems.
EEL	5462	Antenna Theory	3	PR: EEL 4471	Antenna theory beginning with fundamental parameter definitions and continuing with mathematical concepts, elemental antennas and arrays.
EEL	5594L	Wireless Circuits and Systems Laboratory	2	PR: EEL 4471.	This class will provide introductory tutorial learning, plus hands-on experience in analysis, design and measurement in the field of wireless communications.
EEL	5771	Introduction to Computer Graphics I	3	PR: COP 4530	An introduction to the evolution of computer graphics including point-plotting, line drawing, two-dimensional transformations and graphics software packages.
EEL	5935	Special Electrical Engineering Topics I	1-3		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	5936	Special Electrical Engineering Topics II	1-3		
EEL	5937	Special Electrical Engineering Topics III	1-3		
EEL	6018	System of Systems Eng & Model	3		A methodical, disciplined approach for the design, realization, technical management, operations, and implementation of a system. Methodologies based on System of Systems Engineering approach to solve complex engineering problems will be presented.
EEL	6022	Engin Apps of Complex Analysis	3		Analytic functions, conformal mapping, residue theory, Laurent series, transforms. Applications to various problems in engineering and physics.
EEL	6023	Engin Apps of Partial Diff Eq	3		Power series solutions for ordinary differential equations, Sturm-Liouville theory, special functions. Vector methods with generalized coordinates. Separation of variables for partial differential equations. Green's functions.
EEL	6024	Math for Communication	3		Advanced matrix algorithms: LU and QR factorizations, least-squares, pseudoinverses. Optimization methods.
EEL	6025	Math I for Professionals	1	PR: MAP 2302	Complex analysis: complex algebra, phasors description of circuits. Optimization theory: linear and nonlinear programming, Kuhn-Tucker conditions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6026	Math II for Professionals	1	PR: EEL 6025	Fourier analysis: frequency domain nomenclature, transfer function formulations, mathematical issues. Matrix analysis: linear system quantification, algorithms, equivalent formulations.
EEL	6027	Engin Apps for Vector Analysis	3		Vector methods of electromagnetism and fluid mechanics. Vector operators, line and flux integrals, potential and transport theorems, applications.
EEL	6028	Math III for Professionals	1	PR: EEL 6025 and EEL 6026	Vector analysis: vector algebra, characterization of physical aspects of electric and magnetic fields. Partial differential equations, reading solution characteristics from separation-of-variables formulas.
EEL	6226	Microsystems and MEMS Technology	3		This course provides an overview of the MEMS Technology, focusing on devices and systems that can be developed using standard processing approaches.
EEL	6227	Electrical Machines and Drives	3		A graduate course intended to familiarize students with the electrical to mechanical energy converters known as machines and the power electronic circuits used to control the machines and produce integrated drives.
EEL	6245	Power Electronics	3	CR: EEL 3302	Covers topology, circuit analysis, and applications of various converters. Converters include switch-mode dc/dc converters, dc/ac converters and line frequency rectifiers and inverters. Applications of converters in dc motor control and ac motor control.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6256	Power Systems II	3	PR: EEL 5250, EGN 3375.	A graduate course intended to familiarize students with the dynamics, control and protection of electrical power systems.
EEL	6262	Industrial Power Distribution	3	PR: EGN 3375	Prepares student to design electrical power systems for industrial applications. Focuses on power system configurations, transformer connections, fault calculations, protective device sizing, arc flash calculations, and cable raceway system design.
EEL	6263	Industrial Power Distribution II	3	PR: EEL 6262	Prepares student to design electrical power systems for industrial applications. Focuses on switchgear and motor control centers, ladder logic, motor application, lighting systems, power factor correction, and power quality.
EEL	6285	Energy Delivery Systems	3	PR: EGN 3373, EGN 3375.	The course provides the students the fundamentals and analysis of the electric power delivery system to facilitate the integration of renewable energy resources “ wind energy and solar energy.
EEL	6292	Power Sys Market: Oper & Analys	3		This course aims to present the backgrounds, state-of-the-art and challenges in current power systems, the operational models and computational methods, the basic economics on electricity market as well as system expansion and investment.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6293	Power Quality	3	PR: EEL 6263, EEL 6256	Course in basic power quality concepts including interruptions, voltage sags and swells, transient overvoltages, and harmonics. Emphasis is placed on identifying and designing means of mitigation for commonly-encountered power quality problems.
EEL	6425	RF & Microwave Measurements	2	PR: Wireless Circuits Systems Lab.	Concentrates on the theory and applications of modern radio frequency and microwave measurements. Topics include network analyzer, spectrum analyzer, noise, power and non-linear distortion measurements.
EEL	6426	RF and Microwave Circuits I	3	PR: EEL 4471 and ELR 4316L	Provides an introduction to passive RF/microwave/wireless circuit design. Topics to be covered include distributed transmission line theory, lumped circuit and network analysis, impedance matching, and the design of various microwave components.
EEL	6427	RF and Microwave Circuits II	3	PR: EEL 6426.	This course presents the design theory and analysis of microwave transistor amplifiers and oscillators. Lectures, homework, and CAD projects develop an understanding of the design and performance issues for this class of circuits.
EEL	6463	Advanced Antenna Theory	3	PR: EEL 5462.	Electromagnetic radiating systems studied by analytical and numerical methods.
EEL	6481C	Numerical Techniques In Electromagnetism	3	PR: EEL 5462, EEL 6486CC.	Review of Maxwell's equations. Finite differences, finite elements, boundary elements method of moments. Introduction to geometric theory of optics and diffraction.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6486	Electromagnetic Field Theory and Applications	3		Graduate-level course in time varying electromagnetic fields. This course is the basis for further study in wireless systems, antenna theory, power systems, high speed networks or electronics. Low frequency as well as high frequency concepts.
EEL	6487C	Advanced Electromagnetic Field Theory	3	PR: EEL 6486C.	Time harmonic fields emphasizing problems with exact solutions in the rectangular, cylindrical and spherical coordinate systems. Solutions by methods, Green's functions and vector methods.
EEL	6506C	Broadband Communications Networks	3	PR: EEL 6534.	Objectives of networking, circuit and packet switching, queuing theory. Topologies, layered architectures, protocols and network performance. Local and wide area networks. Broadband networks: sonnet, SHD, ATM and BISDN. ATM: cell concept, visual paths and channels, layer functions, interfaces and protocols; switch fabrics; CBR, VBR, ABR traffic, QOS. Current trends and internet. Applications to ATA/voice/video/multimedia traffic.
EEL	6534	Digital Communication Systems	3		Digital communication & info. theory. Random processes. Digital modulation and demodulation. Source & channel coding. Detection theory: matched filter and sequence detection. Multiple access techniques. Spread spectrum & multi-user radio communications.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6584	RFID and NFC Technologies for IT	3	PR: COP 2270 (or similar)	This course will cover an overview of the state-of-the-art radio frequency identification (RFID) and near field communication (NFC) technologies, basic science behind RF wireless communications, and tools and methods for application deployment.
EEL	6593	Mobile and Personal Communication	3	PR: EEL 6534.	Characteristics of wireless mobile channels indoor and outdoor ; multipath and shadow fading, frequency reuse; micro and pico cells; base-station and portable units. Cell coverage, blocking, and co-channel interference. TDMA, FDMA, CDMA and hybrid approaches to multiple access. Protocols, hand-over. Voice, data, and multi-media over wireless indoor channels.
EEL	6597	Wireless Network Architecture and Protocols	3	PR: EEL 6593	Wireless systems and standards. Network fundamentals. Channel characteristics, models. Modulation/coding, spread spectrum. Multiple access control: TDMA/FDMA/CDMA. Mobility/resource management. Wireless network architecture-cellular, satellite, broadband.
EEL	6614	Systems and Control Theory I	3		Analysis of multi-variable linear systems continuous and discrete time, state-space methodology and transfer functions description . Analysis and design of feedback control systems. Effects of plant and measurement noise. Optimal control.
EEL	6615	Systems and Control Theory II	3	PR: EEL 6614.	Continuation of EEL 6614.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6630	Digital Control Systems	3	PR: EEL 4657	Review of linear control systems, discrete time linear systems analysis, Z-transforms, modeling and design of digital control systems, digital implementation of analog controller, discrete state space representation, concepts of observability and control.
EEL	6654	Control Systems Engineering	3	PR: EEL 4657	A course with emphasis on dynamic system modeling, design, analysis, and system verification following systems engineering approaches. The course introduces techniques, applications and trends from a trans/multi/inter/disciplinary perspectives.
EEL	6706	Testing And Fault Tolerance In Digital Systems	3	PR: COP 2400, CDA 4201	Test generation for combinational and sequential digital circuits, fault analysis and diagnosis. Methods for reliability improvement through fault tolerant and testable circuit design. Introduction to software reliability.
EEL	6722C	DSP/FPGA Laboratory	3	PR: EEL 6502	Development of real-time digital signal processing (DSP) systems from algorithm to hardware using DSP, FPGA and hybrid DSP/FPGA rapid prototyping platforms. The course has both lecture and laboratory components.
EEL	6728	Intro to VHDL	3		An in-depth study of the VHDL hardware description language with emphasis on digital circuit simulation and digital design for synthesis.
EEL	6729	Rapid System Prototyping	3		Focus on digital synthesis targeting FPGAs as a way of obtaining rapid prototypes of digital circuits.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6752	Digital Signal Processing II	3	PR: EEE 6502	Fast algorithms, FFT, fast convolution; DCT, CZT. Random signals. Linear prediction, application to speed coding. Spectrum estimation. Quantization effects. Pencil-of-functions method. Adaptive filtering and equalization.
EEL	6753	Digital Signal Processing III	3	PR: EEE 6502 or EEL 6752	Advanced topics in digital signal processing, e.g., A. adaptive arrays, beam forming and applications to radar and sonar; B. multi-rate filtering, multi-resolution analysis, sub-band analysis, wavelet transforms and applications to images and other large-scale measurements; C. noise cancellation; and D. inverse problems, such as CT reconstruction.
EEL	6764	Principles Of Computer Architecture	3	PR: CDA 4100	Arithmetic algorithms, CPU speedup techniques, memory hierarchies, virtual memory, input-output. Study of the number systems and the algorithms used for digital arithmetic computation with emphasis on their implementation, speed and reliability considerations.
EEL	6846	Coding Theory	3	PR: EGN 5423	Error-correcting codes, algebraic block codes, linear codes and feedback shift registers; BCH codes; convolutional codes; burst error correcting codes; arithmetic codes; decoding methods.
EEL	6908	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
EEL	6935	Selected Electrical Topics	1-3		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEL	6936	Special Topics	1-3	PR: EEL 6427	Selected topics.
EEL	6971	Thesis: Master's	2-19		
EEL	7910	Directed Research	1-19		
EEL	7931	ST in Communication	3	PR: EEL 6535	Advanced topics in communications such as synchronization, spread-spectrum communications, fading channels, large constellation signaling schemes, mobile radio, statistical multiplexing, performance measurement, etc.
EEL	7980	Dissertation: Doctoral	2-19		
EES	6107	Biological Principles of Environmental Engineering	3		This course improves the student's knowledge and problem solving skills with respect to the Biological Principles used by Environmental Engineers to design biological processes. Students will learn about microbial physiology and metabolism.
EEX	5705	Seminar in Preschool Handicapped	2		Intended to familiarize the education student with the wide range of needs and services of the preschool children with disabilities and their families and how they coordinate with educational services.
EEX	5752	Working With Families: A Pluralistic Perspective	3	PR: Introductory course in special education	The impact of the socio/cultural environment on the education of at-risk children and children with disabilities; family systems theory, principles of multi-cultural education, strategies for working effectively with families of school-age children, diverse cultures and family structures represented in school populations today.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	6025	Trends and Issues in Special Education	3		Survey of all exceptionalities including current trends and issues related to the field of special education.
EEX	6051	Creating Positive Learning Environments for Students with Disabilities	6		This course presents an overview of assessment, behavior management, and instructional planning for students with disabilities. It also incorporates content about the historical and legal foundations of special education and theories and research that focus on defining, describing and intervening with students who have learning disabilities, behavior disorders, mild-moderate mental retardation, mild to moderate developmental disabilities, and physical disabilities.
EEX	6065	Collaborative Transition and Career Planning for Students with Low Incidence Disabilities	3		This course offers an analysis of collaborative, interdisciplinary transition planning strategies and explores issues surrounding the development and use of functional, community-based curriculum for adolescents with severe or profound disabilities.
EEX	6222	Advanced Psychoeducational Assessment of Exceptional Students	3		Theory and methodology associated with norm-referenced, criterion-referenced, curriculum-based, ecological, and psychoneurological assessment procedures for exceptional students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	6224	Developing Individualized Educational Programs for Students with Disabilities	6	PR: EEX 6051	This 6-hour course reinforces and extends competencies in assessment, behavior management, legal and ethical foundations of special education, instructional planning, working with families, collaboration, and characteristics of disabilities. Content emphasizes knowledge and skills needed by teachers who are working with students who have mild disabilities and those from diverse cultural, socioeconomic and ethnic areas.
EEX	6234	Identification and Assessment of Individuals with Low Incidence Intellectual Disabilities and ASD	3		Critical analysis of the processes in place to identify students with severe/profound intellectual disabilities and/or autism spectrum disorder (ASD). Explores curriculum instruction and assessment in a least restrictive environment.
EEX	6245	Transitional Programming for the Adolescent and Young Adult Exceptional Student	3		Procedures for implementing educational programs with exceptional adolescents. Includes educational programming, alternative programs, community resource coordination, career/occupational education, and advocacy.
EEX	6247	Implementing Programs for Students with Disabilities	6	PR: EEX 6224.	Course emphasizes instructional approaches for implementing reading, math, language arts and social skills instruction in conjunction with classroom management for students with emotional, learning and/or cognitive disabilities. Majors only. Not repeatable

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	6248	Instructional Approaches for Exceptional Populations	3		In-depth study of instructional strategies that are effective when teaching students with emotional disturbance, mental retardation, and learning disabilities. Content includes techniques for curriculum adaptation, IEP development; direct, data-based and metacognitive strategy instruction; and micro-computer applications.
EEX	6307	Qualitative Research in Special Education	3	PR: one graduate level course in research design or methods	Graduate research seminar that introduces students to the philosophies, methods, epistemologies & ethical foundations of qualitative research for those interested in students with disabilities & their families; non restrictive; repeatable for credit.
EEX	6476	Curriculum and Instruction for Students with Low Incidence Disabilities	3		Analysis of current issues and best practices in assessment for teaching, curriculum content, and instruction for students with severe disabilities and the provision of educational services within inclusive general education settings and home communities.
EEX	6511	Administration of Exceptional Student Programs	3		Procedures that local, state, and national administrators may use to implement services for exceptional students.
EEX	6602	Observational Methods and Functional Assessment	3		Provide students with instruction in functional assessment procedures and direct observation methods to be used consistent with the principles of applied behavior analysis in mental health and education settings.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	6612	Management and Motivation of Exceptional and At-Risk Students	3	PR: Introductory course in special education	Available to non-majors. Focuses on approaches to classroom management and motivational strategies when working with exceptional students. Content includes applied behavior analysis techniques, psychoeducational approaches, and social skills training.
EEX	6619	Positive Behavior Support Low Incid. Intellectual Disab. & ASD	3		Knowledge and skills necessary to develop, implement, and evaluate the impact of positive behavior support for students with s/pintellect. disab and/or autism spectrum disorder. Communicative function of challenging behaviors, teaching new skills & prevention.
EEX	6706	Education of the Preschool Handicapped Child	3		Education of children ages birth through five with special needs. Basic concepts, curricular intervention strategies, and organizational structures are covered.
EEX	6732	Consultation and Collaboration in Special Education	3	PR: Introductory course in special education	Theories of consultation and collaboration. Overview of service delivery models in special education.
EEX	6767	Assistive Technology For Students With Low Incidence	3		This course is an introduction to educational and assistive technology used for instruction of students w/ low incidence disabilities with emphasis on students w/ asd. Strategies for at devices include augmentative/alternative communication systems.
EEX	6906	Independent Study: Special Education	1-6		Independent study in which students must have a contract with an instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	6939	Advanced Seminar: Paradigms, Practices, and Policies in Special Education	3		An advanced graduate seminar stressing cross-categorical relationships. Topics include research that deals with paradigms for providing service, service models, and legal mandates.
EEX	6943	Practicum in Exceptional Student Education	1-4		Supervised field work in exceptional student education with children (including preschool handicapped) who have learning disabilities, mental handicaps, emotional and behavioral disabilities, physical disabilities, or multiple disabilities.
EEX	6971	Thesis: Masters/Educational Specialist	2-19		
EEX	7301	Selected Topics in Special Education	1-8	PR: EEX 7341	Identification and study of ethical and research issues in special education. Opportunity will be provided for the student to gather and process data, as appropriate, culminating in a written report and/or oral presentation to fellow student researchers.
EEX	7341	Research Studies and Their Implications in the Education of Exceptional Children	3	PR: EDF 6431, EDF 6481, or equiv.,	This course will involve a study of current research and research methods used in exceptional child education. The transition from theory to practice will be made through the examination and discussion of implications in the field of special education that can be drawn from the research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	7342	Making your Research Accessible	3		This doctoral seminar critically examines performance theories and performance and qualitative arts-based research methods as a mechanism for disseminating research findings and making research more accessible to the community in which it takes place.
EEX	7346	Crit. Analysis Theories & Research on Instructional Practices	3		This course provides doctoral students with an opportunity to critically examine the research base in SPED instructional practice and make connections to related theories and educational policy.
EEX	7425	Special Education Leadership Studies	1-2		Introduction to doctoral studies in the Department of Special Education. Discussion forum for new students, mentoring and support.
EEX	7428	Teacher Education in Special Education: Conceptual	3		This four-semester seminar focuses on teacher education in special education.
EEX	7429	Special Education Teacher Education	3		This seminar will explore historical foundations of teacher education and special education specifically. Professional development and pathways to teaching will be explored. Existing research in SPED teacher preparation will be reviewed.
EEX	7516	Critical Analysis of Compensatory, Remedial, Special Education	3		The purpose of this course is to engage students in intensive study of the relationship between social policy and educational services for students who have been marginalized because of disability, race, poverty, and/or native language.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	7743	Philosophies of Inquiry	3	PR: EDF 6481 or Equivalent	The purpose of this course is to introduce doctoral students to different approaches to educational research and to alternative frames for criticism, including postpositivism, constructivism, poststructuralism, pragmatism, critical theory, narrative, race and gender, ethics, and aesthetics.
EEX	7744	Curriculum and Instructional Issues in Urban Special Education	3		The purpose of this course is to review and critically examine the theoretical and research literature on the interactions of race, culture, class, and disability on the schooling experiences of urban (ethnic minority and impoverished) children and their families. The course also takes into account that ethnic minority and poor children may or may not reside in urban areas and as a result of school and community desegregation movements, those learners may also attend suburban and rural schools, in addition to urban schools. The course will provide varied formats for graduate students to identify and address critical issues and trends in urban special education and related services areas that impact outcomes for minority learners across social classes and impoverished learners from majority cultural backgrounds.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	7745	Historical, Ethical, and Disciplinary Foundations of Special Education	3		Historical, Ethical, and Disciplinary Foundations of Special Education provides doctoral students a critical understanding of the social, political, ethical, and legal contexts that shaped the research, policies, and practices in the field of Special Education during the twentieth century.
EEX	7746	Ethics in Teacher Education and Teacher Development	3		This course will focus on the philosophical and theoretical perspectives of ethics and ethical decision making as they relate to the roles and responsibilities of teacher educators in the preparation and professional development of teachers.
EEX	7797	Language and Learning Variability in Urban Schools	3		This seminar explores the opportunities and challenges facing urban schools as cultural identity construction sites by focusing on the experiences of students and their families as well as language, power and politics in education, and social justice.
EEX	7815	Research Seminar	1-9		This seminar, taken each semester of the first and second years of the doctoral program, will contribute to the development of the skills and values that lead to the creation of new knowledge and its application to the field of special education in order to improve outcomes for students who have disabilities and their families. Issues in urban schools will be emphasized.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EEX	7868	Fieldwork With Exceptional Students	1-5		Practical field experience in curriculum development, classroom teaching, supervision, and/or administrative areas in special education.
EEX	7910	Directed Research	1-19		
EEX	7911	Specialized Study In: Mental Retardation, Behavior Disorders, Specific Learning Disabilities, and Gifted Education	1-8		The specialized study enables advanced exploration of knowledge in an area of interest to the student in special education.
EEX	7980	Dissertation	2-30		
EGI	5051	Nature and Needs of the Gifted	3		This survey course examines the characteristics and educational needs of children and youth who are gifted, including those from special populations. Emphasis is on giftedness as defined historically, nationally and locally. The course also explores changing views of intelligence and talent development related to policy and practice in gifted education as well as the processes of identification and programming.
EGI	5307	Theory and Development of Creativity	3		Exploration of the concept of creativity, its factors, measurement, and application to education. Opportunities are given to work with children in a laboratory setting and to prepare materials to be used with small groups of children.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EGI	6232	Advanced Educational Strategies for the Gifted	3	PR: EGI 5051	Curriculum adjustments, methods and techniques, as well as classroom organizations necessary for teaching students who are gifted will be the focus of this course. Emphasis will also be on curriculum in gifted programs within the context of school reform and restructuring.
EGI	6415	Consultation, Counseling, and Guidance Skills for Gifted Students	3		Primary emphasis of this course will be to provide an awareness, knowledge, and understanding of the unique guidance and counseling needs of students who are gifted and talented or from special populations.
EGI	6936	Seminar in Education of the Gifted: Special Population	3		This seminar will provide a critical survey of the research, issues, policy, ethics, and practices related culturally diverse, economically disadvantaged, limited, English proficient, twice exceptional, highly gifted, or very young.
EGI	6943	Supervised Practicum in Gifted Education	1-12		Planned experiences working with students who are gifted, program development and administration, or an individualized inquiry of a specific issue related to gifted education.
EGN	5421	Engineering Applications for Vector Analysis	3		Vector methods in electromagnetism and fluid mechanics. Vector operators, line and flux integrals, potential and transport theorems, applications.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EGN	5422	Engineering Applications of Partial Differential Equations	3		Power series solutions for ordinary differential equations, Sturm-Liouville theory, special functions. Vector methods with generalized coordinates. Separation of variables for partial differential equations. Green's functions. Calculus of variations. Numerical methods.
EGN	5423	Neural Networks and Mathematics for Communication	3		Advanced matrix algorithms: LU and QR factorizations, least-squares, pseudoinverse. Techniques for optimization.
EGN	5424	Engineering Applications of Complex Analysis	3		Analytic functions, conformal mapping, residue theory, Laurent series, transforms. Applications to various problems in engineering and physics.
EGN	5940	Professional Engineering Internship	0-6		Professional or interdisciplinary work period in engineering or career-related field.
EGN	6333	Continuum Mechanics	3		This course covers the fundamental mathematical and physical principles of Newtonian Mechanics as applied to continuous media, including solids & fluids, and complete linear & non-linear description of kinematics and equilibrium in the Lagrangian frame.
EIN	5174	Total Quality Management Concepts	3		This course will examine the methodology and procedures that companies use to improve quality and its operational benefits, including the management transformation (paradigm shift) that is evolving. Unrestricted. Nonrepeatable for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EIN	5182	Principles of Engineering Management	3		Introduction to the fundamentals of planning, organizing and leadership as needed by engineers, scientists, and other professionals considering managerial positions.
EIN	5201	Creativity in Technology	3		Designed to aid engineers, and others, re-open the creativity within themselves. It is focused on the student and his/her interests in technology and innovation. Graduate students and senior undergraduates.
EIN	5275	Work Physiology and Biomechanics	3		Human physiological limitations encountered in design, analysis and evaluation of man-machine systems.
EIN	5350	Technology and Finance	3		A course for technical managers that focuses on how financial and economic principles are utilized to make technical investments and manage technical enterprises.
EIN	5452	Engineering a Lean Enterprise	3		Engineering the Lean Enterprise introduces you to one of the most successful strategies in operations: lean manufacturing, as seen at Toyota and other companies. Lean manufacturing is a philosophy that applies both on and off the factory floor.
EIN	5510	Manufacturing Systems Analysis	3		The study of systems of manufacturing entities such as machine tools, robots, and materials handlers. Emphasis is on mathematical description of integrated systems and system optimization.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EIN	6106	Technology and Law	3		Selected topics related to the relationships between and among technology, law and social policy, including governmental regulation, products liability, professional liability, contract negotiation and formation, and developments and trends affecting engineering professionals.
EIN	6108	EM-Human Relations	3		Human relations, understanding oneself, understanding other people, influencing and motivation performance, improving moral and discipline, and self appraisal and analysis for the technical manager.
EIN	6112	Information Systems Design for Engineers	3		This course introduces students to the design and implementation of information systems, with special emphasis on industrial applications. The topics to be covered include the relational database model, structured query language, and design methodologies.
EIN	6121	Technology and Markets	3		Marketing strategy and its relationship to the development of technology from the viewpoint of interaction between the technical enterprise and its industrial and government customers.
EIN	6145	Project Management	3	PR: EGN 3443 or equivalent.	Provide principles and techniques for planning, scheduling and managing projects in engineering and related environments. Applies analytical tools and techniques including software to solve project management problems. Not restricted. Non-repeatable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EIN	6154	Technical Entrepreneurship	3		A comprehensive study of developing and starting an engineering venture. Student teams work out a business plan for a company to develop, manufacture, and distribute a technical product or service.
EIN	6177	Total Quality Management Seminar	3	PR: EIN 5174.	Study and analysis of TQM Principles through discussion, guest lecturers, critiques of published articles. A variety of quality techniques will be examined to determine their level of adoption and effectiveness. Unrestricted. Nonrepeatable for credit.
EIN	6178	ISO 9000/14000	3	PR: EIN 5174.	Study and analysis of ISO 9000/14000 publications with a view to understanding the documentation process and auditing process for registration purposes and the relationship to other quality systems and programs. Unrestricted. Nonrepeatable for credit.
EIN	6179	Advanced TQM Methods: Six Sigma	3	PR: EIN 5174.	This course is a presentation of Six Sigma in industry: details of the methodology that comprise it, and how it relates to Total Quality Management. This course is restricted to students pursuing majors in the IMSE Department. Nonrepeatable for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EIN	6183	Engineering Management Policy And Strategy	3		Strategic planning and policy formulation in technical and scientific organizations. General managers in the middle. Translation of strategic plans into action plans and implementation of the strategic change process. This is a capstone course in the EM program to be taken during the last semester of the student's program.
EIN	6215	Engineering System Safety	3	PR: Statistics.	The theory and practical implications of the concept of systems safety as these relate to the life cycle of a product or system. Analysis of the fundamental concepts, design implications, and specifications of safety in human machine environments.
EIN	6216	Occupational Safety Engineering	3		Introduction to the principles of designing, maintaining, and managing a workplace free from hazards. Covers mechanical hazards, fall and lifting hazards, climatic and environmental hazards, fire and explosive hazards, and pressure hazards. Considers design issues, warnings, and personal protective equipment. Term project required.
EIN	6217	Construction Safety Engineering	3		Course based on OSHA course 510; covers applicable standards to industry's most common violations; examples of accidents resulting from ignoring standards; documented incidents are researched. Completion of course includes receipt of 30-hour OSHA Card.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EIN	6247	Engineering Information Processing	3		A study of human information processing theories and measurement techniques as applied to engineering problems emphasizing perceptual, cognitive, and learning aspects of interpersonal and human-computer communication.
EIN	6319	Work Design And Productivity Engineering	3		Foundations of motivated work performance, job satisfaction and organizational productivity. Analysis of job content and job context, comparison of different concepts for improving organizational effectiveness; suggestions for productivity improvements through effective work redesign.
EIN	6336	Production Control Systems	3		Forecasting models, development of production plans, loading and scheduling models and basic inventory models. Use of MRP. Design and evaluation of production control systems.
EIN	6386	Management of Technological Change	3		A study of problems encountered by managers in the planning, organizing, directing, and controlling of resources in technology-based organizations.
EIN	6392	New Product Development	3		Course focused on various aspects of the new product development process including market sizing, concept testing, financing, and protecting intellectual property.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EIN	6430	Overview of Regulated Industries	3		This course provides students with basic information on regulated industries, emphasizing challenges experienced in medical device development, manufacture and commercialization with regard to regulatory requirements. Unrestricted. Nonrepeatable.
EIN	6431	Regulated Quality Systems and Control	3	PR: EIN 6430	This course provides students with information to design quality systems for regulated industries, emphasizing medical device manufacturing. The application of various statistical techniques to the control of industrial processes will be used.
EIN	6432	Regulated Product Approval Process	3	PR: EIN 6430	The course provides students with information to collaborate effectively with the FDA to navigate the product approval process, emphasizing medical devices. The underlying scientific, regulatory and quality processes for submission will be reviewed.
EIN	6433	Human Factors Engineering in Medical Devices	3	PR: EIN 6430	The course provides students with information for the ergonomic design and operability of medical devices. These systematic designs are critical in improving the safety of medical devices by reducing the probability of user error.
EIN	6434	Design Controls for Medical Devices	3	PR: EIN 6430	The course provides students with information to establish procedures to effectively control the design requirements and specifications for medical devices. The design process will be examined to apply the best approaches for verification and validation.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EIN	6435	International Regulations for Medical Devices	3	PR: EIN 6430	The course provides students with information regarding the major global compliance issues related to medical devices. The initiatives of the Global Harmonization Task Force to facilitate international trade without compromising safety will be explored.
EIN	6518	Systems Integration	3		The planning and process that results integration of components, various functions, organizations and how integrated work together or share resources to produce an integrated system.
EIN	6520	Systems Modeling and Performance Analysis	3		This course is a course in modeling and performance analysis of systems. We will study both discrete and continuous systems, with an emphasis on modeling, performance analysis and control of these systems.
EIN	6934	Special Industrial Topics I	1-3		
EIN	6935	Special Industrial Topics II	1-3		
EIN	6936	Special Industrial Topics III	1-3		
EIN	6971	Thesis: Master's	2-19		
ELD	6015	Advanced Theories and Practices in Specific Learning Disabilities	3	PR: Introductory course in exceptional child education	Various conceptual and/or theoretical models are reviewed; current trends and issues related to education of children with specific learning disabilities.
ELD	6147	Educational Strategies for Student With Specific Learning Disabilities	3	PR: ELD 6015, EEX 6222.	Advanced educational procedures and materials development for the student with specific learning disabilities. For certification.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EMA	5326	Corrosion Control	3	PR: EGN 3365.	Provide understanding of corrosion fundamentals. Introduce design for corrosion detection, protection, and control. Acquire research project experience.
EMA	6001	Advance Materials	3		Principles of structure, structure modification and properties of materials with emphasis on structure-property relationships and modern theory of solids.
EMA	6510	Characterization of Materials	3		Designed to help students engineers and technicians who have little to moderate background in materials analysis to realize and or gain and deeper understanding of the many analytical characterization methods available.
EME	5403	Computers in Education	3		A survey course designed to introduce practicing teachers to microcomputer technology and its function in the classroom to augment the teaching and learning processes. Objectives include the use and evaluation of educational software, classroom use of computers, instructional computing research, generic applications software (word processors, database managers, etc.), programming, disk operating systems, and microcomputer hardware.
EME	6053	Internet in Education	3		The course is completely online. Topics include: educational resources, copyright and safety issues, webpage construction (HTML), and evaluation of websites.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EME	6055	Current Trends in Instructional Technology	3		Development of concepts, strategies, and materials for the use of computer technology in the enhancement of instruction. The course explores the impact that computer technology can have on the nature of the teaching/learning process.
EME	6207	Web Design	3		This course focuses on the design and development of instructional and informational web sites.
EME	6208	Interactive Media	3		Focuses on the design, development, and implementation of interactive media in instructional settings. Examples include interactive presentations, digital audio & video, digital photography, virtual worlds, as well as basic web publishing.
EME	6209	Digital Video	3		This course addresses concepts issues and practices associated with creating effective instructional DVD videos Included in the course topics are production mgmt storyboarding camera lighting techniques editing graphics hardware systems.
EME	6215	Instructional Graphics	3		Advance knowledge and application of the principles underlying the design and use of graphics in instructional settings.
EME	6235	Technology Project Management	3	PR: EDF 6284	Introduction to the basic processes of project management for instructional design projects. Students will be introduced to organizational issues, methods of planning, and techniques for managing the business and creative processes.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EME	6425	Technology For School Management	3		This course provides information and skills necessary for administrators and teachers to effectively use the computer and application software to manage information. Students use programs such as word processors, database managers, and spreadsheets to facilitate management tasks at the school and classroom level. In addition, general computer education topics are covered which provide for the computer literacy of school administrators.
EME	6457	Distance Learning	3		This online course about distance learning is designed to provide an integrated framework to explore theory within practice. The course will explore all types of distance and distributed learning—not just online learning.
EME	6613	Development of Technology-Based Instruction	3	PR: EDF 6284	Application of computer-based instructional design principles to the development of technology-based instruction. This course also incorporates state-of-the-art materials and methods involving digital technologies.
EME	6906	Independent Study in Instructional Technology	1-6		Independent study under the direction of an IT faculty member. Student must have contract with instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EME	6930	Programming Languages for Education	3		Development of concepts, strategies, and materials for using programming languages in educational settings. Separate sections will focus on different programming languages such as LOGO, BASIC, Hyperscripting, Pascal, Advanced Pascal.
EME	6936	Applications of Computers as Educational Tools	3		Selected topics in the application of computing and related technology to the teaching and learning processes. Separate sections will focus on topics such as telecommunications, image and sound processing, interactive media, artificial intelligence, data acquisition, and information systems.
EME	6971	Thesis: Masters/Ed. Specialist	2-9		The purpose of the thesis/project(Education Specialist student requirement)is to provide an opportunity for the student to apply knowledge gained in the program to the resolution of significant needs arising from professional practice.
EME	7458	Research in Distance Learning	3		An on-line course about distance learning designed to provide an integrated framework to explore theory within practice. Topics include distance technologies; implications for teaching and learning; issues and trends; and research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EME	7615	Instructional Game Design for eBooks	3		Instructional design and development of games in eBooks to promote reading comprehension, analysis of existing research and participation in new research on games to promote reading comprehension. Focus is games for eBooks for web and portable devices.
EME	7631	Research in Technology Project Management	3	PR: EDF 6284	A graduate level course that examines project management and provides tools and process to apply sound project management principles to the field of instructional design and technology. Topics include project management issues related to time, resources, technical, and people skills.
EME	7910	Directed Research in Instructional Technology	1-19		This course permits a doctoral student to conduct advanced research and to pursue specific areas of interest with a faculty member as supervisor. A contract is required with the faculty member. S/U.
EME	7938	Computer-Augmented Instructional Paradigms in Education	3		Seminar examining theory and application of computers and related technology in teaching and learning.
EME	7939	Research in Technology-Based Education	3		Seminar examining in-depth research on the uses of computers and related technology on teaching and learning. Also includes investigation on role of computers and related technology as research instrumentation.
EME	7980	Dissertation	2-30		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EML	4421	Internal Combustion Engines	3	PR: EGN 3343 and EML 3500, both courses with a minimum grade of C	This course is for the application of thermodynamics, chemistry, dynamics of machinery, electronics and fluid mechanics. Topics covered are: introduction of engines, fuels and combustion, numerical modeling, ignition, fuel systems, balance of reciprocating mechanisms and emission control of exhaust pollutants.
EML	6069	Advanced Mathematics for Mechanical Engineers	3	PR: Undergraduate Calculus, Undergraduate Differential Equations.	Basic theory of ordinary and partial differential equations useful in applications. First- and second-order equations, separation of variables, Fourier series, Laplace transforms.
EML	6105	Advanced Thermodynamics and Statistical Mechanics	3		Topics in classical thermodynamics, some elementary subjects in statistical mechanics and some applications in combustion.
EML	6154	Advanced Conduction Analysis	3	PR: EML 4124, EML 3041	Multi-dimensional heat transfer. Emphasis on solution techniques, exact and numerical.
EML	6157	Radiation	3	PR: EML 4124	Review of basic principles of radiation, grey bodies and real surfaces, calculation of shape factors, absorbing gases.
EML	6223	Synthesis of Vibrating Systems	3	PR: EML 4220	Advance topics in vibration. Random vibration in mechanical systems. Auto-correlation and power spectral density. Response of single and multidegree of freedom systems to random excitation. Frequency response function and coherency measurements. Contents variable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EML	6232	Composite Laminated Materials	3	PR: EML 3500	Fundamental relationships for predicting the mechanical and thermal response of multi-layered materials and structures. Micromechanical and macromechanical relationships are developed for laminated materials with emphasis on continuous filament. Material, structural and strength optimization to design laminated composite materials using user-friendly software.
EML	6273	Advanced Dynamics of Machinery	3	PR: EML 3624	Detailed study of velocities, accelerations and forces in machines with parts having rotating, reciprocating, and combined motion.
EML	6290	Micro and Nano Manufacturing	3	PR: EGN 3365.	Covers the fundamental understanding of design, fabrication, and applications of microelectromechanical systems (MEMS) and nanomanufacturing processes including sensing and actuation of mechanical, optical and microfluidic devices.
EML	6570	Principles of Fracture Mechanics	3	PR: EML 3500.	Introduction to the mechanics of brittle and ductile fracture. Linear elastic fracture, elastic-plastic fracture, testing, metals and non-metal materials, and fatigue fracture.
EML	6594	Haptics	3	PR: EML 3041, EML 4312.	Course covers the theory and implementation of haptic interfaces and rendering, teleoperation, modeling, control and stability of feedback for robotic systems and virtual environments, and introduces the related human haptic sensing capabilities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EML	6653	Applied Elasticity	3	PR: EML 3500	Students will apply the fundamentals of elasticity to engineering problems. Practical problems will be solved and advantages of using particular methods will be illustrated.
EML	6713	Advanced Fluid Mechanics	3		Introduction to computational problem solutions in fluid mechanics and heat and mass transfer as applied to mechanical engineering. The emphasis is on the formulation and solution of computational engineering problems.
EML	6714	Mechanics of Compressible Fluids	3	PR: EGN 3343, EML 3701.	Introduction to kinetic theory of gases. Compressible flow equations. Isentropic flow. Flow with friction and heat transfer. Compression and expansion in supersonic flow: normal and oblique shock waves, Prandtl-Meyer expansions.
EML	6801	Robotic Systems	3		Overview of existing industrial and specialized robot types and operation; vision systems; tactile sensors; ranging and proximity techniques; actuation/transmission methods; power sources; autonomous vehicle mobility and navigation methods; and artificial intelligence.
EML	6808	Mechanics and Control of Robotic Manipulators	3		The purpose of this course is to understand the mechanics and control of robot manipulators. Topics include: Spatial descriptions and transformations; manipulator kinematics; manipulator dynamics; path planning and trajectory generation; position and force control implementation.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EML	6907	Independent Study	1-6		Independent study in which students must have a contract with an instructor.
EML	6930	Special Problems I	1-3		
EML	6931	Special Problems II	1-3		
EML	6971	Thesis: Master's	2-6		
EML	7915	Directed Research	1-6		
EML	7980	Dissertation: Doctoral	2-12		
EMR	6052	Advanced Theories and Practices in Mental Retardation	3	PR: introductory course in exceptional student education.	In-depth study of the complex social and biological aspects of mental retardation with particular reference to effects on education.
EMR	6255	Educational Strategies for the Mentally Retarded	3		In-depth study of the specific curriculum and methodological problems in teaching students with mental retardation. For certification.
ENC	6261	Professional and Technical Communication	3		We'll engage with Professional writing as a workplace practice, as a theoretical locus, as a historical object, a protean disciplinary endeavor that spans several departments, and a pedagogical practice.
ENC	6319	Scholarly Writing for Publication in English Studies	3		Methods of writing and publishing scholarly articles, monographs, and textbooks in rhetoric and composition, literary scholarship, and criticism. Required for Literature majors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENC	6333	Contemporary Rhetorics	3		This course examines the impact of postmodern theories on theory and practice of rhetoric—particularly the rhetoric of rhetoric and composition. The course examines ways post modern rhetoric lends itself to the developing media and complexity theory.
ENC	6336	Studies in the History of Rhetoric	3		Examines the evolving relationship between rhetoric and composition from antiquity to the present.
ENC	6421	Studies in Rhetoric and Technology	3		Examines the intersection of Rhetoric and technology, with emphasis on contemporary critical issues in composition studies.
ENC	6422	New Media Production	3		Beyond familiarity with the ethical and epistemological implications of new media, 21st century rhetoricians require knowledge of new media communicative tools and techniques. They include html, css, javascript, blogging, podcasting, vblogging, and Flash.
ENC	6700	Studies in Composition Theory	3		Major theories and models of composing. Selected theorists include Rohman, Emig, Sommers, Flowers, and Hayes.
ENC	6720	Studies in Composition Research	3		Examines and evaluates a broad range of important research studies conducted in composition and a variety of research techniques such as descriptive statistics, qualitative research design, and measurement and evaluation. Instruction in how to conduct composition research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENC	6740	Theory and Development of Writing Programs	3		Operating theories of and administrative procedures for implementing writing programs on various levels; focuses on remedial, freshman, advanced, and technical writing programs as well as writing centers.
ENC	6745	Teaching Practicum	3		To supplement and deepen theoretical and practical experiences during the first teaching semester. To combine and apply different theoretical approaches to teaching writing in actual classroom practice.
ENG	6005	Scholarly Research and Writing	3		PhD students will improve their skills with advanced research methods in preparation for writing the prospectus and dissertation, work on conference papers and journal articles, and research the job market and the challenges that face new faculty.
ENG	6009	Introduction to Graduate Study	3		New graduate students will read about the discipline, learn the methods of scholarly research and inquiry, and adjust their academic skills for graduate-level work. The course will also introduce them to some key research databases and resources.
ENG	6018	Studies in Criticism and Theory I	3		This course examines selected controversies in literary criticism and scholarship from the classical period to 1800, including problems of imitation, the quarrel between Ancients and Moderns, the ethics of the imagination, and the roles of women critics.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENG	6019	Studies in Criticism and Theory II	3		This course focuses on important trends in contemporary literary criticism with the major theoretical texts that inform these trends.
ENG	6067	History of the English Language	3		This course traces the evolution of the English Language from its early Germanic and Scandinavian roots to its emergence in time as tantamount to a universal language. The course uses literary works to show the stages of dramatic change.
ENG	6145	Rogue Cinema	3		Examine films by revolutionary filmmakers who have deviated significantly and strategically from earlier traditions, considering how these filmmakers challenged cinematic, intellectual, aesthetic, and cultural codes beginning in 1915.
ENG	6916	Directed Research	1-19		
ENG	6939	Graduate Seminar in English	3		Intensive small-group discussion as well as shared and individual guided research in one of the student's areas of concentration.
ENG	6946	Internship	3		This course consists of supervised work-and-learning experience in professional and technical communication or related fields under the direction of a University faculty member and an employee of a participating firm.
ENG	6971	Thesis: Master's	2-19		
ENG	7916	Directed Research	1-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENG	7939	Doctoral Seminar	1		Individual guided research in a student's area of doctoral specialty. Restricted to majors. Repeatable once for credit (total of 2 credits) counting as requirements toward the degree.
ENG	7980	Dissertation: Doctoral	2-19		
ENL	6206	Studies in Old English	3		A study of Old English language, prose style, poetry.
ENL	6216	Studies in Middle English	3		Selected focused studies in language and in various authors and writings, 1100-1500; Chaucer, the Pearl poet, Everyman, ballads, drama.
ENL	6226	Studies in Sixteenth-Century British Literature	3		Selected focused studies in sixteenth-century British literature; Shakespeare, Sidney, Spenser, Marlowe, and others.
ENL	6228	Studies in Seventeenth-Century British Literature	3		Selected focused studies in British literature, 1600-1660; Bacon, Donne, Jonson, Herbert, Milton, and others.
ENL	6236	Studies in Restoration and Eighteenth-Century British Literature	3		Selected focused studies in Restoration and Eighteenth-Century British literature: Dryden, Defoe, Pope, Swift, Fielding, Sheridan, Johnson, Boswell, and others.
ENL	6246	Studies of the English Romantic Period	3		A study of pre-Romantic and Romantic prose, fiction, nonfiction, and poetry.
ENL	6256	Studies in Victorian Literature	3		A study of Victorian poetry, fiction, non-fictional prose, and drama.
ENL	6276	Studies in Modern British Literature	3		A study of Irish and English drama, the modern novel, poetry, criticism, and the short story.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENT	6016	New Venture Formation	3	PR: ACG 6025, MAR 6815	An introductory entrepreneurship course. Students learn to develop venture ideas, evaluate venture opportunities and understand financial, marketing, and managerial needs of a venture.
ENT	6116	Business Plan Development	3	PR: ACG 6025, MAR 6815	Course is designed to enable students to prepare and present a business/venture plan. Students can prepare a plan for their own venture or a client organization.
ENT	6119	Mergers and Acquisitions: An Entrepreneurial Perspective	3	PR: Completion of Entrepreneurship core or business foundation courses in accounting, finance, and marketing (ACG 6026, FIN 6406, MAR 6815 or equivalents)	This course introduces students to the serious professional art and science of doing successful deals. Students are introduced to all aspects and stages of the merger/acquisition process and how to effectively manage the inherent challenges.
ENT	6126	Strategies in Technology Entrepreneurship	3		Students will learn that entrepreneurial opportunities are both identified in the existing socioeconomic environment and created through innovation. Students will learn theory based models and their application through case studies and a final project.
ENT	6186	Strategic Market Assessment	3		This course is designed to enable the student to gain an in-depth understanding of the techniques used to analyze market opportunities for new inventions and intellectual properties.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENT	6415	Fundamentals of Venture Capital and Private Equity	3		The purpose of the course is to convey five primary areas of knowledge: learning to think like an investor, the capital raising process, how to perform business valuations, securities law, and what venture capitalists do.
ENT	6606	New Product Development	3		This course is designed to prepare both business and engineering students to contribute to the development of strategies and tasks relevant to new product introductions. The skills developed will enable students to analyze and develop product strategies.
ENT	6930	Special Topics in Entrepreneurship	3		A special topics section for students pursuing their MS in Entrepreneurship and Applied Technology. Faculty will periodically offer elective courses on topics of interest.
ENT	6947	Advanced Topics in Entrepreneurship	3		Provides students the opportunity to apply the skills and knowledge acquired in previous entrepreneurship courses. Students gain practical experience through an internship or writing a business plan.
ENV	5103	Air Pollution Control	3	PR: EGN 3353.	Behavior and effects of atmospheric contaminants and the principles of making measurements in the air environment. Basic concepts of meteorology and control technology are discussed. Regulatory aspects and air pollution standards are covered.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENV	5334	Hazardous Waste Management and Remedial Action	3	PR: ENV 5345 and one of the following: ENV 6347, ENV 6519, ENV 6558;	Introduction to hazardous waste management and remediation: RCRA regulatory concepts, definitions, aspects of hazardous waste management from within the plant to final disposal. History of hazardous waste cleanup leading to CERCLA and its amendments, site investigations; site control; those aspects of treatment that are unique to remedial action.
ENV	5345	Solid Waste Control	3		Introduction to solid waste management, including its definition as an umbrella for hazardous waste: regulatory concepts; waste types, quantities, and characterization; collection and recycling; facility siting; disposal; thermal treatment.
ENV	5504C	Environmental Engineering Processes	3	PR: ENV 4001, ENV 4004L, ENV 4417	Theory, experimental investigation, and modeling of operations and processes in engineered and natural systems. Laboratory evaluation of unit operations and process used in water and wastewater treatment including chlorination, activated carbon adsorption, biological treatment, gas/liquid mass transfer, filtration, coagulation, flocculation, and settling. This course is restricted to majors, has no external laboratory section associated with the course, is not available on an S/U basis only, is not cross-listed with another department or college.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENV	6002	Physical and Chemical Principles in Environmental Engineering	3		Investigates how chemical properties, physical processes, and environmental characteristics all influence the fate and transport of chemicals in natural and engineered systems. Includes theory, practical examples, and laboratory experiments.
ENV	6105	Air Pollution Fundamentals	3	PR: College calculus, college chemistry.	A graduate level survey of air pollution fundamentals, including physics/chemistry of air pollution, sources and emissions estimation, Gaussian dispersion models, exposures and effects, measurement/monitoring, and management/control.
ENV	6337	Environmental Site Assessment	3		All of the fundamental elements of Environmental Site Assessments, including a review of pertinent laws and regulations, the process of interviews, file reviews, and the site reconnaissance, through the use of procedures based on the Scientific Method.
ENV	6438	Physical & Chemical Processes for Treatment of Drinking Water	3		Theory, analysis, and design of physical and chemical processes typically used for treatment of U.S. public water supply.
ENV	6510	Sustainable Development Engineering	3		Study of the application of appropriate and sustainable engineering solutions and technology to control environmental pollutants found in a developing world setting and smaller communities in North America.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENV	6518	Environmental Field Sampling	3		This course is designed to provide students with an interest in the field of environmental science/engineering, with the highest level of practical, hands-on environmental field training to help them advance their careers.
ENV	6519	Physical and Chemical Processes for Groundwater Remediation	3	PR: ENV 6666	Theory and design of processes used in advanced water and wastewater treatment, including membrane processes, absorption, electrodialysis, ozonation, irradiation.
ENV	6539	Sludge Treatment & Disposal	3	PR: ENV 6667	Examines the physical, chemical, and biological unit operations and processes utilized in treating and disposing of sludges produced at water and wastewater treatment facilities.
ENV	6564	Environmental Engineering Design	3	PR: ENV 6002, EES 6107.	An engineering design experience for Environmental Engineering graduate students. Students will work in teams on real world design projects in water or wastewater treatment.
ENV	6614	Quantitative Environmental Risk Analysis	3		Quantitative approach to the determination of risk. Focus is on environmental and control and protection, but techniques apply widely. Covers assessment of risk factors, failure, contaminant transport, and health effects. Includes discussion of significance, implementation, and policy. Course project involves the development of small risk analysis model.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ENV	6617	Green Engineering for Sustainability	3		Offers an overview of principles of green engineering including innovation, inherency, interdisciplinary, integration, and international, with an emphasis on applications of green engineering principles in different design stages.
ENV	6666	Aquatic Chemistry	3		An introduction to the form, structure, and chemical activities of the important processes essential to treatment of domestic and industrial wastewater.
ENV	6667	Environmental Biotechnology	3		Study of biochemical relations and processes in treatment of pollutants with emphasis on control of effluents for the protection of water quality. CI.
ENY	5505C	Aquatic Entomology	4	CPR: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3712 and CHM 2211.; PR: ENY 3004C and CHM 2210 and MAC 1105 or higher-level MAC course	Taxonomy, development, and ecology of aquatic insects with emphasis on local forms. Fieldwork required. Lecture and Laboratory.
EPD	5051	Advanced Theories in Motor and Physical Disabilities	3	PR: EEX 4012	Biological and functional aspects of motor and physical health disabilities, including dysfunctions in central nervous system covering motor, sensory, language and psychological disorders.
EPD	5321	Educational Strategies for Physically and Multi-handicapped Students	3	PR: EPD 5051.	Educational management of students with cerebral palsy, motor disabilities and multihandicapped conditions including rehabilitation and other community services.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EPD	6944	Supervised Practicum in Motor Disabilities	3-12	PR: EEX 4012	Supervised graduate practicum encompassing teaching and supervising experiences in public/private educational or vocational programs for students with physical disabilities in the classroom, hygiene, and educational implications.
ESE	5342	Teaching the Adolescent Learner	3		Emphasis is placed on adolescent developmental and learning needs linking them to practices in the classroom appropriate to the diverse secondary education population (ESOL, special education, multicultural, at-risk, etc.) in preparation for planning responsive standards-based instruction.
ESE	5344	Classroom Management for a Diverse School and Society	3		This course covers practical, theoretical, philosophical and ethical aspects of school and society, the education profession, and secondary schools with particular focus on classroom management, school violence, school safety, educational law and other critical social issues.
ESE	6256	Problems In Curriculum Instruction: Secondary	1-3	PR: EDG 4620, EDG 6627.	For teachers, supervisors, and administrators. Curricular and instructional problems of the secondary school. Common problems or problems of special interest to the participants. Normally, for certification requirements only.
ESE	6906	Independent Study: Secondary Education	1-6		Independent study in which students must have a contract with an instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ESE	7220	Curriculum Frameworks in Teacher Education	3		This course introduces and informs advanced graduate students about the conceptions of curriculum development related to teacher preparation, exploring topics related to the comprehensive process of certification, standards, governance, and accreditation.
ESE	7343	Teaching and Learning in the Content Area	3		Examine aspects of sec reform movement & effect on various content fields associated with sec sch. Attention is given to motives for school reform, public policy issues associated, effect of reform, & how school reform movements affect teaching & learning.
ESE	7346	Collegiate Teaching In Secondary Education	3		This course prepares new phd students for successful teaching in secondary education. Special attention will be given to the state of collegiate teaching, understanding how people learn, facilitating student learning, and becoming a reflective educator.
ESE	7910	Directed Research in Secondary Education	1-19		Directed research under the direction of a faculty member in Secondary Education. Student must have contract with instructor.
ESI	5219	Statistical Methods For Engineering Managers	3		Study of statistical methods applied to engineering management problems involving estimation and prediction under conditions of uncertainty.
ESI	5236	Reliability Engineering	3	PR: ESI 5219 or equiv., EGN 3443 or equivalent.	Fundamental concepts of reliability. Estimation of reliability of systems and components. Measures of availability, maintainability and reliability.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ESI	5306	Operations Research For Engineering Management	3	PR: ESI 5219 or equiv.	Linear programming, non-linear programming, queuing, inventory, network analysis.
ESI	5522	Computer Simulation	3	PR: ESI 4521 or equiv	Design of discrete and continuous simulation models. Model validation and verification. Statistical analysis of simulation model output.
ESI	6213	Stochastic Decision Models I	3	PR: ESI 5219 or equiv.	Study of the theory behind the statistical techniques applied to the solving of engineering problems.
ESI	6246	Advanced Statistical Design Models	3		Introduces theory and applications in the design & analysis of experiments. Students learn skills and techniques to develop successful experiments that can lead to reduced development lead time, enhanced process performance, and improved product quality.
ESI	6247	Statistical Design Models	3	PR: ESI 5219 or equiv.	Design of experimental mathematical models. Application of advanced analysis of variance techniques as applied to industrial problems.
ESI	6324	Engineering the Supply Chain	3	PR: ESI 4312 or equivalent.	The course will focus on the discussion of analytical optimization models and tools. To learn how logistical decisions impact the performance of a firm as well as an entire supply chain. To understand supply chain structures and logistical capacities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ESI	6340	Probabilistic Systems Analysis	3		Exposes the students to the fundamental principles and techniques of applied probability and stochastic processes. Students will be able to formulate and solve engineering problems surrounding systems operating under uncertain conditions.
ESI	6346	Stochastic Decision Models II	3	PR: ESI 6213	Introduction to modern decision and risk analysis and utility theory. It focuses on the mathematical foundations underlying the quantification and management of risk to support dynamic decision making under uncertainty.
ESI	6353	Risk and Decision Analysis	3		This course gives a formal introduction to risk analysis and utility theory. It focuses on the conceptual and mathematical foundations underlying the quantification and management of risk to support dynamic decision making under uncertainty.
ESI	6410	Optimization in Operations Research	3		To train students with analytical modeling techniques and solution methods for linear programming, nonlinear programming and discrete optimization. Covers professional modeling & solution software packages to solve practical problems.
ESI	6420	Non-Linear Programming	3	PR: ESI 6491.	General theory and characteristics of NLP, as well as effective solution algorithms that can be used to solve NLP problems and support effective management decision making.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ESI	6447	Large-scale and Computational Optimization	3	PR: ESI 6491.	Efficient algorithm development for large-scale and computationally intensive optimization problems. Specific topics include Lagrangian relaxation, Benders' decomposition, column generation and primal-dual approximation algorithms.
ESI	6448	Integer Programming	3	PR: ESI 6491.	The course will present the theory and algorithms of integer programming, with emphasis on its applications in engineering. The tentative topics include integer programming formulation and relaxation and decomposition algorithms.
ESI	6491	Linear Programming and Network Optimization	3	PR: ESI 4312 or equivalent.	To provide students with the general theory and characteristics of linear programming, network flows and integer programming as well as effective solution algorithms that can be used to support effective decision making.
ESI	6605	Engineering Data Mining	3	PR: ESI 6247 or equivalent.	The course will present the theory and methods of data mining, with emphasis on applications in engineering. The topics include linear models, classification, smoothing and kernel methods, model selection and inference, and support vector machines, etc.
ESI	6635	Advanced Analytics I	3	PR: EIN 4606, and ESI 6247 or equivalent	Data are motivating a profound transformation in the operation management in all fields of engineering and business. Navigate the overload to optimally prepare and enrich data to use as a key ingredient for powerful analytical insights.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ESI	6636	Advanced Analytics II	3		Covers broad aspects of the emerging field of data analytics, with focus on statistical learning and predictive modeling methods. Basic knowledge in probability & statistical methods and linear algebra required. Prior programming experience a plus.
ESI	6906	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
ESI	6911	Directed Research	1-19		
ESI	7911	Directed Research	1-19		
ESI	7980	Dissertation: Doctoral	2-19		
ETG	6932	Special Technical Topics	1-4		Special Topics in Technology.
EVR	6101	Geomorphology for Environmental Scientists	3		Course will explore the evolution of landscapes, natural processes that alter Earth's surface, and rates of change in the surficial environment. The course will emphasize topics relevant to environmental scientists in Florida - esp. soils, karst, & coasts.
EVR	6216	Advances in Water Quality Policy and Management	3		Conceptual structure and practical implementation of U.S. watershed-based water quality regulations and policies. Practical application of scientific information and quantitative methods in management/policy decisions for water quality protection.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EVR	6320	Environmental Management	3		This course introduces the students to environmental management from technical and non-technical perspectives. The major topics covered will be water and air quality, environmental sustainability, collaboration and building consensus.
EVR	6408	Wildlife Ecology	3		Population ecology, animal behavior, food resources, habitat resources, wildlife diseases, predation, competition, wildlife and water, wildlife and soils, hunting and trapping, exotic wildlife, urban wildlife, and conservation.
EVR	6908	Environ Science, Policy And Mgmt Independent Study	1-3		The courses offered under Independent Study will provide students with a greater range of more detailed information about Environmental Science, Policy, Ethics, Economics, Law and Management.
EVR	6921	Scholarly Presentation of Environmental Research	1-2	CR: EVR 6971	Discussion and practice in methods of writing, presenting, and defending cross-disciplinary environmental research. Written and oral assignments on communicating research objectives, methods, results, theory, and analysis of policy relevance.
EVR	6922	ESP Capstone Seminar	3		A capstone graduate course that integrates issues related to science, policy and management in making decisions. Each semester, the program selects an environmental issue to serve as a case study. Some anticipated themes include global warming, water quantity and quality, air pollution and restoration.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EVR	6930	Research Colloquium in Environmental Science and Policy	1		Scholarly presentations by invited academic researchers and leading policy decision-makers.
EVR	6934	Grad Environ Sci, Policy & Mgmt Selected Topics	3		Selected topics, issues and problems in Environmental Science and Policy.
EVR	6936	Seminar in Environmental Science	3		A seminar course that reviews a major theme or themes in environmental science that integrates knowledge and research from various scientific disciplines.
EVR	6937	Seminar in Environmental Policy	3		Critical assessment of environmental policy and regulatory formulation, implementation, evaluation, and revision in the context of scientific, technological, institutional, political, social and economic factors; case studies of major U.S. policies.
EVR	6971	Thesis: Master's	2-19		
EVR	7923	Doctoral Dissertation Preparation	3		This course will assist students in developing dissertation topics; to think creatively about their topics; to draft a dissertation proposal and a dissertation outline. Students should register for either evr or geo 7921 depending on his/her subject area.
EVR	7980	Doctoral Dissertation Research	2-15		The dissertation is an original contribution to scholarship. The research is performed under the guidance of the major professor, which determines how many dissertation hours are completed (maximum 42 hours).

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
EVS	6920	Environmental Research Interdisciplinary Colloquium	1		Interdisciplinary seminar series that exposes students to a variety of environmental topics through presentations and interactive discussions with scholars and practitioners.
EVT	6971	Thesis: Masters/Educational Specialist	2-19		
EXP	6608	Cognitive Psychology	3		A survey of the research and theory dealing with higher memory, language, and the higher mental processes. Core requirement for all graduate students in Psychology.
EXP	7099	Graduate Seminar in Experimental Psychology	1-3		Seminars on topics, such as learning, perception, memory, cognitive processes, and quantitative methods.
FIL	5469C	Cinematography	4	PR: PGY 4520C	Advanced studio work using black and white, color and sound as technical and aesthetic factors in visual, artistic productions.
FIN	6246	Advanced Money and Capital Markets	3	PR: ECO 6204	The study of the role of financial markets, instruments, and institutions in the economy. It includes the study of flow of funds, interest rate determination, and the pricing of capital assets.
FIN	6326	Bank Management	3	PR: FIN 6406	Theory, policy and practice of commercial bank management with emphasis on strategic issues and decision making in an expanding financial services environment.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FIN	6406	Financial Management	2-3	PR: ACG 6025 and ECP 6702.	The study of processes, decision structures, and institutional arrangements concerned with the acquisition and utilization of funds by a firm. The course includes the management of the asset and liability structures of the firm under both certainty and uncertainty.
FIN	6416	Advanced Financial Management	3	PR: FIN 6406 or equivalent.	A synthesis of the theory and the practice of corporate finance. Particular attention is given to the role of the agency problems and agency cost in explaining why the observed consequences of financial decisions often deviate from those predicted by traditional theory.
FIN	6418	Working Capital Management	3	PR: FIN 6406	This course is designed to provide the student with an understanding of short-term financial management which includes decision making concerning sources and uses of cash flows to support short-term operations.
FIN	6425	Financial Policy	3		A case study approach to financial policy and strategy with emphasis on the firm's major financial decisions.
FIN	6465	Financial Statement Analysis	3	PR: FIN 6406	This course provides an understanding of the relationship between financial statements produced in accordance with generally accepted accounting principles (GAAP) and the information such statements contain that is useful to stakeholders.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FIN	6466	Financial Analysis	2	PR: ACG 6026, FIN 6406	Financial analysis focuses on how information disseminated that is by a company is used by such stakeholders as managers, stockholders, creditors, and financial analysts when making decisions concerning the firm's value.
FIN	6515	Investments	3	PR: FIN 6406	An examination of the risks and returns of alternative investment media within the framework of various valuation models. Special attention is given to the investment process and the criteria for investment decisions.
FIN	6537	Financial Options & Futures	3	PR: FIN 6515 or equivalent.	This course covers financial futures and options markets and the fundamental properties and the pricing principles of these instruments. In addition, hedging and risk management strategies are covered in the course.
FIN	6605	International Financial Management	3	PR: FIN 6406 or equiv	The course provides a foundation for the understanding of financial management of international business. The subjects covered relate to: international finance, multinational business finance, and financial market theory.
FIN	6804	Theory of Finance	3	PR: FIN 6406	A systematic and rigorous course in the theory of finance. Topics will include the theory of choice and the allocation of financial resources, the theory of optimal investment decisions and the theory of risk and uncertainty in financial decisions. It will also cover the theoretical concepts underlying financing decisions and the cost of capital.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FIN	6906	Independent Study	var.		Students must have a contract with an instructor.
FIN	6915	Directed Research	var.		
FIN	6934	Selected Topics in Finance	1-4		Depending upon the scope and magnitude of the work required. Includes special lecture series.
FIN	7808	Advanced Micro Finance	3	PR: FIN 6406, FIN 6804, ECO 6424	The study of advanced theoretical and empirical works in finance primarily relating to financial decisions at the level of the firm.
FIN	7817	Financial Markets	3	PR: FIN 6246, FIN 6515	The study of advanced theoretical and empirical works in finance primarily relating to financial institutions and markets.
FIN	7930	Selected Topics in Finance	3	PR: FIN 7808, QMB 7566	A study of selected topics of current issues on the frontiers of financial thought.
FIN	7935	Finance Research Seminar	3	PR: FIN 7930	Theoretical and/or empirical research on finance related problems. This course will require research papers to be written and presented. It is designed to aid the student in developing a thesis and the research methodology necessary for the doctoral dissertation.
FIN	7939	Executive Issues in Finance	2-4		A research seminar for executives that explores contemporary issues in finance. The specific theme of the seminar will be determined through consultations between the instructor and the students prior to the first class meeting.
FIN	7980	Dissertation	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FLE	5145	Language Principles, Acquisition and Teaching	3	PR: FLE 5345	Restricted to Education majors and not repeatable for credit. Overview of applied SLA theory and components of language. Methods & techniques of comprehensible instruction and the development of oral proficiency and literacy skills for LEP children.
FLE	5291	Technology in the Foreign Language Classroom	3	PR: FLE 5313 and FLE 5331.	This course is intended to prepare foreign/second language teachers to provide pedagogically sound and technologically enhanced instruction for foreign language and second language students in the K-16 realm. Basic computer literacy is recommended.
FLE	5313	Methods of Teaching Foreign Language and ESOL in the Elementary School	3		This course is designed to provide training in the theory and methods of teaching foreign languages and ESOL in the elementary school (FLES) to both pre- and in-service teachers.
FLE	5331	Methods of Teaching Foreign Language and ESOL in the Secondary School	3	PR: FLE 5313	This course provides for the development of knowledge and skills necessary to prepare students to assume roles as foreign language (FL) and ESOL teachers at the secondary school level. It represents the second part of a sequence of methods courses.
FLE	5345	Teaching English Language Learners K-12	3		This course is restricted to Education majors and is not repeatable for credit. It is designed to prepare preprofessional teachers to provide linguistically and culturally appropriate instruction, assessment, and learning opportunities for LEP students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FLE	5366	ESOL Education in Content Areas	3		Enables participants to meet the special linguistic & cultural educational needs of limited English proficient (LEP) students in content area classes. Provides a theoretical & practical foundation for ESOL competencies in courses include ESOL infusion.
FLE	5895	Dual Language Education	3		This course is for teachers who are interested in bilingual education. The aim is to deconstruct the philosophical, theoretical, political, social and educational underpinning of instruction (K-16) when it is delivered through two languages.
FLE	5946	Practicum in Foreign Language/ESOL Teaching	3	CR: FLE 5331; PR: FLE 5313	This course prepares students for their internship by providing a structured pre-internship experience while meeting regularly in a university class. Opportunity to see teachers in action.
FLE	6167	Cross-Cultural Issues in Teaching ESOL	3		Designed for K-12 & adult educ environment to help participants develop awareness & understanding of the major cultures represented by the different language groups within the State of Florida (teach cultural awareness & cross-cultural understanding).
FLE	6639	Second Language Reading and Literacy	3		Explores theoretical issues in L2 language and literacy learning from a sociocultural perspective an covers seminal perspectives on L2 language development.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FLE	6665	Current Trends in Secondary Foreign Language Education	3	PR: FLE 4314/FLE 4333	Designed for experienced classroom teachers, theoretical and practical implications of recent programs and methodology. Instructional practices in the teaching of foreign languages. Individual projects.
FLE	6829	Graduate Instruction Methods	1-4		Special course to be used primarily for the training of graduate teaching assistants.
FLE	6906	Independent Study in Foreign Language Education	1-6		Independent Study in which students must have a contract with an instructor. Rpt. S/U
FLE	6932	Selected Topics in Second Language Acquisition	3		This course would provide a flexible format to offer specialized courses in second language acquisition not available in the regular curriculum. This would allow faculty to address issues at the frontiers of the field in second language acquisition. Repeat as topics vary
FLE	6947	Internship for Secondary Education in Foreign Language	6		Students will work with a cooperating teacher and university supervisor to complete their internship requirements in a classroom setting assigned by the university.
FLE	7367	Sociocultural Theory in Second Language Acquisition	3		1. Examines the theoretical contributions of Vygotskian theory and explores the development of sociocultural theory based on Vygotsky and extending to contemporary post-Vygotskian theories and practices in the field of SLA.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FLE	7700	Applications of Technology in Second Language Acquisition	3		This course introduces key approaches to computer-assisted language learning (CALL). Students learn about pedagogical approaches and assessment in CALL. Students share ideas on blogs and in class discussions, and design and execute a pilot study.
FLE	7939	Advanced Seminar in Foreign Language Education	3	PR: FLE 6665	Advanced readings and discussion of theories, perspectives and issues in foreign/second language education from K-20, including examination of current practices, action research, accreditation, certification, teacher development, and assessment in the field.
FOL	5906	Directed Study	1-3	PR: FOL 4101 or equivalent.	
FOW	6805	Bibliography	1		Research methods. Includes familiarity with major journals and bibliographies, with a practicum.
FRE	5425	Advanced Written Expression	3	PR: FRE 4421, or equivalent.	Course is designed to give advanced training in free composition in French.
FRE	5566	Contemporary France	3	PR: FRE 3500 or equivalent	An advanced course in French civilization and culture including a study of recent social, artistic and political trends as well as various current intellectual movements. Text and discussions in French.
FRE	6910	Directed Research	1-19		
FRE	6971	Thesis: Master's	2-19		
FRW	5222	Classical Prose and Poetry	3	PR: FRW 4101.	Emphasis on Malherbe, Descartes, Pascal, La Fontaine, and Boileau.
FRW	5226	20th Century Poetry and Theatre	3	PR: FRW 4101.	Valery, Claudel, Anouilh, Motherland, Sartre, Ionesco.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FRW	5286	The 20th Century Novel	3	PR: FRW 4100.	Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet.
FRW	5314	Classical Drama	3	PR: FRW 4101.	Corneille, Moliere, and Racine.
FRW	5415	Literature of the Middle Ages	3	PR: FRW 4100 or FRW 4101.	Major genres, including epics, Arthurian romances, drama and lyric poetry. Reading in modern French translation.
FRW	5425	Literature of the Renaissance	3	PR: FRW 4100 or FRW 4101.	A study of Renaissance French humanism including Rabelais, Montaigne, and Pleiade poets.
FRW	5445	18th Century Literature	3	PR: FRW 4100.	The classical tradition and the new currents of thought in the Age of Enlightenment.
FRW	5535	Romanticism and Early Realism	3	PR: FRW 4101.	A study of the romantic and early realistic movements with emphasis on Lamartine, Vigny, Musset, Hugo, and Balzac.
FRW	5556	Naturalism and Realism	3	PR: FRW 4100 or FRW 4101.	A detailed study of realism and naturalism with emphasis on Flaubert, Zola, les Goncourt, Maupassant, and Daudet.
FRW	5745	French Literature of Quebec	3		Overview of the main representative literary works in French from Quebec in all genres (poetry, drama, novel, short story) as well as a survey of the main traits of Quebec history & culture. Open to non-majors. Not repeatable for credit. Taught in French.
FRW	5755	African and Caribbean Literature	3		An overview of the main representative literary works in French from North and SubSahara Africa as well as the Caribbean. Open to non-majors and not repeatable for credit. Course taught in French.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
FRW	5829	An Introduction to Modern French Literary Criticism	3		A graduate elective 3 credit course entirely taught in French, which offers a survey of the main trends and methods in 20th Century literary criticism, the French having been at the avant-garde of the field.
FRW	5934	Selected Topics	1-3		Study of an author, movement or theme.
FRW	6405	Old French	3		An introduction to the Old French language and literature. Readings from representative texts.
GEA	6195	Seminar in Advanced Regional Geography	3		Analytic study of a selected region of the world.
GEA	6215	Seminar in North American Geography	3		Advanced survey of historical and contemporary issues in North American geography including: west and non-west exchange, revolutionary transformation, nation-building, regional disparities, and continental relations among states.
GEA	6406	Seminar in Latin American and Caribbean Geography	3		Readings and discussions organized around an examination of regional and systematic analysis of selected topics of Latin American and Caribbean geography. Emphasis is on combining physical and cultural analysis of this region.
GEA	6504	Seminar in European Geography	3		Readings and discussions organized around an examination of regional and systematic analysis of selected topics of European Geography. Emphasis is on combining physical and cultural analysis of this region.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEA	6745	Asian Geography Seminar	3		Analysis of regional divisions and spatial variations within Asia. Examines the significance of Asia in the global context. Focus on political, economic, cultural, and historical geographies, including development, environment, religion, and gender.
GEB	6215	Communication Skills for Managers	2		One of six Advanced Tools courses required for the MBA, Communication Skills for Managers focuses on developing the oral and written communication and presentation skills essential to projecting a professional image and influencing others.
GEB	6224	Improvisation in Business Organizations	3		Facilitates learning and skill building based on organization studies research on business improvisation. Students will participate in a variety of experiential exercises and cases from organizational behavior and theatrical improvisation.
GEB	6226	Leadership Speaker Series	1		This course addresses a range of issues that impact how leaders craft strategies, create commitment, communicate effectively, delegate, and lead by example. A diverse group of individuals will deliver thought-provoking presentations and lead discussions.
GEB	6228	Management Through Constructive Persuasion	3		Effective persuasion is the ability to deliver a message that leads to others'™ support, which includes consensus building, motivating and convincing others. The course explores persuasion methods and applies them in a contemporary business setting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEB	6445	Social, Ethical, Legal Systems	2		A study of the influence of social, cultural, legal, and political environment of institutional behavior, including the changing nature of the business system, the public policy process, corporate power, legitimacy and managerial autonomy, and organizational reactions to environmental forces.
GEB	6457	Ethics, Law and Sustainable Business Practices	3	PR: GEB 6445.	Examines ethical and legal responsibilities of business for triple bottom line performance of prosperity, social justice, and concern for the natural environment.
GEB	6527	Lean Six Sigma	3		In this course students gain experience with process improvement from a Lean and Six Sigma perspective. The course shows Lean as a management philosophy to eliminate waste, and Six Sigma as tools and ideas to reduce variation and improving quality.
GEB	6865	Business Problems Analysis	3	PR: ACG 6025; ACG 6075; FIN 6406; ECP 6702; ECO 6708; MAN 6055; MAR 6815; QMB 6305; QMB 6603; GEB 6445; MAN 6147.	This is a capstone class that is delivered using case method. Business cases can be written or life. The delivery of the class can include but not limited to book reports, discussions, debates and lecture.
GEB	6895	Integrated Business Applications	3-4	PR: ACG 6026, ECO 6005, MAN 6147, MAR 6815, ISM 6021, FIN 6406, QMB 6305, FIN 6466 and MAN 6726	Part I of advanced study of business decision-making processes under conditions of risk and uncertainty, including integrating analysis and policy formation at the general management level.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEB	6896	Integrated Business Applications II	3	PR: GEB 6895.	Part II of advanced study of business decision-making processes under conditions of risk and uncertainty, including integrating analysis and policy formation at the general management level.
GEB	6898	MBA Capstone for Analytics, Compliance & Cybersecurity	3	PR: FIN 6466, MAN 6726	An MBA capstone course that combines case discussions of real world situations in the areas of analytics, cybersecurity and risk management with a substantial individual project.
GEB	6930	Selected Topics	1-3		The content and organization of this course will vary depending on student demand and faculty interest.
GEB	7939	Executive Issues in Business	2-4		A research seminar for executives that explores contemporary issues in business. The specific theme of the seminar will be determined through consultations between the instructor and the students prior to the first class meeting.
GEB	7980	Dissertation	1-8	PR: GEB 7981	Research and writing of a dissertation on a business topic.
GEB	7981	Dissertation Preparation	4		Preparing a dissertation proposal on a business topic.
GEB	7982	Research and Writing Skills for Doctoral Students	3		A research course for executive students on searching and citing research literature, preparing submissions for publication and assessing the suitability of publication outlets. The course emphasizes the effective use of electronic library resources.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEO	6058	Geographic Literature and History	3		The origins and development of the discipline as revealed through an examination of the principal written sources. Special attention paid to leading personalities and modern periodicals.
GEO	6115	Advanced Field Techniques	3		Field examination of one region. Students will complete field work in human and physical geography in a selected area.
GEO	6116	Perspectives on Environmental Thought	3	PR: GEO 6058	Analysis of the evolution of the major schools of environmental thought from antiquity to present-day green analysis, deep ecology, ecofeminism, and post-modern ecology.
GEO	6119	Geographical Techniques and Methodology	3		Analytic study of a technique or investigation into an aspect of methodology.
GEO	6166	Multivariate Statistical Analysis	3	PR: GEO 3164C	Examination of advanced statistical approaches used by geographers. Descriptive, spatial and inferential statistics and multi-variate analysis are highlighted.
GEO	6209C	Physical Geography Seminar	3		Analytic study of one or more topics from physical geography. Selected problems may include hydrology, physiography, meteorology, climatology, soils, vegetation, etc.
GEO	6215	Geomorphology Seminar	3	PR: GEO 4372	An advanced examination of geomorphic processes and landforms with an emphasis placed on concepts related to the formation and evolution of landscapes on a variety of scales.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEO	6217	Karst Geomorphology	3		An in-depth examination of the geomorphic aspects of karst landforms. The objectives, methods and results of karst geomorphic studies in which both field and laboratory analysis have been applied to geomorphic problems are reviewed.
GEO	6255	Weather, Climate, and Society	3		This course explores the societal impacts of weather as well as the human impact on weather and climate. Students lead and participate in discussions on topics such as weather hazards, extreme temperature and human physiology, historical civilization and extreme climate, economic value of forecasts, weather modification, urbanization and other land use change, anthropogenic aerosols, past and future climates.
GEO	6263	Soils Seminar	3	PR: GEO 4372	Examination of how earth systems influence soil formation and variation. Details analysis of soils climosequences, biosequences, toposequences, lithosequences, chronosequences, and anthrosequences.
GEO	6286	Advances in Water Resources	3		Water resources policies are viewed from theoretical and practical perspectives focusing on management strategies in different physical and human environments.
GEO	6288	Hydrological Systems	3	PR: GEO 4372	A systematic approach to hydrology using the drainage basin as the fundamental unit of analysis is used to explore form and process, while modeling stream flows.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEO	6345	Technological Hazards and Environmental Justice	3		Examination of theories, debates, methods, and models that improve our understanding of human vulnerability to technological hazards and risks, with emphasis on issues of fairness and equity in the distribution and impact of hazards.
GEO	6347	Natural Hazards	3	PR: GEO 4372	Analysis of natural hazards integrating principles of physical, social, economic, political, and technical forces that affect extreme geophysical events.
GEO	6428	Seminar in Advanced Human Geography	3		Analytic study of a problem selected from aspects of the human landscape (urban, political, economic, population, settlement).
GEO	6475	Political Geography Seminar	3	PR: GEO 4471	Advanced investigation of geopolitical issues including: the human construction of territoriality, ethnic relations, the making of nations and states, the geopolitics of localities, and environmental policy making.
GEO	6545	Economic Geography Seminar	3	PR: GEO 4502	An intensive examination of selected issues in economic geography including: regional development and decline; spatial labor market trends; business locational analysis; and comparative economic policy.
GEO	6605	Contemporary Urban Issues	3	PR: GEO 3602; GEO 4604	Advanced survey of urban issues such as: industrial restructuring and urban development, inner-city ethnic relations, the geopolitics of urban governance, and urban culture.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEO	6627	Site Feasibility Analysis	3		A project-oriented geographic examination of urban real estate development and site feasibility practices. Hands-on course including concepts of real estate development patterns, urban growth, and site specific factors related to feasibility of specific developments.
GEO	6704	Advanced Transportation Geography	3	PR: GEO 4114; GEO 4700	Review of transportation issues and analysis, focusing on modeling and planning for flows of goods and people. Provides a hands-on approach to use of GIS for such analysis.
GEO	6908	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
GEO	6918	Directed Research	1-19		
GEO	6944	Internship in Geography	3		The internship in Geography is designed to provide students the opportunity to work in an appropriate governmental agency to gain practical field experience.
GEO	6947	Directed Teaching	1-6		
GEO	6970	Geographic Research Design	3		This course stresses conducting geographic research within the scientific method. It includes both quantitative and qualitative research. Specific topics include sample design, data collection, oral presentations, written proposals and a thesis.
GEO	6971	Thesis: Master's	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEO	7021	Doctoral Dissertation Preparation	3		This course will assist students in developing dissertation topics; to think creatively about their topics; to draft a dissertation proposal and a dissertation outline. Students should register for either EVR or GEO 7921 depending on his/her subject area.
GEO	7606	Seminar in Urban Environments	3		This seminar will explore topics in the study of urban environments such as global restructuring, race and ethnic relations, and the geopolitics of urban policy, by way of readings, discussion, and research.
GEO	7980	Doctoral Dissertation Research	2-15		The dissertation is an original contribution to scholarship. The research is performed under the guidance of the major professor, which determines how many dissertation hours are completed (maximum 42 hours).
GER	5845	History of the German Language	3		A diachronic approach to the study of the German language. The course traces the history and development of the language from Indo-European through Germanic, Old, Middle, and New High German.
GER	6060	German for Reading	3		Designed to provide a reading ability in German that will support research in other disciplines.
GER	6908	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
GEW	5606	Faust	3		Sources, form, content, and literary significance of Urfaust and Faust.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEW	5934	Selected Topics	1-3		Study of an author, movement or theme.
GEY	5476	Program Evaluation in an Aging Society	3		Students develop knowledge of the purposes of evaluation research and the approaches and methodologies necessary to evaluate aging services programs and organizations.
GEY	5501	Health Care Operations in Long Term Care	3		Addresses the health care operations of long term care facilities with a special emphasis on nursing homes and assisted living facilities Specifics include leadership management of people resources physical plant and quality improvement.
GEY	5620	Sociological Aspects Of Aging	3		Examines, within a sociological frame of reference, the interrelationships between the aged (or aging) and the structure and function of the social system and its major institutionalized subsystems.
GEY	5630	Economics and Aging	3		Examines basic economic systems as they impact the aged. Emphasis is on applied aspects of economic planning, pensions, insurance, social security and other support systems.
GEY	5642	Perspectives on Death and Dying	3		Study of the various psychological, medical, legal, and religious problems caused by dying and death, and how individuals and groups have responded in the past and present.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	6206	Family Caregiving in Aging and Chronic Illness	3		The course will address the mental and physical health consequences, cultural diversity issues, and stress process models of caregiving, as well as clinical and public policy interventions to assist family caregivers of adults with chronic illness.
GEY	6221	Ethical and Legal Issues in Aging	3		A consideration of major ethical and legal issues in aging and their implications for policies, priorities, and services.
GEY	6230	Principles of Health Care Risk Management and Patient Safety	3		This course provides an overview of the various aspects of health care risk management and how the risk varies by health care setting. Case studies and exercises provide students with "real world" situations they are likely to encounter."
GEY	6321	Gerontological Case Management	3		This course examines the function of case management in meeting the care needs of the older adult. Elements of the case management process as well as ethical and legal issues in case management are covered. Not repeatable; not restricted to majors.
GEY	6325	Social Policy and Planning for Gerontologists	3		This course is designed to provide an empirical and analytical base for understanding the major issues and trends involved in existing and proposed programs and services in the field of aging at local, state, and federal levels.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	6362	Geriatric Interdisciplinary Team Training	3		This course addresses the importance of interdisciplinary teams in today's health care and social service delivery systems for older adults. Issues include formation of teams, critical issues of aging, team care plans, and monitoring team functioning.
GEY	6402	Statistical Methods in Aging Research	3		The major goal of this course is to deliver fundamental quantitative research concepts that are useful in aging research. Other goals include hands-on exposure to secondary data analysis.
GEY	6403	Multivariate Statistical Analysis for Aging Research	3		This course will give students experience with many of today's advanced statistical techniques. Primary emphasis will be on the description of these methods of analysis, situations in which their application is most appropriate, and hands-on experience.
GEY	6450	Gerontological Research and Planning	3		Social research and planning methods in the field of gerontology. Directed to the consumers of research findings-person whose positions call for the ability to interpret, evaluate, and apply the findings produced by others.
GEY	6461	Retirement and Long Term Care Housing for Elderly	3		This course will focus on population trends, housing and environment theory, need and availability of affordable housing with services, adapting homes for elders, and a number of age-related housing solutions. Not restricted to majors; not repeatable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	6500	Seminar in Principles of Administration	3		This course deals with management problems and practices in the administration of institutions in the field of aging. Consideration is given to federal and state legislation, the management of people, and fiscal management.
GEY	6600	Human Development and Aging	3		Normal aging, change and basic psychological processes will be examined from a human development perspective. Emphasis will be on middle aged and older adults in relation to Life Cycle Changes and Counseling Approaches.
GEY	6607	Alzheimer's Disease Management	3		This course will provide instruction on effective approaches for providing care to persons with Alzheimer's disease and related disorders, successful behavior management, and operating a dementia program. Not restricted to majors; not repeatable.
GEY	6613	Physical Change and Aging	3		Common, normal and pathological physical changes associated with aging will be discussed as they affect behavior. Aspects of physical and mental illness and pharmacology with gerontological relevance will be surveyed.
GEY	6614	Aging and Mental Disorders	3		Examines mental disorders among older adults and special problems faced in geriatric assessment and intervention. Reviews DSM criteria and their application to older patients, including case studies of geriatric patients with complex comorbidities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	6616	Mental Health Assessment and Intervention with Older Adults	3	PR: GEY 6614	Designed to provide the mental health counselor with a basic understanding of evaluation principles and the application of assessment approaches to older adults.
GEY	6617	Gerontological Counseling Theories and Practice	3	PR: GEY 6614	Examination of mental health treatment modalities and approaches to counseling with older adults. Personality theories and their relationship to counseling will be included emphasizing the development of a treatment plan through the integration of assessment data.
GEY	6618	Gerontological Group and Family Counseling	3	PR: GEY 6614	An advanced course directed at clinical practice with older adults. Appropriate techniques and skills will be integrated with models of psychotherapy, counseling, and personality development. Primary focus will be on intervention with groups, families, and couples.
GEY	6626	Health, Ethnicity, and Aging	3		This course addresses aging among diverse racial and ethnic populations, cultural competency and health disparities inaccess to and utilization of services among persons from diverse racial and ethnic populations. Not restricted to majors; not repeatable.
GEY	6627	Women and Aging	3		The purpose of this course is to examine older women's lives from a feminist perspective. Factors such as longer life expectancy and gender differences in health trajectories result in a disproportionate share of older women in the United States.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	6643	End of Life Care for Dementia Patients	3		This course addresses progressive degenerative dementias: Alzheimer's disease, dementia with Lewy bodies, vascular and fronto-temporal dementia, and will address treatment, medical, ethical and legal questions. Not restricted to majors. Not repeatable.
GEY	6646	Gerontological Issues and Concepts	3		This course presents the concepts, theories, and issues relevant to our aging society. Emphasis will be placed on generalized knowledge of the aging process, and implications for the individual, family, government, and society in general. Students will engage in spirited debate and gain important background that will prepare them for their other graduate work in Gerontology, Social Work, and related fields.
GEY	6901	Directed Reading	1-4		A reading program of selected topics under the supervision of a faculty member.
GEY	6910	Directed Research	1-4		
GEY	6934	Special Topics In Gerontology	3		Courses on topics such as preretirement, mental health, human services organization, and senior center administration.
GEY	6940	Field Placement	1-6		An internship in an agency or organization engaged in planning or administering programs for older people or in providing direct services for older people.
GEY	6941	Field Placement in Mental Health	1-6	PR: GEY 6616, GEY 6617 and GEY 6618	A highly structured supervised counseling experience providing mental health services to older adults.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	6971	Master's Thesis	3-6		The Master's Thesis for the MA in Gerontology is a research project designed to result in an original research product.
GEY	7404	Ph.D. Seminar in Grant Writing	3		This course is designed as a seminar for doctoral students pursuing a research career requiring outside funding for their research. Skills practiced include literature search, preparation of budgets, detail of research methods, and critique of proposals.
GEY	7602	Ph.D. Seminar in Health and Aging	3		This doctoral seminar focuses on issues of physical and functional health in older adults, including acute and chronic conditions. Specific content will be different each time. Repeatable twice for credit.
GEY	7604	Biomedical Aging	3		This course examines biomedical issues of aging, from the genetic to bodily systems levels. Emphasis is on cell structure, diseases of aging, cardiovascular, neurological, metabolic, and immune systems; diet/nutrition. Open to all majors; not repeatable.
GEY	7610	Psychological Issues of Aging: Interdisciplinary Perspective	3		This course provides an overview of theory & research on individual human development and aging. Emphasis is on cognition, personality, psychopathology, stress and coping, care giving, and end-of-life issues. Open to all majors and not repeatable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	7611	Ph.D. Seminar in Mental Health	3		This doctoral seminar focuses on issues of mental health in older adults, including issues like depression, anxiety, and psychopathology. Specific content will vary. Repeatable twice for credit.
GEY	7622	Ph.D. Seminar in Policy and the Elderly	3		This course is designed to offer a comprehensive examination of the major public-policy issues generated by the health care needs of those ages 65 and older and the programs/institutions that have emerged to meet these needs.
GEY	7623	Social and Health Issues in Aging	3		This is a doctoral level class that addresses both social and health aspects of aging. Emphasis is on social and family context in aging, health policies, long term care, and racial and ethnic diversity. It is open to all majors and is not repeatable.
GEY	7649	Population Aging	3		PhD students in Aging Studies and others will develop an understanding of the causes/consequences of aging & its effects on the populations of the U.S. and the world. Emphasis is on demographic, social, political, and economic processes. Not repeatable.
GEY	7651	Ph.D. Seminar in Cognition	3		This doctoral seminar focuses on issues of cognition in older adults, including learning and memory, and also addresses change and chronic conditions that affect them. Specific content will be different each time. Repeatable twice for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GEY	7902	Directed Individual Study in Aging Studies	1-9		An advanced reading program of selected topics related to interdisciplinary avenues of inquiry under the supervision of an aging studies faculty member. A written contract describing the requirements must be signed by the student and faculty member prior to registration.
GEY	7911	Directed Research in Aging Studies	1-19		Research on selected topics in aging studies under the direct supervision of a member of the graduate faculty in aging studies.
GEY	7936	Proseminar in Aging Studies	1-10		Reading and discussion of current topics, books, articles, and papers in aging studies. Examination of theory and research issues in the field of gerontology. Students develop their dissertation research topics, preliminary review of literature, and present their dissertation research proposals.
GEY	7980	Dissertation and Doctoral	2-12		
GIS	5049	GIS for Non-Majors	3		An introduction to the concepts underlying digital thematic mapping and geographical information systems (GIS) for non-geography majors and non-geography graduate students.
GIS	5075	Global Positioning Systems	3	PR: GIS 5049	Examination of the theory, operation and application of Global Positioning Systems (GPS).
GIS	6038C	Remote Sensing	3	PR: GEO 4124C	Study of digital image processing techniques. Topics include filtering techniques, geometric and radiometric normalization, and classification algorithms with emphasis on developing.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GIS	6039	Remote Sensing Seminar	3	PR: GEO 5134C	Analytic study of selected topics in remote sensing. Discussions around topics include data acquisition, sensor systems, multispectral and radar image analysis, change detection, and integration of remote sensing with GIS.
GIS	6100	Advanced Geographic Information Systems	3		Spatial problem solving utilizing GIS mapping and statistical methods. The course is designed to give students hands-on experience in using computerized techniques for geographic analysis.
GIS	6103	Programming for GIS	3	PR: GEO 6157	Examination of the concepts and techniques for customization of Geographical Information Systems (GIS) using object-oriented programming.
GIS	6112	Spatial Database Development	3	PR: GEO 6157	Development and management of spatial data for use in a Geographic Information System (GIS), including creating, editing, modifying and validating spatial data.
GIS	6306	Environmental Applications of Geographic Information Systems	3	PR: GEO 6157	Examination of GIS applications in agriculture, forestry, wildlife management, biodiversity conservation, environmental assessment, water resources, and pollution modeling. Use of advanced GIS analysis techniques relevant to the specific applications.
GIS	6307	GIS Seminar	3	PR: GIS 6100	Analytic study of selected topics in GIS. The course will familiarize students with case studies involving GIS applications in environmental studies, coastal modeling, and urban planning.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GIS	6355	Water Resources Applications of GIS	3	PR: GEO 6157	Examination of GIS applications in water resources, including watershed analysis, pollution modeling, and water resources modeling. Use of advanced GIS analysis techniques relevant to the specific applications.
GLY	5752	Geological Field Excursion	2		Lectures and 2-3 week field excursion to study regional geology, structure and lithogenesis of geologically complex terrain. Mapping and outcrop description techniques are emphasized. Destination of trip varies. Trip requires camping and vigorous physical activity. Lec.-field trip.
GLY	5865	Statistical Models in Geology	3	PR: STA 2023 or equivalent	Application of statistical methods to geological problems. Emphasis on sampling plans, nature of geologic distributions, and application of analyses of variance to solving geological problems. Lec.
GLY	5932	Selected Topics in Geology	1-4		Each topic is a course under the direction of a faculty member. All areas of geology included.
GLY	6075	Greenhouse-Icehouse Earth	3		This course is designed to investigate the differences between green- and icehouse climates through an examination of both the data employed to reconstruct past climates and the impact these changes have had on the Earth System.
GLY	6246	General Geochemistry	3	PR: One year college Chemistry	Age, formation and evolution of the earth with application of basic chemical concepts and processes that govern the distribution of elements in geologic environments.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GLY	6255	Tracer Geochemistry	3	PR: GLY 6246	The use of trace elements and isotopic ratios as tools for understanding geologic processes. The collection and interpretation of trace element/isotopic data. Lecture/Discussion/Lab.
GLY	6285C	Analytical Techniques in Geology	3	PR: One year college Chemistry, GLY 4310	Use and application of analytical methods including X-ray, atomic absorption, ICP/MS, TEM, SEM, and other geochemical techniques. Interpretation and statistical analysis of the data acquired. Lec/Lab.
GLY	6395C	Topics in Igneous and Metamorphic Petrology	2-4	PR: GLY 3311C or equivalent	Detailed study of selected igneous and/or metamorphic rock associations. Targeted sites will vary each semester. Modern methods of geochemical and mineralogical analysis (EPMA, ICP/DCP, XRD) will be employed. May be repeated up to 12 hrs. Lec/Lab.
GLY	6475C	Principles of Applied Geophysics	4	PR: One year of Physics	Elementary treatment of gravimetric, magnetic, electric, and seismic geophysical techniques as applied to resource exploration, site investigation, and mineral deposits. Lec/Lab. Field trips.
GLY	6492	Hydrogeology Internship Project	3		Internship project in applied hydrogeology. Required for hydrogeology-internship MS program (minimum 3 hours).

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GLY	6557	Facies Models	3		Characterization of facies models for stratigraphic sequences representing terrestrial, transitional and marine sedimentary environments. Emphasis on textures, structures and composition of strata and their environmental interpretation in the rock record.
GLY	6573	Fluvial Hydrology and Geomorphology	3	PR: MAC 2311 or the equivalent.	The course covers the mechanics of open channel flows, primarily to understand the potential energy available to do work, and the geomorphic responses to work, including channel initiation, sediment transport, and channel adjustment.
GLY	6575C	Coastal Sedimentation	3	PR: GLY 4555 or equiv.	Study of modern coastal sedimentary environments with emphasis on beaches, inlets, deltas, estuaries, and marshes. Analysis of sedimentary process and resulting morphology of sediment bodies. Lec/Lab. Field trips.
GLY	6739	Selected Topics in Geology	1-4		Each topic is a course directed by a faculty member. All areas of geology are included.
GLY	6824	Ecohydrology	3	PR: MAC 2311 or the equivalent.	This course covers hydrological processes along the atmosphere-plant-soil continuum and the ways in which hydrological processes control ecological structure and function.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GLY	6827C	Advanced Hydrogeology	4	PR: GLY 4822, one year college calculus	Flow systems, analytical and numerical solutions to ground-water flow problems. Emphasis on the theoretical aspects of ground-water flow systems and their interaction with the geologic framework. Lec/Lab. Field trips.
GLY	6828	Ground-Water Geochemistry	3	PR: One year of college Chemistry, GLY 4822, GLY 6246	Chemical behavior of ground water. Includes interaction of water with aquifer materials, chemical effects of waste disposal, use of chemical tracers, and transport of hazardous chemicals. Methods of sampling and data interpretation are emphasized. Lec.
GLY	6836	Numerical Modeling of Hydrogeologic Systems	3	PR: GLY 6827C	An advanced graduate course in numerical modeling of hydrogeologic systems. Topics include flow and mass transport, modeling, model calibration, model assessment. Current public domain computer codes are used, including MODFLOW, MT3D, MODPATH and LICODE.
GLY	6905	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
GLY	6910	Directed Research	1-19		
GLY	6971	Thesis: Master's	2-19		
GLY	7912	Directed Research	1-30		
GLY	7980	Dissertation: Doctoral	2-19		
GMS	6000	Medical Science Success Skills	1-3		This course comprises a review of the material required for the biology and physics and mathematics and verbal sections of the MCAT exam.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6001	Foundation in Biomedical Sciences	4-8		A multidisciplinary course in the cellular, molecular, biochemical, and genetic basis of biomedical sciences, designed as a comprehensive first semester course for most incoming biomedical sciences graduate students.
GMS	6002	Success Skills in Biomedical Sciences	1	PR: GMS 6091	This course will introduce the beginning graduate student the tasks and skills necessary for success in the Biomedical Sciences PhD program, with a emphasis on ethical principles involved.
GMS	6004	Introduction to Medical Sciences	3-6		This course is based on medical cases hat students explore in small groups that are faculty facilitated. Each case is concluded with a series of traditional didactic lectures relevant to the case. A learning specialist will provide learning strategies.
GMS	6010	Personalized Medicine	3		The course is designed to introduce the various principles that influence the discipline of genomics and the application to personalized medicine which utilizes information on genes, proteins and the environment to prevent, diagnose and treat disease.
GMS	6012	Basic Medical Genetics	3	PR: 1 yr. Biology; 1 yr. Chemistry.	The course examines fundamental aspects of genetics critical to understanding the mechanisms and inheritance patterns of genetic diseases relevant to human health including clinical, biochemical and molecular genetics, cytogenetics and genetic counseling.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6020	Neuroscience	5-6		An introduction into basic structure and function of the central nervous system. Emphasis is on an integrated approach that focuses on several levels of organization from molecular to cellular, from neural systems to behavior.
GMS	6053	Cancer Prevention	3		Provide a broad understanding of the various sources of cancer and the array of potential prevention modalities and therapeutics.
GMS	6054	Cancer Biology	3		Designed to give a broad understanding and discussion of the biology of cancer cells and the changes in cell structure and function leading to malignancy and uncontrolled cell proliferation.
GMS	6055	Case Studies in Cancer Therapy	3	PR: GMS 6053 and GMS 6054	This course provides an in-depth discussion of selected patient case studies in integrative oncology and is designed to assist integration of the study of the basic principles and applications of integrative oncology to patient care.
GMS	6056	Targeted Cancer Therapies	3		This course is designed to focus on exploring targeted cancer therapies for a variety of specific forms of cancer together with the application of novel therapeutic regimes.
GMS	6058	Diet and Cancer	3		This course is designed to focus on the linkage between diet and dietary factors and cancer and to explore the role of nutritional interventions as part of novel therapies for modern approaches to cancer treatment.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6066	Molecular Medicine	11		A comprehensive introduction to molecular medicine with an emphasis on the integration of those aspects of biochemistry, cell biology and genetics that have immediate relevance to the understanding of various disease processes and their treatment.
GMS	6067	Current Topics in Molecular Medicine	1		A Journal Club in which graduate students and faculty present recent research publications of importance to molecular medicine.
GMS	6069	Translational Biotechnology	3		The course teaches how the results of biological, biomedical and bioengineering research can be translated into applicable procedures and products and enhances the information via site visits to local non-profit and for-profit biotech institutions.
GMS	6091	Responsible Conduct in Research	1		This course will introduce the beginning graduate to the principles of responsible conduct in research, and how decisions made on a daily basis in the life of a scientist depend on these core principles.
GMS	6092	Principles of Intellectual Property	3		This course focuses on the principles of intellectual property as related to protection of new technologies/products and will examine strategies using the legal structure of patents, copyrights, trademarks, and trade secrets. No restrictions or repeats.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6093	Clinical and Translational Mentored Research	1-12		Course facilitates Clinical and Translational research at USF. Restricted to majors. In class presentations by incoming and advanced students and professors with review and discussions to support students' research efforts. Repeatable: Total max 12 cr.
GMS	6094	Biomedical Ethics	3		This course will focus on biomedical ethical issues in business, research, clinical care, and technology development in the Life Sciences and healthcare industries. There are no restrictions, may be taken for credit (3 credits) once.
GMS	6100	Medical Microbiology	3		Lecture, directed literature readings, and discussion form the basis to instruct graduate and advanced undergraduate students in Medical Microbiology. The course will now cover pathobiology and molecular biology of medically important bacteria.
GMS	6101	Molecular and Cellular Immunology	3-4	PR: Gen Biology, Organic Chem, Genetic(rec), Biochemistry(rec), Intro Immunology(rec)	Lecture, directed literature readings, and discussion form the basis to instruct graduate and advanced undergraduate students in development, function, regulation, pathobiology, and conduct of research in medically relevant immunity.
GMS	6103	Foundations in Medical Microbiology and Immunology	4	PR: GMS6001 or equivalent.	This course is designed to provide students with a basic understanding of the immune system and basic concepts in microbiology and infectious diseases using representative pathogens. This course is for doctoral and research-oriented master's students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6104	Cellular Immunology	3		Current concepts of cellular interactions in the immune response.
GMS	6107	Advances in Virology	2		Lecture, directed literature readings, and discussion form the basis to instruct graduate and advanced undergraduate students in Medical Virology. The course will now cover pathobiology and molecular biology of medically important viruses.
GMS	6110	Microbial Pathogenesis and Host-Parasite Interactions	3		This course examines the basic concepts in microbial pathogenesis using select medically important microorganisms as examples. It studies the reciprocal interactions that take place between human host and microbial pathogen.
GMS	6111	Basic Medical Pathology	3		This lecture course focuses on disease processes and their causes.
GMS	6114	Vaccines And Applied Immunology	2		Lectures and discussion concerned with the immunological aspects of vaccine development against infectious agents and cancer including discussions on mechanisms, experimental approaches and development problems.
GMS	6115	Medical Parasitology and Mycology	3		This course provides students with a detailed understanding of medical parasitology and mycology using select medically important parasites and fungi to examine the multi-faceted adaptations of these microbial pathogens to infect the human host.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6130	Molecular Biology of Tumor Viruses	2		This course is focused on tumor viruses which are involved in the pathogenesis of cancer and utilized in gene therapy as vectors. The lectures will cover current concepts of the field, specific viral genes and gene products involved in cancer, and molecular mechanisms by which viruses transform normal cells to cancer cells.
GMS	6141	Basic Medical Immunology and Microbiology	3	PR: 1 yr. Biology; 1 yr. Chemistry.	The course focuses on the fundamental aspects of immunology and microbiology that are critical to understanding the nature of the immune response and identify the various microbiological agents that are relevant to human health and disease.
GMS	6142	Cancer Immunology	3		Provide a broad understanding of the role of immunity in cancer biology and the potential applications of immunological methods in cancer therapies.
GMS	6183	Clinical Research Methods	3	PR: General Biology (1 year), General Chemistry (1 year).	The course will provide a foundation for healthcare providers to pursue investigator-initiated clinical research. It is not restricted to majors or nonmajors and cannot be repeated for credit.
GMS	6194	Biotechnology Forum	1		The course aims to provide students with an overview about the applications of modern biotechnology in industrial settings. The seminars focus on the development of diagnostics, therapies, drugs, and drug delivery systems. 20 biotechnology students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6200C	Biochemistry, Molecular and Cellular Biology	5		The overall objectives of GMS 6200 are to provide students with a solid foundation of biochemical principles and a fundamental understanding of structures and processes of living systems at the molecular and cellular levels.
GMS	6201	Basic Medical Biochemistry	3	PR: 1 year Biology; 1 year Chemistry.	The course examines fundamental aspects of biochemistry critical to understanding the chemical and cellular mechanisms relevant to health and disease including intermediary metabolism, enzymology and storage and transfer of genetic information.
GMS	6240	Metabolic Approaches to Pediatrics	3		Provides participants with a detailed understanding of the important linkage between nutrition, metabolism and the clinical management of both mothers and pediatric patients.
GMS	6310	Toxic Metals & Functional Toxicology	3		Designed to give a broad understanding of the central role that various heavy metals, such as As, Hg & Pb, and other toxins have in the progression of various pathological conditions.
GMS	6323	Pathology Case Studies 1	2		This course emphasizes principles of pathology, including cell injury, inflammation, immunopathology, neoplasia and congenital and environmental pathology, by focusing on the anatomical, pathophysiological and pathologies in the musculoskeletal system.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6324	Pathology Case Studies 2	2		This course emphasizes principles of pathology, including cell injury, inflammation, immunopathology, neoplasia and congenital and environmental pathology, by focusing on the anatomical, pathophysiological and pathologies in the gastrointestinal system.
GMS	6325	Pathology Case Studies 3	2		This course emphasizes the principles of pathology, including cell injury, inflammation, immunopathology, neoplasia and congenital and environmental pathology, by focusing on the anatomical, pathophysiological and pathologies in the neurological system.
GMS	6326	Pathology Case Studies 4	2		This course emphasizes the principles of pathology, including cell injury, inflammation, immunopathology, neoplasia and congenital and environmental pathology, by focusing on the anatomical, pathophysiological and pathologies in the reproductive system.
GMS	6331	Stem Cell Biology	3		Designed to give a broad understanding of the biology of stem cells and their potential role in the treatment of various pathological conditions.
GMS	6334	Pathobiology of Human Cancer	3		Using tissue-related oncology topics that complement molecular biology & experimental therapeutics, this graduate course will provide the morphologic and biologic basis of human cancer. This course is not restricted and is repeatable for 3 credits.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6340	Laboratory Fundamentals and Adjunct Cancer Therapies	3		This course presents an extensive review of clinical laboratory fundamentals as part of the disease diagnosis process together with discussions of the therapies designed to reverse adverse cellular functions and adjunct therapies for cancer management.
GMS	6380	Medicine and Gender	3		This course covers biological differences between men and women in the central nervous system, cardiovascular system, and the immune system. Women's health topics include gestational diabetes, obesity and breast feeding and men's reproductive health.
GMS	6400C	Core Physiology	4-6		This course is designed to give the beginning graduate student an insight into the basic functions of the human body. This will be approached from molecular, cellular, organ system and total organism aspects.
GMS	6403	Endocrine Mechanisms	4		An examination of current concepts of endocrine and neuroendocrine systems. Emphasis will be placed on control at the organismal and organ system levels.
GMS	6404	Systems Neurophysiology	4		Considers current topics in systems neurophysiology including sensory processing, motor control, and learning. Literature in both invertebrate and vertebrate animal models and neural network simulations is considered.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6410	Cardiovascular Regulation	4	PR: GMS 6001, GMS 6440, GMS 6505.	The course involves discussions/advanced readings of current trends in many aspects of the cardiovascular system including cardiac function, vascular biology, and signaling.
GMS	6411	Metabolic Cardiology	3		Examines the interrelationship between metabolic dis-regulation and cardiovascular disease focusing on the interrelationship between diabetes and increased risk for cardiovascular events.
GMS	6418	Core Principles and the Musculoskeletal System	3-7		Emphasized in this course are those aspects of fundamental biochemistry, cell biology, and genetics, the anatomy of the musculoskeletal system, and the development of human behavior that have immediate relevance for clinical medicine.
GMS	6419	Excretory, Endocrine and Reproductive Systems	3-7	PR: GMS 6411.	Emphasis on aspects of the gastrointestinal, endocrine, renal and reproductive systems that have immediate relevance for clinical medicine. Restricted to MSMS students in the IMS concentration.
GMS	6431	Cell Physiology	4		Examine organelles and macromolecular complexes of eukaryotic cells with respect to structural and functional roles in major cellular activities. Emphasizes on experimental basis for factual knowledge in modern cell biology, discusses the validity of current concepts in relation to the regulation of cellular functions. Suitable for first and second year graduate students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6433	Membrane Physiology	4		Advanced readings and discussion of the molecular physiology of excitable membranes.
GMS	6440	Basic Medical Physiology	3	PR: 1 yr. Biology; 1 yr. Chemistry.	The course presents a concise introduction to the study of human physiology from a perspective of the function of various human organ systems with an emphasis on understanding important concepts and their correlation to the practice of clinical medicine.
GMS	6441	Clinical Approaches to Endocrinology	3		The course focuses on the function of the human endocrine system and examines factors influencing hormone function and physiological hormone balance. Clinical approaches to achieve hormone homeostasis are emphasized including hormone replacement therapy.
GMS	6442	Nutrition, Obesity and Metabolism	3		Designed to give a broad understanding and discussion of the links between human nutrition and obesity and the role of intermediary metabolism in weight management.
GMS	6443	Promoting Organizational Wellness	3		Designed to provide an introduction to methods to establish integrative weight loss, obesity and wellness programs at various types of institutions as an integral and effective support component for long term patient compliance in weight management.
GMS	6444	Co-Active Coaching	3		This course explores current developments in the co-active coaching model of behavior modification and how to establish sustainable patient relationships.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6445	Integrative Lifestyle Medicine	3		This course explores the process of patient counseling in lifestyle medicine with topics that include nutritional depletions, the concept of foods as nutrients, vitamins, minerals and herbal therapies and their importance in patient treatments.
GMS	6446	Sports Medicine and Nutrition	3		Focuses on an introduction to the integration of nutritional principles into maintaining and enhancing the health and performance of athletes whether at the collegiate, high school, middle school, or professional level.
GMS	6447	Advanced Male Endocrinology	3		The course focuses on advanced endocrinology in the male patient including male sexuality, late-life hypogonadism, benign prostatic hyperplasia, lower urinary tract symptoms, prostate cancer and hormonal therapies and nutrition and the aging male.
GMS	6448	Advanced Endocrine Therapies	3		The course is designed to provide advanced discussion of female endocrinology and focuses on topics including estrogen metabolism, breast cancer and advanced therapies in dysmenorrhea, vulvodynia, cervical dysplasia, endometriosis, fibrocystic disease.
GMS	6451	Nutrition and Metabolism	3		The course provides a discussion of the experimental analysis of human nutrition and the methods used in detoxification of exogenous toxins together with a critical analysis of the roles of fatty acid and amino acid metabolism in organ homeostasis.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6452	Clinical Nutrition	3		A course that is designed to provide a thorough foundation in all aspects of human nutrition and which emphasizes the close relationship between nutrition and various chronic diseases and includes obesity, weight management and life-cycle nutrition.
GMS	6453	Functional Approach to Diabetes and Coronary Heart	3		The course examines specific aspects of diabetes and coronary heart disease critical to understanding factors that result in degraded cardiovascular tone and the cellular mechanisms that control carbohydrate metabolism and their role in various diseases.
GMS	6454	Functional Medicine and Infectious Disease	3		This course covers advanced human nutrition together with the utilization of various botanical supplements that have been applied to metabolic and nutritional medicine. A functional approach to infectious diseases will also be explored.
GMS	6455	Clinical Intensives in Metabolic and Nutri. Medicine	3		The course focuses on the applied aspects of metabolic and nutritional medicine, including extensive patient contact and mentoring from qualified clinical experts, to provide practical experience to improve the clinical skills of the practitioner.
GMS	6456	Integrated Bariatrics	3		Integrated Bariatrics is designed to provide a detailed understanding of the interplay between the factors that influence weight gain weight loss and obesity.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6457	Integrative Weight Management	3		Detailed examination of the genetic, metabolic, nutritional and environmental factors associated with weight gain and obesity and appropriate therapies used to treat obesity.
GMS	6458	Metabolic Triads	3		Detailed understanding of the important aspects of the various organ and metabolic pathway interrelationships together with various disturbances that can result in a wide variety of pathophysiological diseases.
GMS	6461	Systems Physiology and Pharmacology	5		This course will serve as an introduction into human physiology and pharmacology, emphasizing systemic function. The course is not restricted to majors, and is not repeatable.
GMS	6480	Cardiovascular Disease	3		Provide a detailed understanding of the important physiological, nutritional and genetic aspects that influence the progression of cardiovascular disease coupled with an examination of novel therapeutic regimes.
GMS	6482	Cardiovascular Health	3		The course is designed to provide a detailed understanding of the important aspects of maintaining the integrity of cardiovascular function together with developing appropriate therapies to effectively treat various forms of cardiovascular disease.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6505	Basic Medical Pharmacology	3	PR: 1 yr. Biology; 1 yr. Chemistry.	The course presents a concise introduction to human pharmacology, emphasizing an understanding of the pharmacology principles that govern interaction between drugs, xenobiotics and humans and the relationship to modern medical diagnostics and therapy.
GMS	6511	Current Literature in Pharmacology	1		This course is designed to help students develop skills in the analysis of pharmacological data through discussions of scientific literature and written critiques of departmental seminars. In addition, students will gain knowledge of ongoing research in selected areas of pharmacological interest.
GMS	6512	Ion Channel Pharmacology and Disease	3		This course is designed to familiarize students with the role of ion channels in the genesis of pathophysiological conditions and how these proteins may be targeted for therapeutic intervention.
GMS	6513	Principles of Pharmacology and Therapeutics	3		This course is designed to familiarize students with basic principles of pharmacology and therapeutics. Students will be exposed to classical concepts of pharmacology such as drug-receptor interactions as well as modern techniques such as gene therapy.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6514	Instructional Skills in Pharmacology	1		Students are given practical experience in current teaching techniques including an understanding the purpose of lecture, small groups and evaluation. There is direct faculty supervision and critique following direct classroom experience.
GMS	6541	Pharmacology for Health Professionals	4	CR: Physiology.	The basic principles of pharmacology (pharmacodynamics & pharmacokinetics) will be presented along with major drug classes (analgesics, antibiotics, cardiovascular drugs, central nervous system drugs).
GMS	6550	Introduction to IV Therapies	3		Provides students with a basic understanding of the clinical implications of the application of intravenous therapy to treat various physiological conditions and for advanced nutrition.
GMS	6601	Methods of Electron Microscopy in Medical Research	3	PR: GMS 6608	This lecture and laboratory course deals with theoretical and technical issues regarding the use of the electron microscope in biomedical research.
GMS	6604	Human Embryology	3		This course deals with the structural and functional development of the human from conception to birth.
GMS	6605	Basic Medical Anatomy	3	PR: 1 year Biology; 1 year Chemistry.	The course focuses on a basic introduction to human anatomy and how anatomical concepts relate to the organization of the body at a macroscopic level for each organ and how each of the organs and organ systems function in their role in normal homeostasis.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6608	Advanced Microscopic Anatomy	3-6		This lecture and laboratory course examines the human organism at the microscopic level, focusing on cellular morphology and the histological organization of tissues and organ systems.
GMS	6609	Advanced Human Gross Anatomy	6-12		This lecture and laboratory course focuses on the anatomical relationships between various structures that comprise the human body.
GMS	6610	Advanced Neuroanatomy	3-6		This lecture and laboratory course deals with the structure and function of the human nervous system. The course is organized using both regional and systemic approaches.
GMS	6611	Introduction to Anatomical Research	1-3		This course consists of scheduled rotations through the laboratory of at least three members of the anatomy department faculty.
GMS	6612	Supervised Teaching in Human Anatomy	1-3	PR: GSM 6608, 6609, or 6610	This course deals with the philosophy and mechanics of teaching. The course also involves supervised, practical experience in the various aspects of teaching in both the class-room and laboratory.
GMS	6630	Basic Medical Histology	3	PR: 1 year Biology; 1 year Chemistry.	The course introduces the principles of histology, how they govern the structure and function of cell types and the organization of the tissues involved in organ architecture and function and how staining techniques identify cells at the molecular level.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6671	A Brief History of Medical Sciences	2		This course is composed of five traditional didactic lectures, mini-presentations (10-15 min) by students on landmark advances in Anatomy and Pathology, and a submission of a brief paper based on these presentations.
GMS	6706	Basic Medical Neuroscience	3	PR: 1 year Biology; 1 year Chemistry.	The course focuses on the function of the human nervous system and examines nerve cell biology and how cells are organized into functional systems. Structure/function relationships are emphasized including examples of abnormal cell function in disease.
GMS	6707	Medical Neuroscience	3-7	PR: GMS 6418.	Emphasized in this course are those aspects of the nervous systems that have immediate relevance for clinical medicine. This course is restricted to students enrolled in the Masters of Science with a concentration in interdisciplinary medical sciences.
GMS	6708	Neuroimmunology	3		Designed to provide an in-depth review of topics related to immunology in the nervous system.
GMS	6710	Introduction to Behavioral Medicine	4	PR: GMS 6066.	Behavioral Medicine is the study of factors influencing normal human behavior such as human development, family dynamics and reaction to illness. This course will examine how illness causes changes in behavior and a basic introduction to psychopathology.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6712	Approach Clinical And Behavioral Research Adolescent	3	PR: GENERAL BIOLOGY (1 YEAR), GENERAL CHEMISTRY (1 YEAR).	The course will address quantitative and qualitative research methods to study adolescent hiv/aids. The course is not restricted to majors or nonmajors and is not repeatable for credit.
GMS	6714	Nutrition Counseling	3		Focuses on the important linkage between lifestyle modification and appropriate nutritional activities to support optimum health and explores various motivational approaches to effect nutritional change as part of lifestyle change.
GMS	6715	Lifestyle Coaching	3		Focuses on the important facets of behavior change and how to encourage patients to alter lifestyle habits for a progressive approach to "wellness" using motivational approaches to effect these lifestyle modifications.
GMS	6716	Neuropsychiatry	3		Focuses on an introduction to the field of neuropsychiatry and its role in the evaluation and treatment of various mental disorders associated with the mind and nervous system.
GMS	6735	Neuropharmacology	3		This course will familiarize students with information on the biochemical basis of neural regulatory systems in the brain and the application of the latest approaches to the study of neurotransmitters and drug action in the nervous system.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6751	Integrated Clinical Neurobiology	3		The course introduces the principles of neurology and the role of neurotransmitters in cellular function and communication between cell types and focuses on gastrointestinal health in relationship to the immune system and neurotransmitter function.
GMS	6752	Autoimmune Diseases and Cognitive Function	3		Basic and clinical aspects of memory enhancement and memory loss are described together with the physiological changes that result from various autoimmune diseases and the critical roles of mitochondria in energy metabolism and oxidative stress.
GMS	6753	The Basics of Brain Fitness and Memory Management	3		Provides an in-depth discussion of the central roles that brain fitness and memory management contribute to the function of cognition and the various therapies applicable to treat cognitive decline.
GMS	6754	Memory Loss	3		The course explores the evaluation of memory loss and the differential diagnoses of a variety of disorders with varying degrees of cognitive decline or dementia together with the examination of medications that can be applied as disease-modifying agents.
GMS	6755	How the Brain Learns	3		This course is designed to provide participants with a detailed understanding of the important aspects of brain development and metabolism.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6756	Brain Fitness Therapies	3		This course is designed to provide a detailed understanding of the neuroanatomical underpinnings of disease and important facets of long-term memory impairments and how to develop effective therapies to treat declining memory fidelity and dementia.
GMS	6770	A Metabolic Approach to Pain Management	3		Provides an in-depth discussion of the central role that pain management contributes to the treatment of the chronic pain patient which has been identified as one of the top two reasons patients seek medical care.
GMS	6771	Aging and Neuroscience	3		An overview of the aging central nervous system (CNS): normal structure and function, age-related changes, effects of traumatic brain injury and neurodegenerative diseases, and current and future CNS therapies.
GMS	6772	The Spinal Cord: Development, Pathology and Therapy	3		The course is a series of lectures/discussions by Department and College of Medicine faculty on spinal cord anatomy, normal development, physiology and pathology. Current and future treatments for spinal cord injuries and diseases will also be discussed.
GMS	6773	Stem Cells and Brain Repair	3		This course will provide students with knowledge of basic issues in stem cell research today, with a focus on the treatment of brain injuries and disease. The class format is lectures and discussion of seminal articles in the field.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6840	Cultural and Diversity Issues in Clinical Research	2		Promotes understanding of reasons for including the broadest populations possible in clinical research studies in terms of culture, race, ethnicity, gender, age, literacy, sexual orientation, socioeconomic status. Instructor permission, not repeatable.
GMS	6841	Fundamentals of Translational Research	1		Introduction to the interface between clinical and basic research. How to include basic research hypotheses in the design of clinical studies to advance knowledge in applying basic/clinical research to patient care. Instructor permission. Not repeatable.
GMS	6843	Scientific Communication	2		Course teaches principles to improve scientific communication. Provides practical experience on preparing abstracts, presenting research to professionals/the public and how to publish in peer-reviewed journals. Instructor permission. Not repeatable.
GMS	6844	Principles of Patient-Oriented Research	1		Introduction to the Scholars in Patient-Oriented Research (SPOR) Program. Assists in identifying important clinical and translational research questions, approaches, sources of support and regulatory issues. Instructor permission. Not repeatable.
GMS	6849	Approach Clinical and Behavioral Research Adolescent: Focus on HIV	3	PR: General Biology (1 year), General Chemistry (1 year).	The course will address quantitative and qualitative research methods to study adolescent HIV/AIDS. The course is not restricted to majors or nonmajors and is not repeatable for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6870	Medical Ethics and Humanities: Tools & Foundations	3		Terminology, historical perspectives, ethical principles and dilemmas, and case studies. Examination of aspects of the human journey and various voices or perspectives thorough fiction, essays, history, art, poetry, theater, and film.
GMS	6871	Health Sciences Ethics	2	PR: 1 yr. Biology; 1 yr. Chemistry.	The course examines fundamental ethical issues, such as informed consent, that are important components of the practice of the biomedical sciences and represent important considerations that must be addressed in both the "basic" and "clinical" sciences.
GMS	6873	Biomedical Ethics	3		This course will focus on biomedical ethical issues in business, research, clinical care, and technology development in the life sciences and healthcare industries. There are no restrictions, may be taken for credit (3 credits) once.
GMS	6875	Ethical and Regulatory Aspects of Clinical Research	2		This course addresses ethical and regulatory aspects of clinical research, specifically in relation to biomedical research that is patient-oriented. Instructor permission in required. The course is 2 credits and is not repeatable.
GMS	6890	Medicine and the Arts	3		Study opportunities in metropolitan cities in which students engage in one week of intensive study. (Medical Centers, Museums, Theatre)

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6891	Medicine and the Movies	3		In-depth explorations of the ways in which film presents and illuminates ethical dilemmas/other topics in modern medicine. Students evaluate film stories critically so that exaggerations, distortions, and accuracies can be considered and discussed.
GMS	6902	Bioethics and Medical Humanities Independent Study	3		Develop with faculty advisor an individual project with the goal of in-depth study in the focus area.
GMS	6905	Grantmanship I	1		Introduction to basic skills for writing successful, peer-reviewed external grant proposals, especially to the NIH for patient-oriented research and mentored career development grants, for postdoctoral-level academic health research career development.
GMS	6906	Grantmanship II	1	PR: GMS 6905.	This course is the second in a three-course series to complete instruction in the skills and techniques necessary for writing successful NIH grant proposals whose primary focus is patient-oriented/translational career development or research grants.
GMS	6908	Medical Sciences Independent Study	1-3		Develop, in conjunction with a faculty advisor, an individual project with the goal of completing an in-depth study of a topic directly relevant to the student's program of study in the medical sciences.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6921	Building a Patient-Oriented Research Center	1		Introduction to the important characteristics of academic patient-oriented faculty in a colloquium format to encourage interactions and sharing of information between faculty and students. 2 semesters, 1 credit each semester=2 cr. Instructor permission.
GMS	6933	Case Studies Intellectual Property in Biotechnology	2		Securing intellectual property IP for scientific discoveries is of ultimate importance in a highly competitive economy The course will discuss cases of intellectual property in biotechnology with respect to diagnostics therapeutics and medical devices.
GMS	6940	Supervised Teaching in Molecular Medicine	1-3		To instruct student in teaching methods that are employed in training of medical students; acquaint student with evaluation procedures used to measure academic progress of medical students.
GMS	6941	Bioethics and Medical Humanities Internship	3		Supervised Field experience in related activities/organizations relating to bioethics and/or medical humanities.
GMS	6942	Laboratory Rotations in Biomedical Sciences	1-3		This course is designed to introduce the early-career Ph.D. student to the types of questions and techniques involved in biomedical research. The course can be taken for credit more than once.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
GMS	6943	Biotechnology Internship	3		The course teaches, hands-on, in companies and institutions, how the results of biological, biomedical and bioengineering research are translated into the development of drugs, devices, diagnostics, therapies, services as well as patents and licenses.
GMS	6950	Biomedical Science Communication and Instructional Skills	2		This course will train MS/Ph.D. students to teach & communicate biomedical sciences while pursuing academic careers in universities and in medical/allied health schools, where teaching basic biomedical sciences is required.
GMS	7910	Directed Research	1-19		
GMS	7930	Selected Topics	1-3		
GMS	7939	Graduate Seminar	1		
GMS	7980	Dissertation: Doctoral	2-19		S/U
GRW	5905	Directed Reading	1-4		
GRW	5934	Selected Topics	1-4		Study of an author, movement or theme.
HIM	6017	Legal Aspects of Health Information Management	3	PR: HIM 6118.	This course provides an in-depth discussion of selected law and regulatory issues that are applicable to the management of patient information in health informatics.
HIM	6018	e-Healthcare Ethics	2	PR: HIM 6118.	Examines selected ethical considerations that are significant components of health informatics and electronic medicine and often represent important considerations to be addressed during the delivery of healthcare using e-medicine models.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HIM	6114	Integrated Electronic Medical Records	3		Integrated electronic medical records is designed to provide an overview of the functions, limitations, opportunities and challenges presented by this very rapidly developing branch of information technology in the healthcare environment.
HIM	6118	Introduction to Health Informatics	3		Introduction to Health Informatics is designed to provide a discussion of the various facets of health informatics of interest to the healthcare professional.
HIM	6137	Pharmacy Informatics	3	PR: HIM 6118.	Provides a discussion of the various facets of health informatics of interest to the pharmacy professional, including the collection, storage, retrieval, communication and optimal use of pharmaceutical-related data, information and knowledge.
HIM	6320	Managerial Communication	3		Managerial Communication focuses on the centrality of communication to the delivery and management of healthcare and explores challenges faced by the diverse community of healthcare professions and their interactions.
HIM	6350	e-Medicine Business Models	3		E-Medicine Business Models is designed to highlight the centrality of "business" processes to the practice of medicine and the provision of healthcare."
HIM	6515	Leadership for Health Professionals	3		This course is designed to introduce the various principles of leadership that apply to the activities of health professionals in the conduct and progression of their professional activities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HIM	6664	Healthcare Project Management	3		Healthcare Project Management is designed to provide a discussion of the various facets of initiating, planning, executing, monitoring, closing, and controlling projects in healthcare environments.
HIM	6667	Foundation in Management Information Systems	3		This course is designed to provide a discussion of the various facets of MIS including acquiring, storing and interpreting information of interest to the informaticist and healthcare professional.
HIM	6840	Case Studies in Health Information Management	3	PR: HIM 6118.	This course provides an in-depth discussion of selected case studies in health informatics management and is designed to assist integration of the study of the basic principles and applications of health informatics.
HIM	6908	Health Informatics Independent Study	1-3		Develop, in conjunction with a faculty advisor, an individual project with the goal of completing an in-depth study of a topic directly relevant to the student's program of study in health informatics.
HIM	6930	Selected Topics in Health Informatics	1-3		Topics for this course will be varied and based upon student and faculty interests and programmatic requirements.
HIM	6943	Health Informatics Internship	1-3	PR: HIM 6667.	The course involves the successful completion of an internship experience in an institution that provides insight into one or more aspects of health informatics.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HIS	6112	Analysis of Historical Knowledge	3		A study of history as a form of knowledge with emphasis on explanatory models and the relationships of social science theory to the problems of historical analysis.
HIS	6908	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
HIS	6914	Directed Research	1-19		
HIS	6925	Colloquium in History	4		Readings and discussions organized around an in-depth examination of selected topics within the fields. Emphasis of the course is on the review of historiographical, methodological, and interpretative advances as they affect the topics under study.
HIS	6935	Graduate Reading Seminar in History	4		Introduce Graduate Students to a wide body of scholarship surrounding the topic of the course. Course topics and titles will vary.
HIS	6936	Graduate Writing Seminar in History	2-4		Designed for Master's level students in their final year who are planning to write a Thesis or preparing a writing sample for their Ph.D. applications, and will train students in historical research practices.
HIS	6939	Seminar in History	3		Research in selected topics within the fields selected by the instructor.
HIS	6971	Thesis: Master's	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HIS	7289	Ph.D. Seminar in Comparative Studies	3		Organized around a varying theme or methodology (sustainability, globalization, identity, e.g.), this course examines how historians, sociologists and political scientists employed the methodology throughout various regions and periods.
HIS	7937	Interdisciplinary Ph.D. Pro-Seminar	3		Varying topics in an interdisciplinary manner to introduce incoming Ph.D. students from the joint programs of History, Political Science, and Sociology to the relationships of research between disciplines.
HIS	7938	Ph.D. Capstone Seminar	3	PR: HIS 7289, HIS 7939	Synthesize the training that students have received as Historians and gain a better understanding of the research process as they compose a dissertation prospectus and prepare to write the dissertation.
HIS	7939	Selected Topics for Doctoral Students	3		Research in selected topics within the fields selected by the instructor. Restricted to Ph.D. students, instructor's approval required.
HIS	7980	Ph.D. Dissertation	1-9	PR: HIS 7937, HIS 7289.	Dissertation writing hours for advanced Ph.D. students in the final year of the program.
HSC	5036	Professional Foundations of Health Education	1		The study of the practice of health education in various settings, and selected historical, cultural, philosophical, professional, and ethical issues in the practice of education.
HSC	6055	Survival Analysis	3	PR: PHC 6051, PHC 6701	A study of statistical methods for analyzing censored life time data with applications in health sciences.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HSC	6056	Survey Sampling Methods in Health Sciences	3	PR: PHC 6050, PHC 6701	An interdisciplinary overview of survey techniques with applications in health sciences. Discussions on questionnaire design, measurement error, data collection modes, data management, use of computer software and statistical analysis.
HSC	6552	Community-Based Prevention in Behavioral Health	3		This web-based course is a graduate course in Behavioral Health within the Department of Community and Family Health. It is designed to provide the graduate student with an overview and understanding of the significant issues and trends in community & family behavioral health with an emphasis on behavioral health promotion and disease prevention. Major areas are: 1) overview of promotion and prevention in the United States; 2) systems delivery; 3) programs and Policies; 4) and selected at-risk populations.
HSC	6556	Pathobiology of Human Disease I	3		A basic study of broad pathobiological areas of biological injury, genetic and inborn errors of metabolism, and host-parasite relationships. In addition, the pathobiology of human disease is closely related to general biology in order to provide a strong foundation for the public health student.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HSC	6557	Pathobiology of Human Disease II	3	PR: HSC 6556	Overview of the distinct pathogenesis and etiology and selected acute and chronic diseases and their preventive aspects and impacts on the health care system. Provides basic knowledge of disease and illness patterns and their relationship to health planning.
HSC	7009	Accreditation and Licensure of Health Care Organizations	3		This course will examine and discuss voluntary accreditation and governmental licensure: the principal formal methods of holding health care organizations accountable for the quality of service they provide. Emphasis is on current status and requirements of accrediting and licensing authorities.
HSC	7260	Professional Foundations II: Teaching Methods	1		Prepares public health students for teaching in the college and university setting. Overview of knowledge, strategies, and skills including but not limited to: learning styles, teaching methods, motivational strategies.
HSC	7267	Professional Foundations I: Becoming a Doctoral Student	1		This doctoral seminar is designed to introduce students to important concepts and skills related to doctoral study in Public Health.
HSC	7268	Professional Foundations III: Joining the Academy	2		Prepares the public health doctoral candidate with tools for career building.
HUM	6453	Studies in American Arts and Letters I	3		Study of selected works dealing with the development of cultural patterns on the western frontiers and their effects on aesthetic judgment. From 1790 to 1890.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HUM	6456	Studies in Latin American Arts and Letters	3		Analysis of selected Latin American works of art in their cultural context.
HUM	6465	Studies in American Arts and Letters II	3		Examples from the arts and letters of the U.S.; analyses of their relationships to the concepts of progress and aesthetic judgment. From 1890 to present.
HUM	6475	Studies in Contemporary Arts and Letters	3		Concentration on major artists and recent trends.
HUM	6493	Studies in Classical Arts and Letters	3		Examples from the arts and letters of ancient Greece and their relationships to Aegean myths, religions, and philosophies. Classical Greek influences on later cultures.
HUM	6494	Studies in Medieval Arts and Letters	3		Studies in medieval philosophies, visual arts, music, literature, and architecture and their interrelationships.
HUM	6495	Studies in Renaissance Arts and Letters	3		Masterpieces and major artists of the Renaissance in Continental Europe and England.
HUM	6496	Studies in Enlightenment Arts and Letters	3		Studies in painting, sculpture, music, literature, and architecture in relation to philosophical determinism and political absolutism.
HUM	6497	Studies in Nineteenth Century Arts and Letters	3		Examples from the arts and letters of the nineteenth century, their relationship to philosophical, social, and historical developments, and to the arts and letters of the twentieth century.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HUM	6583	Global Cinema and New Media to 1960	3		Offers an advanced introduction to the first 65 years of international film history. This course explores aesthetic and narrative practices in various film genres, movements, and national cinemas.
HUM	6584	Global Cinema and New Media since 1960	3		Offers an advanced introduction to international film history after 1960. This course explores aesthetic and narrative practices in various film genres, movements, and national cinemas.
HUM	6585	Film and New Media Auteurs	3		Films studied will be organized around a director or a movement. Cinema will be treated as a collaborative medium best approached from an interdisciplinary perspective, integrating visual, narrative, dramatic, and musical analysis. Course repeatable up to 6 times (total of 18 hours).
HUM	6586	Film Theory	3		This course emphasizes methodological issues in the analysis of films as cultural texts. Theoretical approaches include formalism, structuralism, genre theory, feminist theory, psychoanalysis, Marxism, and queer theory.
HUM	6587	National Cinemas	3		Course will explore key films, filmmakers, and cinematic techniques and approaches of selected national cinema styles from around the globe.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HUM	6588	Themes and Genres in Film and New Media	3		Courses in \Themes and Genres\" will focus on specific film styles, genres, and approaches such as horror, avant-garde cinema, and documentary. Students will explore the complex relationships between the formal properties of specific cinematic genres/style."
HUM	6801	Theories and Methods of Cultural Studies	3		This course examines the relationship between the arts and society by introducing various approaches to the study of literature, art, and culture that are of contemporary relevance to graduate students in the liberal arts and humanities.
HUM	6814	Introduction to Graduate Study	3		An introduction to graduate study in humanities and cultural studies. This course introduces incoming graduate students to the research interests of the departmental faculty and the program emphases, including textual analysis and analytical writing.
HUM	6815	Research Seminar	3		A course emphasizing the practical aspects of research in the liberal arts including analyzing primary sources, assembling a bibliography, synthesizing secondary sources, and defining an argument. Topic varies.
HUM	6870	Teaching Practicum in Humanities	1-3		Required for Teaching Assistants of Humanities courses. Workshops, meetings, and individual conferences treat topics related to teaching interdisciplinary courses focusing on the critical study of literature, music, and the arts. Credits do not count toward the MLA degree.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
HUM	6909	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
HUM	6915	Directed Research	1-19		
HUM	6939	Selected Topics in Humanities	1-3		Each topic is a course of study in a subject not covered by a regular course.
HUM	6940	Internship in Humanities	1-3		A structured, out-of-class learning experience providing first-hand, practical training in Humanities-related professional careers in the community.
HUM	6971	Thesis: Masters	2-19		In consultation with an advisor, the student plans, organizes, and writes a thesis on a topic in interdisciplinary arts and ideas.
HUN	5265	Methods of Nutritional Assessment	1		Methodology, skills and tools in measurement of the nutritional status of healthy individuals in community and patients in hospitals. The objectives of nutritional assessment is to prevent malnutrition and promote nutritional health.
HUN	6804	Nutrition and Dietetics Research	3		This course teaches the investigative and analytical methods used in nutrition and dietetics related research. The course reviews research design, sampling techniques, data collection and processing, and interpretation of the results and ethics.
IDH	5956	Honors Project	3		Advanced Honors Project. Repeatable up to 12 hours.
IDH	5975	Honors Thesis	3		Advanced Honors Thesis. Repeatable up to 12 hours.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
IDS	5177	The Atelier, Its Management and History	3		This class will consider the history of printmaking and other forms of collaborative art production through the prism of the atelier and its management.
IDS	5178	Problems in Museum Studies	3		This class is designed as both an academic and theoretical course to introduce students to the museum profession and develop critical thinking skills required to solve problems in the rapidly changing typography of museums. Students will develop managerial and administrative skills as they meet with and discuss the job descriptions of curators, educators, collection managers, marketing professionals, exhibit designers, registrars, and fundraisers.
IDS	5921	Teaching Assistant Training	0		Instruction in course design, including delivery, methodology, policies, and teaching strategies and methods.
IDS	5922	Preparing for College Teaching	0		The focus is on teaching college classes, and doing it well. Best practices in a number of topics related to course design and delivery will be examined. The goal is to prepare you for college teaching.
IDS	6207	Renewable Transportation Fuels	3		The course will analyze the market status and prospects, the production technologies, the economics and finance, and the regulatory and environmental aspects of renewable transportation fuels with a focus on sustainable fuels from biomass and algae.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
IDS	6208	Renewable Power Portfolio	3		The course will analyze the market status and growth potential of the portfolio of renewable power sources, the production technologies, the economics/financing, infrastructure integration and smart grid issues, and regulatory and environmental aspects.
IDS	6215	Seminar in Global Sustainability	3		The purpose of this interdisciplinary seminar in sustainability is to broaden student's knowledge and understanding of global determinants and potential solutions to sustainability issues.
IDS	6233	Concepts and Principles of Sustainability	3		This course discusses basic concepts and principles of sustainable development. It discusses systems thinking and different sustainability perspectives such as local/global and historical/future. Best practices will be analyzed through case studies.
IDS	6234	Systems Thinking: The Key to Sustainability	3		The course develops the critical system thinking skills to solve sustainability challenges. It covers quantitative system analysis techniques including environmental impact assessment, life-cycle assessment, cost-benefit analysis and decision analysis.
IDS	6235	Economics and Finance for Sustainability	3		The course provides sustainability practitioners an overview of how economics and finance enhance sustainability. The emphasis is on environmental economics and innovative finance; students learn how scarce natural resources can be optimally allocated.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
IDS	6236	Sustainable Tourism Development: Principles & Practices	3		Focuses on environmentally and socially responsible tourism strategies and innovations. Emphasizes establishing policies and management plans to identify and reduce the environmental impact created by tourism facilities and services.
IDS	6237	Ecotourism & Sustainable Tourism Mgmt Coastal/Marine Habitat	3		Introduction to environmental management from technical and non-technical perspectives. The major topics covered will be water and air quality, environmental sustainability, collaboration, and building consensus.
IDS	6238	Communicating the Value of Sustainability	3		Provides 1) an understanding of the challenges of communicating about sustainability; 2) a theoretical framework for analyzing these challenges; and 3) practice at applying that knowledge to their writing.
IDS	6245	Sustainable Water Resource Management: Doing More with Less	3		This course provides an overview of the challenges and strategies for sustainable water resource management for coordinated planning, development and management of water resources. It will discuss technical, legal and institutional frameworks.
IDS	6246	Water Sensitive Urban Design for Sustainable Communities	3		Comprehensive introduction to Water Sensitive Urban Design an interdisciplinary approach that encompasses urban water management, management of ecosystem services and urban/landscape design.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
IDS	6908	Directed Reading/Directed Independent Study	1-3		Individual study by students under the direction of a faculty member. Topics vary and are usually selected on an individual basis.
IDS	6918	Directed Independent Research	1-3		Research projects or certain aspects of research carried out by student(s) under the supervision of an instructor intended to help students acquire skills in applying research principles and obtaining practice in rigorous data collection and research.
IDS	6938	Special Topics/Seminars	1-6		Special topics related to sustainability.
IDS	6946	Sustainability Internship	6		The Sustainability Internship allows students to develop and practice skills related to global sustainability in developed and/or developing countries.
IDS	6948	Gallery and Museum Internship	2-6		The 6 credit hours internship program conducted in various area museums is a professional program designed to give students the opportunity to engage in a comprehensive study of the contemporary museum.
IDS	6951	Sustainability Project	3		This is the final project for the Master of Arts in Global Sustainability students.
INP	6057	Industrial Psychology	3		An introduction to the major areas of Industrial-Organization Psychology, including topics on selection and placement, training, criterion development and performance appraisal, job satisfaction and motivation, and organizational theory and structure.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
INP	6935	Topics in Industrial-Organizational Psychology	3		Courses on topics such as industrial psychology, evaluation of performance in industry, and human factors.
INP	7937	Graduate Seminar in Industrial-Organizational Psychology	1-3		Seminars on topics, such as industrial psychology, evaluation of performance in industry, and human factors.
INR	5012	Globalization	3		Examination of globalization's impact on international relations, including literature from political science, anthropology, geography, sociology, and economics that impacts the study of the nation-state system and power. Open to majors and non-majors.
INR	5086	Issues in International Relations	3		Explores specific topics and provides the student with an opportunity for in-depth study of historical and contemporary problems in international politics.
INR	6007	Seminar in International Relations	3		Advanced study of international relations, including survey of basic literature, analysis of numerous theoretical and methodological approaches, and analysis of major issues.
INR	6036	Seminar in International Political Economy	3		Advanced study of the development and politics of the international economic system focusing on theoretical and empirical analysis of cooperation and conflict in trade, aid, and investment relationships.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
INR	6107	American Foreign Policy	3		Objectives, formulation, and execution of foreign policy; critical issues and problems confronting the United States. Study of various conceptual, methodological, and theoretical approaches.
INR	6690	Research Seminar in Globalization	3	PR: INR 5012.	Examination and presentation of research from multiple disciplines that address a wide-range of issues related to globalization, including those that concern governance and human development. Seminar format. Open to majors and non-majors.
ISM	6021	Management Information Systems	2		An introduction to the fundamentals of information systems including an examination of information technology terminology and concepts, alternative methodologies for developing information systems, and the application and impact of information technology in contemporary organizations.
ISM	6056	Web Application Development	3		The course introduces students to developing web-based computer applications. The class also reinforces object-oriented concepts in computer programming.
ISM	6123	Systems Analysis and Design	3	PR: ISM 6021 or equiv.	This course includes the foundations and methodologies for analysis of existing systems; the design, development, and implementation of new systems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ISM	6124	Advanced Systems Analysis and Design	3		This course covers advanced topics of information systems development. Students learn to manage and perform activities throughout the information systems development life cycle. State-of-the-art system development processes, methods, and tools are presented.
ISM	6136	Data Mining	3		This course is designed for the MS in Information Systems graduate student and interested MBA students. The course covers the rapidly evolving data mining techniques that are becoming critical for customer relationship management and other applications
ISM	6137	Statistical Data Mining	3		Development of statistical concepts and methods for mining large business databases.
ISM	6145	Seminar on Software Testing	3	PR: ISM 6124	This course will survey and analyze the best practices in industrial testing groups and explore new ideas for improving the testing process. Students gain practical experience with both functional (black box) and structural (clear box) testing methods.
ISM	6155	Enterprise Information Systems Management	3	PR: ISM 6124, ISM 6218.	Development of enterprise transaction processing applications using procedural or object oriented programming languages, relational database management, database sharing, CASE methodology and project management techniques. Students will work in groups on semester projects.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ISM	6156	Enterprise Resource Planning & Business Process Management	3		This course introduces students to business processes management and enterprise resource planning systems, and their use and implementation in key functional areas of today's global businesses.
ISM	6208	Data Warehousing	3	PR: ISM 6218, or two relational database courses	This course is designed for the MS graduate student and interested MBA students. The course covers the rapidly emerging data warehousing and data mining technologies that are likely to play a strategic role in business organizations.
ISM	6217	Database Administration	3		Advanced principles of Database Administration. Database Organization Models. Disaster Planning for Database Files.
ISM	6218	Advanced Database Management	3	PR: ISM 6217 or ISM 4212 or equivalent.	This course covers core business database technologies. Topics include database design, transaction processing, parallelism, and distributed databases. Emerging business intelligence technologies are covered. A database system is used for projects.
ISM	6225	Distributed Information Systems	3		This course will focus on telecommunications, networks, and distributed applications. All forms of communication will be covered. Students will gain exposure to network management systems, local area networks (LANs), and global networks, such as Internet.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ISM	6266	Software Architecture	3	PR: ISM 6124	Software architecture has emerged as an explicit field of study for software engineering practitioners and researchers. In this course, we will investigate the growing literature on software architecture and understand the application of software concepts to the development of information systems.
ISM	6305	Managing the Information System Function	3	PR: ISM 6021 or equiv.	An advanced study of the management of IT resources including managerial decision making and the impact of IT on business processes and society. Society issues include those such as intellectual property rights, privacy, and ethics.
ISM	6316	Project Management	3	PR: ISM 6021.	The objective of this course is to become familiar with fundamental issues for managing project management and to develop an understanding of the overall processes of dealing with competing demands in information technology environments.
ISM	6328	Information Security & Risk Management	3		Introduction of frameworks to assess IT risk and implement IT general controls; development of technical skills to secure computer networks.
ISM	6436	Operations & Supply Chain Processes	3	PR: Basic Statistics.	Operations Processes is an overview of several aspects of Operations management, a discipline in business concerned with managing the transformation of inputs into outputs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ISM	6442	International Aspects of Information Science	3	PR: ISM 6021	Role of managers and information technology professionals in global business organizations and in deploying information systems to enable global operations.
ISM	6485	Electronic Commerce	3	PR: ISM 6021	This course is geared to a broad audience and will introduce information technology enablers that facilitate electronic commerce. The lectures, discussions and class presentations will also serve to understand the business landscape and business models.
ISM	6905	Independent Study	1-6		Independent Study as directed by designated faculty.
ISM	6930	Selected Topics in MIS	1-6		Selected topics in MIS.
ISM	6971	Thesis: Master's	2-6		Students may select the thesis option in order to complete the Master of Science in the Management Information Systems (MS/MIS) program. Faculty permission is required to register for MS Thesis credit. Six credits are the maximum number of credits allowed for MS Thesis credit.
ISM	7406	Business Analytics	3		A research course for executives that presents an overview of data analytics techniques as well as examples of analytics research in business. A variety of analytics technique including structured data, unstructured data and big data will be discussed.
ISM	7905	Independent Study	1-6		Independent study in which student must have a contract with an instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ISM	7910	MIS Research Seminar I	3		Introduction to the MIS literature as it has developed over the past 30 years. Primary focus on the research literature. Other important writings will also be covered.
ISM	7911	MIS Research Seminar II	3	PR: ISM7910 ISM 7910.	An examination of recently published empirical research in MIS and related disciplines, focusing on the development of a sound theoretical foundation for hypotheses, selection of appropriate design and statistical techniques, and evaluation of the results.
ISM	7912	Seminar on Behavioral IS Research	3	PR: ISM 7910	This course is team taught by IS/DS faculty with research interests in behavioral and organizational fields. The seminar structure of the course allows flexibility of current research topics and opportunities for significant student faculty interaction. Students will achieve a broad understanding of the research areas and methods associated with behavioral and organizational IS research.
ISM	7930	Selected Topics in MIS	1-3		
ISM	7931	Directed Research	1-12		Directed research under faculty supervision.
ISM	7939	Executive Issues in MIS	2-4		A research seminar for executives that explores contemporary issues in Management Information Systems. The specific theme of the seminar will be determined through consultations between the instructor and the students prior to the first class meeting.
ISM	7980	Dissertation	2-21		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ISS	6184	Development Ethics: Principles and Practice	3		Overviews the ethical problems of development, as well as presents the ways in which the problems of development may be investigated. Students are taught qualitative methodological techniques and apply these techniques in fieldwork projects. Open to all graduate students.
ISS	6900	Directed Reading	1-3		A supervised program of intensive reading of interdisciplinary materials of specific interest.
ISS	6910	Directed Research	1-19		A supervised program of intensive reading of interdisciplinary materials of specific interest.
ITW	6910	Directed Research	1-19		Selected topics in Italian literature.
JOU	5105	Newswriting and Editing	3		Introduction to the basics of gathering, writing, and editing the news, with an emphasis on practical assignments done under professional conditions and standards. Discussions, readings emphasize the larger context and implications of news.
JOU	5116	Explorations In Newswriting	3		Listed in catalog as jou 5305. Students work to develop writing styles, reporting on and creating stories about significant issues, events, and ideas. The course explores the notion that narrative style journalism can be accurate, thorough, fair, and compelling, effectively bringing readers into stories and giving them a bigger stake in the news. The focus is ongoing beyond traditional practices of reporting and writing news stories.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
JOU	5305	Explorations in Newswriting	3		Students work to develop writing styles, reporting on and creating stories about significant issues, events, and ideas. The course explores the notion that narrative-style journalism can be accurate, thorough, fair, and compelling, effectively bringing readers into stories and giving them a bigger stake in the news. The focus is on-going beyond traditional practices of reporting and writing news stories.
JOU	5344	Multimedia Journalism	3		The course is designed to bring components of print, web and broadcast writing together to develop skills for and understanding of the multimedia environment. It is restricted to majors and not repeatable for credit.
JOU	6107	News Coverage of Public Life	3		Problems and methods of reporting urban affairs, including municipal government, and politics: city, county, and state. Research/analyses of current issues.
JOU	6122	Reporting: Methods and Perspectives	3		Instruction and practice in computer-assisted reporting, social science research, interviewing, data-document research, observational techniques, and other methods of news gathering.
JOU	6191	Seminar: Contemporary Issues in Journalism	3		A study of the role of the free press in a democratic society and its efforts to fulfill its social and ethical responsibilities by analyses and discussions of the problems which face the reporter, the editor, and the publisher.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
JOU	6349	Advanced Multimedia Journalism	3	PR: JOU 5342.	Students learn what it means to work in a multimedia environment and will create a journalism project across multiple media platforms, including broadcast, print and the web. They will also explore the theoretical assumptions of the field.
JOU	6501	Media Management	3		The course provides students with a foundation in understanding the financial and economic environment of the mass media and the process of managing mass media enterprises in the new multimedia environment. It is not restricted nor repeatable for credit.
LAE	5462	Young Adult and World Literature for New Teachers	3		A study of the types of literature read by adolescents, including literature representative of other cultures, with emphasis upon the criteria for the choice of good books and knowledge of available books and teaching materials.
LAE	5862	Classroom Communication in English Education	3		Identifies characteristics of classroom communication environment; offers insights, info, instructional strategies designed to help you become effective classroom communication managers. Emphasis on role of media & non-print texts in students' lives.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAE	5932	Selected Topics in the Teaching of English	3		Investigation of topics which are of special interest to the student and are related to the teaching of English in the secondary school. Topics will be selected by the student in accordance with his particular goals and will be approved by the student's graduate advisor.
LAE	6315	Composing Texts: Disciplinary Practices for Writers & Writing	3		Examine writing as a multimodal, communicative practice embedded in social, cultural, and disciplinary contexts. Demonstrate strategies to facilitate K-12 students' writing development as well as develop leadership skills to support writing teachers.
LAE	6317	Teaching Composition in Elem Classroom: Research into Practice	3	PR: LAE 6427	Identify traits of children's written, visual, and media-based products, assess & support children's developmental progression of writing processes or strategies, & demonstrate instructional strategies for teaching multimodal composing.
LAE	6325	Methods of Teaching Middle School Language Arts	4		Balanced literacy methods for integrating reading, writing, speaking, listening, viewing, and critical thinking activities into a literature based program for middle school students. Note: This course has a field component of 36 hours.
LAE	6339	Methods of Teaching Secondary English Language Arts	4		Balanced literacy methods for integrating reading, writing, speaking, listening, viewing, and critical thinking activities into a literature-based program for secondary school students. Note: This course has a field component of 36 hours.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAE	6345	Teaching Written Composition	3		Techniques for motivating, guiding, correcting, and evaluating student writing.
LAE	6366	New Perspectives on the Teaching of Young Adult Literature in Middle & Secondary Schools	3		The primary purpose of this course is to improve the quality of language arts instruction at the middle and secondary levels. To achieve this basic purpose, we will focus chiefly on adolescents' perception of and responses to literature and the implications for organization and presentation of literature curricula.
LAE	6374	Practice in Teaching Grammar	3		Demonstrates techniques incorporating instruction of essential elements of English grammar/mechanics into composition courses. Pedagogy is essential for teachers in secondary schools, community colleges, or advanced composition at the university level.
LAE	6375	Contemporary Composition Studies	3		Examines the important research and theory in contemporary position pedagogy.
LAE	6389	Practice in Teaching Literature	1-3		A course that allows the prospective college English teacher to experiment with teaching techniques that will determine the most effective ways to teach literature and teach college English teachers the variety and importance of literary techniques and their relevance to various subject matters.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAE	6415	Literature And The Learner	3		Nature, scope, and uses of literature for instructional, information, and recreational purposes and implications of current theory, significant research, and issues in literature study as they relate to the learner.
LAE	6427	Children's Literature: Teaching Literature Appreciation	3		Building on an appreciation for children's literature students learn how to select quality literature for children and demonstrate instructional strategies for developing children's engagement with literary texts, etc.
LAE	6467	World Literature for Teachers	3		World literature encompasses more than Western European literature. This course is designed to emphasize, but is not limited to, the study of Eastern literature. The course is for English Education majors only.
LAE	6616	Trends in Language Arts Instruction	3	PR: LAE 4314 or equivalent	Significant concepts, emerging trends, research, and instructional techniques for implementation and utilization of language arts in all areas of the curriculum.
LAE	6637	Current Trends in Secondary English Education	3	PR: LAE 4335 or LAE 4642	Curricular patterns and instructional practices in secondary English.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAE	6644	Current Teaching of the English Language and the Study of Traditional Grammar	3		Applications of recent techniques of language study to classroom teaching of English, especially in relation to the teaching of grammar. Presents an interactive approach to grammar instruction in which students learn the basic elements of English grammar and engaging classroom activities for teaching grammar in the schools. Fulfills the grammar course requirement for teacher certification in English.
LAE	6738	Teaching Reading in English Curriculum	3		Course is to improve the quality of reading instruction in mid & sec English classes through the study of the reading process, research, & evaluation related to sec reading, understand how research impacts instruction, process of educational reform.
LAE	6749	Composition and the Arts in Literacy Education	3		Students will critically examine research on composition and the arts. Students will evaluate instructional practices and design integrated language arts programs. Open to non-majors. Not repeatable for credit.
LAE	6793	Professional Leadership and Research in the Teaching of Writing	3	CR: LAE 6923.	Develop professional leadership of teachers of writing, demonstrate research-based, classroom-based, writing strategies to their peers by linking research directly to instruction. Form support network for Teacher Consultants of the National Writing Proj.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAE	6861	American and British Literature with Technology	3		A study of five sections of literature: 1) British Literature before Shakespeare, 2) British Literature after Shakespeare to 1740, 3) British Literature 1740-1900, 4) American Literature before 1900, and 5) Twentieth Century British and American Literature (1890 to the Present) while developing an individual's skill with technology.
LAE	6906	Independent Study in English Education	1-6		This course permits a student to explore a topic of interest in depth under the direction and supervision of a faculty member.
LAE	6923	Teachers Writing: A Writing Workshop Approach to the Teaching of Writing	3	CR: LAE 6792.	Engage teachers as writers, knowing the best teachers of writing must write. Teachers write together, critically examine new writing strategies, establish a professional support network to serve as foundation for enhancement of their teaching of writing.
LAE	6947	Internship in Secondary Education for English	6		Students will work with a cooperating teacher and university supervisor to complete their internship requirements in a classroom setting assigned by the university.
LAE	6971	Thesis: Masters/Educational Specialist	2-19		None.
LAE	7376	Problems in Advanced English Instruction of Composition	3		Apprenticed, closely supervised study of and practice in teaching of college and university advanced composition. Student may elect to work with nonfiction, fiction, or poetry.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAE	7390	Problems in Advanced English Instruction and Scholarly Research	3		This course provides closely supervised training in upper-level college English instruction and experience with professional research. Experience in lecture, seminar discussion, examinations, evaluation, conferences, directing undergraduate research, course development, use of secondary materials, publication procedure, and collation.
LAE	7717	Theories And Patterns Of Advanced Language Arts Instruction	3	PR: LAE 6616 or equiv.	New research findings and theories relating to language patterns and contemporary programs for teaching language arts.
LAE	7718	Linguistic Foundations in Literacy	3		Examines the historical, theoretical, and applied aspects of the relationships between linguistics and literacy.
LAE	7735	Advanced Seminar in English Education	3-15		Doctoral seminar explores theories, perspectives and research related to the study of the English Language Arts. Topics vary by semester. Doctoral standing only.
LAE	7739	The Education of English Teachers	3		Introduces & informs adv grad students about the conceptions of curriculum development related to the preparation of Eng teachers. Intended for those interested in careers in teacher educ or expect to influence the policies & practices of teacher educ.
LAE	7745	Literary Theory and Research in Children's Literature	3		Critical examination of literary theories that inform the interpretation, criticism, and reading of literature written for school-aged readers and to survey current research in the field of literature in education.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAE	7747	Literature Program Design	3	PR: EDF 6481, LAE 6415, or LAE 6336	Investigation and analysis of the research in literature instruction and the application of the findings to the development of literature programs.
LAE	7794	Survey of Research on Writing Development and Instruction	3		The purpose of this course is to survey, discuss, analyze, and critique seminal and current research on writing development and instruction in the context of school. Students will also engage in research on writing development or instruction.
LAE	7795	Research and Theory in the teaching of Writing	3		An in-depth study of the research and theory in the teaching of writing. Emphasis is on the historical perspectives, current theory, and specific research in the process writing movement.
LAE	7868	Symbolic Processes of Multimedia Literacies	3		Students will critically examine research in multimedia, multi-modal literacies and investigate the interplay among symbolic processes used to produce and consume media-based literacies. Open to non-majors. Not repeatable for credit.
LAE	7910	Directed Research in English Education	1-19		This course permits a doctoral student to conduct advanced research and to pursue specific areas of interest with a faculty member as supervisor. A contract is required with the faculty member. S/U.
LAE	7980	Dissertation	2-30		Rpt. S/U

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LAS	6913	Independent Study and Research in Latin American	1-9		This course will provide graduate students with an opportunity to engage in research and/or study abroad in Latin America & the Caribbean, to earn credits towards their degree. Open to LAC majors and non majors. Repeatable up to 9 credits.
LAS	6936	Seminar in Latin American Studies I	3		This seminar introduces students to the general study of the region and peoples of Latin America and their emigrant populations in the United States. Repeatable as topic varies.
LAS	6971	Thesis in Latin America and Caribbean	1-12		This course will allow graduate students to earn credits while working on a thesis that is focused in Latin America & the Caribbean. Open to all graduate majors. Repeatable.
LIN	5700	Applied Linguistics	3		Analysis of the phonological, morphological, and syntactic features of English as a basis for linguistic application to problems of English language acquisition by non-native speakers.
LIN	6081	Introduction to Graduate Study in Linguistics	3		An introduction to the aims and methodologies of linguistics as a graduate discipline: The field of linguistics, its subdisciplines, and its relationship to adjacent arts and sciences; bibliographical resources; methods of research and research writing; and a brief survey of the historical development of linguistics and current issues in the field.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIN	6601	Sociolinguistics	3		Detailed analysis of the phenomenon of language variation with emphasis upon the research methodology of sociolinguistics and the implications of its findings for current linguistic theory.
LIN	6675	The Grammatical Structure of American English	3	PR: LIN 5700 or EQ.	Analysis and description of major morphological and syntactic structures of American English, with emphasis upon applied linguistics.
LIN	6720	Second Language Acquisition	3	PR: LIN 6715 or EQ.	Neurolinguistic, psycholinguistic, and sociolinguistic bases of second language acquisition by both children and adults.
LIN	6722	Writing Processes in Second Languages Acquisition	3	PR: LIN 6081, TSL5371 TSL 5371.	A survey of current theory and research in second language writing development and instruction, with emphasis upon second language writing in academic settings. May be taken as an elective by students in the Ph.D. program in Second Language Acquisition and Instructional Technology or the M.A. program in Applied Linguistics.
LIN	6726	Individual Differences in Second Language Acquisition	3		This course covers a variety of topics about individual differences in SLA including, but not limited to, motivation, anxiety, tolerance of ambiguity, and language aptitude.
LIN	6748	Contrastive Analysis	3		Comparison and contrast of the structures of American English with corresponding structures in selected foreign languages. EA and IA added for contrast with CA.
LIN	6908	Independent Study	1-19		Independent study in which the student must have a contract with an instructor.
LIN	6910	Directed Research	1-10		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIN	6932	Selected Topics	1-4		Content will depend upon instructor's interests and students' needs. Such topics and neurolinguistics, bilingualism, and discourse analysis may be taught.
LIN	7635	Professional Development	3		This course provides professional development opportunities in applied linguistics. Students will be mentored by a faculty member in an area of professional development determined by the student and faculty member.
LIN	7638	Qualitative Research Methods in Applied Linguistics	3		A comprehensive overview of four common approaches to conducting qualitative research in applied linguistics. Course focuses on both theoretical foundations and methodology.
LIN	7639	Quantitative Methods in Applied Linguistics	3		This course is intended to help you develop as applied linguistics scholars with regards to quantitative analyses using SPSS.
LIN	7931	Advanced Seminar in Applied Linguistics	3		This is an applied linguistics seminar course. By the end of the semester, you will have at your disposal the foundation of applied linguistics theory as well as in-depth knowledge of several applied linguistics topics.
LIS	5020	Foundations of Library and Information Science	3		Introduction to the study of library and information science, history; organization; specialized literature; outstanding leaders; current trends, issues, and problems; the place of the information agency in society with its contributions to that society.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	5268	Microcomputer Applications Library and Information Centers	3		Microcomputer hardware and software for libraries and their application in library/information settings. Projects using major applications for budgets, databases, and telecommunications are undertaken.
LIS	5315	Instructional Graphics	3		Theoretical aspects, planning and production of instructional graphic material. The theory of graphic communications. Interpreting needs for instructional materials appropriate for given behavioral objectives.
LIS	5333	TV in Schools and Libraries	3		Small format video tape recordings and the utilization of open and closed broadcasts in schools and libraries.
LIS	5418	Health Informatics for Medical Librarians	3	CR: LIS 6475.; PR: LIS 5020 or LIS 6620	Introduction to the interdisciplinary field of medical informatics highlighting the underlying theories, and methods related to health information technology in support of decision-making, problem-solving, and other health information problems.
LIS	5566	Multicultural Literature for Children and Young Adults	3		Students will select and evaluate multicultural and special population materials for effective use in youth services and programs in public and school libraries.
LIS	5937	Selected Topics in Library Studies	1-4		Covers a variety of topics in such areas as collection development, reference services, technical services, and administration.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6026	Introduction to Archives and Records Management	3	PR: LIS 6711	This introductory course teaches students the basic theories and methodologies of archives and records management. It serves as a foundation for other more advanced archival management courses, such as Web Archiving and Digital Curation.
LIS	6110	History of Libraries	3		Development of libraries as found from the earliest records to the great libraries of modern times, and the library as a social institution.
LIS	6111	History of Children's Literature	3		Historical bibliographical survey of imaginative and information literature for children.
LIS	6260	Information Science in Librarianship	3		Historical overview of the emergence of information science as a discipline. The fundamental concepts of information retrieval systems and subsystems, related information technologies, including indexing and abstracting, and their applications to the field of librarianship.
LIS	6271	Research Methods in Library and Information Science	3	PR: LIS 5020, LIS 6603, and LIS 6725 or LIS 6735.	Overview of present status of research in library and information science; introduction to research methods and their application to librarianship; designed to prepare students to evaluate and plan research studies relating to library and information science.
LIS	6303	Preparing Instructional Media	3		Fundamentals of preparing and using audiovisuals as they relate to the communication process.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6316	Visualization of Knowledge	3	PR: LIS 6260	This course covers the perceptual basis of information visualization, major visualization methods, information retrieval system utilizing information visualization, and future trends and issues of information visualization in digital libraries.
LIS	6402	Advanced Library Administration	3		Applications of staff management principles to library situations. Includes staff roles in current and future operations, application of library performance measures to determine staff effectiveness; preparation of staff manuals; problems of special classes of library workers, such as volunteers and students.
LIS	6409	Introduction to Library Administration	3		Behavioral approach to libraries as organizations; administrative principles, theories, and problems of all types of libraries; methods of administration; use of case studies, role plays, and in-basket exercises.
LIS	6432	Seminar in Academic Libraries	3	PR: LIS 6409	Identification of problems and critical examination of methods in administrative areas of technical, student and teaching staff services, fiscal and legal responsibilities, staff organization and supervision in academic libraries.
LIS	6445	Seminar in Public Libraries	3	PR: LIS 6409	Critical examination of public and institutional library administration, services, resources, and facilities at the municipal, county, and regional levels. Role of state and federal governments in library development.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6455	Organization and Administration of the School Media Center	3	PR: LIS 6409	Media quarters, facilities, collections, equipment, and services. Principles of organization and administration of media programs in elementary and secondary schools. Field trips to area media centers required.
LIS	6463	Library Networks and Systems	3		Development of library networks at the local, state, regional, and national levels with consideration of organization, administration, services, funding, and legislation.
LIS	6472	Seminar in Special Libraries	3	PR: LIS 6409	Identification of problems and critical examination of methods in administrative areas of technical and special service clientele; fiscal and legal responsibilities, staff organization, and services in special libraries.
LIS	6473	Law Librarianship	3	PR: LIS 6260, LIS 6409, LIS 6603, LIS 6735	All aspects of law librarianship, including administration, acquisition, organization, and use of information resources for persons in the law fields. Field trip may be required.
LIS	6475	Health Sciences Librarianship	3	PR: LIS 6260, LIS 6409, LIS 6603, LIS 6735	All aspects of health science librarianship, including administration, acquisition, organization, and use of information resources for persons in the health fields such as physicians, medical students, nursing students, allied health personnel and students, and researchers.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6511	Collection Development and Maintenance	3	CPR: LIS 6271.	Developmental approach to building library collections of both print and non-print materials. Emphasis upon evaluation, selection, and acquisition of library materials as they uphold the objectives of the institutions for which they are selected and acquired.
LIS	6514	Digital Libraries	3	PR: LIS 6260, LIS 6603	Survey of the field of digital libraries with an emphasis on the interplay of people, organizations, and technology. Experience in either planning or developing a digital library site.
LIS	6515	Web Archiving	3	PR: LIS 6711.	Introduces the background knowledge about the Web and web archiving related technical standards, and cover the whole process of web archiving, including selection, acquisition, organization and description, storage, access and preservation.
LIS	6523	Adult Services In Libraries	3		Traditional and innovative services for adults in public and other types of libraries, including those for special groups, such as the aging, handicapped and institutionalized.
LIS	6528	Storytelling	3	PR: LIS 6585	Building storytelling programs for school and public libraries or other educational institutions. Analysis of historical aspects, materials suitable for use and audience reaction.
LIS	6542	The Curriculum and Instructional Technology	3		Effective utilization of instructional materials as they relate to specific areas of curriculum in elementary and high school programs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6564	Materials For Children	3		Examination of materials for all institutions in which children are served: school media centers, public libraries, kindergartens, etc. Stress on selection aids, reviewing techniques, utilizations.
LIS	6565	Books and Related Materials for Young Adults	3		Young adult materials for use in secondary school libraries, young adult sections of public libraries, and other institutions serving youth. Equal emphasis upon (1) selection principles and bibliographical sources, as well as upon (2) utilization in terms of service to the young adult.
LIS	6603	Basic Information Sources and Services	3		An examination of the basic sources of information in the general library; of bibliographical control of all communication media, with emphasis on those tools of most value to general reference services.
LIS	6609C	Advanced Information Retrieval	3	PR: LIS 6260, LIS 6603	Principles of online searching and characteristics of machine-readable bibliographic data bases. Includes two credit hours of laboratory providing hands-on research experience.
LIS	6610	Information Sources and Services in the Humanities	3	PR: LIS 6603	Consideration of the bibliographical and reference materials in the humanities with training and practice in their use for solving problems in the reference service.
LIS	6620	Information Sources and Services in the Social Sciences	3	PR: LIS 6603	Consideration of the bibliographical and reference materials in the social sciences with training and practice in their use for solving problems in reference service.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6624	Information Sources and Services in Business and Law	3	PR: LIS 6603	Consideration of representative reference sources in business and law with training and practice in their use for solving information problems in academic, public, and special libraries.
LIS	6630	Information Sources and Services in Science and Technology	3	PR: LIS 6603	Study of representative reference sources in pure and applied sciences with equal attention given to typical problems encountered in scientific and technological reference service.
LIS	6661	Government Documents	3		The nature of state, federal, United Nations, and international documents, their reference and research value; the techniques of acquisition, organization, and reference use.
LIS	6670	Advanced Cyber Intelligence	3	PR: LIS 6709	This course builds on the foundations of Cyber Intelligence (LIS 6703) and focuses on applying intelligence analytic methods to plan, collect, process, analyze, produce and disseminate cyber intelligence products.
LIS	6700	Information Strategy and Decision-Making	3		This course builds on the idea that understanding strategy is a foundation for making information meaningful. Student will learn strategic concepts, tools, and tradecraft and how to apply them to improve decision making.
LIS	6702	Advanced Intelligence Analytic Methods	3		This course is designed to help the student select and apply complex, structured techniques and methods used to support intelligence analysis.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6703	Core Concepts in Intelligence	3		Introduces intelligence theory, explores the organization and functions of the U.S. Intelligence Community, its interaction with national security policymakers, key issues about its workings, and the challenges it faces in defining its future role.
LIS	6709	Cyber Intelligence	3		This course reviews the main actors, targets, threats, and other troublesome activities in cyberspace. It builds a foundation for understanding how cyber intelligence and counterintelligence can support enterprise and national cybersecurity.
LIS	6711	Organization of Knowledge I	3		Principles of the organization of knowledge emphasizing descriptive cataloging, including the MARC format, the use of LCSH and the Library of Congress classification, and searching the OCLC Online Union Catalog.
LIS	6712	Organization of Knowledge II	3	PR: LIS 6711.	Introduction to the practice in using selected schedules of Library of Congress Classification System and the Library of Congress Subject Heading List; changing policies and procedures in cataloging and an introduction to the use of the MARC format for inputting cataloging data into machine readable files.
LIS	6724	Classification and Cataloging of Non-Book Materials	3	PR: LIS 6735	Principles and practices in cataloging and organizing non-book materials.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIS	6726C	Indexing and Abstracting	3	PR: LIS 6711 or LIS 6735	Principles and procedures for indexing and abstracting products of human knowledge in various formats, including vocabulary control, thesaurus construction, classification, and coding in manual, automated, and intelligent systems.
LIS	6735	Technical Services in Small Libraries	3		Covers aspects of technical services including acquisitions, cataloging, and circulation systems as they relate to school media centers, small public libraries, and information centers. Automation is emphasized in all aspects of the course.
LIS	6773	Digital Curation	3	PR: LIS 6711, LIS 5937.	Covers the management of current and archival electronic records, including the creation and implementation of electronic record-keeping systems, the appraisal, processing and preservation of electronic records.
LIS	6906	Independent Study	1-4		
LIS	6946	Supervised Field Work	3		Supervised experience in an approved cooperating library. Includes practice work, seminar sessions and individual conferences, a progress report, and a final report on the field experience.
LIS	6949	Practicum in Archives and Special Collections	2-6	CR: LIS 6603, LIS 6409, LIS 6271, LIS 6511.; PR: LIS 5937, LIS 6711, LIS 6724.	Students gain hands-on practice in processing, cataloging and digitizing archives, rare books and other kinds of special collections. Students will be supervised by an archivist/ special collections librarian and a faculty member. Permission required.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
LIT	6096	Studies in Contemporary Literature	3		Drama, poetry, fiction, and literary criticism; authors to be studied include Ionesco, Thomas, Miller, T. Williams, Beckett, Camus, Burgess, Morrison, and Walker.
LIT	6105	Studies in Continental Literature	3		General areas include the Renaissance, the Enlightenment, the Novel in Europe, the Romantic Movement on the Continent, and Classical Comedy.
LIT	6236	Studies in Postcolonial Literatures	3		Study of literature from colonies of Europe. Major concerns include identity, struggles against colonialism and neo-colonialism, modernization, education, the changing status of women, and issues of language and literary genre.
LIT	6934	Selected Topics in English Studies	1-6		Current topics offered on a rotating basis include The Nature of Tragedy; The Nature of Comedy and Satire; and the Nature of Myth, Allegory, and Symbolism; the Epic; Utopian Literature. Other topics will be added in accordance with student demand and instructor interest.
LNW	5900	Directed Reading	1-4		
LNW	5934	Selected Topics	4		Study of an author, movement, or theme.
MAA	5306	Real Analysis I	3	PR: MAA 4211.	Riemann-Stieltjes integrals, uniform convergence, Fourier series, Lebesgue measure and integration on \mathbb{R} .
MAA	5307	Real Analysis II	3	PR: MAA 5306.	Metric spaces, Banach spaces, and function spaces; measure and integration on abstract spaces.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAA	5405	Applied Complex Analysis	3		Complex numbers, analytic and harmonic functions. Series. Contour integrals, residue theory. Conformal mappings. (A survey course emphasizing techniques and applications.)
MAA	6406	Complex Analysis I	3	PR: MAA 5405	Linear transformations, analytic functions, conformal mapping, Cauchy's theorem and applications, power series, partial fractions and factorization, elementary Riemann surfaces, Riemann mapping theorem.
MAA	6407	Complex Analysis II	3	PR: MAA 6406	Topics in: conformal mappings, normal families, Picard's theorem, univalent functions, extremal properties, elliptic functions, approximation theory, Riemann surfaces.
MAA	6506	Functional Analysis I	3	PR: MAA 5307, MAS 5107	Normed linear spaces and topological vector spaces; open mapping, closed graph, and Hahn-Banach Theorem, UB principle, compact operators, dual spaces.
MAA	6507	Functional Analysis II	3	PR: MAA 6506.	Hilbert spaces, spectral theory, and other topics.
MAA	6616	Abstract Integration	3	PR: MAA 5307	Measure as abstract integration; Riesz representation theorem, Fubini's Theorem, Radon-Nikodym Theorem, LP spaces.
MAD	5101	LISP: Programming With Algebraic Applications	3	PR: MHF 5306 or MAD 6510 or MAS 5311	Programming in LISP, functional languages, foundations of Lambda Calculus and algebraic applications (theorem proving and game playing).

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAD	5305	Graph Theory	3	PR: MAS 3105	Brief introduction to classical graph theory (4-color theorem, etc.), directed graphs, connected digraphs, condensations, incidence matrices, Polya's Theorem, networks.
MAD	6206	Combinatorics I	3	PR: MAS 3105 and MAS 4301	Elementary counting principles, distributions, sets, multisets, partitions of sets and integers, generating functions and recurrences, graphical methods, probabilistic methods.
MAD	6207	Combinatorics II	3	PR: MAS 5311 and MAD 6206	Combinatorics of finite sets: posets, hypergraphs and external problems, matroids, block designs, Mobius inversion for partially ordered sets, Polya's enumeration theory.
MAD	6510	Analysis of Algorithms	4	PR: MAS 4301	Mathematical theory of algorithms for information processing, including time and space requirements of algorithms, construction of optimal algorithms.
MAD	6616	Algebraic Automata Theory	3	PR: MAS 4301	Deterministic and non-deterministic finite automata, Mealy and Moore machines, push-down automata, Turing machines, regular languages, context free languages, halting problem, and universal Turing machines.
MAD	6617	Algebraic Coding Theory	3	PR: MAS 5311	Linear block codes over an arbitrary finite field: Hamming, Golay, BCH, quadratic residue, Reed-Muller, and MDS codes, the MacWilliams identity, bounds on minimum distance, and relationship to design theory.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAE	6115	Current Trends in Elementary Mathematics Education	3	PR: MAE 4310 or equiv.	Philosophy, content, and process of mathematics instruction in elementary school programs.
MAE	6117	Teaching Elementary Math	3		This course provides for the development of knowledge and skills necessary to prepare students as teachers of mathematics in elementary classes as recommended by the National Council of Teachers of Mathematics in its guidelines for teachers.
MAE	6126	Current Trends in Middle Grades Mathematics	3	PR: MAE 6356.	This course examines current trends and issues in middle grades mathematics. It familiarizes teachers with new developments in this field with a focus on curriculum issues and issues arising from state, national, and international assessments.
MAE	6127	Probability and Statistics for Middle Grades Teachers	3		This course examines probability and statistics topics for middle grades mathematics teachers. Topics include data collection and display, measures of central tendency and variability, probabilities, and sampling procedures.
MAE	6136	Current Trends in Secondary Mathematics Education	3	PR: MAE 4330	Curricular patterns and instructional practices in secondary mathematics.
MAE	6137	Topics in Teaching Probability and Statistics	3		This course examines issues related to teaching probability and statistics in secondary schools.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAE	6315	Algebraic Thinking for Elementary Teachers	3		This course is designed to enhance the algebra content knowledge of elementary teachers and to consider how algebraic experiences and informal algebraic concepts can be introduced into the elementary curriculum.
MAE	6316	Geometry and Measurement for Elementary Teachers	3		This course is designed to enhance the geometric content knowledge of elementary teachers and to consider how geometric experiences and concepts can be introduced into the elementary curriculum.
MAE	6324	Advanced Math Topics - Middle Grades Teachers	3	PR: MAE 6127, MAE 6328, MAE 6329, and MAE 6325.	This course examines advanced functions topics, basic concepts of trigonometry, and the foundations of calculus. Teachers experience instructional approaches appropriate for use in middle grades classrooms.
MAE	6325	Number Theory for Middle Grades Teachers	3		This course examines in number theory concepts appropriate for middle grades mathematics teachers, including historical connections. Teachers experience instructional approaches appropriate for use in middle grades classrooms.
MAE	6328	Algebra for Middle Grades Teachers	3	PR: MAE 6127, MAE 6328, MAE 6329, and MAE 6325.	This course examines in algebra content appropriate for middle grades mathematics teachers, including the use of technology to study algebra. Teachers experience instructional approaches appropriate for use in middle grades algebra classrooms.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAE	6329	Geometry and Measurement for Middle Grades Teachers	3		This course examines in geometry content appropriate for middle grades mathematics teachers, including the use of technology to study geometry. Teachers experience instructional approaches appropriate for use in middle grades classrooms.
MAE	6334	Problem Solving for Elementary Teachers	3		This course analyzes problem-solving strategies of elementary teachers and their students.
MAE	6336	Topics in Teaching Calculus	3		This course examines issues related to teaching calculus in secondary schools.
MAE	6337	Topics in Teaching Algebra	1-4		Topics in algebra, philosophy, new trends, and methods of teaching secondary school algebra.
MAE	6338	Topics in Teaching Geometry	1-4		Topics in geometry, philosophy, new trends, and methods of teaching secondary school geometry.
MAE	6356	Teaching of Pre-Secondary School Mathematics	3	PR: 12 hours of mathematics	Development of strategies and materials for teaching mathematical concepts and skills appropriate to pre-secondary school years.
MAE	6362	Senior High Mathematics Methods	3		This course is designed to prepare teachers for a successful induction to teaching mathematics in the high schools of today. It is designed to bridge the perceived gap between theory and practice.
MAE	6370	Mathematics for High School Teachers	3		This course examines high school mathematics from an advanced perspective and makes connections between college level mathematics and the mathematics of the secondary school.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAE	6643	Communication Skills in Mathematics	3		This course examines issues related to communicating in mathematics, including reading, writing, speaking, and listening. It satisfies the reading in the content area mandate for certification.
MAE	6899	Internship Seminar in Mathematics Education	1-3	CR: MAE 6947	This seminar accompanies the graduate internship in mathematics education and provides teacher candidates an opportunity to interact with peers and university faculty regarding classroom experiences.
MAE	6906	Independent Study in Mathematics Education	1-6		This course permits a student to explore a topic of interest in depth under the direction and supervision of a faculty member.
MAE	6945	Practicum in Mathematics Education	3		This practicum provides individuals in the MAT program in mathematics education with early field experiences in mathematics classrooms at the middle or high school levels, depending on the program of study.
MAE	6947	Internship in Secondary Education for Mathematics	6		Students will work with a cooperating teacher and university supervisor to complete their internship requirements in a classroom setting assigned by the university.
MAE	6971	Thesis: Masters/Educational Specialist	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAE	7138	Assessment in Mathematics Education	3		This course discusses issues related to assessment in mathematics education at all levels, including state, national, and international assessments. It also discusses issues related to rubrics and alternative assessments in mathematics.
MAE	7146	Curriculum History/Research Mathematics Education	3		This course surveys curriculum history in mathematics education, discusses current research on mathematics education curricula, and explores issues related to conducting research on curriculum in this field.
MAE	7655	Technology Issues in Mathematics Education	3		This course focuses on issues surrounding the use of technology in mathematics education. It examines perspectives and research about technology in mathematics education and their implications for technology instruction in school mathematics programs.
MAE	7794	Preparing Teachers of Mathematics, K-12	3		This course focuses on analyzing and examining the research in mathematics teaching and teacher education as it relates to the initial preparation of teachers of mathematics and to the professional development of practicing teachers of mathematics.
MAE	7796	Research Issues in Mathematics Education	3		This course focuses on current research in mathematics education and its implications for instruction in school mathematics programs, particularly its impact on mathematics curricula, learning, and instruction.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAE	7910	Directed Research in Mathematics Education	1-19		This course permits a doctoral student to conduct advanced research and to pursue specific areas of interest with a faculty member as supervisor. A contract is required with the faculty member. S/U.
MAE	7945	Practicum in Mathematics Education	3		This practicum provides doctoral students in mathematics education an opportunity to engage in professional experiences in teaching or research that are individualized to meet future academic needs and goals.
MAE	7980	Dissertation	2-30		
MAN	6055	Organizational Behavior and Leadership	2-3		An examination of the theory and practice of management, including the study of goals and means, the functions of management, and the administrative process in general.
MAN	6107	Leading Sustainable Enterprise: Goals and Processes	2-3		Examines the perspective required of the manager/leader/facilitator in light of personal, organizational, and societal needs judged by standards of effectiveness and ethicalness.
MAN	6116	Diversity and Organizational Justice	3		Course deals with questions, dimensions of style and structure, problems and paradigms of solutions that have come out of management experience of a changing workforce during the past twenty years. Emerging styles of leadership among people of diverse cultural backgrounds will be explored as solutions, not as problems.
MAN	6140	Decision Making & Problem Solving	3		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAN	6145	Managing Creative Projects	3		Interdisciplinary overview of how organizations can harness innovation through creative projects. It covers foundations of creativity and innovation, techniques to support creativity in teams, and establish a culture of innovation.
MAN	6147	Leadership/Management Concepts	2		Provides a foundation for the study of processes of leadership in organization and society. Presents an overview of various concepts of leadership, such as the personal values of leaders and leadership organization.
MAN	6149	Leadership and Teams	3		Exploration, analysis and applications of Leadership theory, research concepts and skills in teams and organizations. Course provides insights into opportunities and challenges faced by leaders as they seek to adapt themselves and their organizations to the global business environment.
MAN	6165	Principles of Collaboration	3		This course approaches collaboration from multiple perspectives. Students will learn underlying theories of teams and collaboration, as well as techniques for leadership, interpersonal communications, virtual collaboration, and collaboration engineering.
MAN	6204	Organization Design and Structure	3		Systematic study of architecture, design and management approaches that influence the effectiveness of public and private organizations, including theory, environment, technology, culture, behavior control and work design.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAN	6256	Politics and Control in Organizations	3		Course explores politics and control at the individual, small group, and organizational levels. Students will also explore the power relationships between organizations and the larger political/economic systems of which they are a part and with which they interact.
MAN	6289	Organizational Change and Development	3	PR: MAN 6055	A combination laboratory-field course requiring the integration of behavioral science theories, tools, concepts, and techniques learned in the lab to an OB application in a "real" organization."
MAN	6305	Human Resource Management	3		Course focuses on the complex decision-making processes involved in the management of human resources within an organizational system geared to meeting both individual needs and organizational objectives.
MAN	6347	People Analytics	3		People drive organization and it is now possible to track performance in great detail. This course provides an overview of people analytics opportunities in today's organizations as well as methods to address in a data-driven manner.
MAN	6435	Contract Management	3		This course strengthens the student's ability to participate in goods and services acquisition and contract administration. Students will be introduced to the different contracting models including Private, Federal, and state, local and education (SLED).

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAN	6448	Negotiating Agreement and Resolving Conflict	3		Provide the student with an overview of conflict resolution within/between organizations. Includes negotiation, mediation, arbitration, peer review, and other alternatives to litigation; internal dispute resolution, dispute system design/implementation.
MAN	6518	Sustainable Production Systems	3		Examines production processes dedicated to sustainable organizational performance through elimination of waste and reduction in resources consumed.
MAN	6596	Supply Chain Management	3		Overview of key supply chain processes and functions, including logistics, marketing, finance, operations, and procurement, and the implications of supply chain management for creating value for customers and other supply chain members.
MAN	6599	Logistics Systems and Analytics	3	PR: QMB 6603	Introduction to software tools and decision support models which are frequently used in the design and operation of integrated supply chains.
MAN	6601	International Management	3		A study of the characteristics of the international and multinational company, environmental constraints, personnel and labor relations factors, and strategic planning and policies.
MAN	6607	Managing International Cultural Differences	3		Examines the effects of culture and nationality on business practices in selected regions and countries and suggests ways to build synergistic solutions from multicultural differences.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAN	6726	Strategic Business Analysis	2		Examines techniques to creatively vision and analyze the future to prepare individuals and organizations for future opportunities and threats. Designed to familiarize students with techniques for analyzing the future, critical issues, how the future will impact them as individuals.
MAN	6746	Designing Sustainable Enterprise	3		Examines an analytical framework for organizations to build more sustainable economies, societies, and natural environments.
MAN	6748	Assessing Sustainable Performance of Organizations	3		The course helps students to conceptualize a sustainable organization and use that as a benchmark to analyze the performance of organizations aspiring for long-term survival and growth.
MAN	6774	Executive Leadership	3		This course is designed for graduate students who are or aspire to be top executives in triple bottom line organizations. The underlying assumption of this course is the mission of executive leaders is to achieve high commitment and high performance.
MAN	6905	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
MAN	6911	Directed Research	1-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAN	6930	Selected Topics	1-4		Designed to be taken either under general guidance of faculty member on some facet of management not offered in a regular course or with regularly scheduled graduate courses for more in-depth study.
MAN	6950	Capstone Experience in Leading Organizations	3		Student team assessment exercise of real organization leading to evaluate report and presentation demonstrating skills required in program.
MAN	7298	Creativity and Innovation	2-4		This course addresses the theory, research, and practice of innovation stimulation and management. Critically reviews research on creativity stimulation, product/service design, commercialization, etc. Participants conduct and report a major project.
MAN	7939	Executive Issues in Management	2-4		A research seminar for executives that explores contemporary issues in management. The specific theme of the seminar will be determined through consultations between the instructor and the students prior to the first class meeting.
MAN	7980	Dissertation	2-21		
MAP	5316	Ordinary Differential Equations I	3	PR: MAP 2302 and MAA 4211	Existence and uniqueness theory, properties of solutions, linear systems, stability theory. Sturm-Liouville theory.
MAP	5317	Ordinary Differential Equations II	3	PR: MAP 5316 and MAA 5307	Topics selected from fixed point theory, comparison theory, oscillation theory, Poincare-Bendixson Theory, Lyapunov functions, eigenfunction expansions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAP	5345	Applied Partial Differential Equations	3	PR: MAP 5407	Separation of variables, the heat equation, wave equation, Laplace's equation, classification, Green's functions with emphasis on applications.
MAP	5407	Methods of Applied Mathematics	3	PR: MAP 2302	Sturm-Liouville theory, Fourier series, Green's functions, matrix methods for linear systems of ordinary differential equations, and topics from calculus of variations, control theory, numerical solutions of differential equations.
MAP	6205	Control Theory and Optimization	3	PR: MAA 5307 and MAP 5316	Projection theorems and minimum norm problems, convex analysis, duality principle, constrained optimization, finite dimensional linear systems, controllability, optimal control and pontryagin maximum principle
MAP	6356	Partial Differential Equations	3	PR: MAP 5345 and MAA 5307	Advanced topics from: elliptic boundary value problems, semigroup theory, Sobolev spaces, degree theory, regularity, evolution equations
MAR	6158	International Marketing Management	3	PR: MAR 6815	A study of marketing management activities from the perspective of firms doing business across national boundaries. Emphasis is upon aspects of marketing which are unique to international business and problem-solving within an international context.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAR	6216	Logistics and Physical Distribution Management	3	PR: MAR 6815	A study of managerial methods focusing on the establishment and control of optimum customer service levels in the areas of inventory, transportation, fixed facility location, material handling, and information. Component parts of each system are analyzed quantitatively. Reading, lecture, and case analysis.
MAR	6336	Promotional Management	3	PR: MAR 6815	Management of the promotional function as part of the total marketing program. Includes a study of relevant buyer behavior concepts, resources and budgets, media, creative aspects, and effectiveness measurements as they relate to the management tasks of developing, implementing, and evaluating promotional strategy.
MAR	6406	Sales Management	3	PR: MAR 6815	A study of the sales function of the firm approached from the perspective of the sales manager. Emphasis is placed upon the development of the student's problem-solving, decision-making, and analytical skills.
MAR	6646	Research for Marketing Managers	3	PR: MAR 6815, QMB 6305, ISM 6021.	A study of marketing research methods and information systems and their relationship to marketing decision-making. Topics include value and cost of information, sample design, questionnaire design, statistical analysis, and report presentation. Lecture, reading, case analysis, and project.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAR	6815	Marketing Management	2-3		Analysis of operational and strategic planning problems confronting marketing managers. Topics include buyer behavior, market segmentation, information systems, product selection and development, pricing, distribution, promotion, and sales force management.
MAR	6816	Marketing Strategy	3	PR: MAR 6815	A study of strategic marketing planning and problem-solving processes as practiced by the modern market-oriented firm. The course is designed to develop marketing problem-solving, decision-making, and planning skills through the extensive use of case analysis.
MAR	6907	Independent Study	1-19		Must have a contract with an instructor.
MAR	6916	Directed Research	1-19		
MAR	6936	Selected Topics in Marketing	1-4		The content and organization of this course will vary according to the interests of the faculty and students involved in any given term.
MAR	7555	Consumer Behavior Theory	3		This course investigates the interrelationships and applications of behavioral science theories, concepts and methodologies to problems of understanding group as well as individual behavior in the market place.
MAR	7635	Advanced Marketing Research: Design and Technique	3	PR: QMB 7565, QMB 7566	An intensive study of the theoretical, conceptual, and methodological issues in survey and experimental marketing research. A review and expansion of advanced marketing data analysis methods.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAR	7667	Marketing Models and Strategy Applications	3		A model-building approach to the management of marketing. Includes models developed to aid in the design, implementation, and evaluation of corporate marketing strategies; information systems and marketing audits; and the interrelationships of economic, quantitative, and behavioral disciplines that provide the structure and tools necessary to develop and implement marketing decision support systems.
MAR	7787	Marketing Theory and Thought	3		An intensive study of marketing concepts and theories from 1900 to present. Emphasis is placed on the development of theory, as well as predictions of future theoretical developments.
MAR	7910	Independent Study in Marketing	1-12		This course permits a doctoral student to pursue research in a specific area under the direct supervision of a faculty member.
MAR	7931	Seminar on Selected Marketing Topics	3		Intensive study of the theoretical, conceptual, and methodological issues and problems which impact managerial applications in selected topic areas, such as marketing channels, distribution/logistics, environmental or (social) nonprofit marketing, consumer behavior, advertising/media research, or international marketing.
MAR	7939	Executive Issues in Marketing	2-4		A research seminar for executives that explores contemporary issues in marketing. The specific theme of the seminar will be determined through consultations between the instructor and the students prior to the first class meeting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAR	7980	Dissertation	2-21		Directed research.
MAS	5145	Advanced Linear Algebra	3	CPR: MAS 5311.; PR: MAS 3105 and MAS 4301	Finite-dimensional vector spaces over arbitrary fields, dual spaces, canonical forms for linear transformations, inner product spaces, orthogonal, unitary, and self-adjoint operators and quadratic forms.
MAS	5215	Number Theory	3	PR: MAS 3105 and MAS 4301	Fundamental theorem of arithmetic, modular arithmetic, Chinese remainder theorem, Mersenne primes, perfect numbers, Euler-Fermat theorem, pseudo primes, primitive roots, law of quadratic reciprocity, factorization and primality testing algorithms.
MAS	5311	Algebra I	3	PR: MAS 3105 and MAS 4301	Group theory: Sylow theorems; classification of groups of small order. Ring theory: ideals, quotient rings, polynomial rings, Euclidean domains, principal ideal domains and unique factorization.
MAS	5312	Algebra II	3	PR: MAS 5311	Continuation of MAS 5311. Finitely generated modules over a principal ideal domain, basic field theory, finite fields, Galois theory.
MAT	5932	Selected Topics	1-4		Each course covers a single topic outside the usual curriculum.
MAT	6908	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
MAT	6911	Directed Research	1-19		
MAT	6932	Selected Topics	1-4		Each course covers a single topic outside the usual curriculum.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MAT	6939	Graduate Seminar	1-4		Direction of this seminar is by a faculty member. Students are required to present research papers from the literature.
MAT	6971	Thesis: Master's	2-19		
MAT	7912	Directed Research	1-19		
MAT	7980	Dissertation: Doctoral	2-19		
MCB	5206	Public Health and Pathogenic Microbiology	3	PR: MCB 3020	A comprehensive survey of pathogenic microbes responsible for disease in man and other animals and the impact of these infectious agents on the public health. These pathogens will be studied with respect to their morphology, cultivation, mechanisms of pathogenicity, laboratory diagnosis, and epidemiology.
MCB	5208	Cellular Microbiology	3	PR: PCB 3023 ; MCB 3033	Cellular Microbiology is a lecture-based and literature-based course on the interactions between mammalian cells and microbial pathogens and/or their toxins, with a special emphasis on bacteria.
MCB	5655	Applied and Environmental Microbiology	3	PR: MCB 3020	A Study of the applications of microbiology to the food/beverage industry, agriculture, public health and bioremediation. This course is a microbiology elective and has a mandatory field trip.
MCB	5815	Medical Mycology	3	PR: MCB 3020	A modern biological survey of the medically important fungi (yeasts and molds) important to microbiologists and environmental scientists.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MCB	6433	Clinical Correlations in Molecular Medicine	3	PR: GMS 6001 or GMS 6200.	The course concentrates on molecular medicine and focuses on several disease conditions that provide an "in-depth" understanding of how changes in cellular structure/function and metabolic pathway regulation can result in diseases and their therapy.
MCB	6919	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
MCB	6930	Graduate Microbiology Seminar	1		A critical examination and discussion of current literature of microbiology.
MCB	6971	Thesis: Master's	2-19		
MHF	5306	Mathematical Logic and Foundations I	3	PR: MAS 4301	Two-course sequence covering: predicate calculus and classical model theory; transfinite set theory and the system ZFC; recursion theory and decidability.
MHF	5402	The Early History of Mathematics	3	PR: MAC 2312	A study of the history and development of mathematics and its cultural impact from the formation of number systems to the Renaissance.
MHF	5405	History of Modern Mathematics	3	PR: MAC 2313.	Traces the development of mathematical ideas in Western culture. Special emphasis is placed on those concepts which led to the Calculus. This course is open to majors and non-majors alike.
MHF	6307	Mathematical Logic And Foundations II	3	PR: MHF 5306	Continuation of MHF 5306.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	5020	Foundations of Mental Health Counseling	3		A skill-building course on the utilization of one's self in mental health counseling relationships. Includes study of the origin, history, professional functions and current issues in the discipline of mental health counseling.
MHS	5480	Human Growth and Development	3		Human development theory as applied in psychotherapy and case management rehabilitation, mental health, and addiction settings.
MHS	5721	BRIDGE Proseminar I	2		This course is designed to provide students with the necessary skills for successfully applying for and transitioning into a graduate training program in the social and behavioral sciences.
MHS	5722	BRIDGE Pro Seminar II	2		Provide students with the skills for successfully transitioning to a graduate program in behavioral and social sciences It will also provide knowledge that can be applied to the mentored research project being conducted as part of the BRIDGE certificate.
MHS	5745	Applied Qualitative Research Methods	3		This course is designed to provide students with an understanding of applied qualitative research methods and to assist them where appropriate in applying these methods to their mentored research projects being conducted as part of the BRIDGE certification.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	5746	Applied Quantitative Research Methods	3		Reviews quantitative research methods while focusing on the application of such concepts in real research contexts preparing students to understand the nature assumptions processes and ethical application of quantitative methodology.
MHS	5889	BRIDGE Community Field Experience	2		Provide students with the skills for successfully transitioning to a graduate program in behavioral and social sciences It will also provide knowledge that can be applied to the mentored research project being conducted as part of the BRIDGE certificate.
MHS	5905	Directed Studies	1-4		Independent studies on a selected topic.
MHS	6006	Trends and Principles of the Counseling Profession	4		A study of trends in the counseling profession, its philosophical framework, its scope and functions, its organizations and administration. Introduction to basic skills needed in the counseling relationship.
MHS	6065	Issues and Trends in Developmental Disabilities	3		This interdisciplinary Disability Studies course provides students with a background in the history of disabilities and an overview of the impact of and latest trends in disabilities across the life span.
MHS	6066	Sys., Serv. and Supports for Children and Adolescents with DD	3		This course provides students with the tools and understanding needed to evaluate service systems for children and adolescents with developmental disabilities. Lessons address services, systems of care, and policies affecting services.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6067	EBP in Beh. Hlth for Children & Adolescents with Dev. Disabil.	3	PR: MHS 6065.	This course introduces students to a variety of evidence- based behavioral health practices for children and adolescents with developmental disabilities. Lessons address identification and evaluation of evidence-based practices, research, and ethics.
MHS	6068	Community-Based Beh Health Interven for Cult Diverse Youth	3		This course focuses on behavioral health issues and interventions for culturally diverse youth. Topics include youth and family strengths and needs, research and intervention approaches, and relevant policies at global, national, and local levels.
MHS	6069	Child & Adolescent Behavioral Health	3		Provides an introduction to a variety of topics relevant to child and adolescent behavioral health, including its history, settings for service provision, and various factors that shape best practice approaches to meet the needs of youth and families.
MHS	6070	Study of Mental Disorders for Counselors	4	PR: MHS 6006	The purposes of this course are to familiarize the students with the study of mental disorders, learn the most current system of classification of mental disorders, and discuss evidence-based biological and sociocultural treatments for mental disorders.
MHS	6072	Epidemiology and Prevention in Children’s Mental Health	3		Provides introduction to epidemiological research methods in children’s mental health; prepares professionals to critically evaluate research literature and to design studies to better affect children’s mental health. Unrestricted. Nonrepeatable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6073	Child and Adolescent Psychopathology and Resilience	3		Students will gain basic knowledge about psychological disorders necessary to assess/treat/serve children, adolescents, and their families. Factors that promote resilience and build competencies will be explored. Unrestricted. Nonrepeatable.
MHS	6095	Family-Centered Interdisciplinary Practice: SOC	3		Provides an overview of a SOC approach to children's mental health; prepares professionals to work in respectful partnership with families/youth and to participate in interdisciplinary teams serving children and their families. Unrestricted. Nonrepeatable.
MHS	6096	Program Development and Implementation in Children's Mental Health	3		Course introduces students to the science of implementation and key frameworks, theories, strategies; includes critical elements, influences, stages applied to carry out successful implementation of initiatives. Unrestricted. Nonrepeatable.
MHS	6097	Financing of Children's Mental Health Services	3		Addresses theoretical, evaluative, political issues regarding financing of children's mental health services; will further students' critical thinking about financing strategies/structures that support effective systems of care. Unrestricted/nonrepeatable.
MHS	6098	Leadership within Systems of Care	3		Introduces students to various theories of leadership and empirical evidence linking leadership competencies to organizational and community success in children's mental health, emphasizing real-world challenges and solutions. Unrestricted. Nonrepeatable.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6200	Assessment and Appraisal Procedures	4	PR: MHS 6006	The study of statistical concepts, assessment instruments and procedures relevant to school and community counseling with an emphasis on standardized test data and the use of an individual case study approach.
MHS	6201	Applied Behavior Analysis in Complex Community Environments	3		Prepares students to recognize factors that may affect the application of behavior analysis principles within and across community settings and to design intervention plans that fit given characteristics of the social and physical context of these home, school and other community settings.
MHS	6311	Online Services in Counseling and Helping Professions	3		To provide students in helping professions with basic and advanced knowledge and skills associated with the provision of online services in counseling and related helping professions. Also to provide training on how to evaluate and design such services.
MHS	6340	Career Development	4	PR: MHS 6006	Study of the information service in guidance as it relates to life style and career development. Theories dealing with career planning. Application of educational, vocational, and personal-social information resources to lifelong human development.
MHS	6341	Career Program Design and Evaluation	3	PR: MHS 6006	Study of the various components of designing, implementing, managing and evaluating effective career programs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6400	Counseling Theories and Practices	4	PR: EDF 6354 and MHS 6006.	This course is the study of the nature of the counseling process with emphasis on major theoretical approaches and related personality theories, development of basic counseling skills and supervised practice.
MHS	6409	Evidence Based Practices in Behavioral & Community Sciences	3		Explores and applies strategies used to judge and identify evidence-based practices in assessment, intervention, and therapeutic practices in behavioral health and related areas.
MHS	6410	Intensive Individualize Positive Behavior Support	3		Provides class participants with knowledge and skills necessary to develop, implement, and evaluate the impact of positive behavior support at an individual level including functional behavior assessment and behavior support in various settings.
MHS	6418	School Counselor Accountability and Curriculum	3	PR: MHS 6006.	This course prepares school counselors to assume their role and responsibilities in meeting the demands of school reform. Students compile instructional guidance units, using evidence-based content and strategies, to facilitate K-12 student development.
MHS	6420	Multicultural Counseling with Diverse Populations	3	PR: MHS 6400.	Counseling strategies applied to diverse populations including the use of school and community resources. Each student will select a specific population group for supervised research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6421	Counseling Children	4	PR: EDF 6354 and MHS 6006.	Nature of the counseling process with an emphasis on major theoretical approaches, supervised practice, and application. Focus on work with elementary age children and consultations with parents, teachers and other professionals.
MHS	6431	Family Therapy & Techniques	4	PR: MHS 6430.	This course concentrates on the theory and application of intervention techniques to family systems. Structured experiences include interviewing, assessing, making therapeutic interventions, observing family interaction, and developing basic aspects in treating families.
MHS	6437	Family Perspectives on Behavioral Health Disparities	3	PR: MHS 6420 or RCS 6440.	Examines behavioral health disparities from a family systems perspective, with consideration of how they are influenced by historical context, generations, immigration, social and physical environmental factors, discrimination, and group heterogeneity.
MHS	6450	Counseling Substance Abuse in School and Community	4	PR: MHS 6400.	This course prepares counselors to work with substance abuse issues, including prevention, in schools and community out-patient settings. Includes counseling and program approaches found to be effective in addressing substance abuse.
MHS	6470	Human Sexuality Issues for Counselors	4	PR: MHS 6400.	Emphases include exploration of various dimensions of human sexuality; dynamics of major individual and societal sexuality issues; theoretical approaches to counseling related to sexuality issues.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6494	Women's Mental Health	3		This course focuses on women's mental health and substance use disorders through a detailed examination of the interaction of trauma, mental health, and substance use disorders that affect the lives of women across the life span.
MHS	6508	Wraparound Interventions and the System of Care	3		Explores the wraparound philosophy and focuses on developing supportive community structures for the delivery of wraparound services. Research, evaluation, and methodology in wraparound interventions are addressed. Unrestricted/nonrepeatable.
MHS	6509	Group Counseling Theories and Practices	4	PR: MHS 6400.	An experiential study of group structure, group dynamics, methodology, and leadership models applicable to counseling clients in school and community settings. Includes skill building through supervised practice.
MHS	6601	Consultation for the Counseling Profession	3	PR: MHS 6400 and MHS 6006.	A study of consultation theory and practice as used by counselors working in schools and mental health facilities, particularly with educators, other professionals, and parents, individually and in groups.
MHS	6605	Addressing Behavior Challenges in Young Children	3		Focuses on the application of promotion, prevention, and intervention framework to promote the social development of young children and address behavioral issues through the Pyramid Model within early childhood and intervention programs/systems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6607	Behavior Consultation and Collaborative Systems Change	3	PR: MHS 6608 OR MHS 6605 OR MHS 6410	This course provides participants with the knowledge and skills necessary to develop, implement, and evaluate the impact of behavior consultation across a multi-tiered system of support.
MHS	6608	Schoolwide Positive Behavior Support	3		Provides class participants with the knowledge and skills necessary to develop, implement, and evaluate the systemic impact of positive behavior support on the behavioral needs of all students from Pre-K to 12, including those with disabilities.
MHS	6620	Counseling in Community Setting	3		Study of community counseling within the context of health and human service systems including treatment modalities, administration, and fiscal considerations.
MHS	6626	Applied Leadership in Child and Adolescent Behavioral Health	3		This course will develop student understanding of organizational leadership concepts, theory, and practice. It will focus on opportunities, challenges, and tools for leaders in public and private child and adolescent behavioral health organizations.
MHS	6645	Mental Health Informatics	3		This course examines how information technologies and knowledge management affect access to mental health and impact policy. Current applications include the management of mental health databases and the development of behavioral telehealth programs.
MHS	6700	Legal and Ethical Issues in the Counseling Profession	3	PR: MHS 6006.	Study of legal, ethical and related issues affecting the role and responsibilities of counselors in schools and mental health facilities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6706	Child and Adolescent Behavioral Health Policy	3		This course focuses on critical policy issues affecting child and adolescent behavioral health services in the U.S. Historical, legislative and policy making issues will be discussed, and U.S. policies will be examined within an inclusive global context.
MHS	6742	Community Based Research & Evaluation in Behavioral Sciences	3		The study of community-based participatory research & evaluation (CBPRE) in behavioral sciences; critical issues in research design, ethics, & use of CBPRE to promote social change & public policy within a behavioral health context.
MHS	6800	Practicum in Counseling Adolescents and Adults	4	PR: MHS 6400.	Supervised counseling for integration and application of knowledge and skills gained in didactic study.
MHS	6885	Internship in Community Agency Counseling	3-6		Field experience involving one semester of full-time participation in the counseling and related activities of a public or private agency providing mental health services to the community.
MHS	6887	Internship in Career and College Counseling	3-6	CR: MHS 6601.; PR: MHS 6800, MHS 6006, MHS 6200, MHS 6340, MHS 6341, MHS 6400, MHS 6420, MHS 6700, EDF 6481	Field experience (1 semester full-time or 2 semesters of part time participation) in career and/or college counseling and related activities of a public or private career center or college center/site/agency. It is restricted to counseling students.
MHS	6900	Special Topics in Planning, Evaluation and Accountability	1-3		This course will address selected special topics. Prerequisite is at least three credits in research and evaluation courses at the graduate level.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6901	Independent Studies in Mental Health Studies	1-4		Students conduct independent study in an area related to behavioral health under the guidance of a faculty member. Open to all majors/repeatable for a maximum of 4 credits.
MHS	6905	Individual Study	1-4		Independent study, research, and experience relating to professional counseling under the supervision of a member of the Counselor Education faculty.
MHS	6906	Independent Study in Behavior Analysis Applications in Community Settings	1-6		Independent study in behavior analysis provides students opportunities to focus on special areas of study under a contractual agreement with a faculty member.
MHS	6915	Directed Research in Behavioral and Social Sciences	1-6		Students work directly with a faculty mentor in a one-on-one research experience in the area of behavioral and social sciences research and design, conduct, and disseminate an independently designed and conducted research project.
MHS	6930	Seminar In Guidance	1-4	CPR: MHS 6006	Significant issues in the field of guidance; will document student's effectiveness in providing effective programs that contribute to the academic missions of the school. Repeat up to 4 hours.
MHS	6938	Applied Behavior Analysis in Community Settings	1-4		Addresses selected topics in behavior analysis applications in complex community environments through lecture, class discussion, and supervised special projects.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6940	Practicum in Behavior Analysis in Community Settings	2-4		Supervised field work in the application of behavior analysis to children, adults and/or their families in complex community environments, including home, school, employment and neighborhood settings.
MHS	6941	Applied Field Experience Seminar	3-6		The Applied Field Experience Seminar provides students with an opportunity to integrate, synthesize, and apply knowledge gained through MS coursework through a field experience relevant to each student’s area of specialization and interest.
MHS	6942	Practicum:EBP & Service Delivery for Child.& Adol. with DD	3	PR: MHS 6065, MHS 6066.	This practicum allows students to apply, integrate, and synthesize knowledge about evidence-based practices being used in behavioral health settings that provide services to children and adolescents with developmental disabilities.
MHS	6945	Leadership Prac in Agen Serv Chil & Adol with Dev Disabilities	3	PR: MHS 6066.	This practicum is designed to provide students with experience in policy, leadership, and administration in an agency that serves children and adolescents with a developmental disability.
MHS	6970	Thesis: Masters/Educational Specialist	2-19		
MHS	6971	Thesis in Applied Behavior Analysis	2-6		The Thesis credits will provide students the opportunity to conduct independent applied behavior analysis single subject experimental design studies, or special research projects related to applications in community settings.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	6972	Thesis in Child and Adolescent Behavioral Health	2-6		The purpose of the thesis in child and adolescent behavioral health is to provide an opportunity for students to incorporate knowledge gained in the degree program to a culminating work.
MHS	7401	Advanced Counseling: Theories and Practicum	4		Advanced study of major counseling theories and their application in therapeutic work with individual clients and with groups in a variety of settings. Supervised practice in individual and group counseling with emphasis on integration of theory and practice.
MHS	7610	Supervision: Theories and Practicum	4		Theory and methodology of consultation; the role of the counseling professional as consultant and as a supervisor of counselor trainees and counseling practitioners. Practice learning experiences in consulting and supervision under faculty direction.
MHS	7707	Interdis Approaches to Policy & System Change in Behav Health	3		Introduce students to theory, methods, and philosophy of policy and systems change. Contemporary policy issues in behavioral health are analyzed as well as their impact on national, state, local, & community systems change and practice.
MHS	7720	Proseminar in Behavioral & Community Sciences	3		Reading, discussion, and application of topics related to professional development of doctoral students: teaching at the college level, dissertation selection and literature review processes, developing research agenda, and building professional skills.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MHS	7740	Survey Course in Planning, Evaluation and Accountability	3		This introductory course is designed to provide a comprehensive overview of planning, evaluation and accountability methods within a systems context. Emphasis is placed on a broad range of quantitative and qualitative methods.
MHS	7747	Measurement Issues in Behvrl Hlth Svcs Res/Eval	3	PR: NGR 7974	This course will examine the development, selection, and use of individual, program, and systems-level process and outcome measures used in behavioral health services research. The course will examine both quantitative and qualitative measurement issues.
MHS	7748	Statistical Applications in Translational Research and Evaluation	3		The course covers the basic applications of statistical concepts and techniques essential to translational research and evaluation in child and adolescent behavioral health.
MHS	7749	Applications in Dissemination and Implementation Science	3	PR: MHS 7748, PHC 6728.	This course covers competencies in the application of translational science necessary to understand, evaluate, and conduct your own dissemination and implementation research in child and adolescent behavioral health.
MHS	7930	Advanced Seminar in Counselor Education	2		Seminar for advanced graduate students in counselor education. Issues and trends in professional counseling will be addressed.
MHS	7980	Dissertation	2-30		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MMC	6206	Mass Communications Ethics	3		An introduction to fundamental ethical principles and an application of those principles to a variety of situations in journalism, broadcasting, advertising, and public relations.
MMC	6306	International Communications Seminar	3		Mass communications as national and international systems; flow of the news, international news communications networks; satellite communications; overseas activities of American media interest; international propaganda; communication and national development; international media organizations and their activities.
MMC	6400	Mass Communication Theory	3		The study of mass communication theories, structures, influences, and their relationships to institutions in American society.
MMC	6415	Strategic Communication Media	3	PR: PUR 5505.	This concepts course emphasizes strategic thinking in media planning for communication campaigns. Students learn the process of critically evaluating media, purchasing media outlets, scheduling media weight and evaluating media impact. Nonrestricted.
MMC	6418	Strategic Message Design	3		This seminar covers the development of strategic messages for particular audiences to accomplish communication objectives. Topics are research, planning, persuasion, message strategies, and message evaluation. Unrestricted and not repeatable for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MMC	6421	Research Methods in Mass Communications	3		The theory and practice of quantitative, historical, and critical research methods, and their applications to the study of mass communications. Emphasis in quantitative methods on experimental and survey research, statistical analysis, and evaluation of data.
MMC	6447	Quantitative Research Methods in Mass Communications	3		Examination of the process and techniques involved in quantitative data collection and analysis for mass communication purposes.
MMC	6448	Qualitative Research Methods in Mass Communications	3		Examination of qualitative research methods in mass communications with emphasis on interviewing, observational methods, and data interpretation.
MMC	6607	Public Opinion and the Mass Media	3		The influence of public opinion on private and public institutions in a democratic society and the role of the mass media in opinion formation. The nature of persuasion in establishing or modifying public opinion, and perspectives on the social responsibilities of communications.
MMC	6612	Seminar: Law and the Mass Media	3		Interrelationships of the media and government at the judicial, executive, and legislative levels. Focus is on legal limitations and privileges of the media; theory and philosophy of the First Amendment; research procedures in court and administrative agency documents.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MMC	6900	Directed Reading in Mass Communications	1-3		Readings in specialized areas of mass communications as agreed to by the instructor and the student by contract.
MMC	6910	Individual Research in Mass Communications	1-3		Independent study in which the student must have a contract with the instructor to study an area not covered by other courses in the graduate curriculum.
MMC	6920	Introductory Mass Communications Seminar	3		Introduction to the aims and methodologies of graduate study in mass communications, its development and relationship to the arts and sciences, and the relationship of the scholarly aspects of media studies to professional media practice; bibliographical resources, and overview of research methods and scholarly style.
MMC	6936	Selected Topics in Mass Communications	3		Courses designed to meet current, specific topics of interest to students and instructors.
MMC	6945	Professional Practicum	1-3		Practicum will consist of placement with a media-related organization selected by the student and approved and supervised by the graduate advisor.
MMC	6950	Applied Research Project	3		Completion of a major applied communication research project under supervision. Topic will be selected according to student's needs and interests.
MMC	6971	Thesis: Master's	2-3		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MTG	5256	Differential Geometry	3	PR: MAA 4211, MAS 3105.	Exterior calculus, differentiable manifolds, integration of differential forms, surfaces in 3-space, covariant derivative, curvature, matrix groups.
MTG	5316	Topology I	3	PR: MAA 4211.	Topological spaces, continuity, homeomorphisms, connectedness, compact spaces, separation axioms, product spaces.
MTG	5317	Topology II	3	PR: MTG 5316.	The fundamental group; elements of homotopy theory and homology theory.
MUC	5625	Jazz Composition	2		Private instruction in original composition.
MUC	6251	Composition	4		Private instruction in original composition. Required of composition majors.
MUC	6444	Electronic Music/Analog/Digital Systems Research I	3		State-of-the-art compositional and performance applications; new concepts of electronic music synthesis; documentation and critical analysis of new repertory.
MUC	6445	Electronic Music/Analog/Digital Systems Research II	3		State-of-the-art compositional and performance applications; new concepts of electronic music synthesis; documentation and critical analysis of new repertory.
MUC	6448	Electronic Music: Computer Music Research	3	PR: MUC 6445	For advanced students already experienced in Electronic Music, this class focuses on creative and research techniques in Computer Music, with special emphasis in multimedia collaboration across disciplines.
MUC	6626	Jazz Composition	4		Private instruction in original composition.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUC	6930	Seminar In Jazz Compositional Styles	2		A seminar study of the major compositional figures in jazz. Oriented toward the continuing development of students' own writing ability.
MUE	6080	Foundations And Principles Of Music Education	3		Investigation of historical, philosophical, and psychological foundations of music education.
MUE	6097	Music, Medicine, and Myths	2		The course focuses on integration of the body, mind, and emotion in music learning and performing; causes, prevention, and treatment of music-related injury; rehabilitation and effective management of performance anxiety.
MUE	6116	Advanced Techniques and Research in K-12 General Music	3		This course focuses on teaching and learning processes in general music education K-12. Students examine research and best practices in the field with the aim of improving their own skills in developing comprehensive musicianship in students.
MUE	6336	Advanced Techniques and Research in Vocal/Choral Music Education	3		Course provides for graduate students in music education the opportunity to examine current research related to the teaching of secondary school vocal music, evaluate curricula, music materials, and teaching methods that will enable them to develop a vocal music program that emphasizes musical sensitivity.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUE	6347	Advanced Techniques and Research in Instrumental Music Education	3		This course focuses upon teaching and learning processes in instrumental music, and the stimulation of student thought regarding the variety of roles a music teacher may assume to assist students to become musically literate and aesthetically sensitive.
MUE	6428	Learner-Centered Approaches in Music Education I	3		This course is the introductory experience for the Master of Arts in Music Education degree program at the University of South Florida.
MUE	6429	Learner-Centered Approaches in Music Education II	3	PR: MUE 6789	This course serves as the culminating experience for the Master of Arts in Music Education degree program at the University of South Florida.
MUE	6648	Techniques and Research in Alternate Music Education Methods	3	PR: MUS 6520	An examination on new and innovative models of music instruction including (but not limited to): composition courses; high school general music formats; general arts structures; and, alternative performing ensembles.
MUE	6694	Multimedia Methods in Music Education	3		Examines recent improvements in multimedia and suggest methods by which these might form the basis for non-traditional music curriculums for k-12 schools.
MUE	6785	Research Design and Methods in Music Education	3	PR: MUE 6428	An overview of research traditions and the common research approaches used by music education researchers. Students learn about different types of research through various modules and reading and discussion.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUE	6787	Literature Review in Music Education	3	PR: MUE 6785	This course is designed to assist the student in developing research skills focused upon the development of a literature review in music education.
MUE	6788	Research Data Collection in Music Education	3	PR: MUE 6785	This course is designed to assist the student in developing research skills focused upon data collection and analysis of data in music education.
MUE	6789	Research Report Writing in Music Education	3	PR: MUE 6785	This course is designed to guide students in writing up their research report after analyzing their data.
MUE	6906	Independent Study: Music Education	1-6		Independent study in which students must have a contract with an instructor.
MUE	6942	Graduate Internship in Music Education	6		This course is designed to provide the student teaching experience for music education graduate students pursuing an MA - Plan II, leading to certification.
MUE	6971	Thesis: Masters/Eds	2-19		
MUE	7746	Measurement and Evaluation in Music	3		This course is designed to provide students with a comprehensive overview of traditional and contemporary approaches to the measurement, evaluation, and assessment of musical abilities, activities, and experiences.
MUE	7786	Qualitative Methods of Music Education	3		This course is designed to acquaint students with foundations, methods, and applications of qualitative research in education and music education.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUE	7815	Social Psychology of Music	3	PR: graduate level educational psychology course	A critical examination of current findings regarding the phenomena of the psychology of musical behaviors including the investigation of musical acoustics, the measurement of musical abilities, and a comparative study of theories of learning related to musical learning.
MUE	7816	Music Cognition	3		Interdisciplinary approach to music perception, performance, and cognition. Discussion of neuroanatomy, auditory physiology, cognitive psychology, music perception, and music understanding, and their applications to music teaching and learning.
MUE	7835	Philosophical and Historical Issues in Music Education	3		A course design to investigate the nature of philosophical issues as they pertain to music education theory and practice.
MUE	7855	International Perspectives in Music Education	2		A critical examination of music education in various nations from social, cultural, political, and philosophical perspectives.
MUE	7937	Special Topics in Music Education	2-3		This course will provide an opportunity to examine selected topics in the research of choral, instrumental, general, and alternative music instruction models.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUE	7939	Center for Music Education Research Seminar	1-2		Examination of theory and research in music education. Current research in music teaching and learning presented by faculty and guests. Students develop their dissertation topics, preliminary review of literature, and present their research proposals. May be repeated 4 times for up to 6 credits. S/U Grading
MUE	7980	Dissertation	2-19		
MUE	7990	Seminar on Music in Higher Education	2		The course will examine issues germane to the ways and contexts (liberal arts college, land grant college, research university, conservatory) in which music functions as a discipline in American higher education. It will trace its roots from the medieval European university (in the quadrivium) to the present. It also will speak to a range of contemporary issues, including but not limited to rank, promotion, tenure, creative activities as a research endeavor, accreditation, curricular innovation, etc.
MUG	6205	Advanced Choral Conducting	2		Combination of private study and laboratory experiences designed to teach conducting technique and rehearsal skills while encouraging leadership qualities in the choral conductor.
MUG	6307	Advanced Wind Conducting I	2		Combination of lecture, seminar, laboratory and individual instruction experiences designed to provide development of advanced conducting skills.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUG	6308	Advanced Wind Conducting II	2	PR: MUG 6307	Continued development of graduate-level conducting students in advanced wind conducting techniques, including score study and rehearsal techniques.
MUG	6309	Advanced Orchestral Conducting I	2		Introduction to graduate-level advanced orchestral conducting techniques, including score study and rehearsal techniques, with an emphasis on classroom applications.
MUG	6315	Advanced Orchestral Conducting II	2	PR: MUG 6309	Continued development of graduate-level conducting students in advanced orchestral conducting techniques, including score study and rehearsal techniques.
MUG	6930	Advanced Choral Techniques	3		Study designed to provide rehearsal techniques, methods, and resources for the choral conductor. When possible, the choral faculty will present this course in a team-teaching fashion.
MUH	6057	Intercultural Music In The 20th And 21st Centuries	3		An in-depth investigation of composers born after c. 1880, from all parts of the world, who have attempted to integrate elements from two or more cultures into their compositions.
MUL	6375	Twentieth Century Music Literature	3		A study of the literature, compositional techniques, and music philosophies of the major 20th century composers from Debussy to the present.
MUL	6410	Keyboard Repertory I	2		A study of style, history, and performance practice in keyboard repertory including masterworks of all periods.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUL	6411	Keyboard Repertory II	2		A study of style, history, and performance practice in keyboard repertory including masterworks of all periods.
MUL	6505	Symphonic Literature	2		A chronological study of the development of orchestral music; analysis and study of major works from a stylistic and biographical perspective.
MUL	6555	Band/Wind Ensemble Literature	3		Combination of seminar and classroom experiences designed to provide depth in historical study of band and wind ensemble literature. Rpt. Up to 9 hrs.
MUL	6565	Chamber Music Literature	2		This course covers the standard chamber music repertoire for piano and strings and focuses on specific chamber works--from the baroque sonata until major 20th century pieces.
MUL	6624	Song Literature	2		Song Literature covers the standard repertoire for classical voice. Open to all M.M. voice majors; other students may petition to enroll with instructor approval. This course is not repeatable for credit.
MUL	6655	Choral Literature 1500-1800	3		A study and analysis of choral music from 1500-1800.
MUL	6656	Choral Literature 1800-present	3		A study and analysis of choral music from 1800-present.
MUL	6671	Opera Literature	2		A chronological study of the development of opera from 1600 to the present; emphasis on the technical, stylistic, and performance aspects of opera.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUN	6135	Symphonic Band	1		The Symphonic Band fosters the highest performance standards of wind and percussion literature. Although made up primarily of music majors, the course is open to all university students by comprehensive auditions. It is repeatable for up to 8 credits.
MUN	6145	Wind Ensemble	1		Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments.
MUN	6215	University Orchestra	1		Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments.
MUN	6315	University Singers	1		Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments.
MUN	6345	Chamber Singers	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUN	6385	University-Community Chorus	1		Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments.
MUN	6416	String Quartet	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.
MUN	6429	Woodwind Quintet	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.
MUN	6435	Brass Choir	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.
MUN	6436	Brass Quintet	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUN	6445	Percussion Ensemble	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.
MUN	6446	Marimba Ensemble	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.
MUN	6456	Piano Ensemble	1		Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments.
MUN	6477	Collegium Musicum	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.
MUN	6715	Jazz Ensemble	1		Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUN	6716	Jazz Chamber Ensemble	1		Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass or percussion instruments, and piano.
MUO	6505	Opera Workshop	1		Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combination of voices, string, woodwind, brass or percussion instruments.
MUS	5905	Directed Study	1-4		Independent studies in the various areas of music; course of study and credits must be assigned prior to registration.
MUS	6525	Computer Applications in Music Education	3		An examination of the teaching and learning processes in music as they are affected by music technology. Through the course, students will explore a variety of music software types and investigate the potential role of technology in music education.
MUS	6793	Techniques Of Research In Music And Music Education	3		A study of the methods of research and professional bibliography and with an individual, formal project as a terminal requirement.
MUS	6806	Fit to Play: Mind-Body Integration for Musician	2	CR: MVB, MVK, MVP, MVJ, MVS, MVV, MVW, MVX 5000-6000	This course is open to graduate performance majors, designed to help develop healthy, injury-free and effective life and practice style primed for the rigorous physical and mental regimen required in music study.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUS	6906	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
MUS	6910	Directed Research	1-19		Directed research topics in various areas of Music. The student must have a contract with a faculty member that outlines the work to be completed, timeline and assessment to be used.
MUS	6971	Thesis: Master's	2-19		
MUS	6976	Graduate Recital	2		
MUT	6545	Analysis of 18th and 19th Century Music	3		An in-depth examination of the music of the 18th and 19th centuries. Students provide detailed analyses of selected works and read appropriate scholarly writings. Additional activities may include in-class presentations and a research paper.
MUT	6575	Analysis of Twentieth Century Music	3		An in-depth examination of representative works. Students will learn analytical techniques such as set theory and 12-tons techniques, read scholarly articles, give in-class presentations, and write a research paper to gain an understanding of the theoretical and musical trends of the 20th-century.
MUT	6586	Critical Analysis-History	2		A study of historical developments of music in western civilization. Emphasis on a different historical period each semester, from the Middle Ages through the Romantic Period.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MUT	6629	Schenkerian Analysis	3		A study in theories and analytical methods developed by German theorist Heinrich Schenker. Students are expected to demonstrate their knowledge of these theoretical concepts by analyzing relevant literature, investigating scholarly articles, giving class presentations, and writing a research paper.
MUT	6665	Seminar Jazz Styles And Analysis	2		A studio course study of the improvised solos of the major innovators in jazz. Oriented toward the continuing development of students' soloing ability.
MUT	6751	Teaching of Music Theory	3		Comparative study of teaching, techniques, procedures, and materials used in teaching visual and aural theory.
MUT	6760	History of Music Theory	3		Evolutionary history of the materials of western music including tuning systems, scales, models, tonality, rhythm, counterpoint and harmony; also the exploration of treatises and theorists contributing to the evolution.
MVB	5251	Applied Trumpet	2-4		Private and class instruction.
MVB	5252	Applied French Horn	2-4		Private and class instruction.
MVB	5253	Applied Trombone	2-4		Private and class instruction.
MVB	5254	Applied Euphonium	2-4		Private and class instruction.
MVB	5255	Applied Tuba	2-4		Private and class instruction.
MVB	6451	Applied Trumpet	4		Required of all applied music majors. Private and class instruction.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MVB	6452	Applied French Horn	4		Required of all applied music majors. Private and class instruction.
MVB	6453	Applied Trombone	4		Required of all applied music majors. Private and class instruction.
MVB	6454	Applied Euphonium	4		Required of all applied music majors. Private and class instruction.
MVB	6455	Applied Tuba	4		Required of all applied music majors. Private and class instruction.
MVJ	5250	Applied Jazz Piano Secondary	2		Private and class instruction.
MVJ	5253	Applied Jazz Guitar Secondary	2		Private and class instruction.
MVJ	5254	Applied Jazz Bass Secondary	2		Private and class instruction.
MVJ	5259	Applied Jazz Percussion Secondary	2		Private and class instruction.
MVJ	5951	Applied Jazz Performance	2		Private and class instruction.
MVJ	6460	Applied Jazz Piano Major	4		Private and class instruction.
MVJ	6463	Applied Jazz Guitar	4		Private and class instruction.
MVJ	6464	Applied Jazz Bass	4		Private and class instruction.
MVJ	6469	Applied Jazz Percussion	4		Private and class instruction.
MVJ	6952	Applied Jazz Performance	4		Private and class instruction.
MVK	5251	Applied Piano	2-4		Private and class instruction.
MVK	6451	Applied Piano	4		Required of all applied music majors. Private and class instruction.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MVK	6650	Graduate Piano Pedagogy I	2		Emphasis on techniques used in teaching the individual student in performance.
MVK	6651	Graduate Piano Pedagogy II	2		Emphasis on techniques used in teaching the individual student in performance.
MVP	5251	Applied Percussion, Secondary	2-4		Required of all applied music majors. Private and class instruction.
MVP	6451	Applied Percussion	4		Required of all applied music majors. Private and class instruction.
MVS	5251	Applied Violin	2-4		Private and class instruction.
MVS	5252	Applied Viola	2-4		Private and class instruction.
MVS	5253	Applied Cello	2-4		Private and class instruction.
MVS	5254	Applied Double Bass	2-4		Private and class instruction.
MVS	6451	Applied Violin	4		Required of all applied music majors. Private and class instruction.
MVS	6452	Applied Viola	4		Required of all applied music majors. Private and class instruction.
MVS	6453	Applied Violoncello	4		Required of all applied music majors. Private and class instruction.
MVS	6454	Applied Double Bass	4		Required of all applied music majors. Private and class instruction.
MVV	5251	Applied Voice	2-4		Private and class instruction.
MVV	6451	Applied Voice	4		Required of all applied music majors. Private and class instruction.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
MVV	6652	Voice Pedagogy	2		Voice Pedagogy covers the fundamentals of the teaching of singing. Open to all M.M. voice majors; other students may petition to enroll with instructor approval. This course is not repeatable for credit.
MVW	5251	Applied Flute	2-4		Private and class instruction.
MVW	5252	Applied Oboe	2-4		Private and class instruction.
MVW	5253	Applied Clarinet	2-4		Private and class instruction.
MVW	5254	Applied Bassoon	2-4		Private and class instruction.
MVW	5255	Applied Saxophone	2-4		Private and class instruction.
MVW	6451	Applied Flute	4		Required of all applied music majors. Private and class instruction.
MVW	6452	Applied Oboe	4		Required of all applied music majors. Private and class instruction.
MVW	6453	Applied Clarinet	4		Required of all applied music majors. Private and class instruction.
MVW	6454	Applied Bassoon	4		Required of all applied music majors. Private and class instruction.
MVW	6455	Applied Saxophone	4		Required of all applied music majors. Private and class instruction.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	5871	Informatics in Nursing and Healthcare	3		Foundations course with emphasis on essential content and applications in healthcare informatics and clinical systems. Provides understanding of the interdisciplinary issues in medical and nursing informatics and a foundation for those seeking expertise in healthcare informatics. Focus on technologies in healthcare, nomenclatures and classification systems, health care documentation, electronic medical records, and web-based technologies for healthcare.
NGR	6002C	Advanced Health Assessment Across the Lifespan	4	PR: NGR 6152, NGR 6172.	Development of advanced clinical skills in assessing and maintaining the health of individuals across the life span through history taking, physical examinations, and diagnostic/therapeutic procedures.
NGR	6055	Health Assessment for the Advanced Generalist Nurse	2		Health assessment with application to the advanced generalist nurse. Using a case study approach, techniques will be applied to the clinical setting with emphasis on education and management.
NGR	6060	Medical Laboratory Interpretation for the Advanced Practice Nurse	1		Interpretation of common medical laboratory results for the Advanced Practice Nurse with focus on the differential diagnosis.
NGR	6064C	Advanced Diagnostics & Procedures	3	PR: NGR 6002C.	Introduces evaluation, selection, interpretation, and application of diagnostic testing, evaluation techniques and procedures. Fosters evidence-based critical thinking and decision-making skills. Simulation lab practice included for skills acquisition.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6080	Family and Population-Based Health Promotion	3	PR: NGR 6121	Focuses on the assessment of family and population groups for the purpose of planning, implementing, and evaluating nursing interventions for health promotion, health maintenance, and disease and injury prevention.
NGR	6121	Theoretical Foundations	3		Examination of knowledge development in nursing science, critique and evaluation of theories from nursing and related fields. Professional role development is emphasized to facilitate transition into advanced nursing practice roles.
NGR	6140	Pathophysiology for Advanced Practice	4		Central concepts of pathophysiology: embryologic origins, cells, tissues, organs, and systems. Provides essential knowledge base in pathophysiology across the life span for advanced nurse practice nurses.
NGR	6143	Pathophysiologic Concepts in Acute Care Nursing	3	PR: NGR 6140; NGR 6121;	This course will explore pathophysiologic mechanisms of the major body systems in critically ill patients across the lifespan.
NGR	6146	Pathophysiology/Pharmacology for the Advanced Generalist Nurse	4		Course will focus on what is currently known about the pathophysiology of commonly seen diseases with updates in pharmacology. A case study approach will be used.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6152	Advanced Physiology and Pathophysiology	4		In-depth review of research findings in foundational sciences of human physiology. Findings will be applied to mechanisms important in disease pathogenesis, pathophysiology, and clinical manifestations in selected disease states throughout the lifespan.
NGR	6157	Physiology & Pharmacology for Nurse Anesthetists II	5	PR: NGR 6404 and NGR 6460.	An integrative approach for nurse anesthetist students to advanced principles of pharmacology and human physiology across the lifespan with an emphasis on understanding the effects of anesthesia on the individual human organs systems.
NGR	6168	Alternative and Complementary Therapies	2		Critical assessment of behavioral, cognitive, and plant-based interventions being used in various cultures to treat disease. Emphasis will be upon remedies popular in the United States and their proposed mechanisms of action.
NGR	6172	Pharmacology for Advanced Nurse Practitioners	4	PR: NGR 6140 with a "B" or higher."	This course is designed to provide the advanced nurse practitioner student with a current knowledge base in pharmacology and pharmacotherapeutics focusing on pharmacokinetics and pharmacodynamics across drug categories.
NGR	6201	Primary Care of Adults I	3	PR: NGR 6140, NGR 6121, NGR 6737, NGR 6800, NGR 6080, NGR 6172, NGR 6002C.	The didactic basis for diagnosing and managing common and acute health conditions of the adult. Students will compile/analyze data and develop/implement a plan of care. Concepts of health promotion/health maintenance are integrated throughout the course.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6202C	Primary Care of Adults II	6	PR: NGR 6002C, NGR 6121, NGR 6800, NGR 6140, NGR 6172, NGR 6737, NGR 6080, NGR 6207.	Didactic basis and practical experience for diagnosing and managing chronic health problems of the adult; emphasis on compiling and analyzing data, developing and implementing a plan; integrating health promotion and maintenance throughout course.
NGR	6207C	Health Management of Adults and Older Adults I	6	PR: NGR 6002C.	Comprehensive evaluation and treatment of common acute conditions and acute exacerbations of common chronic conditions of adults and older adults.
NGR	6210C	Clinical Management of the Acutely Ill Adult	7	PR: NGR 6002C and NGR 6143	This course focuses on the management of commonly encountered acute and chronic episodic health problems in adults and older adults.
NGR	6211C	Acute Care of Adults & Older Adults: Special Topics	7	PR: NGR 6210C, NGR 6244C, NGR 6232C	This course focuses on both theoretical and clinical knowledge of topics of special interest to the Acute Care, Adult-Gerontologist Primary Care Nurse Practitioner. A variety of teaching strategies will be utilized.
NGR	6215	Primary Care: Adult Health Management	3	PR: NGR 6205, NGR 6205L, NGR 6207, NGR 6207L.	Focus on high risk, vulnerable adult patients/clients across the life span with complex, multi-system health problems. The course covers the assessment, management and continuity of care for individuals with these complex, acute and chronic health problems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6220	Pathobiology Of Neoplasia	3		Emphasizes basic concepts of cellular differentiation and the abnormal cytological changes occurring in the pathogenesis of Neoplasia. Also emphasized is the role of the advanced practice nurse in relation to the role of the immune system and diet in oncogenesis, and the epidemiology and pathology of specific types of cancers.
NGR	6221	Oncology Nursing Concepts	3		Provides advanced oncology nursing content with a focus on nursing management of physical problems resulting from cancer and its treatment. (CI)
NGR	6222L	Practicum I in Advanced Oncology Nursing Practice	3	PR: NGR 6140, NGR 6172, NGR 6002C, NGR 6121, NGR 6737, NGR 6080, NGR 6800, NGR 6220, NGR 6221.	Provides clinical experiences in advanced oncology nursing focused on the application of theoretical and conceptual knowledge relevant to adults with cancer or at risk. Clinical assessment is focused on developing assessment skills and documentation.
NGR	6223L	Practicum II in Advanced Oncology Nursing	3	PR: NGR 6140, NGR 6172, NGR 6002C, NGR 6121, NGR 6737, NGR 6800, NGR 6080, NGR 6220, NGR 6221, NGR 6222L and NGR 6240 (proposed)	Clinical experiences in advanced oncology nursing focused on the application of theoretical and conceptual knowledge relevant to adults with cancer or at risk; development of diagnostic skills, clinical management and interdisciplinary collaboration.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6224L	Practicum III in Advanced Oncology Nursing Practice	1-9	PR: NGR 6140, NGR 6172, NGR 6002C, NGR 6121, NGR 6737, NGR 6800, NGR 6080, NGR 6220, NGR 6221, NGR 6222L, NGR 6223L, and NGR 6240.	Clinical experiences in advanced oncology nursing focused on the application of theoretical and conceptual knowledge relevant to adults with cancer or at risk; emphasizes evidence based practice, evaluating outcomes and professional role development.
NGR	6232C	Selected Concepts in the Acutely Ill Adult	7	PR: NGR 6140	This course focuses on engaging family and surrogate decision-makers in realistic goal setting while supporting physiologic function in acutely and critically ill adults and older adults.
NGR	6240	Adult Health For Specialty Care Nursing	3	PR: NGR 6140, NGR 6172, NGR 6002C	Prepares specialty care nurse practitioners to recognize and assess complex, multi-system problems within their specialty, make appropriate referrals and collaborate with other specialty/primary care providers to meet the healthcare needs of the patient
NGR	6244C	Health Management of Adults and Older Adults II	6	PR: NGR 6207C.	Focuses on prevention and management of common chronic conditions and the symptoms that accompany these conditions.
NGR	6291C	Health Mgmt of Adults and Older Adults: Special Topics	6	PR: NGR 6207C, NGR 6244C.	Theoretical and clinical knowledge of topics of special interest to the Adult- Gerontologist Primary Care Nurse Practitioner. A variety of teaching strategies will be utilized.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6301	Primary Care Of Children And Adolescents I	3	CR: NGR 6001C.; PR: NGR 6121, 6135, 6800, 6080, 6140, 6199.	Focus is on primary care of children and adolescents with common acute and behavioral problems. Clinical management, available resources for patients, and the impact of illness on families are highlighted.
NGR	6301C	Primary Care of Children & Adolescents I	6	PR: NGR 6002C.	Focus is on primary care of children and adolescents with common acute and behavioral problems. Clinical management, available resources for patients, and the impact of illness on families are highlighted.
NGR	6302C	Primary Care of Children and Adolescents II	6	PR: NGR 6301C.	This course is designed to provide the student with the basis for diagnosing and managing chronic health conditions of the child and adolescent. Attention will be paid to the needs of culturally diverse and vulnerable populations.
NGR	6305L	Primary Care Practicum: Children	2-3	CR: NGR 6305.; PR: NGR 6002C, NGR 6121, NGR 6140, NGR 6199	Application of knowledge gained in the classroom in PC: Children to the patient/client population between birth and pre-adolescent years. Screening, health maintenance, and management of health problems will make-up the clinical experiences.
NGR	6339C	Primary Care of Children and Adolescents: Special Topics	6	PR: NGR 6302.	This course provides information to prepare the pediatric nurse practitioner to provide primary care to the children and adolescents. Course content will include comprehensive diagnosis and management of acute and chronic pediatric health problems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6342	Primary Care of Childbearing Family	1	PR: NGR 6207C.	Management of common, episodic and chronic health problems in women before, during and after conception. Developmental stage, psychosocial strengths, lifestyle variations, environmental stresses, cultural diversity and resources will be incorporated.
NGR	6342L	Primary Care of Childbearing Family Practicum	1	PR: NGR 6342.	Management of common, episodic and chronic health problems in women before, during and after conception. Critical analysis of the childbearing family will form the foundation for advanced practice nursing intervention and health promotion during pregnancy.
NGR	6343C	Primary Care of Women	5	PR: NGR 6002C, NGR 6080, NGR 6140, NGR 6121, NGR 6135, NGR 6172, NGR 6800, NGR 6247 AND NGR 6248C OR NGR 6307 AND NGR 6308C.	Management of common episodic and chronic health problems in women with critical analysis to form the foundation for advanced practice intervention and health promotion. Clinical experience focuses on application of the knowledge gained in the didactic.
NGR	6400	Chemistry, Biochemistry and Physics for Nurse Anesthesia	3	PR: undergraduate Chemistry course with a grade of B or higher.	This course examines the laws and principles of inorganic chemistry, organic chemistry and physics as they apply to pharmacology and the clinical practice of nurse anesthesia. Restricted to majors.
NGR	6404	Anatomy Physiology for Nurse Anesthesia I	3	PR: BSC 2085 and BSC 2086 or equivalent undergraduate Anatomy and Physiology course with a grade of B or higher.	This course focuses on human anatomy and physiology and its relevance to the practice of nurse anesthesia. Restricted to majors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6420	Foundations & Methods of Nurse Anesthesia Practice	4	PR: NGR6404, NGR6400, NGR6460, NGR6422, GMS6461, NGR6002C, NGR6800, PHC6050.	Focuses on the fundamentals of nurse anesthesia practice and techniques. This course also focuses on the development of didactic knowledge for regional anesthesia and advanced nurse anesthesia practice.
NGR	6422	Principles of Nurse Anesthesia through the Lifespan	3	PR: NGR6404, NGR6400, NGR6460, NGR6800, PHC6050.	Emphasizes the considerations of nurse anesthesia practice, principles, and techniques for the obstetrical, pediatric and geriatric patient.
NGR	6423	Principles of Cardiothoracic Nurse Anesthesia	3	PR: NGR 6424, NGR 6490, NGR 6492, NGR 6420, NGR 6400, NGR 6404, NGR NGR 6460, NGR 6800, GMS 6461, NGR 6140, NGR 6422, NGR 6002C, PHC 6050.	Basic physiology, pathophysiology and anesthetic management of cardiac, thoracic, neurologic, endocrine and hepatic systems; emphasis on anesthetic implications and anesthesia management. Non-cardiothoracic surgery in patients with cardiothoracic pathology.
NGR	6424	Principles of Nurse Anesthesia	3	PR: NGR 6140, NGR 6422, NGR 6404, NGR 6400, NGR 6460, GMS 6461, NGR 6002C, PHC 6050, NGR 6800.	Physiology, pathophysiology and anesthetic management and evaluation of orthopedic, neurologic, endocrine, hepatic, urology systems with emphasis on anesthetic implications and anesthesia management for surgery.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6431	Nurse Anesthesia Clinical Residency I	4	PR: GMS6461, NGR6002C, NGR 6140, NGR 6400, NGR6404, NGR 6420, NGR6422, NGR6423, NGR6460, NGR6492 , NGR6800, PHC6050.	This course focuses on clinical application of didactic material from the nurse anesthesia curriculum through novice level practice in the role of a nurse anesthetist.
NGR	6432	Nurse Anesthesia Clinical Residency II	4	CR: NGR 6929; PR: NGR 6431	This course focuses on clinical application of didactic material from the nurse anesthesia curriculum through novice level practice in the role of a nurse anesthetist.
NGR	6433	Nurse Anesthesia Clinical Residency III	4	CR: NGR 6929; PR: NGR 6432	This course focuses on clinical application of didactic material from the nurse anesthesia curriculum through intermediate level practice in the role of a nurse anesthetist.
NGR	6434	Nurse Anesthesia Clinical Residency IV	4	PR: NGR 6002C, NGR 6080, NGR 6121, NGR 6140, NGR 6172, NGR 6737, NGR 6800 AND NGR 6201, NGR 6202C OR NGR 6301 AND NGR 6302C.	This course focuses on clinical application of didactic material from the nurse anesthesia curriculum through an advanced level of practice in the role of a nurse anesthetist.
NGR	6440L	Nurse Anesthesia Simulation Lab I	2	PR: NGR 6420, NGR 6424.	This course will allow for repetitive, hands-on practice of procedures and techniques for the neurologic, renal, and orthopedic systems with an emphasis on anesthesia management. It will also focus on the trauma patient as well as team training.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6441L	Nurse Anesthesia Simulation Lab II	2	PR: NGR 6440L.	Demonstration of theoretical and clinical knowledge needed to verify competency of the student registered nurse anesthetist and promote safe practice. Procedures and techniques performed in the obstetrical, pediatric, and geriatric patient.
NGR	6442L	Nurse Anesthesia Simulation Lab III	2	PR: NGR 6441L.	This course will allow for repetitive, hands-on practice of anesthetic procedures and techniques for the cardiac, thoracic, general, ophthalmic (ENT), endocrine, and hepatic systems with an emphasis on anesthesia management.
NGR	6460	Pharmacology for Nurse Anesthesia I	3		This course focuses on the pharmacokinetics, pharmacodynamics and general pharmacological principles of anesthetic drugs and adjunctive agents. Restricted to majors.
NGR	6470	Assessment, Radiology, and Psychology of Pain	3		Demonstration of theoretical and clinical knowledge needed to make proper assessment of pain based on relevant diagnostic, radiological facts and understand the importance of the psychological aspect of pain for the proper diagnosis and treatment.
NGR	6471	Concepts of Pain Pathophysiology	3		This course is designed to introduce the basic anatomy, physiology, and mechanisms underlying the pain pathology. It will also introduce an overview of different pain theories and philosophies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6472	Pharmacology of Pain Management	3		This course is designed to review the commonly used analgesic medications in pain management clinical practice. It also reviews chemical dependency, addiction, and professional responsibilities associated with high risk medications.
NGR	6473C	Interventional Procedures/Simulations in Pain Management	2	PR: NGR 6470 and NGR 6471.	Focuses on introduction of various interventional techniques used in treatment of pain syndromes. The course is based on application of didactic material from previous pain management graduate courses. More advanced interventional modalities.
NGR	6491	Nurse Anesthesia Practice Comprehensive	2	CR: NGR 6434.; PR: NGR 6433, NGR 7892, NGR 6929.	This course is designed to measure the knowledge base and clinical competency of the nurse anesthesia student.
NGR	6492	Nurse Anesthesia Role Development	3	PR: GMS 6461, NGR 6002C, NGR 6140, NGR6400, NGR6404, NGR6422, NGR6460, NGR 6800, PHC 6050.	Overview of the professional, ethical, and legal aspects regarding the practice of nurse anesthesia and information about the American Association of Nurse Anesthetists, including its history and the Councils on Accreditation, Certification and Practice.
NGR	6500	Theoretical Foundations for Advanced Psychiatric Nursing	3	PR: NGR 6121.	Theoretical basis for advanced practice in psychiatric nursing. Focus on selected psychodynamic, neuropsychological, development, and systems models of behavior and their impact for nursing practice.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6500L	Psychiatric APN Practicum: Psychiatric Care Outpatient	1-6	CR: NGR 6500.	Clinical experience in advanced psychiatric mental health nursing that focuses on comprehensive mental health assessment, crisis intervention and brief psychotherapy.
NGR	6501	Psychopathology for Advanced Psychiatric Nursing	3		In-depth study of psychosocial, factors contributing to psychosocial dysfunction, and diagnostic reasoning basis to advanced practice psychiatric health nursing, emphasis on etiology and differential diagnoses.
NGR	6501L	Psychiatric APN Practicum: Psychiatric Care in the Inpatient Setting	1-4	PR: NGR 6500	Clinical experience in in-patient settings with selected acute and chronic populations. Emphasis on the role of the psychiatric APN working with individuals, groups and families conducting comprehensive mental health in the inpatient setting.
NGR	6502	Treatment Modalities for Advanced Psychiatric Nursing	3		Examination of treatment modalities for advanced practice psychiatric nursing. Focus on theoretical and conceptual foundation for specialty practice with individuals, families, and groups.
NGR	6538	Psychopharmacology	3	PR: NGR 6140	Provide advanced knowledge of psychobiological information with the use of psychopharmacological interventions in patients. Focus will be on pharmacokinetics and clinical management including prescription of medications for psychiatric disorders.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6613C	Health Management of Families: Special Topics	5	PR: NGR 6244C.	Theoretical and clinical knowledge of topics of special interest to the Family Nurse Primary Care Practitioner. A variety of teaching strategies will be utilized.
NGR	6638	Health Promotion, Clinical Prev, & Pop Health for Adv Nurs	3		Provides knowledge and skills required for planning, implementing, and evaluating evidence-based health promotion and clinical prevention services for individuals and families across the lifespan and for populations.
NGR	6650	Occupational Health Nursing I	2		Primary care of the worker relative to health promotion/risk reduction/acute injuries/chronic conditions, assessment of the workplace and needs of worker aggregates, and planning for health services relative to worker lifestyles and risk factors.
NGR	6650L	Clinical Experiences In Occupational Health Nursing I	1		Clinical experiences at selected worksites to apply content from NGR 6650 Occupational Health Nursing with an emphasis on analysis of the workplace and worker aggregates, occupational health nurse(s) roles/functions.
NGR	6651	Occupational Health Nursing II	2		Focuses on the analysis of clinical strategies (e.g. triage, biological monitoring) relevant to advanced occupational health programs, medical surveillance programs, and worker's compensation managed care.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6651L	Clinical Experiences in Occupational Health II	1		Clinical experiences relative to the application of content in NGR 6650 Occupational Health Nursing II with a focus on workplace assessment utilizing a comprehensive instrument and evaluation of worker's compensation managed care programs.
NGR	6652	Occupational Health Nursing III	3		Focuses on the prevention of occupational injuries and illnesses; direct care in the occupational setting; disability case management; and health promotion and adult education.
NGR	6653	Occupational Health Nursing IV	3		Focuses on the management of psychosocial factors in the occupational setting; examples of occupational health and safety programs; environmental health; research; and professional issues related to occupational and environmental health nursing.
NGR	6673	Epidemiology for Advanced Nursing	3		This course assists graduate level nurses to identify and describe patterns of disease occurrence and to evaluate potential determinants of disease and disease prevention.
NGR	6691	Counseling for the Terminally Ill	3		Provides specialized psychological and psychosocial content with a focus on the principles and techniques for conducting psychosocial counseling with terminally ill patients.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6700C	Advanced Practice Nurse Transitions	5	PR: NGR 6002C, NGR 6080, NGR6121, NGR 6140, NGR 6172, NGR 6737, NGR 6800 and NGR 6201, 6202C OR NGR 6301, NGR 6302C AND NGR 6343C.	This is a synthesis course for professional and clinical development. It completes the summative process for students to design and develop their roles as APNs. The clinical portion focuses on the cumulative knowledge gained from previous courses.
NGR	6700L	APN Transitions Practicum	2-3	CR: NGR 6700C.	Clinical concentration in the intended area of practice for the graduating Advanced Practice Nurse (APN). Focus on applying integrated knowledge to provide collaborative comprehensive care. By Permit Only.
NGR	6710	Teaching Strategies in Nursing Education	3	PR: NGR 6713.	This course focuses on classroom and clinical teaching in nursing, including computer-based learning and distance learning. Evaluation of textbooks, assignment making and construction of learning plans are included.
NGR	6713	Foundations of Nursing Education	3		This course focuses on the philosophical, theoretical and evidence-based approaches for nursing education programs. Emphasis is on role of the nurse educator and curriculum development.
NGR	6718	Evaluation Strategies for Nursing Education	3	PR: NGR 6710, NGR 6713	This course provides an overview of evaluation strategies used in the class, clinical setting and in web-based instruction. Program evaluation models are explored.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6719	Clinical Case Studies in Nursing Education	3		Serves as a vehicle for nursing education students to increase their clinical knowledge and skills in a selected area of specialty through analysis of common health problems. A case study format will be used.
NGR	6723	Leadership and Applied Management in Nursing Healthcare	3		Leadership in management of resources to achieve quality and enhance healthcare outcomes in nursing. Focus on , evidence-based practice and patient-care outcomes within the context of an interdisciplinary team.
NGR	6733	Org & Sys Leadership & Qual Impr for Adv Prac Nurs	3		Provides knowledge and skills required for organizational and systems leadership and interprofessional collaboration in the design and implementation of change to improve health care delivery and health outcomes.
NGR	6737	Ethical, Legal, and Policy Issues in Advanced Nursing Practice	3		Emphasizes on contemporary ethical, legal, and policy issues related to advanced nursing practice and health care delivery; issues are analyzed at the global, national and local levels; nursing's role in agenda setting and strategies for health care reform.
NGR	6770C	Introduction to the Clinical Nurse Leader Role	1		Concepts essential for the students'™ development into a Clinical Nurse Leader, focusing on the CNL role, communication, leadership and assessing the practice environment. Clinical assignments are designed to assist them in developing the CNL role.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6771L	CNL Clinical Seminar	1		Exploration and application of the clinical concepts essential to the role of the Clinical Nurse Leader.
NGR	6773L	CNL Residency	5	CR: NGR 6777C; PR: NGR 6723, NGR 6770C, NGR 6872C, NGR 6898	Residency practice in the role of the Clinical Nurse Leader.
NGR	6777C	Shaping the Practice Environment	1	PR: NGR 6872C, NGR 6723.	Concepts essential to shape the clinical practice environment, including components of a patient centered, safe effective and equitable care environment.
NGR	6800	Nursing Research	3		Research designs and methods for nursing with primary emphasis on these topics: critique of research studies, researchable problems, research designs, instruments and other data collection methods, approaches to data analyses using computer applications, and preparation of research proposals for thesis, directed research, or funded research.(CI)
NGR	6803	Research and Evidence-Based Practice	3		Theoretical and clinical knowledge to prepare the advanced practice nurse to engage in evidence-based practice. Development of skills needed to critically evaluate new information available from professional consensus statements and research findings.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6821	Applied Analysis for Outcomes Research Using Large Healthcare Databases	3		Focus on knowledge discovery in clinical domains by exploring large nursing and healthcare databases for the purposes of outcomes research or quality improvement. Emphasis on theoretical models and methods of analysis, providing experimental computer applications with large healthcare databases.
NGR	6824	Data Analysis for Health Sciences	3		This course is designed to provide the graduate Student interested in health sciences research with practical experience using SPSS for Windows and Microsoft's Excel programs to manage, organize, analyze and present both primary and secondary data in biophysical sciences.
NGR	6872C	Concepts in Information Management	1	PR: NGR 6770C	Emphasis on health information technologies that puts knowledge at the point of care to promote safe and high quality healthcare outcomes. Clinical component focuses on data that support decision making.
NGR	6885	Bioethics in Contemporary Society	3		Ethical issues related to health and illness encountered during stages of the life cycle, focusing on the influences exerted by cultural diversities and psychosocial factors, including the bi-directional interaction between the individual and society.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6893	Systems & Populations in Healthcare	3		Analysis of critical issues in health care delivery and population health; overview of design and structure of U.S. health care system; issues of cultural diversity, health disparities, and social justice; and healthcare systems outcomes management.
NGR	6898	Microsystem Concepts of Health Care Finance	3		Concepts, language and data about financial and economic elements of patient care in a microsystem; skills to obtain, synthesize and utilize information from health economics and health finance using specialized language, concepts and operating rules.
NGR	6905	Directed Independent Study	1-6		Specialized individualized study determined by students' needs and interests; requires an approved contract with a faculty member. (CI). Restricted to majors; repeatable for credit.
NGR	6915	Directed Research	1-3	PR: NGR 6800	Builds on knowledge gained in NGR 6800 and specialty concentration by participating in a research project under the direction of selected faculty. (CI)
NGR	6929	Clinical Correlational Conferences	1	PR: NGR 6431 or NGR 6432 or NGR 6433 or NGR 6434.	This course is designed to complement each clinical residency; these conferences will discuss clinical experience, morbidity and mortality utilizing current research.
NGR	6931	Selected Topics	1-4		Seminars for the analysis and discussion of selected issues in nursing of topical concern to student and faculty.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	6940	Classroom/Online Teaching Practicum	2	PR: NGR 6713.	Provides knowledge and experience in the application of teaching strategies in the classroom and online settings.
NGR	6944	Practicum in Acute Care Nursing	1-9	PR: NGR 6143, NGR 6333 or NGR 6232	Clinical experiences in critical care settings focusing on the role of the advanced practice nurse (1:4 ratio).
NGR	6947	Practicum in Nursing Education	2	PR: NGR 6822, NGR 6710, NGR 6712	Instructional experiences that utilize educational concepts and instructional strategies in a variety of educational settings in nursing. (CI)
NGR	6952	Writing for Nursing Publication	3	PR: NGR 6800.	Focus is on scientific writing and dissemination of scientific knowledge in advanced nursing practice.
NGR	6971	Thesis: Master's	1-9	PR: NGR 6800	Restricted to majors; repeatable for credit.
NGR	7003	Advanced Health Assessment II	3	PR: A grade of B or higher must have been earned in master's level course in pathophysiology, pharmacology, and advanced health assessment.	Mastery of the comprehensive physical examination and health history for individuals across the life span. Focus on systematic review, analysis, and documentation within the context of the student's clinical expertise.
NGR	7061	Radiology for the Advanced Practice Nurse	1		Basics of X-ray, MRI, CT Scan Interpretation and Nuclear Medicine Studies for the Advanced Practice Nurse.
NGR	7062	ECG Interpretation for the Advanced Practice Nurse	1		Advanced ECG Interpretation, including 12 lead ECG for the Advanced Practice Nurse.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7103	Evidence-Based Practice	3	PR: NGR 7774 or NGR 7766 with a B or higher	Provides experience in the evaluation, selection and implementation of evidence based practice standards. Qualitative research methods are used to consider patient and provider values and preferences in patient care and practice/program evaluation.
NGR	7111	Disciplinary Perspectives in Nursing Science	3		Historic and philosophic issues in science and nursing science. Development of scientific knowledge base and scientific progress in nursing. Emphasis on emerging areas of nursing science.
NGR	7123	Theory Development in Nursing	3		This course focuses on the process and foundations of theory development and theory construction in nursing science. Elements of scientific underpinnings of knowledge development in the discipline are incorporated. The relationship between theory construction and research and methods to generate theories are explored.
NGR	7124	Advances in Nursing Science	3		Focus on history and philosophy of science: history and development of nursing's scientific knowledge base and theoretical progress. Emphasis methods of theory building and theory testing through research. Explore progress in middle range theories and areas of high priority for additional research for the discipline.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7125	Model Development for Nursing	3		This course focuses on the methods of model development that guides a program of research. Concept analysis as a method for development of a framework/diagram related to empirical referents is emphasized.
NGR	7141	Pathophysiology for Advanced Practice II	3	PR: A grade of B or higher must have been earned in master's level course in pathophysiology, pharmacology, and advanced health assessment.	Core elements of embryologic, genetic, and environmental factors in disease will be presented as well as aspects of immune phenomenon as related to genetic information and research impetus.
NGR	7176	Pharmacotherapeutics for Advanced Nursing Practice	3	PR: A grade of B or higher must have been earned in master's level course in pathophysiology, pharmacology, and health assessment.	Progressive pharmacotherapeutics for advanced nursing practice. Focus diagnostic reasoning of scientific evidence relating to prescribing and monitoring drugs.
NGR	7209	Diagnostic Reasoning	3		This course provides practice in analyzing data and making effective clinical decisions. Students will practice diagnostic reasoning using the health history, physical examination, and diagnostic tests to create a prioritized differential diagnosis.
NGR	7411	Basics for Surgical Assistants	1		Overview and basics for the Advanced Practice Nurse as the surgical assistant.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7761	Breast Workshop for the Advanced Practice Nurse	1		Breast assessment techniques and interpretation for Advanced Practice Nurse.
NGR	7762	Casting and Splinting for the Advanced Practice Nurse	1		Basics of casting and splinting for the Advanced Practice Nurse.
NGR	7763	Minor Surgical Procedures for the Advanced Practice Nurse	1		Basics of minor surgical procedures for the Advanced Practice Nurse.
NGR	7764	Neurological Techniques for the Advanced Practice Nurse	1		Basic neurological techniques for the Advanced Practice Nurse.
NGR	7765	Invasive Medical Procedures for the Advanced Practice Nurse	1		Basics of invasive medical procedures for the Advanced Practice Nurse.
NGR	7766	Health Systems Leadership and Interprofessional Practice	3		Knowledge and skills required for leading interprofessional teams to improve health care delivery and health outcomes with emphasis on systems thinking, communication, health system fluency, and management of ethical dilemmas.
NGR	7767	Practice Management, Quality Improvement, and Patient Safety	3		This course provides knowledge and skills required for successful advanced nursing and health care practice management at the organizational or systems level and for leading quality improvement and patient safety initiatives.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7810	Design, Measurement, and Analysis in Nursing Research I	3		This course focuses on design of studies in nursing research; including review of strengths & limitations of study designs relating to different types of research questions in nursing science & principles of hypothesis testing & empirical inference.
NGR	7811	Concepts in Nursing Practice	3		Emphasis on analysis of phenomena (concepts) that impact on nursing practice. Phenomena are selected and analyzed from theoretical and research perspectives.
NGR	7812	Design, Measurement, and Analysis in Nursing Research II	3	PR: NGR 7810	This course focuses on concepts to design & carry out research in nursing science; including methods to minimize bias & increase study precision, classification & interpretation of research data, & use of probability to estimate health-related quantities.
NGR	7813	Design, Measurement, and Analysis in Nursing Research III	3	PR: NGR 7812	This course focuses on knowledge and mastery of a wide range of analytical principles and methods that are routinely used and critical for designing and conducting research studies, including disseminating research results in nursing science.
NGR	7814	Design, Measurement, and Analysis in Nursing Research IV	3	PR: NGR 7813	This course focuses on obtaining working knowledge and proficiency in a range of advanced analytical principles and methods that may be used in the design and analysis of nursing science research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7815	Qualitative Research Methods in Nursing	3	PR: NGR 6800.	An overview of qualitative research methods in nursing, identification of problems appropriate for qualitative research methods, and application of appropriate qualitative research methods to a researchable problem.
NGR	7816	Research Designs and Methods in Nursing	3		Focus on designs used in nursing research to test or develop theoretical models, or concepts, including clinical or outcome variables, or hypotheses. Emphasis on quantitative designs.
NGR	7823	Psychometrics and Measurement for Nursing Research	3	PR: NGR 7841.	Explores issues in developing, testing, and applying measurement theory in research. Analysis of psychometric properties of instruments and methods appropriate to theoretical and conceptual demands of science.
NGR	7837	Innovative Programs in Biobehavioral Research	3		This course provides foundations in theoretical models, critical analyses of research literature, and design and measurement issues in biobehavioral research.
NGR	7838	Innovative Programs in Symptom Management Research	3		This course produces the foundation to the study of nursing science. The specific purpose of this course is to utilize model program in symptom science as exemplars in the development in the scientific basis for nursing practice.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7841	Statistical Methods in Nursing Research I	3	PR: NGR 6800 or equivalent and statistics.	Standard parametric and nonparametric statistical methods in nursing research; role of assumptions and theory in selecting the appropriate statistic for testing hypotheses/research questions. Emphasis on analysis of variance and simple linear regression. Statistical software applications are integrated into the course.
NGR	7842	Statistical Methods in Nursing Research II	3	PR: NGR 7841.	Focus on advanced multivariate methods in nursing research: regression (linear, multiple, logistic) and multiple analysis of variance (MANOVA) and covariance software applications are integrated into the course.
NGR	7843	Statistical Methods in Nursing Research III	3	PR: NGR 7842.	Focus on advanced multivariate statistical methods in nursing research; emphasizing multiple regression and correlational analysis.
NGR	7848	Fundamentals of Statistics for Clinicians	3		An overview of the statistical methods typically used in clinical research including the language and logic of these methods. Fundamental statistical theory and common nursing applications are covered.
NGR	7874	Informatics and Patient Care Technology	3		Provides the knowledge and skills needed to prepare nurse leaders to use information systems and patient care technology to implement quality improvement initiatives and support practice and administrative decision making.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7881	Ethics in Research and Practice	3		Explores issues and research in esthetics (carative factors-art of healing) and ethics in advanced practice. Focuses on use of alternative approaches to healing and application of ethical decision making models to complex health care issues.
NGR	7892	Health Care Policy & Clinical Prevention for Imprv Pop Health	3	PR: NGR 7841 and NGR 7842	This course provides knowledge and skills required for engagement in the analysis, development, and implementation of health policy and for application of health promotion and disease prevention interventions to improve population health.
NGR	7905	Directed Readings	1-6		
NGR	7915	Advanced Directed Research in Nursing	1-6		Specialized individual participation in research activity, including but not limited to pilot studies and other investigative activities.
NGR	7916	Grant Writing for Translational Science	3		This course prepares individuals to develop a grant application in their area of research. The critical elements of the NIH grant application including the significance, innovation and approach are presented along with the development processes.
NGR	7930	Scientific Inquiry Forum	1		This bi-weekly seminar provides students with an opportunity to develop ideas and collaborative relationships to develop their own work innovatively that leads to advances in nursing science.
NGR	7932	Special Topics	1-4		Seminars for the analysis and discussion of selected issues in nursing of topical concern to student and faculty.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7941	Nursing Research Pro Seminar	1-6	PR: Nursing Knowledge Systems and Issues in Knowledge Dissemination.	The Pro Seminar provides experiential opportunities for students to test innovative methods and technologies in a variety of educational or clinical settings. Seminars designed to critique current research in the area.
NGR	7942	Educational Leadership Residency	1-9		This residency provides the nurse educator with opportunities to acquire a distinct specialty of advanced nursing practice leadership. Experiences will be developed to assist in development of the dnp essentials and specialty competencies.
NGR	7945	Doctor of Nursing Practice Practicum	1-7		The Doctor of Nursing Practice practicum experience provides students with advanced knowledge and expertise in a focused area of advanced nursing practice within the student's established population focus and/or an APRN specialty.
NGR	7951	Scientific Writing - Writing for Publication	3		This course focuses on the development of a scholarly empirical manuscript or technical report of publishable quality.
NGR	7954	Communicating Nursing Science	3		Prepares individuals to attain skills in communicating nursing science through written and other media. Weekly peer review exercises emphasize writing, editing, and revising scientific evidence into understandable publishable manuscripts.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
NGR	7974	Doctor of Nursing Practice Project	1-3		This course provides for synthesis and application of knowledge and skills acquired in previous courses through the development, implementation, and evaluation of a practice improvement project.
NGR	7980	Dissertation: Doctoral	2-12		Directed research and writing of dissertation topic appropriate to the discipline. Restricted to majors; repeatable for credit
NGR	7981	Dissertation Proposal Writing	2		Selected topics pertaining to the dissertation proposal writing process, dissertation research planning and funding, and proposal defense. PR: CI or Ph.D. GS; completion of majority of required course work.
OCB	6050	Biological Oceanography	3		Study of life in the oceans, its rates and processes, and its interaction with the physical and chemical environment. Lec.
OCB	6567	Phytoplankton Ecology	3	PR: OCB 6050	An introduction to the physiology and ecology of marine phytoplankton. Emphasis will be on those variables and interactions that regulate photosynthesis, production, nutrient kinetics and regeneration, growth, spatial distribution, losses, and succession.
OCB	6671L	Methods In Biological Oceanography	1		To acquaint students with field and laboratory equipment and techniques currently used in biological oceanography. Emphasis will be on field problems, especially those requiring research at sea.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
OCC	6050	Chemical Oceanography	3	PR: CHM 2046	The ocean as a chemical system, including composition, physical-chemical aspects, role of nutrients, trace metals, interaction between bottom and overlying water, organic matter, and stable and radioactive isotopes. Lec
OCC	6057	Marine Pollution	3	PR: OCC 6050	Marine pollutant sources, reservoirs, transport processes, and dynamics. Topics include heavy metals, chlorinated hydrocarbons, radioactivity, petroleum, pathogens, and thermal pollution including functional and physiological responses of marine organisms.
OCC	6057L	Methods in Chemical Oceanography	1	PR: OCC 6050	An intensive study of the use and limitations of field and laboratory equipment that is a standard part of chemical oceanographic research into the behavior of dissolved and particulate constituents in seawater.
OCC	6111C	Applications of Gas Chromatography and Mass Spectrometry in Marine Science	3	PR: OCC 6050	Analytical techniques of high resolution gas chromatography and combined gas chromatography-mass spectrometry are applied to problems in Marine Science. Theoretical aspects of the techniques are covered in lectures, while detailed experimental procedures are taught and practiced in the laboratory.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
OCC	6216	Marine Organic Chemistry	3	PR: OCC 6050	Distribution and biogeochemical cycling of organic matter in the oceans. Topics include carbohydrates, proteins, lipids, humics, pheromones, interaction with trace metals, isotopic fractionation, microbial alterations, and biochemical tracers.
OCE	6048	Scientist in the Classroom	1-4		Provides students with a theoretical framework, practical knowledge, and skills required to successfully design, implement, and evaluate effective science teaching and learning.
OCE	6085	Ocean Policy	2		Learn about the community of people involved in marine affairs; the use of the sea and coast; current technology and the major policy issues related to the technology trends, and identify multiple sources of information available to students.
OCE	6609	Data Analysis Methods	3		This course introduces students to common statistical techniques like linear regression, Fourier series, low-pass filtering, optimal interpolation, and principal component analysis that are commonly used to analyze time-series and mapped data.
OCE	6609L	Data Analysis Programming	1	CR: OCE 6609	This optional lab to the Data Analysis Methods class is designed for students with no background in a programming language. The lab will introduce students to the basics of programming necessary for the main class.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
OCE	6908	Independent Study	1-10		Independent study in which students must have a contract with an instructor.
OCE	6934	Selected Topics in Oceanography	1-3		Special topics in Biological, Chemical, Geological, and Physical Oceanography.
OCE	6940C	Experiential Learning in Marine Science	1-4		Demonstrates marine science teaching protocols via the examination of marine science concepts and inquiry-based learning strategies through team building, lab-based research experiences, and field explorations to local marine environments.
OCE	6949C	Developing and Teaching a STEM Course	1-4		Designed to to enhance participants' science teaching and science communication skills. The course will provide students with the opportunity to develop the modules necessary to teach their first formal STEM Course.
OCE	6950	Teaching the Broader Impacts of Ocean Sciences	1-4		This experiential learning course is designed to teach graduate students how to prepare research grants, develop lab, field-based, and in classroom lesson modules to effectively translate science concepts to their students.
OCE	6971	Thesis: Master's	2-19		
OCE	6972	Directed Research	1-19		
OCE	7910	Directed Research	1-19		
OCE	7980	Dissertation: Doctoral	2-19		
OCG	6051	Geological Oceanography	3		Marine geology including plate tectonics; coastal, shelf and pelagic sedimentation; geochemical cycling; and sedimentary history of the ocean basins. Lec

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
OCG	6080	Plate Tectonics	3		An overview of the Plate Tectonic theory, including such topics as: geometry of Plate Tectonics, tectonics on a sphere, past plate motions, seismology, oceanic gravity, geochronology, heat flow, oceanic lithosphere, ridges, transforms, trenches, oceanic islands, and continental lithosphere.
OCG	6551C	Scanning Electron Microscopy: Theory and Technique	4	PR: One year Physics and Chemistry	Theory and practical application of the scanning electron microscope and the energy dispersive X-ray analyzer. Emphasis is on independent operation of the instruments, preparation techniques for specimens, and interpretation of results.
OCG	6656C	Marine Micropaleontology	3	PR: OCG 6051	Introduction to the microscopic marine fauna and flora found in the fossil sedimentary record. Emphasis is placed on the ecology, paleoecology, paleontology, and biostratigraphic record of calcareous and siliceous microfossils
OCG	6664	Paleoceanography	3	PR: OCB 6050, OCC 6050, OCG 6051, and OCP 6050	The study of the development of the ocean system through geologic history, including tectonic framework, sea level history, paleoclimatology, paleocirculation within the ocean basins, and the evolution of marine biota.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
OCG	6668	Evolution and Ecology of Reefs	3	PR: OCB 6050 and OCG 6051	Advanced course in ecology and evolution of reef communities. Topics include environmental controls on reef development, basic components of modern reef communities, and how those components have changed through geologic time.
OCP	6050	Physical Oceanography	3	PR: Diff/int. calculus, General Physics	The world ocean including its morphology, physical properties, currents, waves, tides, heat and water budgets, and related topics. Lec.
ORI	5930	Topics in Performance Genres	3		Variable topics course.
ORI	6018	Performance Art	3		Explores historical, theoretical, and critical perspectives on performance art in the US.
ORI	6020	Performing Social Resistance	3		Explores performance as a site of and means for creating social resistance and change.
ORI	6107	Texts in Performance	3		Explores contemporary literary texts through dramatic analysis, live performance, adaptation and staging strategies.
ORI	6250	Performance and Technology	3		Explores the relationship between live and mediated performance, the use of media technologies in performance, and the place of live performance in a Western mediated society.
ORI	6456	Performance Theory	3		A survey of modern and contemporary approaches to performance as constitutive of identity, verbal art, communication, and culture.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
ORI	6506	Performance Criticism	3		Focuses on the development and honing of critical skills employed in response to performance. These skills can be applied to a multitude of acts and texts.
ORI	7930	Seminar in Performance Studies	3		Variable topics course.
PAD	5035	Issues in Public Administration and Public Policy	3		Selected issues and topics in Public Administration and Public Policy.
PAD	5044	Environment of Public Administration	3		Examination of the legal, political, and ethical environment in which public managers work.
PAD	5605	Administrative Law and Regulation	3		An examination of the constitutional and statutory base and limitations of the administrative process, administrative adjudication, rule-making, and the judicial review of such actions. An examination of the Constitutional and statutory base and limitations of the administrative process, administrative adjudication, rule-making, and the judicial review of such actions. Attention is also directed to regulatory commissions, their functions, powers, management and relationship with other branches of government.
PAD	5700	Research Methods in Public Administration	3		Research design; skills in public agencies. Must be prepared to demonstrate proficiency in EXCEL, Access, and other relevant software programs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PAD	5807	Urban and Local Government Administration	3		Analysis of the role of the administrator at the municipal level, the division of functions, policy formation, alternative governmental structures, effects on the administrative process.
PAD	5836	Comparative Public Administration	3		How organizations and managers perform within a particular environment, potential impact of innovation, and how service is accomplished in a variety of socio-economic environments.
PAD	6041	Ethics and Public Service	3		The purpose of this course is to provide students with an understanding of the ethical dimensions of public service, with particular attention focused on the role, duties and responsibilities of the public administrator. Additionally, the course seeks to help students develop awareness, skill, and value framework to act ethically in their public service and management roles.
PAD	6056	Practice of Public Management	3		An integrative course applying the skills, knowledge, and values taught in the core curriculum and applied to public issues or problems.
PAD	6060	Public Administration Theory	3		Examination of major theoretical and practical developments in public administration with focus on organization theory and current research trends in the field.
PAD	6105	Public Organizations and Change	3		In-depth coverage of organizational theory and focus with special attention to issues and problems of organizational change and reform in the public sector.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PAD	6134	Project Management	3		Course is designed to introduce students to the concepts, theories, principles, and practices in project management, as well as to the use of project management software.
PAD	6146	Nonprofit Management and Leadership	3		Role and importance of third-sector organizations in American society; unique problems of nonprofit administration, role of leadership in nonprofit organizations.
PAD	6207	Public Financial Administration	3		Examination of the fiscal organization of federal, state, and local governments. Current problems in budgeting, revenue, and indebtedness are considered.
PAD	6208	Financial Oversight for Nonprofit Organizations	3		Introduce the non-financial manager to financial information used to make decisions for nonprofit organizations. Students will learn how to use the principles of financial management to make operating and capital budgeting decisions and to analyze long-term financial options.
PAD	6222	Issues in Florida-- Budgeting and Finance	3		Selected issues in public financial management and budgeting related to state agencies or local governments in Florida.
PAD	6227	Public Budgeting	3		Development, authorization, execution, and assessment of government budgets. Topics include current trends and issues in budget theory and practice, as well as reform efforts.
PAD	6231	Resource Dev.: Fundraising and Grantsmanship	3		Administration and management of the fundraising process; principles, skills, methods, and techniques. Administration and management of the grantsmanship process.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PAD	6275	Political Economy for Public Managers	3		Introduces students to the fundamental concepts, theories, principles and tools used in public sector managerial economics. Students will be using economic concepts and applying economic tools and techniques to address common issues faced by public managers.
PAD	6307	Policy Analysis, Implementation, and Program Evaluation	3		An introduction to analyzing public problems and program development. Emphasis is placed on the methodological tools for analyzing public problems, and criteria to assess the value of programs in addressing public problems.
PAD	6335	Strategic Planning and Social Innovation for Public and Nonprofit Organizations	3		Addresses strategic planning and social innovation. Emphasizes methods of strategic planning and the principles of social innovation as practiced by the public and nonprofits sectors. Contemporary research and literature is discussed.
PAD	6336	Community Development Programs and Strategies	3		Discusses community development principles and practices in historical and contemporary perspectives, federal, state and local initiatives, physical, social, and economic approaches to community development.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PAD	6338	Urban Land Use and Policy Administration	3		Focuses on the political, economic, and legal environment of urban land development. Examines public policies affecting the spatial distribution of urban land activities, overt and covert rationales of such policies; zoning; subdivision regulations; building codes, and other urban land use control measures.
PAD	6339	Housing and Public Policy	3		Explores housing policy in the broader context of public policy. Examination of housing market theories and the relationships between housing and city and regional planning.
PAD	6355	Urban Growth Management	3		Examines the political economy of controlling the growth and development of human settlements, regulatory and non-regulatory techniques of growth management, and the evolution of growth management practices in the U.S.
PAD	6417	Human Resources Management	3		A study of the major functions in public personnel, including recruiting, selection, testing, training, and development, and employee and human relations in the public service.
PAD	6427	Public Sector Labor Relations	3		Introduction to the historical, legal, political and procedural aspects of collective bargaining and labor relations in the public sector organizations. Addresses methods for resolving conflicts and grievances.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PAD	6703	Quantitative Aids for Public Managers	3	PR: PAD 5700	Techniques, models, to analyze managerial/policy problems. Descriptive, inferential, associational statistics; evaluate/make recommendations/alternative policy/decisions.
PAD	6710	Public Information Management	3		Intro to policy issues related to managing public info. by non-technical public & nonprofit managers. Non-tech. manager's role with strategic tech. planning, process re-engineering, appl. dev., data admin., procurement, security, public access, Internet.
PAD	6907	Independent Study	1-3		A flexible format for conceptual or theoretical studies in public administration.
PAD	6909	Problem Report	3		Analysis of a significant administrative or policy problem facing a public agency or manager.
PAD	6915	Directed Research	1-3		A flexible format for structured field research in Public Administration.
PAD	6934	Selected Topics in Public Administration	1-3		A flexible format to offer specialized courses not available within the regular curriculum.
PAD	6946	Internship in Public Administration	2-6		Structured learning and work experience in a public agency or non-profit organization.
PCB	5256	Developmental Mechanisms	3	PR: ZOO 4695.	Topics in modern developmental biology to be covered in lecture and through readings so as to gain a detailed understanding of cellular and molecular mechanisms of differentiation and pattern formation in various eukaryotic species for majors/non-majors

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PCB	5307	Limnology	3	CPR: CHM 2211.; PR: PCB 3043 and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023 and PHY 2053.	An introduction to the physical, chemical, and biological nature of fresh-water environments. Lecture only.
PCB	5307L	Limnology Laboratory	1	CPR: PCB 5307.	Laboratory portion of Limnology. Laboratory and field experience in the area of aquatic ecology.
PCB	5616	Molecular Phylogenetics	3	PR: PCB 3063.	Provides a theoretical (lecture) and practical (computer lab) framework to allow students to carry out phylogenetic analysis using molecular data. Majors or nonmajors.
PCB	6093	Advances in Scientific Review	2		Introduce research graduate students to the review and generation of primary literature. It serves to prepare them for preparing their data for publication, and presenting it at national and international meetings.
PCB	6107	Advanced Cell Biology	4		Detailed examination of the structure, function and molecular biology of eukaryotic cells.
PCB	6205	Cancer Biology III - Cancer Genomics and Drug Discovery	3		An exploration of the normal and abnormal cancer biological processes as they pertain to regulation of the genome and of novel cancer gene discovery approaches, as well as methodological and conceptual approaches to oncologic drug design and development.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PCB	6230	Cancer Biology I - Basics of Molecular Oncology	3		An introduction to the basics of molecular oncology. Topics will include cytoplasmic and nuclear oncogenes, cell cycle control, apoptosis, tumor suppressor genes and cancer drug discovery.
PCB	6231	Cancer Biology II - Immunology And Applied Biology	4		An exploration of the normal and abnormal immune development and function as well as the basic and applied aspects of tumor immunology.
PCB	6236	Advanced Immunology	4		Discussion of the basic immune reaction, nature of antigenicity; basic immunological techniques and their use in biological research and the medical sciences. Lec/Lab.
PCB	6275	Cell Signaling	3		A detailed examination of the cellular, biochemical, and molecular mechanism involved in signal transduction in various eukaryotic organism with emphasis on reviewing recent experimental evidence.
PCB	6365C	Physiological Ecology	4		Effect of environmental factors on animal function at the cellular and organ system level with emphasis on control and mechanism.
PCB	6426C	Population Biology	3		Introduction to population dynamics with emphasis on the ecological components of growth, competition, and perdition.
PCB	6447	Community Ecology	3		In-depth examination of community ecology with emphasis on diversity, stability, trophic structure and the mechanisms which affect how communities are structured.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PCB	6455	Statistical Ecology	3		Introduction to exploratory data analysis in ecology. Techniques for dealing with encountered data are emphasized.
PCB	6456C	Biometry	4	PR: MAC 2241 and MAC 2242	An introduction to statistical procedures for research in biological sciences. Experimental design, analysis of data, and presentation of results are emphasized. Lec./Dis.
PCB	6458	Biometry II	3	PR: PCB 6456C.	Fundamental concepts in the design of experiments for biological research. Factorial experiments, multiple regression analyses, analyses of covariance and SAS computer programs are emphasized. Lec/Lab.
PCB	6525	Molecular Genetics	3	PR: PCB 3063.	Detailed examination of DNA, RNA and protein synthesis; the effects of mutations on proteins and cellular control.
PCB	6526	Cancer Biology IV - Concepts and Techniques in Cancer Genetics	3		This course will explore major concepts in Cancer Genetics, how they are derived from experimental results and how they can be applied to outstanding problems in Cancer Biology.
PCB	6910	Cancer Biology Lab Rotations	1-3		This course is designed to help the students choose a compatible Major Professor and allow students to develop necessary technical skills. It is graded on a satisfactory (pass) or unsatisfactory (fail) basis.
PCB	6920	Advances in Cell and Molecular Biology	1	PR: PCB 6107	A journal club in which graduate students present and discuss research publications from the preceding twelve months in the fields of molecular and cellular biology.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PCB	6930	Current Topics in Cancer Biology	2		Renowned speakers from outside the USF Community will give weekly seminars on topics in oncology. Participants will meet weekly with the speakers and discuss the current state of the art.
PCB	6931	Advances in Cancer Biology Research	2		Advances in Cancer Research – Two participants will read and orally present current breaking research. They will gain experience in critically evaluating research reports and receive critique on presentation skills.
PCB	6932	Bioethics for Cancer Researchers	1		Explore the key issues of responsible conduct of research facing the cancer biologist. The course will use interactive open discussion sessions focused on individual ethics topics in cancer research.
PCB	6933	Seminar In Ecology	1-3		A detailed examination of topics in ecology pertaining to individual organisms, populations, communities and/or ecosystems.
PCB	6956	Scientific Grant Writing	3		Teach research graduate students the art of scientific grant writing. It also serves to prepare them for their written qualifying exam. It is only for research PhD students within the department of CMMB.
PET	6003	Theories & Models of Health & Physical Activity	3		This course covers the origin and application of theory in the general health and physical activity domains. Emphasis will be placed on learning the theoretical constructs and applied uses of classic and contemporary theories in health behaviors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PET	6085	Body Composition: Assessment and Management	3		This course covers advanced principles of body composition assessment and management. The role of physical activity and medical intervention will be considered.
PET	6086	Lifespan Fitness	3		The course is designed to assist students in developing an understanding of how fitness habits and recommendations change over a lifetime.
PET	6098	Topics in Strength and Conditioning	3		Covers selected topics in strength and conditioning. Some of the topics to be covered include: program design, periodization, core stabilization training, biochemical monitoring, overtraining, and strength training.
PET	6216	Sport Psychology	3		This course is designed to provide students with an understanding of the theoretical structure that underlies psychology applied to sport. There will be a particular emphasis on psychological concerns that confront coaches, educators, and athletes.
PET	6235	Motor Learning	3		This course deals with motor learning research as it relates to exercise science. Emphasis will be placed upon normal developmental patterns and behaviors and motor learning principles throughout the life span.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PET	6256	Sport in Society: Contemporary Issues	3		This course is a study of organized sport in contemporary society. Issues such as race, social class, gender, politics, religion, economics, media, physical disabilities, sexual orientation, and ethics as they relate to sports will be studied. This course is a study of organized sport in contemporary society. Issues such as race, social class, gender, politics, religion, economics, media, physical disabilities, sexual orientation, and ethics as they relate to sports will be studied.
PET	6317	Applied Biomechanics	3		The course involves the integration of advanced kinesiological foundations to exercise science. Topics include: physical growth and neuro-muscular control, laws of physics in human movement, and effects of exercise on the muscular and skeletal systems.
PET	6367	Sports Nutrition and Exercise Metabolism	3		This course covers selected topics regarding exercise metabolism and sports nutrition. Some of the topics to be covered include: bioenergetics; protein, fat and carbohydrate metabolism during exercise; sports supplements designed to improve strength.
PET	6388	Physical Activity, Health, and Disease	3		This course focuses on the study of how physical activity is related to chronic diseases. Epidemiological techniques will be examined using physical activity as a factor in the cause of disease. The physiological basis will be examined.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PET	6389	Fitness Assessment and Prescription	3		This course covers advanced principles of physiological fitness assessment. Topics to be covered include the assessment and prescription of: aerobic capacity, anaerobic capacity, muscular strength, and muscular endurance.
PET	6396C	Specialized Study in Bio-Kinetics of Human Movement	1-4		Will provide in-depth study in specific areas related to neurological, physiological, and mechanical principles of human development.
PET	6419	Clinical Supervision In Physical Education	3		Provides specialized knowledge and skills for effective supervision of interns in physical education including observation and feedback techniques and communication skills.
PET	6425	Curriculum and Instructional Process in Physical Education	3		Will provide in-depth study of the structure of subject matter, theoretical curriculum models, styles of teaching, and investigation of the nature of the learner as these relate to teaching physical education. Fieldwork may be required.
PET	6443	Instructional Design and Content: Games	3		The purpose of this course is to help students plan and implement effective game content and instruction in K-12 physical education programs based on current research and best practice.
PET	6444	Instructional Design and Content: Dance and Gymnastics	3		The purpose of this course is to help students plan and implement effective dance and gymnastics content in K-12 movement education/physical education programs based on current research and best practice.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PET	6447	Specialized Study In Curriculum And Instructional Process In Physical Education	1-4		Will provide in-depth study in specific areas related to the teaching-learning process of physical education.
PET	6494	Legal Aspects of Physical Activity	3		Addresses the law, legal liability, and risk management related to physical activity programs. Content will focus on tort and contract law with an emphasis on negligence.
PET	6516	Learner Assessment in Physical Education	3		This course is designed to help teachers assess student learning in pre/K-12 physical activity settings and to conduct program evaluation in physical activity settings.
PET	6525L	Laboratory Techniques in Exercise Science	3		The course covers laboratory applications as they relate to exercise science. Emphasis will be placed upon laboratory experiences in biomechanics and exercise physiology involving equipment setup, data collection, data acquisition, and data analysis.
PET	6534	Research Methods in Exercise Science	3		Introduces students to the concepts, methods, and applications of research within exercise science. Development of research skills will be the primary focus.
PET	6645	Physical Education for Individuals with Disabilities	4		This course is concerned with the motor development and physical fitness of individuals with mental and motor related disabling conditions. Study includes psycho-educational characteristics; planning, conducting, and evaluating individualized programs of physical education; and review of relevant literature. Clinical fieldwork is required.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PET	6706	Analysis of Research in Physical Education	3		This course is designed to help teachers better understand the process of conducting classroom research. The course provides a set of guidelines for reading research and sharing perspectives based on studying original research in physical education.
PET	6716	Analysis of Teaching in Physical Education	3		The purpose of this course is to study teaching behaviors in physical activity settings. It includes a review of current research and involves the use of observation systems and other data collection strategies related to instructional effectiveness.
PET	6906	Independent Study: Professional Physical Education	1-6		Independent study. Students must have a contract with an instructor.
PET	6910L	Research Project in Physical Education	1-4		In-depth research study of selected topics concerning human movement. Topics will vary according to needs and interests of student.
PET	6947	Internship in Exercise Science	1-6		Provides a field experience in an Exercise Science setting. Experiences will focus on all aspects of program development and delivery. Students may also be involved with administrative functions of a fitness/wellness center.
PET	6971	Thesis: Physical Education	1-5		This course will provide the student with experience in research related to the disciplines of physical education and exercise science. Restricted to Graduate Program Majors only and repeatable for up to 6 credit hours.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PET	7937	Graduate Seminar	1-6		Development of a research knowledge base that has significant depth for the seminar topic will be a primary focus.
PHA	6114C	Drug Delivery Systems I	3		Fundamental biological and physiochemical principles important for the formulation, preparation, stability, and performance of pharmaceutical dosage forms (compounding) and various advanced drug delivery systems. A weekly laboratory session of three hours is included to provide students the opportunity to apply learned principles.
PHA	6115C	Drug Delivery Systems II	3	PR: PHA 6114C	Fundamental biological and physiochemical principles important for the formulation, preparation, stability, and performance of pharmaceutical dosage forms (compounding). A weekly laboratory session is included to provide students the opportunity to apply learned principles.
PHA	6118	Nanomaterials, BioMEMS, and Nanodevices in Medicine	3		Covers control of materials at a micro-/nano-scale (new polymer-based drug delivery systems for anticancer agents, specialized devices for minimally invasive surgery, remote sensors & cell sorting systems w/ high-throughput data collection).
PHA	6119	Micro-/Nanoscale Drug Delivery Systems	3		This is an advanced course for pharmacy students on novel approaches to drug delivery as it relates to medicine. The course will consist of lectures describing micro- and nanoscale methods of drug delivery.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6124	Principles of Pharmacokinetics and Pharmacodynamics I	3	PR: PY2 Standing	The goal of this course is to provide students a fundamental understanding of the concepts and principles underlying the discipline of pharmacokinetics and pharmacodynamics. The topics will include pharmacokinetic data analysis, dosage regimen design, determinants of drug absorption, distribution, metabolism and excretion, and study of drug concentration response relationships.
PHA	6129	Clinical Pharmacokinetics and Pharmacodynamics	3	PR: PHA 6124	The second course of the series continues concepts taught in the principles of pharmacokinetics and pharmacodynamics. Special emphasis will be placed on in-patient medication management and advanced monitoring techniques. Class discussions will review formulation factors involved in drug delivery. Students will demonstrate the ability to utilize basic principles of pharmacokinetics and pharmacodynamics to optimize patient specific dosing regimens.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6130C	Translational Pharmacogenomics - Principles and Clinical Applications	3	PR: PY3 Standing	Translational pharmacogenomics is designed as an introduction to the theory and practice of pharmacogenomics which are central to the personalized medicine paradigm. The course aims to provide students with the concepts and tools needed to interpret, analyze, and evaluate pharmacogenomics information. The goal is to enable students to gain a clear understanding of how genetic variations contribute to susceptibility to drug response and to incorporate this knowledge into routine clinical care.
PHA	6146	Introduction to Nanotechnology	3		Provides an overview of the distinctive features of nanotechnology and their application to biomedical problems. The course compares the macro/micro/nanoscale to highlight the unique properties of nanotechnology in nanomedicine.
PHA	6147	Nanotechnology and Risk Management	3		An introduction into theory with simultaneous laboratory experience for instrumentation in nano-medicine, nanotechnology, and nano-pharmaceutics as well as risk management associated with nano production.
PHA	6148	Nanoformulations and Nanopharmaceuticals	3		Focus on developing an understanding of the fundamental properties, synthesis and characterization of nanomaterials, coupled with their applications in nanomedicine.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6177	Advanced Compounding and Industrial Pharmacy	3	PR: PY3 Standing	Advanced formulations design, development and application in real world. Develop niche in the area of specialized compounding practices serving the needs of special population groups including geriatric patients. Utilizing the knowledge and apply it for patients specific needs for individualized medicine and better outcomes. Develop fundamental understanding for compounding pharmacy and industrial manufacturing regulatory aspects.
PHA	6185	Drug Discovery and Frontier	3	CPR: PHA 6577; PR: PHA 6575	This course will provide an overview of the drug development process, focusing on cutting-edge drug development science, regulation, and industry from the U.S. perspective. Most sessions will consist of a brief didactic overview of the day's topic, followed by a discussion of a primary scientific publication that emphasizes the most important principles covered.
PHA	6221	Pharmacists' Role in Transitions of Care	2	CR: PHA 6784C and PHA 6874C; PR: PHA 6783C and PHA 6720	The Transitions of Care (TOC) elective is focused on managing patients moving from different health care settings as it relates to the field of pharmacy. It is designed to address components of the TOC process through team-building activities, patient cases and problem-solving opportunities and further develop clinical decision-making, written and verbal communication skills. The course will allow students to identify strengths and limitations within TOC models and how to implement changes.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6222	Pharmacy Practice Management	3		Provides students with practical knowledge to enable them to function as pharmacy leaders and managers with competence in several key areas.
PHA	6223C	Pharmacy Leadership	2	PR: PY3 Standing	This course will focus on the perceptions, expectations, and necessary skill set for a leader in the pharmaceutical workplace, regardless of position or practice setting. Through various mediums, the students will have exposure to didactic and real-world application in order to cultivate the necessary tools to develop into future practitioners and leaders in the healthcare workforce. Students will identify their personal strengths and design a plan for developing their leadership skills.
PHA	6224	Pharmaceutical Debates on Recent Issues Affecting the Profession	2	PR: PY3 Standing	The course aims at providing an opportunity for students in the third professional year to discuss and debate critical issues affecting the pharmacy profession. Students will also learn to write a publication-quality paper and develop a presentation poster.
PHA	6225	Invention, Innovation and Entrepreneurship	3		Students will develop a theoretical and practical understanding of product development, including actions and methods appropriate in each phase using estimations, spreadsheets and geometric models.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6233C	Jurisprudence	2	PR: PY3 Standing	This course provides students with the essential concepts of pharmacy law, enabling them to practice pharmacy in compliance with federal and state statutes, rules, and regulations, as well as equipping them with the knowledge to pass the MPJE. Additionally, students receive an overview of federal and state government, agencies, health law topics, advocacy, ethics, and the policy process.
PHA	6243	Medical Informatics and Technology	2	PR: PY2 Standing	The focus of this course is to emphasize the roles and responsibilities of the profession and individual pharmacists in the implementation and utilization of electronic health records, medical information technology, institutional and community software, and healthcare system database management.
PHA	6245	Pharmaceutical Informatics	3		Discuss the applications of computers to the storage, retrieval and analysis of drug and prescription information. In addition, the application of bioinformatics or cheminformatics to drug discovery and development will be covered.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6261	Healthcare Administration and Economics	3	PR: PHA 6898 and PY2 Standing	This course will discuss components of the U.S. Health Care System, including the administrative and financial determinants that influence patient care, and how pharmacy, pharmacists, and pharmacy systems contribute. An introduction to pharmacy leadership, management, planning, marketing, and financial and human resources management will also be covered.
PHA	6270	Healthcare and Medication Safety	2	PR: PY2 Standing	This course will introduce and reinforce principles of human error and patient safety within healthcare settings. The students will engage in activities that analyze, discuss, and provide recommendations for solutions to patient safety problems. Students will have opportunities to conduct an incident investigation, gain an understanding of the advantages and limitations of error reporting, learn how to disclose errors and adverse events, and learn models for improving safety in various health care settings. Classes are designed to provide students with hands-on skills in systems thinking and in preventing, learning from, and dealing with medical error and adverse events.
PHA	6277	Ethics in Pharmaceutical Practice and Research	1		This course will cover the ethical considerations which control and influence pharmacy practice and research. Professional ethics will also be covered in this course.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6336	Tissue Engineering and Regenerative Medicine	3		How materials interact with cells through their micro-and nanostructure, mechanical properties degradation characteristics, surface chemistry and biochemistry. Principles of tissue engineering, design strategies for practical applications for tissue repair.
PHA	6352	Herbal Medicines and Alternative Therapy	2	PR: PHA 6782, PHA 6783, PHA 6795, and PHA 6618	An overview of the most commonly used herbal medicines and alternative therapy methods. Course content will be classified by organ system (i.e. nervous system, cardiovascular system) and will provide evidence based review of the use of herbal medicines and/or alternative therapies for particular disease states effecting these systems. Efficacy, safety, and drug interactions will be a major focus. Students will evaluate available scientific literature to make clinical decisions in patient care.
PHA	6428C	Advanced Topics in Metabolic Syndrome Treatment	2	PR: PHA 6577, PHA 6783C, and PHA 6946	This course will explore advanced topics in the assessment and treatment of patients with metabolic syndrome, defined as hypertension, diabetes/insulin resistance, and hyperlipidemia. Mastery on the understanding of vascular inflammatory pathways, vascular complications, understanding laboratory values, pharmacotherapy for treatment, and key patient education points will be covered. Students will experience a combination active learning of lecture, online courses, and live patient encounters.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6449	Pharmacogenomics-- Current and Future Prospects	3		The course is designed to include the scientific and societal components essential for the implementation of pharmacogenomics in the healthcare system and to provide a clear understanding of \Future Medicine for the Future Pharmacist\"."
PHA	6451	Clinical Biochemistry	3		Course focus will be on the structure, chemistry and function of macromolecules and their building blocks, i.e. amino acids, carbohydrates, nucleotides and fatty acids. Major metabolic and catabolic pathways will be discussed in relation to drug action. Enzyme kinetics and regulation, and bioenergetics will be presented.
PHA	6531	Basic Principles of Toxicology	2	PR: PHA 6577 and PHA 6783C	This course will focus on the basic principles of toxicology, and application to the potential health hazards and the risks associated with toxic exposure. The goal of the course is to review the specialized areas of toxicology, emphasizing the importance of dose effect and dose response relationship, absorption, distribution, and elimination of toxins, target organ and non-organ toxicity, toxic agents, natural toxins, applied toxicology, medial toxicology and management of poisoned patients.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6562	Physiologic Basis of Disease	4		This course entails the study of disease at molecular, cellular, and organ levels. It provides a foundation for understanding the etiologies and pathogenesis of diseases. It facilitates the interpretation of the changes induced by stimuli, correlating the microscopic and macroscopic changes with the manifestations of diseases and ultimately with a diagnosis. The knowledge gained from the study of these mechanisms will form the basis for therapeutic approaches, drug interaction and dependence.
PHA	6575	Introduction to Principles of Drug Action	2		Initial course discussions will focus on the principles of pharmacology, and their application to anatomical and physiologic function. Special emphasis will be placed on medication receptor recognition, introductory pharmacology, specific organ system, and variations of medication action at receptor sites.
PHA	6577	Biochemical and Molecular Principles of Drug Action	5	PR: PHA 6575	Initial course discussions will focus on the principles of pharmacology, and their application to anatomical and physiologic function. Special emphasis will be placed on medication receptor recognition, drug structure, introductory pharmacology, specific organ system, mechanisms of signaling response, variations of medication action at receptor sites, adverse effects of various medications, absorption, distribution, metabolism, elimination, and physical chemical properties.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6592C	Advanced Cardiology Pharmacotherapy	2	CR: PHA 6784C; PR: PHA 6782C, PHA 6783C, PY3 Standing	Cardiovascular disease management is one of the most evidence-based areas of medicine and pharmacy practice. Students will also be evaluating medical literature and applying clinical evidence. This course provides an overview of selected cardiovascular topics. New topics will be discussed and topics covered in core courses augmented.
PHA	6598	Current Perspectives in Mental Health	2	PR: PHA 6783C and PY3 Standing	The purpose of this clinical elective is to introduce the student to the mental health system, emphasizing the role of a pharmacist in the treatment of individuals with mental illnesses. Students will gain further knowledge of psychiatric pharmacotherapy, beyond knowledge acquired in previous pharmacotherapeutics courses.
PHA	6602	Pediatric Pharmacotherapy	2		The pediatric pharmacotherapeutics course is designed to give the pharmacy candidate an understanding of pediatric care ranging from general pediatric pharmacy concerns, developmental pharmacology, management of pediatric patients in acute and ambulatory settings, as well as pediatric emergency management.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6615C	Ambulatory Care Pharmacy Practice Elective	3	PR: PY3 Standing	This course is designed to teach pharmacy students how to develop patient-specific pharmaceutical care plans for the various disease states encountered in an ambulatory care setting. Along with therapeutic discussions, the course will involve active participation through mock patient assessments in a controlled setting, patient case presentations and therapeutic plan debates. The course will also introduce pharmacy students to the various roles pharmacists encounter in an ambulatory setting.
PHA	6618	Principles of Geriatric Medicine	3		Prepares future health professionals to address the needs of their older patients expanding student understanding of psychosocial and communication issues exposing participants to cross-cultural issues in health care.
PHA	6618C	Principles of Geriatric Pharmacotherapy	2	PR: PY2 Standing	This course will reinforce specific geriatric pharmacotherapy issues, including medication administration, impact of the aging process, and frequently encountered social issues. Course content will include discussions regarding health systems management issues, and the changing demographics in the country and state of Florida.
PHA	6622	Advanced Geriatric Pharmacy Care	3		Focuses on the clinical aspects and advanced training of pharmacists to become specialists in geriatrics to meet the needs of older adults.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6628	Introduction to Post Graduate Residency Training	2	PR: PY3 Standing	This is an elective course designed to provide students an in-depth knowledge of postgraduate pharmacy residency training so that they are prepared to seek and obtain a residency position upon graduation. Topics to be covered include benefits of residency training, types of residency programs available, requirements to achieve a residency training certificate, application requirements, composing a letter of intent, curriculum vitae, choosing a residency program and interviewing for residency.
PHA	6708	Teaching in Pharmacy	3		This course provides direct instruction in the field of academia specifically in the role of pharmacy faculty focusing on essential skills for effective classroom and laboratory teaching in the 21st century.
PHA	6730C	Drugs of Abuse, Addiction, and Law Enforcement	2	PR: PY3 Standing	Course will consist of one to two hours of didactic lecture covering the medical chemistry and pharmacology for the drug and for certain topics, one hour of documentary on the drug in society. Students will also be required to write a book report on a book about drug addiction taken from a list that will be provided of approved books. There will be two exams worth 40% each and the book report will be worth the remaining 20%.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6740	Grant Writing and Clinical Research	2	PR: PHA 6792 and PHA 6795	This course is based upon a current K-30 research training program at USF Health. Students will be taught the components of grant writing and conducting clinical research. Topics covered in this course include the development of a grant proposal, research ethics, and federal funding agency requirements.
PHA	6755	Medical Microbiology and Immunology	3	PR: PY1 Standing	This course will provide a comprehensive study of the field of medical microbiology and the immune system. Microbiology discussions will include a review of infectious microbes and the clinical consequences of infection. Immunology discussions will focus on the structure and function of the individual components of the immune system, and manipulation of the immune system in medicine.
PHA	6760	Non-Prescription and Herbal Therapies	3	PR: PY3 Standing	This course will provide an in-depth examination of over-the-counter products and devices used for self-treatable conditions. Community pharmacists are often asked questions regarding appropriate medication selection and proper selection of durable medical equipment; therefore, the focus of this course will be to provide students with tools to best assess the patient, make appropriate over-the-counter (OTC) product selection, provide thorough counseling, and examine numerous alternative medications.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6771C	Clinical Nutrition in Pharmacy Practice	2	PR: PY3 Standing	This course is designed to prepare pharmacy students to function as members of an interdisciplinary nutritional support team who will share responsibility for promoting maintenance and/or restoration of optimal nutrition status. This course will focus on internal and parenteral nutrition with an emphasis on nutritional guidelines, drug nutrient interactions, and disease state specific nutritional needs.
PHA	6780C	Oncology Pharmacy Practice	2	PR: PHA 6784C	This elective course will provide an overview of oncology pharmacotherapy and the roles of an oncology pharmacy practitioner. Concepts introduced in the oncology module of Pharmacotherapeutics III, including pharmacology, tumor types, anticancer therapy and supportive care strategies, will be further delineated and discussed in more comprehensive manner.
PHA	6782C	Pharmacotherapeutics I	5	PR: PY2 Standing	Pharmacotherapeutics is an integrated course sequence utilizing medicinal chemistry, pharmacology, and pharmacy practice faculty. The over-arching goal of the sequence is to review and discuss the applied principles of pharmacotherapy/patient management following an organ system process to include cardiovascular, pulmonary, endocrine, and gastrointestinal systems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6783C	Pharmacotherapeutics II	5	PR: PHA 6782C	Pharmacotherapeutics is an integrated course sequence utilizing medicinal chemistry, pharmacology and pharmacy practice faculty. The overarching goal of the sequence is to review and discuss the applied principles of pharmacotherapy/patient management following an organ system process. This is the second of four courses in the integrated course sequence. Areas to be covered include psychiatry, neurology, men's and women's health topics, and genitourinary system.
PHA	6784C	Pharmacotherapeutics III	5	PR: PY3 Standing	Pharmacotherapeutics is an integrated course sequence utilizing medicinal chemistry, pharmacology and pharmacy practice faculty. The overarching goal of this semester is to review and discuss the applied principles of pharmacotherapy and patient management following an organ system process to include infectious diseases, hematology, oncology, and renal disease.
PHA	6786	Travel Medicine	3		Travel medicine is a service provided to travelers to prevent and manage health problems that arise as a result of international travel. Students will learn the various components to providing travel medicine services to patients.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6787C	Pharmacotherapeutics IV	5	PR: PHA 6784C	Pharmacotherapeutics is an integrated course sequence utilizing medicinal chemistry, pharmacology and pharmacy practice faculty. The overarching goal of the sequence is to review and discuss the applied principles of pharmacotherapy/patient management following an organ system process to include critical care, nutrition, pediatrics, solid organ transplant, and drug induced diseases.
PHA	6792C	Drug Information/Literature Evaluation	2	PR: PY1 Standing	Introduce and reinforce the fundamental principles of DI practice. Provide an introduction to databases used for DI inquiries; including text- and web-based media. Develop proficiency in using databases and other 2 literature resources to retrieve and/or supply DI. Learn the principles of proper literature evaluation, and begin to develop their skills in reviewing and evaluating 1 and 3 literature. Learn and apply medical writing principles.
PHA	6795	Research Methods and Biostatistics	3	PR: PY2 Standing	This course focuses on the advanced application of scientific literature evaluation, to include the assessment of appropriateness of study design, performed statistical analysis, and clinical applications to pharmacy practice.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6797	Scientific Writing and Communication	1		Enhance student's personal and written communication, and develop effective presentation skills aiding students in effective communication within a professional workforce setting. Includes scientific grant and white paper proposal writing.
PHA	6804C	Pharmaceutical Calculations	2		Accurate pharmacy calculations enhance patient care in all areas of pharmacy practice. This course serves as an introduction to the clinical role calculations play in patient safety. Students will learn the direct application of their previous math and chemistry skills to the human body. Calculations will encompass different approaches to measurement including the metric, avoirdupois, and traditional apothecary systems. Course topics will include specific gravity/volume, percentage and ratio.
PHA	6870C	Pharmaceutical Skills I	2		The pharmaceutical skills sequence serves dual functions; the first is to allow integration and application of materials learned during the semester, the second to address key professional competencies that are not otherwise addressed in the curriculum (professionalism, communication, ethics, and law). The first course in the sequence will include discussion regarding pharmaceutical care techniques, the history of pharmacy, professional communication tactics and behaviors, and cultural competency.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6871C	Pharmaceutical Skills II	3	PR: PHA 6870	The focus of this semester will be a continued discussion of pharmaceutical care techniques, with an emphasis on special populations, motivational interviewing, career options, and the application of public health principles. In addition, students will receive instruction on physical assessment techniques to include blood pressure measurement, medical device training, and techniques specific to medication administration such as eye/ear drops, nasal sprays, and inhalers.
PHA	6872C	Pharmaceutical Skills III	3	PR: PHA 6871C	Integration of the principles of Pharmacotherapeutics I and Pharmacokinetics/Pharmacodynamics I will provide students with an opportunity to develop and monitor patient specific care plans in order to optimize therapeutic outcomes for patients with cardiovascular, respiratory, endocrine, and gastrointestinal diseases. Other activities will emphasize the patient-centered application of health policy, literature evaluation, and outpatient medication therapy management as well as introduce basic principles.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6873C	Pharmaceutical Skills IV	3	PR: PHA 6872C	Integration of the principles of Pharmacotherapeutics II, Pharmacokinetics/Pharmacodynamics II, and Geriatric Pharmacotherapy will provide students with the opportunity to develop patient specific care plans for patients with neurologic, psychiatric, and musculoskeletal diseases as well as men's/women's health. Other activities will emphasize informatics and technology, the impact of medication errors on patient safety, and interprofessional education initiatives.
PHA	6874C	Pharmaceutical Skills V	3	PR: PY3 Standing	Integration of the principles of Pharmacotherapeutics III and IPPE will provide students with the opportunity to develop patient specific care plans for patients with hematologic disorders, malignancies, infectious disease, and renal disorders. Other activities will emphasize principles of translational pharmacogenomics, research methods and grant writing, and interprofessional education initiatives.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6875C	Pharmaceutical Skills VI	3	PR: PHA 6870C, PHA 6871C, PHA 6872C, PHA 6873C and PHA 6874C	<p>Integration of the principles of Pharmacotherapeutics IV will provide students with an opportunity to develop and monitor patient specific care plans in order to optimize therapeutic outcomes for patients with critical care, pediatric, nutritional, toxicology, and solid organ transplant disorders. Other activities will emphasize the patient-centered application of health policy, literature evaluation, and inpatient medication therapy management as well as introduce basic principles of health systems administration.</p> <p>Interprofessionalism will also be emphasized through simulated activities with medical and nursing students.</p>
PHA	6877C	Critical Care Pharmacotherapy	2	CR: PHA 6787C; PR: PHA 6784C	<p>The course provides an overview of critical care pharmacotherapy. The focus of the course will be the role of the critical care pharmacist and an introduction to medications, disease states, and conditions encountered in the critical care setting.</p>

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6898	Foundations of Public Health	3	PR: PY1 Standing	This course provides the student with an introduction to public health. It covers the basic definition of public health, the analytical methods used in public health, the biomedical basis of public health, the social and behavioral factors related to health interactions, and environmental and medical care issues. Students will also learn about the relationship between public health and pharmacy, and the role of the pharmacist as it relates to Healthy People 2020 goals and objectives.
PHA	6907	Directed Independent Study	2-3		Individual study by students under the direction of a faculty member. Topics may vary and are selected on an individual basis. Hours may vary.
PHA	6916	Directed Independent Research	3	PR: PY3 Standing	Study abroad will be conducted in collaboration with RIWATCH (Research Institute for World Ancient Traditions, Cultures, and Heritage), Roing Arunachal Pradesh, India, an institute which has an agreement with USF World for student and faculty training and exchange. RIWATCH has the following centers: 1. Center for Social Work Research, 2. Center for Public Health Research, and 3. Center for Community Research. Students will create a project within one of these centers to submit before the trip.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6940	Introductory Pharmacy Practice Experience I	1	PR: PY1 Standing	The first Introductory Pharmacy Practice Experience (IPPE) is the beginning course in a three year sequence of introductory experiences exposing pharmacy students to the principles of pharmaceutical care. IPPE will focus on special populations to promote health improvement, wellness, and disease prevention in cooperation with an interprofessional team of health care providers.
PHA	6945	IPPE Community Pharmacy Practice I	1	PR: PY2 Standing	Introductory Pharmacy Practice Experience in Community Pharmacy is a structured course in which students will meet with an assigned community pharmacist for 15 consecutive weeks for the fall semester. Students will practice pharmacy under supervision while demonstrating and reinforcing skills taught in didactic course work. Upon completion of the course, the student should be knowledgeable about the basic functions of a pharmacist in a community pharmacy practice setting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6946	IPPE Community Pharmacy Practice II	1	PR: PHA 6945	Introductory Pharmacy Practice Experience in Community Pharmacy is a structured course in which students will meet with an assigned community pharmacist for 15 consecutive weeks for the spring semester. Students will practice pharmacy under supervision while demonstrating and reinforcing skills taught in didactic course work. Upon completion of the course, the student should be knowledgeable about the basic functions of a pharmacist in a community pharmacy practice setting.
PHA	6947	IPPE - Institutional Pharmacy Practice I	1	PR: PHA 6946 and PY3 Standing	This course gives pharmacy students experience in the institutional/hospital setting, allowing them to achieve educational outcomes in the areas of patient care and institutional pharmacy practices. Students will learn the basic distributive and administrative processes in the institutional setting including but not limited to: dispensing, clinical research, administration, and drug information/formulary review; gaining experience interacting with patients, preceptor, technicians and other pharmacy personnel.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	6948	IPPE - Institutional Pharmacy Practice II	1	PR: PHA 6947 and PY3 Standing	This course gives pharmacy students experience in the institutional/hospital setting, allowing them to achieve educational outcomes in the areas of patient care and institutional pharmacy practices. Students will learn the basic distributive and administrative processes in the institutional setting including but not limited to: dispensing, clinical research, administration, and drug information/formulary review; gaining experience interacting with patients, preceptor, technicians, and other pharmacy personnel.
PHA	7626	Advanced Health-System Pharmacy Practice Experience	6	PR: PHA 6940	The goal of the advanced health-system pharmacy practice experience is to provide opportunities for students to build on knowledge and skills acquired through didactic education and introductory pharmacy practice experiences and apply them in direct patient care experiences.
PHA	7627	Advanced Community Pharmacy Practice Experience	6	PR: PHA 6940	The goal of the advanced community pharmacy practice experience is to provide opportunities for students to build on knowledge and skills acquired through didactic education and introductory pharmacy practice experiences and apply them in direct patient care activities in the community pharmacy setting. Students will participate in patient care services and patient-focused dispensing functions. These services will focus on identifying, resolution, and prevention of medication-related problems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	7644	Geriatrics Patient Care Pharmacy Practice Experience	6	PR: PHA 6940	The goal of the geriatrics patient care advanced pharmacy practice experience is to provide opportunities for students to build on knowledge and skills acquired through didactic education and introductory pharmacy practice experiences and apply them in the care of a specialized patient population.
PHA	7684	Elective 1 Pharmacy Practice Experience	6	PR: PHA 6940	The goal of the elective specialty patient care advanced pharmacy practice experience is to provide opportunities for students to build on knowledge and skills acquired through didactic education and introductory pharmacy practice experiences and apply them in the care of a specialized patient population.
PHA	7692	Advanced Ambulatory Pharmacy Practice Experience	6	PR: PHA 6940	The goal of the ambulatory care advanced pharmacy practice experience is to provide opportunities for students to build on knowledge and skills acquired through didactic education and introductory pharmacy practice experiences and apply them in direct patient care activities in the ambulatory care setting. This course takes place in an ambulatory care, multidisciplinary practice setting. Practice sites may include hospital-based clinics, physician group practices, community, and others.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHA	7694	Advanced Adult Medicine Pharmacy Practice Experience	6	PR: PHA 6940	The goal of the adult medicine advanced pharmacy practice experience is to provide opportunities for students to build on knowledge and skills acquired through didactic education and introductory pharmacy practice experiences and apply them in direct patient care activities in the adult medicine setting. This course takes place in an internal medicine/general medicine unit where patients are managed using a team-based approach.
PHA	7928	Professional Forum	var.		The focus of the professional forum is to prepare pharmacists to identify, resolve, and prevent drug-related problems. The curriculum integrates didactics with practice, reflecting the faculty's dedication to the profession and its commitment to educating students to become competent practitioners. Graduates of the professional forum are capable practitioners who are prepared to sit for the NAPLEX.
PHA	7930	Special Topics in Pharmacy	1-6		Special topics for discussion and analysis related to Pharmacy.
PHC	5933	Special Topics	1-3		Provides students the opportunity to learn about the multiple ways to view controversial topics in public health. It covers current public health topics including biomedical issues, social and behavioral factors, and environmental issues.
PHC	6000	Epidemiology	3		Study of epidemiological methods to evaluate the patterns and determinants of health and diseases in populations.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6002	Infectious Disease Epidemiology	3	PR: PHC 6000, PHC 6050.	The course help students to understand epidemiological patterns, etiology and risk factors of infectious diseases as they occur in populations, rather than in individual patients. Familiarity with epidemiological terminology and biostatistics is required.
PHC	6006	Epidemiological Methods in Infectious Diseases	3	PR: PHC 6000, PHC 6050 or equivalent, PHC 6002	In depth understanding of the implication of epidemiological methods within the context of infectious disease. Focus will be on the application of methods such as study design, as applied to infectious disease.
PHC	6007	Cancer Epidemiology	3	PR: PHC 6000	The course will consider the extent of the cancer problem, present the epidemiology of the major cancer sites, including those of the respiratory, digestive and reproductive systems, and evaluate the potential for primary and secondary preventive efforts.
PHC	6008	Cardiovascular Disease Epidemiology	3	PR: PHC 6000	A review of the major issues in cardiovascular disease epidemiology, including trends, the extent of the disease nationally and internationally, implications of major epidemiological studies, and strategies for prevention.
PHC	6010	Epidemiology Methods I	3	PR: PHC 6000	This course is designed to cover the important concepts in epidemiology and their application in epidemiological research. Emphasis on measures and quantitative techniques, proper interpretation and explanation of quantative measures and results.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6011	Epidemiology Methods II	3	PR: PHC 6000, PHC 6010	This course will cover methods and practices, principles and concepts in epidemiology research. It will provide training in implementing appropriate study design, analyzing results and presenting research findings to a wide variety of audiences.
PHC	6016	Epidemiology Methods III	3	PR: PHC 6000, PHC 6010, PHC 6011, PHC 6051.	This course will increase the scope, expand upon and detail material presented in Epidemiology Methods I and Epidemiology Methods II. This course will focus on in-depth design of cohort, case-control and cross sectional epidemiologic studies.
PHC	6020	Design and Conduct of Clinical Trials	3	PR: PHC 6050, PHC 6000	The course will familiarize students with the issues in the design and conduct of clinical trials. Factors involved in organizing a trial, randomizing subjects, implementation, and analyzing data from the study will be considered.
PHC	6035	Comorbidity of Mental and Physical Disorders	3	PR: PHC 6000, PHC 6050.	This course examines the comorbidity of mental and physical disorders, taking a lifespan epidemiological approach. Emphasis is placed upon theories and empirical research elucidating comorbidities, risk factors, and mechanisms.
PHC	6037	Public Health Virology	3		A lecture-based course that fosters class participation, critical thinking and literature review. The focus of this course is on human diseases caused by viral infections, with emphasis on diseases of public health importance. There are no restrictions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6050	Biostatistics I	3	PR: College Algebra	Concepts, principles, and methods of statistics applied to public health issues.
PHC	6051	Biostatistics II	3	PR: PHC 6000 and PHC 6050	Simple and multiple linear regression, ANOVA (Analysis of Variance) and ANCOVA (Analysis of Covariance), Model building procedure and diagnostics with applications in health research.
PHC	6053	Categorical Data Analysis	3	PR: PHC 6051	Study of techniques used in analyzing data where subjects have been cross-classified by two or more categorical variables. Special emphasis given to problems frequently arising in epidemiology, public health, and medicine.
PHC	6057	Biostatistical Inference I	3	PR: Undergraduate Calculus or Equivalent	This course is primarily designed for students majoring in Biostatistics, emphasis is given to understanding and mastering of biostatistical theory and methods such as probability distribution, expectations, estimation and hypothesis testing.
PHC	6060	Biostatistical Case Studies and Collaboration I	3		This course provides hands on experience in biostatistical consulting. Biostatistical methods and computer skills are presented, along with the skills required for participating in collaborative and consultative research roles. A Foundation for biostatistical consultation is presented, involving the goals, content, conduct and presentation of Biostatisticians working in applied health settings. Students apply these principles to at least one consultative project and one collaborative project.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6061	Biostatistical Case Studies and Consulting II	3	PR: PHC 6060	This course prepares students to join an active biostatistical analyst of a multidisciplinary research groups. This collaborative role requires knowledge of successful grant writing and review, site visits, and formal presentations of analytical results. Special issues in collaborating research at a distance are discussed. The biostatistical methodology and theory pertaining to collaborative research projects chosen by the students covered in formal lectures.
PHC	6063	Public Health Data, Information and Decision Making	3	PR: PHC 6050.	This course provides an understanding of public health databases and methods necessary for decision making. The emphasis is on the appropriateness and application of methods widely used for analysis in public health.
PHC	6074	Epidemiology of Diseases of Major Public Health Importance	3	PR: PHC 6000, PHC 6050	A study of the distribution and determinants of specific infectious and non-infectious human diseases of public health importance using epidemiological methods.
PHC	6081	Intermediate SAS in Epidemiology	3	PR: PHC 6000, PHC 6050, PHC 6701, and PHC 6051	This course is a fast-paced SAS language class for: (1) students majoring in epidemiology or biostatistics and (2) others intending to, as a substantial component of their careers, use SAS.
PHC	6102	Principles of Health Policy and Management	3		General principles of planning, management, evaluation, and behavior of public and private health care organizations at the local, state, and national levels.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6104	Management of Public Health Programs	3	PR: PHC 6102	Application of principles and methods for organization and management of government and non-government public health programs.
PHC	6106	Global Health Program Development and Administration	3	PR: PHC 6761	Program Development and Administration is one of four foundation courses for the concentration in Global Health. As a foundation course, its primary role is to provide students with a solid knowledge base in managing global health programs and projects that will serve them in their field experiences and in any one of the seven focus areas available within the global health concentration.
PHC	6108	Foundations of Public Health	3		This course provides the student with an introduction to public health, the public health system, and the role of the public health professional and the pharmacist as it relates to Healthy People 2020 goals and objectives.
PHC	6110	International Health and Health Care Systems	3		Study of global health problems and trends, translated to needs and demands; socio-economic and political impact on health delivery; prevailing international systems compared to U.S. system; the role of international health agencies.
PHC	6114	Health Insurance and Managed Care	2	PR: PHC 6102 and ACG 6025	Financing, operations, and regulatory environment of health insurance and managed care, including principles, models, organization, management functions, public policies, and impact on cost, quality and access in communities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6120	Community Partnerships and Advocacy	3		Designed to familiarize students with key aspects of developing partnerships among private and public sector organizations for the purposes of assessing and improving the health of communities. Particular skills include coalition development, developing a constituency/partnerships, advocacy, team building, and leadership.
PHC	6121	Vaccines	3		Provides an overview of current immunization strategies and their public health rationale. In addition, students will learn the use of vaccines in disease control and eradication, vaccine immunogenicity and adverse reactions.
PHC	6146	Health Services Planning and Evaluation	3	PR: PHC 6050	Study of health services planning concepts/methods, and evaluation, with an emphasis on facilities and manpower planning, providing an in-depth orientation to information requirements for health planning, and methods to cover gaps of information.
PHC	6147	Managing Quality in Health Care	2	PR: PHC 6102	Study of methods and tools for managing quality in health facilities, physician practices, managed care and public health; including developments in quality assurance and improvement, utilization review, risk management, and patient satisfaction.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6148	Strategic Planning and Health Care Marketing	3	PR: PHC 6102	The course reviews the fundamental steps in the strategic planning process and marketing approaches for health care organizations. The textbook and exercises emphasize non-profit organizations.
PHC	6151	Health Policy and Politics	3	PR: PHC 6102	This course will examine the role of federal, state, and local government in health care organization, delivery, and financing in the United States and other comparable industrial nations.
PHC	6160	Health Care Financial Management	3	PR: At least one undergraduate course in Financial or Managerial Accounting and PHC 6102	Introduction to the financial management practices in health care organizations, cost behavior analysis, financial statement analysis, and the time value of money.
PHC	6161	Health Care Finance and Costing	3	PR: PHC 6102 and ACG 6025	Uses lectures, cases and online learning activities to develop and apply skills in finance and costing required in health care management.
PHC	6166	Advanced Seminar in Health Care Management	2	PR: PHC 6148, PHC 6160, PHC 6180, PHC 6191 (or ACG 6025)	The course further develops analytic and decision-making skills regarding health services issues and problems. Students integrate and apply content from previous courses, (including finance, management policy, strategy, and quality) to analyze and solve health service problems by defining issues and goals, identifying methodologies to address concerns, analyzing information and developing and defining conclusions and recommendations.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6180	Health Services Management	3	CPR: PHC 6102	Advanced study of specific topics in health care organization management including the managerial process, organizational theory, resource utilization and control, and human resource management.
PHC	6181	Organizational Behavior in Health Services	3		Investigates the impact that individuals, groups, and structure have on behavior within organizations. The application of such knowledge is used toward advancing the effectiveness of health care and related organizations. Special consideration is given to human resource applications. Case studies and other exercises are used.
PHC	6182	Selected Topics In Social Science Education	3		Public health and other professionals will be given an overview of the disaster management process. Provides terms, definitions, and concepts of emergency management from a local, national, and international perspective.
PHC	6183	Overview of United States and International Emergency/Disaster Management	3		Public Health and other professionals will be given an overview of the disaster management process. Provides terms, definitions, and concepts of emergency management from a local, national, and international perspective.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6184	Emergency/Disaster Recovery	3		The content of this course is designed to expose the concepts of: 1)recovery models used by the United States and International operations, 2)recovery planning and response to a disaster environment, especially in terms of major disaster incidents, 3)broadening and enhancing the understanding of roles and responsibilities, and 4)the importance to the overall recovery effort. In addition to the United States and international focus, the course also addresses the coordination and problem solving aspects of disaster operations.
PHC	6185	Emergency/Disaster Preparedness and Planning	3		Emergency Preparedness and Planning provides an overview to preparedness strategies, emergency planning and assessment of hazards and resources. This course provides intermediate level direction and builds upon planning concepts learned in Overview of United States and International Energy Management. Studies include in-depth planning and analytical framework, hazard/vulnerability analysis, and management.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6186	Public Health Emergencies in Large Populations (PHLEP)	3		To develop or improve the skills of persons interested in providing emergency health services in humanitarian emergencies. The course is divided into two parts: 1)meeting health needs large populations and 2)the humanitarian and ethical issues of refugees and displaced people. Topics covered include food and nutrition, water and sanitation, providing health services, reproductive health, control of communicable diseases, humanitarian law, human rights, ethics, and the geopolitical issues related to population displacement particularly from conflict.
PHC	6190	Public Health Database Management	3	PR: PHC 6701	This course focuses on the creation of databases with applications to public health and clinical research; data entry and database management and checks for accuracy and consistency, and preparation of final databases for statistical analysis.
PHC	6191	Quantitative Analysis in Health Services	3	PR: PHC 6050, PHC 6102 and QMB 6305	Examines the use of quantitative modeling techniques to address operational problems in managing medical and health care settings. Topics: probability, sampling, hypotheses testing, estimation, time series, demand forecasting, simulation, and queuing.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6193	Qualitative Methods in Community Health Research	3		This course provides classroom instruction and field application of qualitative research methods for studying community health problems. It provides a general introduction to ethnographic field methods, emphasizing systematic approaches to collection and analysis of qualitative data. Students will learn to identify the kinds of research problems for which qualitative methods are appropriate, and to critique qualitative research in terms of design, technique, analysis and interpretation.
PHC	6196	Information Systems in Health Care Management	3	PR: PHC 6050	The course is designed to prepare students to analyze and design information systems in health services organizations.
PHC	6197	Secondary Data Analysis in Maternal and Child Health	3		The purpose of this course is to provide experience in the management and analysis of data sets relevant to public health. Among the data sets considered are vital statistics, health care utilization databases, practitioner and other registries, periodic surveys, selected surveillance systems, and programmatic data.
PHC	6230	Foundations of Humanitarian Assistance	3		This course is designed to develop or improve the skills of persons interested in providing emergency health services in international humanitarian emergencies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6231	Organizing Emergency Humanitarian Actions	3		Topics to be covered in this course include the: use of early warning systems, logistics, security of food, safety, assessment and surveillance, epidemiology, malnutrition, feeding programs, water and sanitation, shelter, and communicable diseases.
PHC	6232	From Emergency to Development and Prevention	3	PR: PHC 6230 and PHC 6231	This course includes: resources, training for local agencies, basic services, cultural issues, Sphere Projects Minimum Standards, basic services, women after a disaster, and health service program.
PHC	6233	Current Challenges in the Humanitarian Field	3	PR: PHC 6230 and PHC 6231	This course will review: leadership issues, advocacy, neutrality and impartiality, the media, prisoner visitations, torture, demobilization and decommissioning of combatants, expatriates, peace-keeping to peace-building, sovereignty, and reconstruction.
PHC	6235	Critical Infrastructure Protection for Public Health Concepts	3		The content exposes: 1) HS Presidential Directives 7 and 63, 2) critical infrastructures and key resources, 3) public-private partnerships, and 4) vulnerability analysis and risk analysis/reduction.
PHC	6236	Business Continuity for Global Health and Security	3		Course covers effects of the environment on health, business, and national security; fundamentals of Business Continuity Management; development of a Business Continuity Plan and a family emergency plan.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6240	Cultural Competency in Children's Mental Health	3		The course will explore the need of cultural competence in provision of mental health services in a multicultural society. The course will examine culture and ethnicity, multiculturalism, and intercultural communication. The course will define cultural competence from the perspective of the current different approaches to the concept, and examine cultural competence at both mental health systems and service provision levels. Case studies of how cultural competence is implemented by different mental health organizations will be examined.
PHC	6251	Disease Surveillance and Monitoring	3		A review of epidemiological principles and methods used in the development and practice of disease and infection surveillance, prevention and control for public health in general and in the context of the hospital setting in particular. Basic epidemiological concepts will be focused in communicable diseases, nosocomial infections, environmental exposures, and emerging diseases.
PHC	6254	Public Health Implications and Concerns in Homeland Security	3		Identifies the implications public health presents within the context of homeland security related to public health strategy, interagency capabilities, and the resources that are aimed at preventing and containing risks from tragic events.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6255	Homeland Security: Law, Policy and Public Health	3		Examines the laws and policy documents that are the foundation of homeland security. It is both broad and in depth. Through rigorous analysis, and regular discussions and short papers, students will learn what makes homeland security happen.
PHC	6300	Principles of Environmental Health	3		This course provides information regarding fundamental topics in environmental and occupational health including air pollution, water pollution, solid and hazardous waste, and environmental health law and ethics.
PHC	6301	Water Pollution and Treatment	3		A study of treatment technologies for water and wastewater. Emphasis is given to treatment technologies appropriate for developing countries.
PHC	6303	Community Air Pollution	3	PR: CHM 3610C	A study of air pollutants. Emphasis is given to sources and control technologies as well as health effects and environmental impact.
PHC	6305	Environmental Analytical Laboratory	3		Techniques used for quantitative sampling and analysis of air, water, and soil contaminants.
PHC	6306	Radiation Health Principles	2		An analysis of the basic concepts of radiation and the protection of individuals and population groups from ionizing and non-ionizing radiation as well as establishing relationships between radiation exposure and biological damage.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6307	Principles of Exposure Assessment & Control	3		The student learns the principles and details of processes involved in assessment of inhalation, ingestion, and dermal contact exposures to chemical and biological agents encountered in environmental and occupational settings.
PHC	6310	Environmental Occupational Toxicology	3		A study of the nature of industrial and environmental toxins and toxic by-products, generated and distributed, leading to disease, disability, or death, and the control measures available. Lecture and appropriate laboratory methods are used.
PHC	6313	Indoor Environmental Quality	3		Students will learn the importance of maintaining acceptable indoor environmental quality in occupational and residential settings. The course will emphasize current techniques, data interpretation methods, and proper data / conclusions reporting.
PHC	6314	Infection Control Program Design	3		This course will review educational program design for health care workers, instructional methods, personnel and financial resource management, role of Infection Control (IC) personnel, development of goals, mission statement, action plans for IC, evaluation of programs, communication with administration, physicians and care givers.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6325	Environmental Laboratory Principles	3		This course familiarizes students with analytical measurement methodologies in quantitative sampling and analysis of air, water, soil contaminants, and analytical chemistry generally.
PHC	6326	Global Issues in Environmental Health	3		Introduces students to global issues regarding civilization, industrialization and globalization and their effects on the environment and the health of workers and their families.
PHC	6345	HSE Management & Administration	3		A study of techniques and administrative practices which are instrumental in the initiation and maintenance of programs and procedures that are geared to prevent and reduce work related injuries, illnesses, and discomfort.
PHC	6350	Occupational Toxicology and Risk Assessment	3	PR: PHC 6050	A study of methods for assessing potential hazards associated with occupational health environments. Evaluation of techniques for the development of comparative rankings of problem areas.
PHC	6351	Occupational Medicine for Health Professionals	3		Designed to enhance the skills of select health professionals in identifying, evaluating and charting a course of action for medical conditions resulting from occupational exposures and hazards.
PHC	6353	Environmental Toxicology and Risk Assessment	3		Designed to provide training for students to develop the skills necessary to identify, characterize, quantify, and manage human health and ecological risks for the protection of human health and the environment.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6354	Safety and Health Administration	2		A study of techniques and administrative practices which are instrumental in the initiation and maintenance of programs and procedures that are geared to prevent and reduce work related injuries, illnesses, and discomfort.
PHC	6355	Principles of Occupational Safety	3		A study of safety management as it relates to hazard identification, accident investigation and training, enabling the safety manager to reduce costs to business, industry, and government.
PHC	6356	Industrial Hygiene	2		A study of the recognition, evaluation, and control of the workplace affecting the health of employees.
PHC	6357	Environmental and Occupational Health	3		The study of major environmental and occupational factors that contribute to development of health problems in industrialized and developed countries.
PHC	6358	Physical Agents - Assessment and Control	2		Presents advanced aspects of recognition, assessment and control of occupational physical agents. This is the synthesis course for industrial hygiene students, and students will apply knowledge of hazards evaluation and control.
PHC	6359	Xenobiotic Metabolism in Environmental and Occupational Health	3		Study of enzymes involved in biotransformation of foreign compounds important in environmental and occupational health.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6360	Safety Management Principles and Practices	2		A study of safety management as it relates to hazard identification, accident investigation and training, enabling the safety manager to reduce costs to business, industry, and government.
PHC	6361	Industrial Ergonomics	2	PR: PHC 6360	Systems logic and methodology for assessing the potential impact of work environments on the health and safety of workers; application of occupational ergonomics and human factors to the design and evaluation of complex work environments.
PHC	6362	Industrial Ventilation	2	PR: PHC 6356	Basic principles of fluid mechanics and exhaust ventilation are employed in the design and evaluation of the performance of industrial ventilation systems.
PHC	6364	Industrial Hygiene Aspects of Plant Operations	2	PR: PHC 6356	Field visits to industrial plants will be conducted so as to familiarize students without prior experience to the health hazards associated with various processes and the methods of control employed to prevent excessive exposures.
PHC	6365C	Analytical Methods in Industrial Hygiene I	2	PR: PHC 6356	Analytical measuring methodologies and instruments employed in evaluating exposure to chemical agents are described and detailed. Hands-on laboratory exercises permit full familiarization in the calibration and use of these instruments. Problem solving sessions result in the development of a routine for the proper handling of laboratory data.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6366C	Analytical Methods in Industrial Hygiene II	2	PR: PHC 6356	Analytical measuring methodologies and instruments employed in evaluating exposure to physical agents are described and detailed. Hands-on laboratory exercises permit full familiarization in the calibration and use of these instruments. Problem solving sessions result in the development of a routine for the proper handling of laboratory data.
PHC	6367	Control Aspects of Industrial Hygiene	2	PR: PHC 6356, PHC 6358.	This course maps out the framework for industrial hygiene controls with an emphasis on engineering controls, administrative controls and personal protection. It is the capstone course for industrial hygiene students, who will apply their knowledge of hazard evaluation to the appropriate selection of controls.
PHC	6369	Industrial Toxicology	2		This course will focus on specific industries, industrial processes and the chemicals that worker's may be potentially exposed to, and their impact on Public Health. The Standard Industrial Classification (SIC) division structure will be used to identify industries that have been studied by NIOSH or other agencies. For each industry identified, chemical hazards, exposure routes, toxicology effects, and monitoring methods will be discussed emphasizing the need for a multidisciplinary approach in providing information aimed at reducing worker exposures to industrial toxicants.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6370	Biological and Surface Monitoring	2	PR: CHM 2200, CHM 2211, BSC 2010	This public health course will provide students with a thorough understanding of Biological Monitoring as a method of evaluating exposure to environmental agents. Students learn to distinguish between the limitations of this emerging technology and how to avoid pitfalls associated with misapplication of results. Students learn how to develop sampling strategies for specific chemicals.
PHC	6371	Air Dispersion Modeling for Regulatory Compliance	3		A study of air pollution meteorology (atmospheric energy balance, inversions and winds), micrometeorology (atmospheric fluid mechanics, turbulence, winds, stability classes, convective boundary layer) and atmospheric diffusion (different theories, Gaussian plume equation, air quality models, atmospheric removal processes), supported by a computer laboratory.
PHC	6373	Protecting Public Health: Bioterrorism/Biodefense	3		The theoretical, historical and contemporary issues associated with public health protection and safety. This includes quarantine, health and safety management, homeland security, and the history of biological warfare.
PHC	6400	Maltreated Children and Their Families	3		This course will identify and analyze public health policy and research issues specific to the area of child maltreatment.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6401	Homelessness: Implications for Behavioral Healthcare	3		A study of the structural, personal, treatment, and sociopolitical issues related to homelessness. Causes of homelessness from structural and personal factors are explored. Quantitative and qualitative data are reviewed to examine the experience of homelessness, pathways into homelessness including mental health, substance abuse, and violence/trauma. A special focus will be on the research conducted by the instructors on services for homeless families and the prevention of homelessness among individuals with severe mental illness.
PHC	6410	Social And Behavioral Sciences Applied to Health	3		A review of the conceptual, empirical, and theoretical contributions of the Social and Behavioral Sciences as they contribute to an understanding of health and illness.
PHC	6411	Introduction to Social Marketing for Public Health	3		This course is designed to analyze the components and applications of social marketing for public health: theoretical foundations; research methods; strategy development; program design and implementation, materials pretesting, and ethics.
PHC	6412	Health Disparities and Social Determinants	3		This course is designed to explore health disparities in the U.S. and multi-level strategies to reduce those disparities. Discussions will focus on a critique of the literature from a variety of disciplinary perspectives and an analysis of case studies.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6413	Family and Community Violence in Public Health	3		The objective of this course will be to identify and to focus on the most serious policy and research issues which are specific to the field of family violence. The course will cover theory, research, and applied programs in community settings.
PHC	6414	Adolescent Health	3		The purpose of this course is to provide an overview of adolescent health issues and trends. With this primary aim, the objectives are organized around the knowledge of health assessment and interventions with adolescents and the skills needed for effective teaching methodologies to enhance health provider communication with adolescents. This course is not restricted to Public Health graduate students.
PHC	6418	Public Health and Aging	3		A study of specific health promotion and disease prevention strategies for older adults in the context of community health, immunizations, nutrition, exercise, and stress management. Also management for chronic disease, delay of disabilities, and types of long term care deliver and settings are examined.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6419	Global Issues in Community and Family Health	3		This course provides an overview of current public health issues and problems affecting communities and families around the world. A comparative approach is taken to highlight similarities and differences across countries at variable levels of socioeconomic development. Problems are addressed in terms of etiology, impact and intervention strategies. Reg. Permit Required. CI.
PHC	6420	Health Care Law, Regulation and Ethics	3		This is a survey course of the most significant issues in health care law. Core topics include licensure, malpractice, reproductive issues, the right to die, and managed care. Students will develop and understanding of substantive law, legal decision making, and the relationship between health care law and ethics. Graduate students from other departments may take the course.
PHC	6421	Public Health Law and Ethics	3		This course provides students with an overview of major ethical and legal concepts. The course considers the role of the legal system in resolving public health problems through the legislature, the courts, and administrative agencies.
PHC	6422	Environmental Health Law	3	PR: EOH 6357.	Review and analysis of Federal and State laws and regulations in relation to the pollution, regulation and protection of the air, water, and environment issues in general.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6423	Occupational Health Law	2	PR: PHC 6357	Review and analysis of Federal and State laws and regulations in relation to Occupational Health and safety.
PHC	6430	Health Economics I	3	PR: ECO 2023 or equiv.	Microeconomic analysis of the structure of the health care industry and economic incentives facing physicians, patients, and hospitals.
PHC	6433	Health Economics II	3	PR: PHC 6430	Second of a two part sequence surveying various applications of economic principles and methods to current issues in public health. Emphasis on efficiency goals of health care policy and the use of economic analysis in the design of such policy.
PHC	6435	Comparative Health Insurance Systems	3	PR: Undergraduate Microeconomics, PHC 6430	Overview of health insurance concepts and major systems in developed countries, using microeconomic tools relevant to management and public policy.
PHC	6441	Social Determinants of Health	3	PR: PHC 6410.	The course provides students with a basic understanding of our society's most pervasive social disparities in health status and prepares students to evaluate underlying theories and promising interventions related to social determinants of health.
PHC	6442	Global Health Applications in the Field	3	PR: PHC 6106	This course prepares students for fieldwork in the global public health arena. A comparative approach is taken to highlight similarities and differences across countries at variable levels of socioeconomic development.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6450	Patient-centered Communication and Professionalism	3		This course will introduce patient-provider communication skills to health students. Through role modeling, practice, and case studies, students will develop effective patient interviewing and communication skills and demonstrate professionalism.
PHC	6460	Social Marketing Program Management	3	PR: PHC 6411; PHC 6705.	Address the operational and planning issues associated with social marketing programs. Develop social marketing problem-solving, and planning skills. Topics include budgeting, branding, implementation, evaluation.
PHC	6461	Advanced Social Marketing	3	PR: PHC 6411; PHC 6705.	This course enables students to use the social marketing framework to analyze public health problems and design program solutions. The course focuses on a managerial perspective to improve organizational efficiency and social design principles.
PHC	6462	Cultural Competency in Public Health Practice	2		An overview of the knowledge and skills needed to work in multicultural environments and apply the principles of cultural competency. Designed to critically examine this construct by incorporating anthropological perspectives and techniques.
PHC	6500	Theoretical and Behavioral Basis for Health Education	4	PR: PHC 6410.	Assessment of and current methodologies related to understanding and influencing psychosocial, cultural, and situational factors in voluntary behavior change process; theories of health behavior.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6505	Program Planning in Community Health	3	PR: PHC 6500	This course is designed to prepare students to analyze the planning and development process for community health programs. The PRECEDE-PROCEED model and intervention Mapping will be used as the primary planning frameworks.
PHC	6507	Health Education Intervention Methods	3	PR: PHC 6500 and PHC 6505.	Prepares students to analyze and incorporate effective content and process in health education program delivery. Course not restricted to health education majors.
PHC	6508	Case Studies in Health Education	3	PR: PHC 6500	An assessment of selected case studies in Health Education with an emphasis on application, analysis, and evaluation of health education theory and practice to various public, private, health care, and school settings.
PHC	6510	Exotic and Emerging Infectious Diseases	3		A study of human infectious disease with particular emphasis on diseases caused by parasites, viruses, bacteria, and fungi found in sub-tropical and tropical environments.
PHC	6511	Public Health Immunology	3		Immunology as applied to public health. Emphasis is on applications of immunology and immunological techniques used in surveillance, prevention, and control of public health problems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6512	Vectors of Human Disease	3		Biology of the vectors of human disease: major groups include the arthropods, mollusks, and mammals. Emphasis on the ecology of the vectors and their transmission of pathogens as they relate to public health.
PHC	6513	Public Health Parasitology	3		Human diseases caused by parasite infection with emphasis on diseases related to environmental exposure and of public health importance. Major groups include the protozoan, cestodes, trematodes, and nematodes of human disease.
PHC	6514	Infectious Disease Control in Developing Countries	3	PR: PHC 6000.	Focuses on disease control strategies for selected infectious and communicable diseases. Diseases covered have been selected on the basis of their relative contribution to the burden of disease in developing countries.
PHC	6515	Food Safety	3		Overview of food safety practices and principles emphasizing the role of food safety in public health. Emphasis is placed on the leading causes of foodborne illness and their associated food groups.
PHC	6516	Tropical Diseases	3		The course approaches tropical and infectious diseases from the preventive and global public health perspectives but takes the biological aspects of the host-parasite relationship as bases for its control.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6517	Infectious Disease Prevention Strategies	3		This course focuses on surveillance criteria, outbreak criteria, data collection and study design. Also included will be data analysis and reporting; interaction with public health agencies; preparation for Joint Commission on Accreditation of Healthcare Organizations (JCAHO); prevention and intervention; sanitation, disinfection, antiseptics and sterilization; role of immunization, antimicrobial prophylaxis and therapy.
PHC	6518	EcoHealth & the Ecology of Tropical Infectious Diseases	3	PR: PHC 6516.	This course surveys the history of the ecosystem approach to community health, and introduces the basic concepts from the emerging “EcoHealth Model” and recent developments in the transdisciplinary field of disease ecology—both environmental and social.
PHC	6520	Foodborne Diseases	3	PR: PHC 6562, PHC 4573, BSC 6932, MCB 3020, or CI	Provide knowledge about the principles and methods used in foodborne disease epidemiology as well as knowledge of the leading causes of hospitalization, illness, and deaths due to hazards found in foods.
PHC	6521	Public Health Nutrition	3		Review of nutrition issues and programs for infants, children, adolescents, adults and elderly, food security, and the role of nutrition education in improving public health.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6522	Nutrition in Health and Disease	3		Overview of nutrients required for health, regulatory mechanisms influencing requirements and metabolism in growth, reproduction, disease, senescence, psychological and sociological implications, and the coming impacts of genomic (personal) nutrition.
PHC	6530	Issues and Concepts in Maternal and Child Health	3		The purpose of this course is to provide for the foundation of Maternal and Child health for students who will be concentrating in this area, or as an overview for non-majors.
PHC	6532	Women's' Health Issues in Public Health	3		A public health orientation of women's health needs with their impact on society, family, and children.
PHC	6535	International Maternal and Child Health	3		The course examines current priorities for improving the health of mothers and children in developing countries. The emphasis is on understanding MCH issues within the larger context of primary health care and sociocultural factors which influence behavior.
PHC	6536	Population and Community Health	3	PR: PHC 6410	Population information and applications in health programs. Topics include: population growth and decline, structure, distribution, fertility, morbidity and mortality, and migration as applied to maternal, child and community health.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6537	Case Studies in MCH Programs, Policies and Research	3	PR: PHC 6530, PH Core Courses	Capstone course intended to provide unifying opportunity to utilize concepts, principles, and skills learned in other MCH and public health courses.
PHC	6539	Foundations in Adolescent Behavioral Health	3		Examines the interaction of epidemiology, disease surveillance, social neuroscience, environmental vulnerability, pharmacology, and developmental risk & resiliency that affect youth populations at risk for drug use and mental disorders.
PHC	6542	Epidemiology of Mental Disorders	3		Students in this course will study relevant factors that determine the frequency and distribution of mental disorders in human populations. Mental health intervention strategies also will be explored.
PHC	6543	Foundations in Behavioral Health Systems	3		This web-based course is a graduate course in Behavioral Health within the Department of Community and Family Health. It is designed to provide the graduate student with an overview and understanding of the significant issues and trends in community & family mental health delivery systems in America. Four major areas of mental health will be emphasized: 1) history and legislation; 2) systems delivery; 3) programs and policies; 4) and selected at-risk populations.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6544	Children's Mental Health Services	3		The content of this course is designed to prepare professionals to work in partnership with families and other professionals and participate in interdisciplinary teams in a variety of settings to meet the needs of children with mental health problems.
PHC	6545	Evaluation in Mental Health	3	PR: Biostatistics I or Equivalent	A study of the theories and practical approaches to the development of evaluative methods for behavioral health.
PHC	6547	Case Management in Community Mental Health	3		This course focuses on case management systems with a special emphasis on clinical case management for vulnerable populations, especially persons with severe mental illness and older adults. This course is designed for persons who are interested in providing case management services, managing such services, or have an interest in the field. The course examines elements critical for the effective provision and evaluation of case management services.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6548	Grant Writing in Mental Health	3		This course focuses on the process and problems of grant writing in mental health. The course is designed for persons who are interested in identifying and evaluating mental health research questions and demonstration projects. The curriculum examines criteria for good mental health research and provides students with tools for successful grant writing. Students will learn how to develop and market fundable project ideas, where to start, what funding agencies look for, and how to construct a fundable mental health proposal.
PHC	6549	HIV and Mental Health	3		This course will provide students with an interdisciplinary understanding of HIV/AIDS, focusing primarily on behavioral health and ethical issues. Students will study the unique contributions to prevention and treatment that both mental healthcare workers and theories can make to persons affected by HIV.
PHC	6560	The Public Health Laboratory System	3		This course deals with the roles of the public health laboratory in the Public Health System and thus familiarizes the student with the types, functions and interactions of Public Health Laboratories.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6561	Laboratory Techniques in Public Health	3		This is a unique interactive laboratory based course. Each lecture will be supported by a "wet lab" where students would get hands on experience of laboratory research techniques using basic and advanced biochemical and molecular tools.
PHC	6562	Microbiology for Healthcare Workers	3		An overview of contemporary microbiology, with emphasis on the significance of microorganisms in the environment and clinical disease. The structure, physiology, molecular genetics, taxonomy, immunological and clinical aspects, and public health implications of microorganisms will be covered.
PHC	6580	Prevention and Control of Unintentional Injuries	3		Prepares students to critically analyze the nature, magnitude and intervention strategies of unintentional injuries and propose new directions for prevention and control. Not restricted to public health majors.
PHC	6588	History & Systems of Public Health	1		An overview of the public health profession, including core functions and values, essential services, history, current challenges, and US and global public health systems.
PHC	6590	Reproductive Health Trends And Issues	3		Provides understanding of reproductive factors in Health and Disease and its impact on community, family, and individual quality of life, and to apply current advances in FP and MCH care components and management in Public Health Programs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6591	Reproductive and Perinatal Epidemiology	3	PR: PHC 6000, PHC 6050	This course is an introduction to reproductive/perinatal epidemiology and its application in Maternal and Child Health. It examines perinatal & family planning issues and emphasizes factors that affect reproductive, pregnancy and infant health outcomes.
PHC	6700	Research Methods in Epidemiology	3	PR: PHC 6000, PHC 6050	Planning, execution, analysis and intervention of epidemiological studies.
PHC	6701	Computer Applications for Public Health Researchers	3		Course covers essential computer-based techniques for a public health researcher; data entry, editing, management, subsample selection, and data encryption for confidentiality are all covered. SAS is used extensively. Course open to all graduate students.
PHC	6705	Formative Research Methods in Social Marketing	3	PR: PHC 6411.	This course is designed to familiarize students with the basic principles and techniques in conducting formative research for social marketing program development. The major topics covered include: principles of formative research design, qualitative data collection methods, interviewing techniques, qualitative data analysis, survey design, pretesting, and implementation, ethical principles and protection of human subjects.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6708	Evaluation Methods in Community Health	3	PR: PHC 6505	This course will cover contextual issues surrounding evaluation, evaluation designs and methodological issues, steps involved in conducting an evaluation, communicating the results, and ensuring that evaluation findings are used by intended users.
PHC	6712	Air Pollution Research Seminar	1		This seminar course is designed to facilitate communication, sharpen research skills in the context of air pollution monitoring and modeling.
PHC	6716	Advanced Formative Research Methods	3	PR: PHC 6705.	This course gives students an advanced, applied perspective of formative research methods. The focuses on: survey design; online quantitative research; translating findings into social marketing strategy; and applied data reporting techniques.
PHC	6722	Laboratory Rotations in Global Health Research	3		Designed to familiarize MSPH students with ongoing research and laboratories within the Department of Global Health. Students will choose from a list of laboratory-projects rotation options.
PHC	6724	Synthesizing Public Health Research	1		This course is an introduction to interpreting, synthesizing, and making claims about the research in different kinds of public health studies, and citing and referencing the research literature.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6725	Focus Group Research Strategies	3		This course is an intensive overview of focus group procedures in the public health environment. Attention will be placed on question development, moderator skills, analysis strategies and planning critical logistical details of focus group interviews, and analyzing results of focus group interviews. The course will examine unique methodological characteristics of focus group interviews, identify emerging trends, and explore areas of appropriate and inappropriate use.
PHC	6726	Community-Based Participatory Research for Tropical Health	6	PR: PHC 6516 and PHC 6518.	Using project-based learning, this field course is designed as an intensive 4-week intro to the background, methods and techniques for Community-based Participatory Research (CbPR) for tropical health interventions in resource-constrained settings.
PHC	6728	Translational Research Methods in Adolescent Behavioral Health	3	CR: PHC 6946; PR: PHC 6539	Focuses on research methods and measurement models relevant to translational research, implementation science & the transfer of knowledge from research to practice. Adolescents with co-occurring disorders are a special population of focus.
PHC	6729	Advanced Research Education in Adolescent Behavioral Health	3	CR: PHC 6947; PR: PHC 6539, PHC 6728	Focuses on advanced topics in community-based participatory research in adolescent behavioral health. It will also focus on organization readiness to adopt evidence-based practices in adolescent behavioral health.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6756	Population Assessment: Part 1	5	CR: PHC 6588	Fundamentals of population assessment in public health including concepts and skills in systems thinking, public health biology, health behavior, environmental health, health policy, global health, epidemiology, and biostatistics. Part 1 or 2.
PHC	6760	Research Methods in Public Health Programs	3		Improves the students' skills in quantitative research methods that are used evaluating public health programs and health service delivery systems.
PHC	6761	Global Health Assessment Strategies	3	PR: PHC 6764, PHC 6000, PHC 6050	This course provides a systematic approach for the assessment of public health interventions in low resource countries by providing tools and skills to collect, retrieve, manage, assemble, analyze and communicate information at the community level.
PHC	6762	Public Health Topics in Global Sustainability	3		The course will address global health problems from the perspective of a sustainable environment and system. Students will learn how this ecosystem is materialized in goods like water, food, housing, transportation and sanitation, key elements of health.
PHC	6764	Global Health Principles and Contemporary Issues	3		This course introduces students to the global context of public health and its dimensions particular to international settings; examines major themes and policies in global health; and analyzes health problems and varying responses globally.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6765	International Health Education	3		This travel abroad course compares the practice and venues of health education as they occur in another country with those in the United States. Specific course location varies. Focus is on comparative assessment of individual and community health education needs, program planning, implementation, and evaluation, coordination and administration of programs, resource availability of programs, resource availability, health communication mechanisms, application of research principles, and status of the health education profession.
PHC	6766	Global Health Challenges: In-Country Case Study (Field Course)	3		This travel abroad course compares the practice and venues of public health as they occur in another country with those in the United States. Health issues unique to and associated with the country are examined.
PHC	6907	Independent Study: Public Health	1-6		Independent study determined by the student's needs and interests.
PHC	6930	Public Health Seminar	1-3		Interaction of faculty, students and select health professionals in relation to public health issues and research.
PHC	6931	Advanced Seminar In Social & Behavioral Sciences Applied To Health	3	PR: PHC 6410	The course overviews the use of social science theory and methods in health problem analysis and program design. For students with appropriate background.
PHC	6934	Selected Topics in Public Health	1-6		The content of this course will be governed by student demand and instructor interest.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6936	Public Health Capstone	3		The capstone course is designed to provide a culminating highly interactive experience for students and to allow for the synthesis and application of public health core disciplines in situations simulating the actual practice of public health.
PHC	6945	Supervised Field Experience	1-12		Internship in a public health agency or setting. Application of administrative, program, and/or research models now employed in government and private public health organizations.
PHC	6946	Service Learning in Adolescent Behavioral Health I	2	CR: PHC 6728.; PR: PHC 6539.	Orient students to the organizational context of adolescent behavioral health community agencies and community implementation of evidence-based practices. Students complete first phase of the Capstone project.
PHC	6947	Service Learning in Adolescent Behavioral Health II	2	CR: PHC 6729.; PR: PHC 6539, PHC 6728, PHC 6946.	Facilitate completion of the second phase of the Capstone Project, the service learning component of the Institute. Students will implement research projects conceptualized in the first service learning course.
PHC	6948	Service Learning in Adolescent Behavioral Health III	2	PR: PHC 6539, PHC 6728, PHC 6729, 6946, PHC 6947.	Facilitate completion of the third phase of the Capstone Project. Students will analyze and report findings from research projects conducted during the Service Learning II course.
PHC	6971	Thesis: Master Of Science in Public Health	2-19		Research-oriented study for students seeking the M.S. degree in Public Health.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	6974	Social Marketing Capstone	3	PR: PHC 6411, PHC 6705, PHC 6934.	Students conduct a capstone project and present it to faculty and peers for critical evaluation. Competencies reinforced are the ability to design and carry out the formative research phase for a social marketing project and develop a marketing plan.
PHC	6977	Special Project: MPH	3		In-depth study of a selected issue in public health. A topic will be selected according to student's needs and interests.
PHC	7000	Practical Issues in Epidemiology	3	PR: PHC 6000.	Provides an understanding of the everyday tasks faced by an epidemiologist working in the field from hypothesis generation to writing up of study findings. Required for Ph.D. students; elective for all other graduate students.
PHC	7008	Neuroepidemiology	3	PR: PHC 6000, PHC 6050.	This course provides an overview of the epidemiology of selected neurologic diseases. Particular emphasis is placed on how methodologic problems apply to the epidemiologic study of a variety of neurologic diseases.
PHC	7015	Epidemiologic Study Design and Protocol Development	3	PR: PHC 6000, PHC 6700, PHC 6051	The course will provide the student with the opportunity to acquire knowledge and skill in formulating a research problem and developing an appropriate epidemiologic study design. A detailed proposal will be developed, presented, and defended.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7017	Epidemiology Methods V	3	PR: PHC 6000, PHC 6010, PHC 6011, PHC 6016 and HSC 6055	This course builds upon material presented in the Epidemiology Methods course sequence and covers advanced epidemiologic methods, including the epidemiologic perspective of advanced statistical techniques and their proper epidemiologic interpretation.
PHC	7018	Environmental Epidemiology	3	PR: PHC 6000	This course will consider the relationship between environmental (non-occupational) factors and the occurrence of disease in human populations, including the chemical and physical extrinsic agents to which humans are exposed.
PHC	7019	Occupational Epidemiology	3	PR: PHC 6000	Examines the existing epidemiologic data pertaining to the health effects of specific occupational exposures and the epidemiologic methods involved in the conduct of occupational studies.
PHC	7039	Critical Thinking in Epidemiology	1	PR: PHC 6000, PHC 6010, PHC 6011 and PHC 6016	This doctoral seminar focuses on important theoretical constructs in the scientific method and epidemiologic principles. The course also examines the general history, development and evolution of epidemiology as a discipline and the role of epidemiology.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7053	Generalized Linear Models	3	PR: PHC 7058	The course provides an in-depth coverage of the theory of generalized linear models with application in public health. Topics covered are numerical algorithms, exponential family, modeling checking, logistic regression, loglinear models, estimating equations.
PHC	7054	Advanced Biostatistical Methods	3		This course introduces students to both theoretical and practical problems in specialized advanced topics in Biostatistics. Alternate topics include Applied Multivariate Statistics, Nonparametric Methods, Spatial Statistics in Health Sciences and Advanced Sampling Design. Students can take this course repeatedly.
PHC	7055	Biostatistical Computing	3	PR: STA 6447 and PHC 7058,	This course provides a broad foundation in modern biostatistical computing methods relevant to public health research. It prepares Ph.D. students with advanced computing skills for dissertation research. Topics include algorithms in matrix algebra, Newton Raphson, Fisher's scoring, the EM algorithm, bootstrap, random number generation, Monte Carlo Markov Chain, and data augmentation.
PHC	7056	Longitudinal Data Analysis	3	PR: PHC 7058 and PHC 7053	This course is a discussion of recent development of methods for analysis of longitudinal data. Covered topics include generalized estimating equations, mixed effects models, hierarchal models.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7058	Biostatistical Inference II	3	PR: STA 6447	This course covers the foundation of biostatistical inference, required for biostatistic program. Topics include likelihood theory, modern Bayes theory, estimation and testing, non-parametric theory.
PHC	7059	Advanced Survival Data Analysis	3	PR: STA 6647 and PHC 7058	This course addresses advanced topics of survival data analysis. Topics include recurrence multiple events and faulty models. Counting process based theory is discussed. Real data sets are used for illustration.
PHC	7067	Probability Models	3	PR: College-level calculus	Probability theory and models with applications in Public Health. Contents: fundamental probability theories; stochastic process; probability modeling with application to health data.
PHC	7103	Transforming Public Health Practice	3		An introduction to the needs for developing the contemporary public health infrastructure. An overview of current issues and methods of public health practice in addition to issues and methods of public health leadership and management.
PHC	7122	Vaccinology	3	PR: Graduate or undergraduate immunology course.	Provides advanced information regarding the current state of vaccinology. Besides currently available vaccines, the course reviews vaccines under experimentation for emerging and re-emerging diseases as well as vaccines for neglected tropical diseases.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7149	Practical Applications II: Public Health Leadership	1	PR: PHC 7103	Designed to engage future public health leaders in discussions and critical thinking activities regarding leadership roles and responsibilities as they contribute to a leadership framework in public health academic, governmental or community practice.
PHC	7152	Policy and Practice in Community and Family Health	3		This course is designed to prepare students to critically analyze issues and develop skills pertaining to effective policy development and practice in community and family health public health programs.
PHC	7154	Evidence-informed Public Health I	3		This course provides an overview of evidence-informed public health practice in addition to skills for evidence-informed decision making.
PHC	7156	Evidence-Informed Public Health II	3	PR: PHC 7154.	An overview of evidence-informed public health decision making including: assessment of scientific evidence; development and quantification of problem statement; prioritizing evidence-informed options; and, translating evidence to action.
PHC	7198	Advanced Qualitative Methods in Community Health Research	3	PR: PHC 6193, PHC 6500.	This course provides advanced instruction and supervision of field application of qualitative research methods for studying community health problems. Content focuses on the skills to critically evaluate theory-based mixed method designs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7317	Risk Communication in Public Health	2		Communicating with the public about environmental and occupational health risks that affect individuals, families, and communities is a central task facing public health professionals. Analyzes the structure, function, content and process of risk communication in order to maximize effective, responsible and ethical public interaction and to describe the issues related to the legal implementation of risk communication in public health organizations.
PHC	7368	Aerosol Technology in Industrial Hygiene	2		An advanced study of the properties, behavior, and measurement of aerosols, including the physical and chemical principles affecting behavior. Various applications of aerosol technology in industrial hygiene will be investigated, including inhalation and deposition of aerosols, aerosol sampling, and control.
PHC	7405	Theoretical Application to Public Health Issues	3		Designed for the advanced doctoral student focusing on the application of theory for developing, implementing, and evaluating public health interventions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7417	Family Systems and Public Health	3		Intended for doctoral students in Community and Family Health interested in social and behavioral theories of family and health behavior. Covers an array of theoretical perspectives related to the process, structure and function of systems. Examines the human values associated with intimate and non-intimate relationships that comprise healthy relational settings. Implications of these conceptual and theoretical frames for public health issues will be discusses.
PHC	7437	Applications in Health Economics	3	PR: PHC 6430.	1. in depth, economic evaluation techniques, cost-benefit, cost-effectiveness, and cost-utility analysis. 2. critical review of selected peer reviewed empirical studies. 3. students use a large dataset and estimate an effect size.
PHC	7583	Community-Based Health Promotion	3	PR: PHC 7198, PHC 7405.	This course is designed to familiarize students with key historical underpinnings and principles and practices of community-based participatory research.
PHC	7702	Advanced Public Health Research and Evaluation Methods	3	PR: PHC 6010; PHC 6708; PHC 6701; HSC 7267; PHC 6500; PHC 7417; PHC 6193.	This course focuses on advanced research and evaluation methods of multi-level community based public health initiatives. Models and processes for evaluation of multi-level program interventions, study design and appropriate methods are covered.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7703	Advanced Research Methods in Epidemiology	3	PR: PHC 6010, PHC 6011, PHC 6016, PHC 6053, PHC 6051	Course emphasizes summary and statistical analysis of data. Methods include life tables, logistic and proportional hazards regression, assessment of confounding, interaction, and bias. Includes a two-hour weekly computer lab.
PHC	7704	Applied Research Methods in Community and Family Health	3	PR: PHC 6050, PHC 6700, PHC 6708	Focuses on the application of appropriate theories, models, and methods of research inquiry to multi-level public health research and evaluation.
PHC	7709	Case Studies in the Quantitative Analysis of Public Health Data	3	PR: PHC 6051 or Equivalent.	Focuses on training students in public health applications of multivariate analytic techniques including factor analysis, regression analysis, multivariate analysis of variance, event history analysis, multi-level modeling and structural equation modeling.
PHC	7727	Implementation and Management of Epidemiologic Studies	3	PR: PHC 6000, PHC 6010, PHC 6011, PHC 6050, PHC 6701, PHC 6190	This course addresses the practical aspects of implementation and management of research studies in a manner consistent with the scientific method, i.e., how do you get it done? Topics include systems theory, questionnaire design, & operations research.
PHC	7908	Specialized Study in Public Health	1-9		Demonstration of an in-depth study in a specialized public health area. This study may be used to address areas where a student needs to demonstrate a higher level of competency.
PHC	7910	Directed Research	1-19		Advanced research design and application.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHC	7931	Advanced Interdisciplinary Seminar in Public Health	1-3		Students, faculty and other health professionals will participate in presenting and discussing contemporary health issues and possible solutions.
PHC	7932	Practical Applications I: Policy, Advocacy and Public Health	1		This seminar course is designed to engage current public health practitioners in discussions and critical thinking activities that build skills for influencing health policy and program decision-making.
PHC	7934	Writing for Scholarly Publication in Health Science	3		The purpose of this course is for the development of skills that culminate in publishable works in health-related journals and other related publications. There will be an emphasis on writing, editing, reviewing and other applicable skills.
PHC	7935	Special Topics In Public Health	1-3		Content will include recent or current issues in public health.
PHC	7936	Seminar in Health Care Outcomes Measurement	3		This course is designed to prepare doctoral students and advanced masters degree students to design both population-based and practice-based studies of health care outcomes.
PHC	7937	Advanced Seminar in Grant-Writing	3		This course addresses advanced skills and techniques necessary for writing successful research grant proposals. The focus is on writing grant proposals aimed at public health research and evaluation of public health interventions.
PHC	7980	Dissertation	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHH	6105	Seminar in Ancient Philosophy	4		Examine major texts in Ancient Philosophy, such as Plato's Theaetetus and Timaeus, and Aristotle's Metaphysics, Physics, and De Anima.
PHH	6205	Seminar in Medieval Philosophy	4		Examines major texts, topics, and thinkers in medieval philosophy.
PHH	6310	Seminar in Seventeenth Century Philosophy	4		This course will examine major texts in Seventeenth Century Philosophy.
PHH	6426	Seminar in Eighteenth Century Philosophy	4		Examines major texts in Eighteenth Century Philosophy.
PHH	6645	Contemporary Continental Philosophy	4		This course examines four new directions in contemporary continental philosophy, genealogy, feminist critiques of the history of philosophy, Marxist-Hegelian analyses of popular culture, and mathematical-scientific approaches to continental philosophy.
PHH	6677	Seminar in German Idealism	4		Overview of the central theoretical currents in the development of German Idealism from Immanuel Kant through G.W.F. Hegel, with emphasis on the intermediary developments in the works of K.L. Reinhold and J.G. Fichte.
PHH	6938	Seminar in the History of Philosophy	3		A seminar in the history of philosophy. The instructor will determine the subject matter. Variable titles: Ancient, Modern, Recent, Contemporary.
PHI	5135	Symbolic Logic	3	PR: PHI 2101	Study of topics such as the following: Metatheory of propositional and predicate logic, related metatheoretic results, alternative logic.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHI	5225	Philosophy of Language	3	PR: Eight hours of philosophy	An examination of semantically, syntactical, and functional theories of language with special attention given to the problems of meaning, linguistic reference, syntactical form, and the relations between scientific languages and ordinary linguistic usage. Seminar format.
PHI	5913	Research	1-4		Individual research supervised by a faculty member.
PHI	5934	Selected Topics	1-3		Selected topics according to the needs of the student.
PHI	6305	Seminar in Epistemology	3		An analysis of recent and contemporary problems of knowledge. Seminar format.
PHI	6405	Seminar in the Philosophy of Natural Science	3		A study of the nature and status of physical theories, some basic problems associated with scientific methodology, and the philosophical implications of modern science. Seminar format.
PHI	6425	Seminar in the Philosophy of Social Science	3	PR: 8 hours of philosophy	Philosophical issues arising in the social sciences; value assumptions, laws and the theories, models, etc. Seminar format.
PHI	6506	Seminar in Metaphysics	3		In this course students will examine selected topics in classical and contemporary metaphysics, for example, the concept and categories of Being or existence, the existence of God, the problem of universals or general terms, the a priori, the mind--body problem, and the identity thesis.
PHI	6605	Seminar in Ethics	3		Advanced study of the problems of moral philosophy.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHI	6634	Seminar in Biomedical Ethics	3		A focused examination of a particular topic in biomedical ethics such as clinical bioethics, healthcare organizational ethics, philosophy of medicine, medical ethics and law, or medical ethics and conflict resolution.
PHI	6645	Developmental Ethics	3		This course presents and critically examines the major ethical theories related to both national and international development institutions, policies, and practices.
PHI	6665	Metaethics	3	PR: PHI 2600	A study of alternative theories of metaethics including emotivism, moral point of view, supererogate virtue theory.
PHI	6808	Seminar in Aesthetics	3		An analysis of fundamental special problems of aesthetics; value, perception, communication, technique, context. Seminar format.
PHI	6908	Directed Research	1-19		
PHI	6934	Selected Topics	1-3		Selected topics according to the needs of the student. Approval slip from instructor required.
PHI	6945	Graduate Instruction Methods	1-3		Special course to be used primarily for the training of teaching assistants.
PHI	6971	Thesis: Master's	2-19		
PHI	7980	Dissertation: Doctoral	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHM	5126	Social Issues in Biomedical Ethics	3		An examination of the social and political issues arising from rapid changes in medicine and technology. Topics covered may include social issues related to the just distribution of health care, reproductive technologies, HIV and AIDS, eugenics, genetic testing, and maternal-fetal relations.
PHM	6105	Seminar in Social Philosophy	3		A detailed study of the philosophical theories of society, class societies (Capitalism), advanced technocracy (all types). Seminar format.
PHM	6265	Continental Phil I: Phenomenology Of Hermeneutics	3		A general survey of the 20th century continental schools of phenomenology, ontology, and hermeneutics, with an emphasis on Husserl and Heidegger.
PHM	6266	Continental Philosophy II: Poli/Social Theory	3		A general survey of 20th century continental social and political theory, dealing both with the younger and older generations of the Critical Theory tradition, together with their contemporaries and critics.
PHM	6267	Continental Philosophy III: Struc/Deconstruc	3		An examination of leading philosophical texts in 20th century continental philosophical movements known as structuralism, post-structuralism, postmodernism and deconstruction, with special emphasis on the works of Michel Foucault and Jacques Derrida.
PHM	6305	Seminar in Political Philosophy	3		An examination of the main political philosophies. Seminar format.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHM	6506	Seminar in the Philosophy of History	3		The analysis of language and logic of historical explanation, historical idealism, historical materialism, positivism, and historical sociology. Seminar format.
PHP	6005	Plato	3		A systematic study of Plato's dialogues.
PHP	6015	Aristotle	3		A systematic study of Aristotle's philosophy.
PHP	6405	Seminar in Descartes' Philosophy	4		Examination of Descartes' major philosophical texts.
PHP	6415	Kant	3	CR: Computer Applications.	A survey of Kant's critical philosophy, emphasizing transcendental epistemology and Kant's critique of metaphysics. This course is open to graduate students (majors and non-majors). Prior knowledge of the history of philosophy is required, in particular of early-modern philosophy.
PHP	6420	Seminar in Leibniz's Philosophy	4		Examination of Leibniz's major philosophical texts.
PHP	6505	Seminar on Hegel's Philosophy	4		Careful interpretation and critical analysis of Hegel's seminal and perhaps most enduring work, the Phenomenology of Spirit.
PHP	6525	Nietzsche and the Nietzscheans	4		Examines Nietzsche's major texts as well as the radical differences in Nietzsche reception from 1889 to the present. For graduate students only.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHP	6624	Adorno	4		Examines Adorno's major texts, methodology, collaborations with other members of the Frankfurt School, and impact on twentieth-century continental philosophy and sociology. For graduate students only.
PHP	6645	Foucault	4		Examines Foucault's major texts, methodology, similarities and differences with structuralism and deconstruction, and impact on contemporary continental philosophy and history. For graduate students only.
PHY	5720C	Electronics for Research	3		A rigorous introduction to the fundamentals of analog and digital electronics. Theoretical circuit analysis and weekly labs introduce practical use of diodes, transistors, analog and digital ICs, breadboarding techniques and electronics test instrumentation. Spring Semester.
PHY	5937	Selected Topics in Physics	1-4		Each topic is a course in directed study under the supervision of a faculty member.
PHY	6346	Electromagnetic Theory I	3	CR: PHZ 5115; PR: PHY 4324 or PHZ 5115	Electrostatics, magnetostatics, potential and boundary value problems. Maxwell's equations. First semester of sequence PHY 6346, PHY 6347.
PHY	6347	Applied Electromagnetic Theory	3	PR: PHY 6346	Second semester of sequence PHY 6346, PHY 6347. Electromagnetic waves, wave guides and resonant cavities, diffraction, relativistic-particle kinematics and dynamics, plasmas and magnetohydrodynamics.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHY	6436	Applied Materials Physics	3		Introduces students to properties and applications of advanced functional materials, such as nanostructured materials and biomaterials.
PHY	6446	Lasers and Applications	3	PR: PHY 4324 and PHY 4604	Optical modes, optical resonator theory, gain saturation, theory of laser oscillators, specific laser systems, Q-switching and mode-locking, optical waveguides.
PHY	6447	Physics of Lightwave Devices and Applications	3		Nonlinear optics including optical phaseconjugation, second harmonic and sum frequency generation, and stimulated Raman scattering. Selected applications of lasers and nonlinear optics.
PHY	6536	Statistical Mechanics	3	PR: PHY 6645	Kinetic theory, configuration and phase space. Boltzmann theorem, Liouville theorem, ensemble theory, quantum statistics.
PHY	6645	Quantum Mechanics I	3	CR: PHZ 5115; PR: PHY 4604 or PHZ 5115	Hilbert space, continuous spectrum, matrix and wave mechanics, quantum dynamics, symmetries, angular momentum, perturbation methods
PHY	6646	Applied Quantum Mechanics	3	PR: PHY 6645	Approximation and perturbation methods, hydrogen fine structure, scattering, identical particles, second quantization, Dirac equation.
PHY	6753	Measurement and Instrumentation	3		Measurement, signals and noise; analog/digital conversion; data communication; digital signal processing. LabVIEW programming, instrument control, data acquisition through RS232 and GPIB interface. Familiarity with electronic circuits recommended.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHY	6909	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
PHY	6911	Directed Research	1-19		An individual investigation of a research topic under the supervision of an instructor.
PHY	6935	Graduate Seminar	1		
PHY	6938	Selected Topics in Physics	1-10		Each topic is a course in directed study under the supervision of a faculty member.
PHY	6940	Supervised Teaching	3		Laboratory teaching under the direction of a Physics Department faculty member.
PHY	6971	Thesis: Master's	2-19		
PHY	7910	Directed Research	1-9		
PHY	7980	Dissertation: Doctoral	2-9		
PHZ	5115	Methods of Theoretical Physics I	3	PR: MAP 2302 or PHZ 3113	Applications of mathematical techniques to classical and modern physics. Vector spaces including Hilbert space, orthogonal functions, generalized functions, Fourier analysis, transform calculus, and variational calculus.
PHZ	5116	Methods of Theoretical Physics II	3	PR: PHZ 5115	Applications of mathematical techniques to classical and modern physics. Selected topics in complex analysis, differential and integral equations, numerical methods, and probability theory.
PHZ	5154C	Introduction to Computational Physics	3		Introduction to the use of computers for solving problems in physics. No programming experience required.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHZ	5156C	Computational Physics I	3	PR: COP 5016, PHZ 5154, PHZ 4151, or CI	C or Fortran programming applied to science and engineering problems. Data analysis, numerical algorithms, modeling, parallel computation. Subjects: neurobiology, quantum magnetism, chaos, etc. Familiarity with programming in a compiled language assumed.
PHZ	5405	Solid State Physics I	3	PR: PHY 4605 or PHY 6645	Crystal structure, x-ray and electron diffraction, mechanical and thermal properties of solids, electrical and magnetic properties of metals, band theory of metals, insulators, and semiconductors. First semester of sequence PHZ 5405, PHZ 6426.
PHZ	5430	Introductory Physics of Materials	3		Phenomenological introduction to the structural, thermal, electrical, magnetic, mechanical, and optical properties of materials.
PHZ	6204	Atomic/Molecular Spectra	3	PR: PHY 6645	Hydrogen atom, one electron systems, centralfield and vector models, perturbations, Zeeman and Stark effect, hyperfinestructure, atomic structure calculations; diatomic spectra, rotational andvibration analysis, intensities, temperatures from spectra, isotope effects.
PHZ	6426	Solid State Physics II	3	PR: PHZ 5405	Optical, electrical and magnetic properties of insulators, superconductivity, imperfections in solids. Second semester of sequence PHZ 5405, PHZ 6426.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PHZ	6715	Biophysics I	3		This is part one of a two-semester introductory course in biophysics designed to apply concepts from thermodynamics, statistical mechanics and electromagnetism to describe the physical behavior of macromolecules and biological membranes.
PHZ	6716	Biophysics II	3	PR: PHZ 6715.	This is part two of the two-semester introductory course in cellular and molecular biophysics. The course is designed to extend the concepts introduced in the prior semester to explore the connection between molecular structure and cellular functions.
PHZ	7940	Industrial Practicum	3		The practicum allows students first-hand experience in a non-academic-research setting.
POS	5159	Urban Policy Analysis	3		Application of policy framework for urban government & policies. Examine forms of government and how policies such as economic development, law enforcement, community policing, neighborhood policies (with non-profit groups) can be analyzed.
POS	6045	Seminar in American Government & Politics	3		Advanced study of selected topics of institutions and processes of American national government and politics.
POS	6095	Seminar In Intergovernmental Relations	3		Advanced study of selected topics of institutions, processes, and behavior of American state governments and Florida government.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
POS	6127	Issues in State Government and Politics	3		Advanced study of selected topics in institutions, processes, and behavior of American state governments and Florida government.
POS	6455	Political Parties and Interest Groups	3		Analysis of statutes, functions, and characteristics of political parties and interest groups, as well as their interactions with political processes, actors, and institutions.
POS	6707	Qualitative Analysis	3	PR: POS 6736	Introduces graduate students to different methods of conducting qualitative empirical research in political science. Students will learn how to establish validity and reliability of findings in conducting case studies and field research.
POS	6735	Foundations of Political Inquiry	3		Survey of philosophical, intellectual, and theoretical issues, including historical development of political science. Topics include empirical approaches, rational choice theory, and critical approaches such as pragmatics, hermeneutics, genealogy, and critical theory.
POS	6736	Research Design	3		Introduces a variety of research methods, which provide students with tools to conduct their own research. It covers topics such as stating a research question; literature review; causation, hypotheses, and variables; among others.
POS	6746	Quantitative Analysis I	3		Provide graduate students in political science, international relations, and public policy the necessary tools for analyzing and conducting quantitative research in the discipline.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
POS	6909	Independent Study	1-3		Specialized independent study determined by the student's needs and interests. Needs instructor's consent.
POS	6919	Directed Research	1-19		
POS	6933	Selected Topics in Political Science	3		Selected topics, issues, and problems in political science.
POS	6942	Field Work in Political Science	1-3		Application of research models now employed in governmental agencies, including development of a structured research proposal.
POS	6971	Thesis: Master's	2-19		
POS	7910	Directed Independent Research	3		The purpose of this Independent Study Project is to provide PhD students in Government admitted into candidacy the necessary tools for developing a dissertation proposal in their chosen area of research.
POS	7980	Dissertation	2-19		This course will allow PhD candidates to conduct research on their dissertation topic in partial fulfillment of the requirements for the PhD in Government. This research takes place following the successful defense of a dissertation proposal.
POT	6007	Seminar in Political Theory	3		Provides students who are capable of independent work with the opportunity to explore advanced problems of political theory.
PPE	6058	Personality	3		Survey of research and theories of personality, including its relationship to the development of normal and abnormal behavior.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PSB	6056	Physiological Psychology	3		Survey of data and research methods in Behavioral Neuroscience. Basic learning theories and CNS function in behavior, and disorders associated with CNS dysfunction will be covered.
PSY	6217	Research Methods and Measurement	2-4		Courses in research strategies, design and analysis, and measurement theory in psychological experimentation. Inferential statistics, anova, correlation methods, and interpretation.
PSY	6605C	History and Systems of Psychology	2		A review of the history of modern psychology with emphasis on the major systematic approaches that have influenced the current structure of psychology. Persisting polarities and common underlying issues are studied in various historical contexts.
PSY	6907	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
PSY	6917	Directed Research	1-19		
PSY	6946	Practicum and Internship in Clinical Psychology	1-15		Supervised training in community and university settings in the application of Psychology.
PSY	6947	Graduate Instruction Methods	1-3		Special course to be used primarily for the training of teaching assistants.
PSY	6971	Thesis: Master's	2-19		

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PSY	7908	Directed Readings in Psychology	1-15		An advanced reading program of selected topics in Psychology under the supervision of a Psychology faculty member. The reading program is designed to meet the individual requirements and interest of graduate students in Psychology, with selected topics chosen by the student in close collaboration with a faculty member.
PSY	7918	Directed Research	1-19		
PSY	7931	Seminar in Ethics and Professional Problems	2		Ethical issues and professional problems in the practice of psychology.
PSY	7980	Dissertation: Doctoral	2-19		
PUP	5607	Public Policy and Health Care	3		The study of health care policy as it relates to the policy process in the American setting.
PUP	6007	Seminar in Public Policy	3		Examination of public policy from a theoretical and practical decision. Analysis will be presented in terms of their usefulness in designing policy.
PUR	5505	Introduction to Strategic Communication Theory and Practice	3		The course is designed to act as a "bridge" between undergraduate and graduate public relations and advertising education, and between professional communication practices and strategic communication scholarship."

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
PUR	6603	Strategic Communication Campaigns	3		A problem-solving approach emphasizing the environmental context of strategic communication problems, applied to strategic communication management in organizational settings. Nonmajors with prerequisites allowed. Not repeatable for credit.
PUR	6607	Strategic Communication Management	3		The focus is on the theoretical basis of public relations and advertising as a management function. These theories are applied to strategic communication management. Nonmajors allowed with necessary prerequisites. Not repeatable for credit.
QMB	6305	Managerial Decision Analysis	2		A study of the general concepts of interval estimation, hypothesis testing, correlation and multiple regression with an emphasis on applications, concepts and interpretation of results.
QMB	6358	Data Analytics for Business	2	PR: QMB 6305	This course will provide an introduction to data analytics for managers. It is targeted for MBA students and provides an overview of data collection, visualization and business dashboards, as well as classification models on customer data.
QMB	6375	Applied Linear Statistical Models	3	PR: QMB 6305 or equiv.	A study of multivariate data analysis techniques and their applications to problems and systems in business.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
QMB	6603	Operations Management and Quality Enhancement	2	PR: college algebra	Principles of managing manufacturing and service organizations. Topics include: competitive use of operations, comprehensive manufacturing strategies, production system design, material requirements planning, JIT systems, quality management, statistical process control, and project management.
QMB	7557	Research and Writing Skills for Doctoral Students	1		Required of all doctoral students in their first semester, this course is intended to develop skills in data collection and statistical programming and improve students ability to write for academic publication.
QMB	7565	Introduction to Research Methods	3		A course in research strategies, design, analysis, and measurement for business research.
QMB	7566	Applied Multivariate Statistical Methods	3		A course in research analysis and measurement focusing on multivariate statistical analysis techniques.
QMB	7939	Executive Issues in Operations Research & Operations Mgmt	2-4		A research seminar for executives that explores contemporary issues in OR and operations management. The specific theme of the seminar will be determined through consultations between the instructor and the students prior to the first class meeting.
RCS	5035	Rehabilitation Counseling: Concepts and Applications	3		Introduction to the profession of Rehabilitation Counseling and current issues in the field. Coverage includes rehabilitation history, legislation, case management and related services for Americans with disabilities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RCS	5080	Medical Aspects of Disability	3	PR: RCS 5780	A survey of medical conditions and disabilities encountered by rehabilitation and mental health counselors. Examines the relationship of client handicaps, physical and mental, to rehabilitation and mental health programming.
RCS	5450	Fundamentals of Substance Abuse Counseling	3		An overview of alcohol and other drug abuse. Explores the extent and rate of abuse in the United States, causes, biology, psychosocial aspects, legal aspects, and treatment.
RCS	5780	Legal, Ethical, Professional Standards and Issues in Counseling	3		An overview of all aspects of professional functioning including history, roles, organizational structures, ethics, standards and credentialing. Contemporary and developing issues in the field of professional counseling will also be addressed.
RCS	5905	Directed Studies	1-4		Supervised rehabilitation studies under the direction of a faculty member.
RCS	6220	Individual Evaluation and Assessment	3	PR: RCS 5080, RCS 5780, RCS 6440.	Examines assessment procedures utilized in rehabilitation and mental health counseling settings and critical issues in the evaluation of people who are mentally and physically disabled.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RCS	6301	Career and Lifestyle Assessment	3	PR: RCS 5080, RCS 5035, MHS 5020,RCS6470 RCS 6440.	Career development, lifestyle, and related factors with special emphasis on the needs of individuals with disabilities. Includes job placement and a survey of work requirements in different occupations and how these relate to functional limitations.
RCS	6407	Counseling Theories and Practice	3	PR: MHS 5020, RCS 5035, RCS 5080, RCS 6440.	An extension and intensification of the rehabilitation and mental health counseling skills developed in RCS 5404. Includes the study of counseling theories and their contribution to successful counseling and rehabilitation practice.
RCS	6408	Diagnosis and Treatment of Psychopathology	3	PR: MHS 5020, RCS 6440, RCS 5080, RCS 5035.	Psychopathology as applied to psychotherapy and case management in mental health, addictions, and other rehabilitation settings.
RCS	6409	Counseling in Community Settings	3	PR: MHS 5020.	Course is designed to acquaint students with profession of counseling, varied settings in which rehabilitation, mental health counselors, and marriage & family therapists work, pattern of service delivery, & future trends in the profession. Majors only.
RCS	6440	Social and Cultural Foundations of Counseling	3	PR: RCS 5780	Counseling issues in a multicultural and diverse society. Special emphasis on psychosocial adjustment and counseling for individuals with physical and mental disabilities.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RCS	6456	Counseling Approaches for Substance Abusers	3	PR: RCS 5450.	The focus of this course is on deepening the student's understanding of the practice of addictions counseling with an emphasis on biopsychosocial multidisciplinary intervention. Restricted to majors.
RCS	6459	Professional Skills for Addictions Counselors	3	PR: RCS 5450	The course will be a more in depth and hands on approach to the transdisciplinary foundations that are essential for the work of substance abuse professionals. Application to practice and professional readiness will be the focus.
RCS	6476	Human Sexuality Counseling	3		Course is designed to introduce students & mental health professionals to the diverse nature and construct of human sexuality. The curriculum meets the Florida Statute 491 licensure requirement as a contact area in \human sexuality theories\". Majors only."
RCS	6510	Group Theories and Practice	3	PR: RCS 5035, RCS 5080, MHS 5020, RCS 6440.	Theoretical and empirical issues in group counseling are examined in the context of an ongoing group. Emphasis is on application to rehabilitation and mental health counseling.
RCS	6740	Research and Program Evaluation	3	PR: RCS 5780.	Training in the evaluation and utilization of available research studies and the development of research skills. An individual research project is required.
RCS	6803	Practicum in Counseling	3	PR: RCS 5080, MHS 5020, RCS 6440, RCS 5035.	Field work experience in rehabilitation mental health counseling.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RCS	6825	Internship	3		Student placement in an approved intern setting for a minimum of 600 hours of supervised experience.
RCS	6906	Independent Study	1-19		Independent study where the student must have a contract with a faculty member.
RCS	6930	Seminar in Rehabilitation Counseling	1-4		Selected issues and problems in rehabilitation counseling with subject and scope to be determined by instructor.
RCS	6971	Master's Thesis	2-6	PR: RCS 6740	The Master's Thesis for the MA in Rehabilitation and Mental Health Counseling is a research project designed to result in an original research product.
RED	6116	Current Trends in Elementary Reading Instruction	3	PR: RED 4310 or equiv.	Approaches, materials, and procedures in Elementary Reading instruction, with emphasis on pertinent research.
RED	6247	Supervision and Coaching in Literacy	3	PR: LAE 6315, RED 6544, RED 6545, RED 6747.	Planning and administering literacy programs and preparation as coaches in reading within STEM area content courses. Intensive work on individual research and projects with a focus of integrating literacy strategies in STEM area content courses.
RED	6316	Emergent Literacy: Skills, Strategies, & Assessment	3		Understand the developmentally appropriate, research-based theories and practices that support children's emergent literacy and language learning.
RED	6317	Intermediate Literacy: Assessment, Skills, and Strategies	3	PR: RED 6316.	Understand the developmentally appropriate, research-based theories and practices that support children's literacy learning in the intermediate grade levels.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RED	6365	Reading In Secondary And Higher Education	3		Designed for student and inservice teachers with appropriate B.A. degrees. Content covers secondary, community college, and university levels. Organization permits student to work on applications to individual levels and disciplines. Research paper required.
RED	6449	Literacy and Technology	3		Students will develop the skills and cultural competencies necessary to engage in participatory culture and develop strategies for integrating digital tools and media literacies into school and school-like settings.
RED	6514	The Reading Process in the Elementary Grades	3		Prepares students in the foundations of literacy including learning principles, teaching and assessment strategies for providing literacy instruction to emergent, novice, transitional, and accomplished readers and writers in the elementary grades.
RED	6540	Assessment in Literacy	3	PR: LAE 6315, RED 6544, RED 6545, RED 6747.	RED 6540 is a three credit graduate level course which focuses on methods of analysis of children's literacy and strategies for promoting language, reading and writing development. Authentic literacy assessment in classroom and other instructional environments, informal assessment and diagnosis, and standardized tests will be utilized in evaluation of the multiple factors in reading, writing and language process and problems.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RED	6544	Cognition, Comprehension, and Content Area Reading: Remediation of Reading	3		In-depth study of reading comprehension. Emphasis is placed on discussion of the concepts of cognition and learning, metacognition and comprehension of text included in the reading process. Process in the reading/writing, connection, specific reading strategies, and procedures for comprehension of text in the content areas are presented.
RED	6545	Issues in Vocabulary and Word Study	3		The purpose of this course is to provide students with an understanding of current theory and research about reading and writing vocabulary instruction and the interactive causes of literacy disabilities.
RED	6656	Trends in Literature in a Diverse Society	3		Focuses on the examination of historical and contemporary multicultural children's literature in order to help teachers and students gain a pluralistic perspective of society. Instructional programs are designed to lead school-age children to a broader understanding, respect, and appreciation of all persons representing various cultural, ethnic, and societal groups.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RED	6748	Teacher Research Methods In Reading	3		Teacher Research Methods in Reading familiarizes students with the application of classroom action research methodologies in literacy. Course content is directed toward developing understandings of the need for teacher research and a mindset for becoming a teacher researcher. Students will develop a knowledge base in quantitative, qualitative, case study and portfolio-base research methodologies for teachers.
RED	6749	History and Foundations in Reading and STEM Disciplines	3		Introduces historical approaches to literacy, traces the history of science/STEM movement in Education, presents connections between current research and practice and former models in literacy, and their deployment with STEM areas of curriculum.
RED	6846	Practicum in Reading	3	PR: RED 6540, RED 6544, RED 6545, RED 6749	Practicum in Reading is a graduate course covering topics and issues relevant to assessment and remediation of reading problems in school-aged children. It is an application course, where students work at a school site with children who are experiencing reading problems.
RED	6906	Independent Study: Reading Education	1-6		Independent study in which students must have a contract with an instructor.
RED	6971	Thesis: Masters/Educational Specialist	2-19		
RED	7048	Reading as a Symbolic Process	3	PR: RED 6116 or RED 6365	Seminar designed to develop critical thinking about the reading process and reading acquisition.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RED	7315	Survey of Literacy Research Methods	3		Students will survey current methods used in literacy research. Students will determine standards of quality and employ data collection and analysis techniques to address literacy research questions. Open to non-majors. Not repeatable for credit.
RED	7742	Research in Vocabulary and Word Study	3		Students will critically examine research in word acquisition, development, and instruction from preschool through the intermediate grades linguistic diversity.
RED	7745	Research in Reading Instruction	3	PR: RED 6116 or RED 6365	Seminar examining in depth the current research on instruction in the field of reading education.
RED	7798	Research in Transdisciplinary Texts and Teaching	3		The purpose of this course is to familiarize advanced graduate students with research and instructional practices utilizing a variety of texts within a “Transdisciplinary” context.
RED	7910	Directed Research in Reading/Language Arts	1-19		Independent student-faculty research course.
RED	7938	Advanced Graduate Seminar	1-3		Discussion and evaluation of current issues and research in Reading/Language Arts and related fields. Rpt. To 6 hours.
RED	7980	Dissertation: Doctoral	2-30		
REE	6045	Real Estate Decisions	3		Provides an introduction to real estate with a focus on property rights (legal considerations), financial/investment analysis, and market (or location) analysis. The primary objective is to show how to make effective real estate decisions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
REE	6207	Real Estate Finance	2	PR: FIN 6406, REE 6045.	Provides an advanced treatment of the mortgage markets, including coverage of the primary and secondary mortgage markets, the securitization of mortgages, the valuation of mortgage securities, and commercial mortgage analysis.
REE	6305	Real Estate Investment	2	PR: FIN 6406, REE 6045.	Introduction to the procedures and analytical methods used to evaluate real estate markets and real estate investments. It focuses on the topic of real estate investment primarily from the private investor's (equity) perspective.
REE	6737	Real Estate Development	3	PR: REE 6305, REE 6207, GIS 5049, URP 6232 .	This capstone course deals with the application of analytical techniques used to determine the feasibility of real estate projects. Various systems (models) that are applied for evaluating real estate investment and development proposals are covered.
REE	6938	Selected Topics in Real Estate	2-4		Topics to be selected by instructor and department chairperson on pertinent real estate issues.
REL	6906	Independent Study	1-3		Independent study in which the student must have a contract with the instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RLG	6035	Theory and Methods in Religious Studies	4		An introduction to and research methods used in Religious Studies proper and those of other disciplines. In the former are to be found comparative religion, religious hermeneutics, and theological analysis. Among the latter are included comparative literature, literary criticism, sociology, philosophy, and historiography.
RLG	6126	Religion in America	3		Studies in the history of native American religions, of the rise of American denominations, churches, and sects, of the relationship between church and state, and religious thought in America. Open to non-majors.
RLG	6143	Religion, Culture, and Society	3		Scholarly study of religion in its complex relationship of culture and society, including definitions and theories of religion, research methods, becoming religious, social organization, and interconnections with other social institutions.
RLG	6189	Comparative Religious Ethics	3		This seminar explores key issues and the diverse methodological approaches to the comparative study of religious ethics, including history of religions, social scientific, philosophical and theological approaches.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RLG	6196	Religion and Modernization	3		This course will explore the unique characteristics of modern and post-modern civilization, with special attention given to the secularizing effects of modern science, technology, economics, and politics on the world's religions and their various responses to these factors.
RLG	6285	Studies in Biblical Archaeology	3		A study of various problems in Biblical Archaeology including excavation techniques, principles of interpretation, problems in correlation of the text of the Bible and specific finds, chronology, reconstruction of culture from archaeological evidence, and others.
RLG	6327	Seminar: Ancient Religions and Literatures	3		A research seminar in some aspect of ancient religion and literature: Hebrew Bible, New Testament, Mithraism, Mystic Religions, Pseudepigrapha, and others taught in translation.
RLG	6438	Modern Christian Thought	3		Examines themes, thinkers, and movements in Christian thought since the 16th century.
RLG	6906	Independent Study	1-3		Independent study in which the student must have a contract with the instructor.
RLG	6911	Directed Research	1-3		Individual guidance in concentrated reading in a carefully delimited area of religious studies research skills.
RLG	6938	Special Topics in Religious Studies	2-4		Open to non-majors. Variable titles offered on topics of special interest.
RLG	6940	Graduate Instruction Methods	1-4		Offered primarily for the supervision of Graduate Teaching Assistants.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RLG	6971	Thesis: Master's	2-19		
RSD	6111	Introduction to Rehabilitation Sciences	3		Introduction to & overview of rehabilitation sciences, emphasizing the interdisciplinary and interprofessional nature. The enablement-disablement process and literature highlighting quantitative and qualitative inquiry is highlighted.
RSD	6112	Advanced Rehabilitation Sciences	3	PR: RSD 6111	This course provides an in-depth analysis of theoretical and methodological issues in rehabilitation science research, education and practice.
RSD	6920	Colloquium in Rehabilitation Sciences 1	1		Weekly meetings with faculty & guest speaker presentations on timely topics and current research in the field. Students present results of projects in which they are involved or lead discussion of contemporary journal articles in rehabilitation sciences.
RSD	6921	Colloquium in Rehabilitation Sciences 2	1	PR: RSD 6920	Weekly meetings with faculty and guest speaker presentations on timely topics and current research in the field. Students may present results of projects in which they are involved or lead discussion of contemporary journal articles in rehabilitation sciences.
RSD	6941	Teaching Practicum in Rehabilitation Sciences	3		Covers learning theories, teaching methods, assessment techniques and curriculum construction for the adult learner. Students are paired with a teacher-mentor and serve as a teaching assistant in a course relevant to their rehabilitation discipline.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RSD	7306	Rehabilitation Ethics	3		This course is designed to introduce the student to the social, moral and ethical dimensions of rehabilitative healthcare including informed consent, research on human subjects, health care allocation and disparities.
RSD	7900	Directed Readings in Rehabilitation Sciences	3	PR: RSD 6111 and RSD 6112	Individually planned readings guided by a faculty member involved in the area of students' concentration-(a) Chronic Disease, (b) Veterans' Health/Reintegration or (c) Neuromusculoskeletal Disability, but not currently covered by formal course work.
RSD	7910	Dissertation - Directed Research in Rehabilitation Sciences	3-12		Dissertation research for the Ph.D. in Rehabilitation Sciences. Under the supervision of a faculty advisor and committee students will pursue independent study of a topic, research or project relevant to contemporary rehabilitation sciences.
RSD	7911	Mentored Research Apprenticeship	1		Directed research in rehabilitation sciences.
RSD	7930	Research Proseminar in Rehabilitation Sciences	2	PR: RSD 6111 and RSD 6112	Students explore current topics in rehabilitation science research and develop in-depth analysis in a research area related to the concentration. Students will gain experience in presenting, facilitating and discussing the research of interest to them.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
RSD	7931	Special Topics in Chronic Disease	3	PR: RSD 6111 and RSD 6112	Creates a framework for understanding rehabilitation for individuals with chronic health conditions. Application of validated rehabilitation examination and intervention approaches or strategies that are consistent with evidence-based practice.
RSD	7932	Special Topics in Neuromusculoskeletal Disability	3	PR: RSD 6111 and RSD 6112	Understanding rehabilitation for neuromusculoskeletal disability. Focuses on the application of validated rehabilitation examination and intervention approaches or strategies that are consistent with evidence-based practice.
RSD	7933	Special Topics in Veteran's Health/Reintegration	3	PR: RSD 6111 and RSD 6112	Understanding rehabilitation for veterans directed toward successful reintegration, long-term health, and holistic care. Application of validated rehabilitation examination and intervention approaches consistent with evidence-based practice.
SCE	5325	Methods of Middle Grades Science Education	3		Prepare 5-9 sci teachers to tch sci skills, content; interrelationship, applications of sci as a human endeavor; nature of sci; instructional methods; nature scientific inquiry; development of sci process skills; integration of subj areas; & assessment.
SCE	5337	Methods of Secondary Science Education	3		Course concentrates on goals, subject matter teaching strategies for high school curricula; assessment and using data to improve student achievement; and development pedagogical content knowledge as it pertains to the teaching and learning of science.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SCE	5564	Reading and Communication in Science Education	3		This course prepares secondary science teachers to teach literacy practices in science. It includes methods for selecting appropriate reading and language approaches. Communication in science and functional aspects of scientific literacy are examined.
SCE	5937	Selected Topics in Science Education	1-4		
SCE	6115	Trends in Science Instruction	3	PR: SCE 4310	Topics in the biological and physical sciences appropriate for teaching in elementary school programs. Analysis of modern curriculum materials used in presenting science as a process of inquiry.
SCE	6315	Teaching Elementary (K-5) School Science	3		This course addresses the concepts, materials, methods around elementary school science and immerses you in learning experiences that provide a robust understanding of science teaching and learning from the perspective of both learner and teacher.
SCE	6347	Methods for Interpretive & Transformative Standards Based Education	3		Current theories from research in brain physiology, cognitive psychology and science education explaining how humans of all ages learn to make meaning from experiences are translated into practice to bridge the gap between information and understanding.
SCE	6416	Teaching Secondary School Biology	3	PR: At least 12 hours in science.	Effective use and production of instructional materials in the biological sciences. Interrelation of philosophy, materials, and classroom practices.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SCE	6444	Community Resources for Environmental Education	3		Identify, access, and acquire community resources (media; business/industry); prof. natural science, engineering and social science societies; government and non-government agencies; civic groups, universities) to incorporate into learning opportunities for diverse audiences at all school levels.
SCE	6456	Teaching Secondary School Physical and Earth Science	3	PR: At least 12 hours in science.	Effective use and production of instructional materials in the physical and earth sciences. Interrelation of philosophy, materials, and classroom practices.
SCE	6634	Current Trends in Secondary Science Education	3		Curricular patterns and instructional practices in secondary science.
SCE	6645	Mathematics and Science Education Policy, Change, and School Improvement	3	PR: EDF 7655	Knowledge, skills, and strategies are developed to become a facilitator of change for mathematics and science school improvement. Original change initiatives are designed and implemented.
SCE	6646	Environmental Site Explorations	3		On-site experiences at informal science institutions (ISI) provide first hand opportunity to construct a holistic view of informal education industry, its organization, career paths, management concerns, niches, nature and relationships among programs.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SCE	6738	Trends in STEM Education for Middle Grade Teachers	3		This course will help students to develop an understanding of the theoretical frameworks and familiarity with literature on the multiple perspectives underpinning Science, Technology, Engineering, Math (STEM) education.
SCE	6744	Survey Update of Environmental Research Management Policies	3		Current & future scientific research topics of long term importance are explored providing an integrated update in science. Complex connections among the various natural, math, & social science; agriculture; psychology; & engineering are emphasized.
SCE	6865	Technology: Solving Societal Problems	3		Specific examples of mathematics/science/technology/society interaction are provided for integration into school-based mathematics and natural science courses.
SCE	6866	Understanding Mathematics, Science, and Technology: Human Enterprises	3		Science, mathematics, and technology are presented as one multifaceted, dynamic, human-made enterprise responding to the human search for an understanding of the realities of the world. Different "Ways of Knowing" are compared."
SCE	6906	Independent Study in Science Education	1-6		Independent Study in which students must have a contract with the instructor. Rpt. S/U

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SCE	6938	Topics in Science Education: Field Practicum	3		This seminar provides teacher candidates with opportunities to interact with peers, public school faculty and university faculty regarding classroom and related school-based experiences. This course is restricted to science education majors.
SCE	6947	Internship in Secondary Education for Social Sciences	6		Students will work with a cooperating teacher and university supervisor to complete their internship requirements in a classroom setting assigned by the university.
SCE	7076	Historical, Social, and Epistemological Foundations of Science Education	3		This course is to provide students with an interactive forum to review, analyze, evaluate and discuss topics related to historical, social and epistemological foundations in science education.
SCE	7345	Theories and Practices of Science Teaching and Learning	3		This course will address historical and contemporary theoretical frameworks for teaching and learning and how they inform science teaching and science education research.
SCE	7636	Advanced Trends in Science Education	3		The purpose of this course is to provide students with an advanced forum for interactive discussions of seminal and recent trends as they are conceptualized in contemporary science education research literature and realized in practice.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SCE	7697	Socioscientific Issues in Science Education	3		The purpose of this course is to provide students with an interactive forum to review, analyze, evaluate and discuss topics related to the role of socioscientific issues in science education.
SCE	7740	Doctoral Research in Science Education	3		This course prepares students for proposal writing including review of successful proposals and literature, developing research questions and objectives, presenting preliminary results and developing a research program. Required for Sci Ed PhD students.
SCE	7895	Philosophy and Nature of Science	3		This course focuses on the philosophy and nature of science, including how science and scientists function, the ontological and epistemological foundations of science, and the reciprocal role between science and society.
SCE	7910	Directed Research in Science Education	1-19		This course permits a doctoral student to conduct advanced research and to pursue specific areas of interest with a faculty member as supervisor. A contract is required with the faculty member. S/U.
SCE	7980	Dissertation	2-30		
SDS	6042	Introduction of Student Affairs	3		Provides students with knowledge of the history, philosophy, organization and structure of Student Affairs, Student Affairs functions and professional competencies, and legal and ethical issues.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SDS	6260	Assessment in Student Affairs	3	PR: EDF 6481	This course is available only to students in a College Student Affairs cohort, unless otherwise approved by the instructor. The purpose of this course is to teach theory and application of assessment principles and techniques necessary for the student affairs profession.
SDS	6411	Introduction to Student Personnel Work in Higher Education	2		Study of student personnel services in institutions of higher education. Identification of the needs of students and of the ways to respond to meet these needs. Survey of service units on a campus in terms of structure, organization, funding, etc.
SDS	6501	Group Theory and Practicum: Children	4	PR: SDS 6411	Experiential study of group structures, group dynamics, methodology, and leadership models applicable to counseling in the elementary schools. Skill building through supervised practicum in leading groups of elementary school children.
SDS	6621	Financial Aid Administration	2		The purpose of this course is to provide an overview of the history, fundamental concepts, and organization of financial aid administration. The role of financial aid in enrollment management will be addressed.
SDS	6624	Ecology of Campus Life	3		Provides students with an understanding of the changing demographics, environmental and developmental issues facing college students.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SDS	6641	Student Affairs Auxiliary Functions	3	PR: SDS 6042	Review of major auxiliary functions in Student Affairs. Includes strategic and operational issues in planning for and operating auxiliary facilities and technological innovations.
SDS	6645	Student Development Theory	3		An in-depth study of student development theories including those in the areas of cognitive, psychosocial and typology theories. Students will examine theoretical perspectives and learn how to apply them in practical situations encountered in higher education settings.
SDS	6648	Introduction to Academic Advising	3	PR: SDS 6645	Introduce the basic principles of academic advising.
SDS	6650	Organization and Administration of Student Affairs	3		Provide a solid foundation of core competencies and skills related to management. The effective student affairs administrator is able to manage staff, systems, and activities with efficiency.
SDS	6700	Advising Diverse Populations	3	PR: SDS 6645	This course was designed to equip advisors to work with special populations of students with specific needs.
SDS	6701	Issues in Diversity	2		Addresses individual and organizational issues of multiculturalism and diversity in higher education.
SDS	6702	Issues in Academic Advising	3	PR: SDS 6645, SDS 6648, SDS 6700	This course was designed to address special topics that may arise in an academic advising setting.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SDS	6703	The Law and Student Affairs	3	PR: SDS6042, SDS6624, SDS6520, EDF6165	This course for graduate students in College Student Affairs will focus on the legal context associated with the duties of the student affairs professional. The focus will be on an understanding of constitutional, statutory, and contract law.
SDS	6801	Practicum in Counseling Children	4		Supervised counseling experiences for integration of knowledge and skills gained in didactic study. Focus is on working with elementary age children, parent and teachers.
SDS	6820	Internship in School Counseling	3-6		Field experience involving one semester of full-time participation or two semesters of part-time participation in all guidance related activities in an elementary or secondary school; classroom guidance; individual and group counseling; assessment/evaluation; staffing; record keeping; etc.
SDS	7640	Student Affairs Administration	4	PR: SDS 6042	Leadership, management and organizational models, perspectives and issues in administration of Student Affairs will be studied.
SDS	7642	Advanced Seminar in Student Affairs	1-4		This seminar will nurture students' creativity and enhance their appreciation for scholarly academic work and effective administrative practice in Student Affairs. Issues and trends in Student Affairs will also be studied.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SDS	7643	Advanced Student Development Theories	4	PR: SDS 6645 or equivalent	Contemporary theories of college student development will be examined in the categories of psychosocial, cognitive-structural, and typology. Research, case analysis, and assessment instruments will be studied in translating theoretical models into programmatic interventions in Student Affairs.
SDS	7644	Enrollment Management	4		Introduction to and overview of a multi-faceted process of enrollment management in higher education. The breadth of theory, models, and principles that contribute to the field of enrollment management will be explored.
SDS	7830	Advanced Internship in Counselor Education	2-8		Supervised field experiences in an approved agency, educational institution, or industrial setting: counseling, consulting, supervision, applied research, administration, and evaluation of counseling/guidance services.
SDS	7945	Advanced Internship in Student Affairs Administration	1-6		Supervised field experiences in an approved functional area of Student Affairs in an institution of higher education that will involve administrative functions, applied research and program evaluation.
SDS	7980	Dissertation	2-24		
SLA	7910	Directed Research in Second Language Acquisition/ Instructional Technology	1-6		This course permits a doctoral student to conduct advanced research and to pursue specific areas of interest with a faculty member as supervisor. A contract is required with the faculty member. S/U.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SLA	7911	Second Language Acquisition Research Laboratory	1-4		This course, offered every semester, provides students with a variety of research tools and directed research experiences that eventually lead to production of publishable materials. Classes are conducted as seminars with instructor and students sharing leadership role. S/U
SLA	7938	Advanced Seminar in Second Language Acquisition	3		This doctoral level seminar examines in depth the theory and research in the field of Second Language Acquisition. It builds upon the information and concepts presented in introductory SLA theory courses allowing students to more deeply and carefully explore selected topics.
SLA	7980	Dissertation	2-18		
SOP	6068	Personality and Social Psychology	3		This course is a survey of modern personality and social psychology. It will examine how personal attributes and social situations influence human behavior. Major contemporary theories of how personality and social variables individually and collectively affect human feelings, thoughts and actions will be presented.
SOW	6105	Foundations in Human Behavior	3		Introduces a systems perspective on understanding the relationships inherent in human growth and development. Special emphasis is placed on issues involving minorities, women, the disabled, various family forms, and sexual preference.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	6124	Psychopathology	3		This third course in the behavior sequence focuses on mental and emotional disorders. Content includes broad classifications of mental and behavioral disorders and their biopsychological disorders and implications of social work practice in dealing with these disorders.
SOW	6126	Health, Illness, and Disability	2		this fourth course in the behavior sequence focuses on physical disorders and implications of social work practice in the area of long-term protracted chronic illnesses and the ensuing psychosocial disabilities.
SOW	6186	Foundations of Social Work Macro Practice	2		Introduction to the process of planned change at macro-level practice within neighborhoods, communities, and organizations. Examines development of strategic models and techniques that primarily support social change.
SOW	6235	Foundations of Social Welfare Policy	3		Examines historical antecedents of social welfare as an institution and current state of social welfare programs in America. Emphasis is placed on understanding social, economic, and political forces that shape policies and programs.
SOW	6236	Social Welfare Policy Development & Analysis	3		Presents various methods of policy analysis with emphasis on distinctions among legislative, administrative, and judicial policy. Examines roles and responsibilities of the professional practitioner in the policy process.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	6305	Foundations of Social Work Micro Practice	3		Describes full range of social work interventions, from micro to macro. Historical development of practice methods and survey of current techniques.
SOW	6342	Social Work Practice with Individuals	3		Application of clinical practice to work with individuals. Psychosocial model is emphasized. Professional laboratory develops skills in practice.
SOW	6348	Clinical Practice Perspectives on Race and Culture	3		Theories for clinical practice, with emphasis on the psychosocial model. Explores basic skills for clinical practice.
SOW	6362	Social Work Practice with Couples and Families	3		Emphasizes selection of techniques in the psychosocial model of treatment. Primary focus on family, couple, and parent-child problems. Course includes skill practice lab sessions.
SOW	6368	Social Work Practice with Groups	3		Focus on psychosocial model of group treatment. Comparison with individual and family modality.
SOW	6375	Advanced Social Work Macro Policy	3	PR: SOW 6426, SOW 6368, SOW 6535.	Studies facets of organizational environment in which clinical practice takes place; develops skills in various macro practice functions of the agency, such as supervision, program operations, and interagency relations.
SOW	6405	Foundations of Social Work Research and Statistics	3		This is the first of four research methods courses intended to introduce students to the various methods, designs, measurements, and statistical techniques in social work research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	6426	Field Research I	1		This is the third in a series of four research courses. It provides the structure for supervision of graduate research projects.
SOW	6427	Field Research II	1		This is the fourth and final research course. It provides the mechanism for supervision of the graduate research project.
SOW	6438	Evaluation of Clinical Practice in Diverse Setting	3		Course builds on foundation content of SOW 6405. Program evaluation, single subject/system design, and statistical and qualitative concepts are discussed in order to facilitate the use of empirical and evidence based interventions in social work practice.
SOW	6534	Field Instruction I	1		Supervised field instruction in a social service agency, consisting of 20 hours per week, plus a 3-hour practice seminar.
SOW	6535	Field Instruction II	4		Supervised field instruction in a social service agency, consisting of 32 hours per week, plus a 2-hour practice seminar.
SOW	6536	Field Instruction III	2-4		Supervised field instruction in a social service agency, consisting of 20 hours per week, plus a 2-hour practice seminar. Includes integrative paper or exam.
SOW	6539	Field Instruction IV	4	PR: SOW 6534, SOW 6535, SOW 6536.	The last field seminar course is designed to offer a structured environment in which to integrate academic course work with the field placement. Students learn advanced clinical skills in preparation for professional clinical social work practice.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	6553	Field Instruction Sequence IA: Part-Time	2	CR: SOW 6124.; PR: SOW 6114, SOW 6348.	This is the first of a series of seven field instruction courses designed to provide students with opportunities to develop beginning clinical social work competency in applying knowledge to practice situations.
SOW	6554	Field Instruction Sequence IB: Part-Time	2	PR: SOW 6553	This course is the second of seven sequential courses. Each consists of 10-15 hours per week (150 hours total) of agency field learning taught by an agency field instructor with a one-hour practice seminar taught by a University-based instructor.
SOW	6555	Field Instruction Sequence IIA: Part-Time	2	PR: SOW 6554.	This course is the third of seven sequential courses. Each consists of 10-15 hours per week of agency field taught by an agency field instructor on a one-hour practice seminar taught by a University-based instructor.
SOW	6556	Field Instruction Sequence IIB: Part-Time	2	PR: SOW 6555.	This course is the fourth of seven sequential courses. Each consists of 10-15 hours per week of agency field taught by an agency field instructor on a one-hour practice seminar taught by a University-based instructor.
SOW	6557	Field Instruction Sequence IIC: Part-Time	2	PR: SOW 6556.	This course is the fifth of seven sequential courses. Each consists of 10-15 hours per week of agency field taught by an agency field instructor on a one-hour practice seminar taught by a University-based instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	6558	Field Instruction Sequence IIIA: Part-Time	2	PR: SOW 6557.	This course is the sixth of seven sequential courses. Each consists of 10-15 hours per week of agency field taught by an agency field instructor on a one-hour practice seminar taught by a University-based instructor.
SOW	6559	Field Instruction Sequence IIIB: Part-Time	2	PR: SOW 6558.	This course is the last of seven sequential courses. Each consists of 10-15 hours per week of agency field learning taught by an agency field instructor on a one-hour practice seminar taught by a University-based instructor.
SOW	6900	Independent Study	1-3		A reading program in selected topics under supervision of a faculty member. A formal contract must be approved by School Director.
SOW	6931	Selected Topics in Social Work	1-4		
SOW	7417	Advanced Statistics in Social Work Research	3	PR: SOW 6405 or equivalent	This course provides students a detailed and practical understanding of Adv. Statistical techniques that are of use to Social Work Academicians, Administrators, and Researchers as they conduct critical research into policy, practice, and social issues.
SOW	7446	Evaluation of Social Work Practice/Program Evaluation	3		Prepares students in the development of research skills to conduct social work practice and program evaluation. Emphasis placed on the integration of knowledge from previous courses. Ethical considerations will also be examined. Ph.D. Majors only.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	7490	Foundations of Social Work Research Methods	3		This is a doctoral level course designed to prepare students on the role of research in the profession. This course will focus primarily on understanding and applying basic research methods within a social work context.
SOW	7491	Theoretical Perspectives in Social Work Research	3		Systems theory will be presented as a theoretical base for developing testable hypotheses to produce empirical knowledge for the social work profession. Students will demonstrate the ability to conceptualize research topics in terms of existing theory.
SOW	7496	Qualitative Research Methods in Social Work	3		The course will assist the doctoral student to better understand and become equipped to fulfill a role as social work researcher. The course will consider the theoretical, scientific, and political issues related to qualitative research.
SOW	7497	Quantitative Methods in Social Work Research	3		This course provides the student with a broad overview of Quantitative Methods of use to those during research in Social Work. It also serves as a review of basic quantitative methods for the Advanced Statistics course offered later in the program.
SOW	7616	Advanced Clinical Practice with Complex Problems	3		Challenges the participants to access and utilize the most advanced evidence based knowledge to assess and recommend intervention for complex social problems. PR: Ph.D. Majors only.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	7775	Critical Issues in Social Work	3		Explores critical issues facing the profession. Themes include social work research, practice, leadership, and policy. Leading expert views will help students understand key issues driving the development of the profession. PR: Ph.D. Majors only.
SOW	7776	The Social Work Educator in the University	3		Further critical thinking about the role of the social work educator in the university. The doctoral candidate will be equipped to fulfill this role, consider issues related to university governance as well as social work ed. PR: majors only; Ph.D. stdt
SOW	7919	Directed Studies in Social Work Research	3		This course prepares students to identify a research topic, review existing literature and formulate a research question or hypothesis as the basis of the dissertation. Students will learn to prepare a scholarly manuscript to submit for publication.
SOW	7980	Dissertation Hours	2-4		Dissertation hours
SOW	7981	Proposal Writing I	3		Guides doctoral students in preparing a dissertation proposal to be presented to the committee for final approval. The process will be explored from concept formation through the preparation of a detailed written proposal. PR: Ph.D. Majors only.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SOW	7982	Proposal Writing II	3		Guides doctoral students in preparing a dissertation proposal to be presented to the committee for final approval. The process will be explored from concept formation through the preparation of a detailed written proposal. PR: Ph.D. Majors Only.
SOW	8907	Capstone Project	1	PR: SOW 6124, SOW 6342, SOW 6362, SOW 6438, SOW 6236.	Students will complete an independent project which requires the synthesis of content from their theoretical, research, practice, field, and policy courses and the application of this content to a current field practicum case.
SPA	5120	Psychoacoustics	3		Relationship between physical auditory stimuli and psychological response. Human perception of intensity, loudness, frequency, and pitch. Impact of cochlear hearing loss and age on auditory perception. Measurement of auditory perception.
SPA	5132	Audiology Instrumentation	3	PR: SPA 5120, SPA 6930, SPA 5506.	Instruction in the use of clinical and laboratory instrumentation. Emphasis placed on electronic circuitry, signal generation, filtering, and calibration. Hands-on experience with equipment typically used in clinical auditory research will be provided.
SPA	5133C	Speech Science Instrumentation	3	PR: SPA 3011 or equivalent.	Underlying principles and laboratory exercises in the use of audio recording, acoustic analysis, and clinical instrumentation.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	5153	Quantitative Problem Solving in Speech Pathology and Audiology	3		Covers fundamental mathematical and statistical concepts underlying the field of Communication Sciences and Disorders and application of these concepts to practical and clinical problems. Not restricted to majors or repeatable for credit.
SPA	5204	Advanced Clinical Phonology	3		The principles of generative phonology will be applied to the assessment and treatment of phonological disorders. Emphasis is placed on making a child's phonology more functional for communication purposes.
SPA	5303	Auditory Anatomy and Physiology	3		Provide a comprehensive understanding of the physiological acoustics of the auditory periphery, neuroanatomy and electrophysiology of the central auditory system, and psychoacoustic principles as they relate to clinical audiologic measurement paradigms.
SPA	5328	Rehabilitative Audiology for Adults	3		Assess and manage persons with hearing loss. Effects of hearing impairment, assessment issues, and appropriate intervention strategies. Prosthetic intervention, perceptual intervention, communication strategies intervention, and counseling issues.
SPA	5403	Language-Learning in the School-Age Years	3		Metalinguistic and metacognitive development are linked to the interactional demands of classroom and clinical discourse; observational tools are applied to evaluation and intervention planning.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	5506	Speech-Language Pathology and Audiology Practicum	1-8		Participation in speech-language pathology and audiology practicum in the University Communication Disorders Center and selected field settings.
SPA	5552	Diagnostic Principles and Practices	3		The administration, evaluation, and reporting of diagnostic tests and procedures used in assessment of speech and language disorders.
SPA	6102	Neuroanatomy for Speech and Hearing	3	PR: SPA 3101.	Neuroanatomical and neurophysiological principles, structures and functions that subserve speech, hearing, language, and cognition are studied. A case-based approach illustrates the behavioral manifestations of neuropathologies. Majors only.
SPA	6211	Advanced Vocal Disorders	3		Students will be familiarized with perceptual, physiological, psychological, and behavioral processes involved in voice production, and apply this knowledge to assessment and treatment of voice disorders. Restricted to majors and may not be repeated.
SPA	6225	Advanced Fluency Disorders	3		This course covers characteristics of people who stutter, the morphology of stuttering in children and adults, motor and linguistic processes of normal speech, theories of causes of stuttering, and methods for evaluating and treating stuttering.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	6232	Neuromotor Communication Disorders	3		A study of the medical, physical, occupational, speech, language, and hearing problems of the neuro-motorically impaired client. Therapy techniques are reviewed and evaluated.
SPA	6245	Craniofacial Communication Disorders	3		An in-depth study of speech, language, and hearing problems associated with cleft lip and cleft palate and other craniofacial dysmorphologies. Consideration is given to the multidisciplinary approach to therapy and rehabilitation.
SPA	6305	Pediatric Audiology	3	PR: SPA 5506.	Etiologies and manifestations of hearing loss within a pediatric population. Survey of procedures used in early identification and quantified measurement of hearing loss in young and non-communicative children.
SPA	6307	Speech Perception and Sensorineural Hearing Loss	3	PR: SPA 5120, SPA 5303.	The course will provide an overview of the factors involved in quantifying speech perception ability in listeners with normal and impaired hearing.
SPA	6311	Medical Audiology	3	PR: SPA 5120, Advanced Hearing Science, Clinic Lab I.	Anatomy & patho-physiology of the auditory system, medical genetics, congenital & acquired ear diseases, disorders of balance, & tinnitus. These areas will be related to audiology test results; diagnostic imaging, medical & surgical treatments.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	6314	Electrophysiology	3	PR: SPA 5303 and SPA 5312	This course focuses on the auditory brainstem response (ABR) as an essential diagnostic and screening tool. The course follows a combined lecture/laboratory mode with weekly class meetings and weekly laboratory exercise.
SPA	6316	Vestibular Evaluation and Treatment	3	PR: SPA 5303 and SPA 5312	Principles and clinical practices of assessing the peripheral and central components of the human vestibular system using electrical recordings of induced and spontaneous nystagmus.
SPA	6324	Aural Rehabilitation: Children	3		Provide information and strategies for aural habilitation intervention with hearing impaired children. Includes techniques of speech reading, auditory training, and language for hearing impaired.
SPA	6329	Educational Audiology	3		Provides information on consulting and collaborating with speech pathologists, teachers, and others about the relationship of hearing loss to the development of psychosocial, communicative, cognitive, physical, academic, and vocational skills of a child.
SPA	6340	Principles of Amplification I	3		Provide information and training concerning the design and measurement of the modern hearing aid. The history of hearing aids, types of hearing aids, hearing aid components, measurement and modification of hearing aid response, and earmold acoustics.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	6341	Principles of Amplification II	3	PR: SPA 6340.	The general goal of this second of three hearing aid courses is to provide information and training related to the assessment, selection, fitting, verification, and validation processes associated with the modern hearing aid.
SPA	6349	Advanced Study of Sensory Aids for Hearing Impaired	3	PR: SPA 6340, SPA 6341	This course is designed to supplement and expand on previous coursework through a discussion of advanced technical, clinical, and professional issues related to the design, measurement, and fitting of sensory aids.
SPA	6354	Hearing Conservation	3		An investigation of the hazardous properties of noise and their effects upon the human auditory systems; hearing conservation programs in industry; and the extra-aural effects and control of community noises.
SPA	6392	Profession of Audiology	2		Acquaint students with a basic understanding of the profession of Audiology. Topics covered include: Historical underpinnings, scope of practice, ethics, legal issues, evidence-based practice, professional organizations, and current issues.
SPA	6393	Audiology Practice Management	3		The foundation necessary to initiate and manage a successful practice: individual management styles, selection and appraisal of office staff, marketing, budgeting, fiscal fitness, Florida licensure laws, and certification standards.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	6401	Pediatric Language Disorders	3		An examination of the pre-verbal and language skills of the infant and preschool child, and of the Speech-Language Pathologist's role in the diagnosis, treatment, and as parent-trainer for these children.
SPA	6404	Language Learning Disabilities	3		Examination of research and clinical literature pertaining to causes and effects of atypical language and literacy learning and developmental frameworks for integrated intervention in oral and written language.
SPA	6410	Aphasia and Related Disorders	3		Consideration of the neurological and psychological aspects of aphasia and related disorders as they relate to communication disorders. Specific language therapy approaches are discussed and evaluated.
SPA	6417	Communication + Cognition in Traumatic Brain Injury	3		This course focuses on theoretical foundations of the study and management of neurocognitive disorders associated with right brain damage and traumatic brain injury, with special attention to major differences between focal and diffuse brain pathology.
SPA	6473	Multicultural Differences in Language	3		The focus is on developing intercultural competencies to design and implement more culturally and linguistically appropriate services for individuals with communication disorders or differences.
SPA	6503	Entry Level Practicum	3		Participation in speech-language pathology and audiology practicum in the University clinical laboratory.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	6505	Practicum	1-10		Participation in speech-language pathology and audiology practicum in the University clinical laboratory and selected field settings.
SPA	6508	Advanced Audiology Practicum	3-6	PR: SPA 6505.	Students are placed at a clerkship/externship site(s) and participate in a variety of clinical and professional activities to develop advanced clinical skills through direct practical experience in diagnostics, treatment, and patient management.
SPA	6535L	Audiology Clinical Laboratory I	3		Covers the operation of clinic equipment and test procedures used in the basic assessment of hearing sensitivity. Practice with equipment and test procedures takes place in the lab and clinical settings.
SPA	6536L	Audiology Clinical Laboratory II	3	PR: SPA 5506.	Covers development of skills in the assessment and management of auditory ability and function, including site of lesion; auditory processing; tinnitus; cochlear implant candidacy; and auditory (re)habilitation pediatric and adult populations.
SPA	6553	Advanced Differential Diagnosis and Treatment Planning	3		The interpretation of evaluation results and the integration of these data in order to make a differential diagnosis leading to an appropriate therapy plan. The administration, evaluation, and reporting of advanced evaluation techniques not covered in SPA 5552.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	6559	Augmentative & Alternative Communication	3		Listed in catalog as 6413 this course details the in-depth assessment and treatment of communication modes in nonspeaking individuals. Students will be presented with the variety of aided and unaided systems which exist for helping non-speaking persons; students gain experience in the use of these devices.
SPA	6564	Seminar in Aging, Cognition, and Communication	3		1. This course focuses on the interdependence of communication and cognition in older adults, emphasizing relationships among physical health, social context, cognition, and communication.
SPA	6565	Seminar in Dysphagia	3		The course covers normal and abnormal anatomy/physiology related to swallowing function, etiology, symptoms, and technique/instrumentation for diagnosis and management of dysphagia and procedures for analysis, treatment, and management.
SPA	6571	Ethical Practice Issues in Communication Sciences and Disorders	1-2		Topics include: legal and ethical issues affecting practice, licensure, and ASHA certification, the ASHA Code of Ethics, laws and regulations in healthcare and educational settings and quality assurance standards. Must be repeated for 2 total credits.
SPA	6645	Language For The Hearing Impaired	3		Listed in catalog as spa 6421 techniques and materials of teaching language to children with auditory disorders as well as evaluation and analysis of contemporary intervention and clinical methods.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	6674	Curriculum Proced/materials For Hearing Impaired	3		Curricular adaptation, methods, techniques, and organization necessary for teaching the hearing impaired.
SPA	6675	Reading for the Hearing Impaired	2	PR: RED 4310	Techniques and materials for teaching reading to children with auditory disorders. Evaluation and analysis of contemporary programs and methods.
SPA	6676	Speech Perception and Sensorineural Hearing Loss	3	PR: SPA 3310, SPA 3030.	Overview of the acoustics of speech and theories of speech perception. Speech perception in listeners with normal and impaired hearing. The role of speech audiometry in clinical assessment of speech perception abilities and central auditory processing.
SPA	6805	Research Procedures in Communication Sciences and Disorders	3		Advanced research and experimental design techniques employed in clinical and laboratory settings in speech-language pathology and audiology.
SPA	6906	Independent Study	1-19		Independent study in which students must have a contract with an instructor.
SPA	6910	Directed Research	1-19		
SPA	6930	Selected Topics	3		A reading program of topics in speech pathology and/or audiology conducted under the supervision of a faculty member.
SPA	6971	Thesis: Master's	2-19		
SPA	7150	Advanced Speech Science	3	PR: SPA 3011 or equivalent; SPA 5150L	Advanced study of the acoustics, production, and perception of normal and disordered speech.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	7330	Advanced Vestibular Evaluation and Treatment	3	PR: SPA 6316, SPA 6505, SPA 5132, SPA 5303 and SPA 6536L.	Provides students with advanced concepts, protocols, and research activity in vestibular assessment and rehabilitation.
SPA	7331	Advanced Medical Audiology	3	PR: SPA 6311, SPA 6505 and SPA 6536L.	This is a seminar course which will prepare audiologists to work in a medical setting. Topics will include pharmacology, medical genetics, and diagnostic imaging.
SPA	7332	Advanced Electrophysiology	3	PR: SPA 6314.	The purpose of this course is to provide students with the fundamentals and advanced clinical practice of human electrophysiology as it applies to audiology and hearing science. The course topics will include a review of the neural generators.
SPA	7346	Cochlear Implants	3	PR: SPA 5303, SPA 5120, SPA 5506	Introduction to cochlear implants (CIs) and their use as a treatment for severe-to-profound hearing loss in adults and children. Not restricted to majors or repeatable for credit.
SPA	7415	Neurolinguistic Theories of Language	3	PR: SPA 6410, SPA 6232	Neurolinguistic theories as appropriate to the discipline are presented and discussed in relationship to language development and disorders. Information from linguistics, psycho-linguistics, artificial intelligence, neuroanatomy, and other sciences are applied to Language Science.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	7806	Advanced Research Design for the Communication Sciences	3	CR: EDF 7408; PR: EDF 6407	By deconstructing research articles from the field, students learn how various research designs (experimental vs. descriptive research, single-subject vs. group design, and qualitative vs. quantitative methods) apply in the communication sciences.
SPA	7811	Research Foundations of Speech Science	3		This course introduces doctoral students to fundamental topics in the area of speech science. Students will learn about the research foundations of the field directly from seminal research articles and other primary sources.
SPA	7812	Research Foundations of Hearing Science	3		This course introduces doctoral students to fundamental topics in the area of hearing science. Students will learn about the research foundations of the field directly from seminal research articles and other primary sources.
SPA	7826	Research Foundations of Neurocommunicative Science	3		This course introduces doctoral students to fundamental topics in the area of neurocommunicative science. Students will learn about the research foundations of the field directly from seminal research articles and other primary sources.
SPA	7834	Audiology Doctoral Project Seminar	1	PR: SPA 6805 or equivalent.	A forum for discussion of progress and resolution of problems/questions related to the Audiology Doctoral Project (ADP). Restricted to AuD majors; repeatable for credit.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPA	7841	Research Foundations of Language Science	3		This course introduces doctoral students to fundamental topics in the area of language science. Students will learn about the research foundations of the field directly from seminal research articles and other primary sources.
SPA	7931	Seminar in Communication Sciences and Disorders	3		Addresses the central research and clinical issues related to the diagnosis and treatment of communication disorders. Content of seminars varies with instructor's expertise.
SPA	7980	Dissertation	1-19		PR: Admission to Candidacy. Doctoral Dissertation.
SPB	6116	Sport and Entertainment Finance	3		This course provides the opportunity to apply financial concepts, tools, and techniques to the global sport and entertainment industry.
SPB	6406	Sport and Entertainment Law	3		Identifies key legal issues in a sport context; provides an overview of areas of law that regulate the sport and entertainment industry including tort, contract, constitutional, criminal, employment, labor, antitrust and agency law.
SPB	6605	Sport and Social Issues	3		This course examines the social environment of sport and discusses the various diversity theories, focusing on the application of these theories to organizations in the sport business and entertainment management industry.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPB	6608	Issues in the American Sport Industry	3		Examines professional sport industries with regard to their role in sport as a competitive culmination point and also their role as a form of entertainment. Both of these roles will be examined in the context of the business of professional sport.
SPB	6706	Sport Business Analytics	3	PR: QMB 6305 or equivalent.	Students are introduced to the skills, technologies, applications and practices essential to understanding and evaluating business performance in sport and entertainment.
SPB	6715	Sales And Fundraising In The Sport Industry	3		Teaches students about the "art" and "science" of fundraising in the diverse industry of sports. Further, students will learn the competencies and skills essential to succeed in the sales and promotional activities commonly found in the sport industry."
SPB	6719	Sport and Entertainment Marketing Strategy	3	PR: MAR 6815.	Provides an historical overview of sport marketing and examines the application of marketing principles to collegiate and professional sport and sport-related organizations.
SPB	6735	Global Environment of Sport	3		This course examines the global economic, social, political, technological, and legal environments of sport, the marketing factors driving globalization, and the challenges of intercultural management in sport organizations.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPB	6807	Social Media in Sport	3		Examines the role of social media in building and enhancing relationships with fans and explores the opportunities and challenges in leveraging a social media strategy to transfer the consumer’s use of social media from cyberspace to the real world.
SPB	6816	Contemporary Issues in Sport and Entertainment Management	3		Contemporary Issues in Sport and Entertainment Management examines the historical trends, ethical concerns, and current economic, technological, and social issues in the field of sport and entertainment management.
SPB	6818	Economics of Sport	3		This course applies the principles of macro and micro economics to global sport organizations, including topics such as industrial organization, public financing, and labor economics.
SPB	6946	Internship in Sport and Entertainment Management	3	PR: SPB 6719, SPB 6046, SPB 6816, SPB 6706.	A supervised field experience, the Internship in Sport and Entertainment Management provides hands-on experience in sport, sport-related, and entertainment organizations.
SPC	5930	Topics in Discourse	3		Variable topics course.
SPC	6214	Ethnography of Communication	3		Explores ethnography as an approach to conducting research and a means of theorizing about human communication.
SPC	6236	Contemporary Rhetorical Theory	3		Basic texts in 20th century rhetorical theory. Readings may vary.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPC	6238	Survey of Rhetorical Theory	3		Historical development of rhetorical theory from Plato to contemporary theorists with emphasis upon the evolution of trends and concepts in rhetorical theory.
SPC	6391	Interpersonal Communication	3		Study of theory and research related to interpersonal communication.
SPC	6432	Family Communication	3		This course examines the family in terms of the patterns of interaction through which meanings are produced. Family communication concepts and theories will be introduced as they relate to diverse family forms and experiences.
SPC	6645	Rhetoric in Society	3		Examination of ways in which rhetoric reflects and molds social processes, including social integration and/or alienation; social roles and identity construction; institutions and movements; ideology and social change.
SPC	6682	Rhetorical Criticism	3		The study of theoretical perspectives in rhetorical criticism. The application of criticism to selected rhetorical situations.
SPC	6726	Communication in Close Relationships	3		Interpersonal and intersubjective processes involved in the development of close personal relationships. Includes studies and personal experiences that cut across historical, therapeutic, spiritual, philosophical, literary, and cinematic perspectives.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPC	6728	Communicating Grief, Loss, and Illness	3		How illness and loss disrupt our stories of self and relationships and lead to construction of new stories, also cultural patterns of stories. Topics include critical illness and relationships, dying, bodies, emotions, caregiving, aging, and divorce.
SPC	6903	Directed Readings	1-4		
SPC	6913	Directed Research	1-19		
SPC	6934	Selected Topics in Communication	1-4		
SPC	6971	Thesis: Master's	2-19		
SPC	7900	Doctoral Research Tutorial	1-3		Advanced directed research.
SPC	7930	Seminar in Rhetorical Studies	3		Variable topics course.
SPC	7980	Dissertation: Doctoral	2-19		
SPN	5525	Modern Spanish American Civilization	3	PR: SPN 3520 or equivalent	Advanced readings and discussions dealing with Spanish American civilization and culture, including a study of social, artistic and political trends. Text and discussion in Spanish.
SPN	5567	Modern Spanish Civilization	3	PR: SPN 3500 or equivalent	Advanced readings and discussions dealing with contemporary Spanish civilization and culture, including a study of recent social, artistic and political trends. Texts and discussions in Spanish.
SPN	6845	History of the Spanish Language	3		Traces the development of Spanish from its Latin origins to the present.
SPN	6846	Spanish Paleography and Textual Criticism	3	PR: SPN 6845	Analysis of Spanish historical documents, paleography, and textual criticism.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPS	6101	Child and Adolescent Behavior Disorders	4		Theoretical and empirical identification and understanding of children and adolescents with behavior disorders. Treatment issues as they relate to school psychological services.
SPS	6196	Assessment of Child and Adolescent Personality	4		Conceptualizations of personality and personality assessment; perspectives of disturbed and disturbing behavior, and personality assessment measures.
SPS	6197	Psychoeducational Diagnosis and Prescription I	4		Content covers comprehensive diagnosis and prescription in school psychology, including critical reviews of relevant research literatures, the professional-client relationship, interviewing, client histories, pluralistic psychoeducational assessment, assessment of educational environments, synthesis and dissemination of diagnostic data, and referral procedures. Appropriate field experiences will be provided. This course must be taken during two consecutive semesters, and the grade will be awarded at the end of the sequence.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPS	6198	Psychoeducational Diagnosis and Prescription II	4		Content covers comprehensive diagnosis and prescription in school psychology, including critical reviews of relevant research literatures, the professional-client relationship, interviewing, client histories, pluralistic psychoeducational assessment, assessment of educational environments, synthesis and dissemination of diagnostic data, and referral procedures. Appropriate field experiences will be provided. This course must be taken during two consecutive semesters, and the grade will be awarded at the end of the sequence.
SPS	6700C	Psychoeducational Interventions With Children and Adolescents I	4	CR: SPS 6701C.	Content covers psychoeducational interventions for school-referred children and adolescents specific to school psychological services. This is an integrated sequence of courses addressing educational and psychological (direct and indirect) interventions with topics also including consultative service delivery, the acceptability of classroom strategies, classroom and behavior management, and the synthesis of assessment data into effective interventions all within the referral context. Appropriate field experiences will be required for Intervention I and Intervention II; therefore, concurrent enrollment in the Intervention Practicum course for these two courses only is required.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPS	6701C	Psychoeducational Interventions With Children and Adolescents II	4	CR: SPS 6700C.	Content covers psychoeducational interventions for school-referred children and adolescents specific to school psychological services. This is an integrated sequence of courses addressing educational and psychological (direct and indirect) interventions with topics also including consultative service delivery, the acceptability of classroom strategies, classroom and behavior management, and the synthesis of assessment data into effective interventions all within the referral context. Appropriate field experiences will be required for Intervention I and Intervention II; therefore, concurrent enrollment in the Intervention Practicum course for these two courses only is required.
SPS	6702C	Psychoeducational Interventions With Children and Adolescents III	4	CR: SPS 6700C	Content covers psychoeducational interventions for school-referred children and adolescents specific to school psychological services. This is an integrated sequence of courses addressing educational and psychological (direct and indirect) interventions with topics also including consultative service delivery, the acceptability of classroom strategies, classroom and behavior management, and the synthesis of assessment data into effective interventions all within the referral context. Appropriate field experiences will be required for Intervention I and Intervention II; therefore, concurrent enrollment in the Intervention Practicum course for these two courses only is required.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPS	6936	Graduate Seminar in School Psychology	1-3		Seminars to explore current matters of professional concern in school psychology, such as trends, problems, legal and ethical issues, and empirical bases of techniques.
SPS	6940	Practicum in Psychoeducational Interventions	1-4	CR: Psychoeducational Interventions with Children and Adolescents - I or II (SPS 6700C or SPS 6701C)	Course provides practical experiences and implementation of skills discussed and acquired in the intervention courses within settings relevant to school psychology.
SPS	6941	Practicum in Psychoeducational Interventions	1-4	CR: Psychoeducational Interventions with Children and Adolescents - I or II (SPS 6700C or SPS 6701C)	Course provides practical experiences and implementation of skills discussed and acquired in the intervention courses within settings relevant to school psychology.
SPS	6947	Internship	1-9		Involves field-based, supervised experience of 1,500 (minimum) clock hours at the Educational Specialist level and 2,000 (minimum) clock hours at the Doctoral level.
SPS	6971	Thesis: Masters/Educational Specialist	2-19		
SPS	7090	Supervision Processes in School Psychology	4		Theory, skills, and practice of supervision in school psychology.
SPS	7205	Advanced Consultation Processes in School Psychology	2-4	PR: EDF 6166	Advanced topics and techniques in consultation processes for advanced school psychologists.
SPS	7700	Advanced Psychoeducational Interventions	2-4	PR: SPS 6700C/SPS 6701C and SPS 6940/SPS 6941	Advanced topics and techniques in psychoeducational interventions for children and adolescents referred for school psychological services.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPS	7701	Advanced Child and Adolescent Psychotherapy	2-4	PR: SPS 6702C	Covers advanced topics and techniques in child and adolescent psychotherapy relevant to school psychological services.
SPS	7910	Directed Research in School Psychology	1-19		A doctoral research experience supervised by a faculty member.
SPS	7936	Advanced Seminar in School Psychology	1-3		Exploration of current issues and trends in school psychology, as it relates to research and professional practice, and the history and systems of education and psychology.
SPS	7980	Dissertation	2-30		
SPW	5135	Colonial Spanish American Literature	3	PR: SPW 4131.	Introduction to Colonial Spanish American Literature from the discovery through the Romantic Period.
SPW	5339	Golden Age Drama	3	PR: SPW 4100.	Lope de Vega, Alarcon, Tirso, Calderon, and others.
SPW	5387	Spanish American Prose	3	PR: SPW 4131.	Emphasis on the gaucho theme and contemporary prose fiction.
SPW	5405	Medieval Literature	3	PR: SPW 4100 or equiv.	Course gives an in-depth study of principal works and authors of the period such as El Poema de Mio Cid, Libro de Buen Amor, and La Celestina.
SPW	5465	19th Century Literature	3	PR: SPW 4101.	An appreciation of the romantic and realist periods in Spanish literature.
SPW	5597	Latin American Culture in Fantastic Literature and Film	3		A panoramic view of Spanish American fantastic and science fiction literature and film in order to analyze their relationship to historical, philosophical and cultural trends from the end of the 19th century to the beginning of the 21st century.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SPW	5605	Cervantes	3		Cervantes' masterpiece Don Quijote de la Mancha.
SPW	5725	Generation of 1898	3	PR: SPW 4101.	The major figures of the period and their main followers.
SPW	5934	Selected Topics	3		Study of an author, movement, or theme.
SPW	6427	Golden Age Novel	3		Realistic prose-fiction of the Renaissance and Golden Age.
SPW	6485	Post Civil War Literature	3	PR: SPW 4101.	The drama and novel since 1936.
SPW	6775	Caribbean Literature	3	PR: SPW 4131	Emphasis on contemporary Cuban and Puerto Rican literature.
SPW	6806	Introduction to Hispanic Graduate Studies	3		Introduce students to speaking, reading and writing at the graduate level and provide an overview of the MA in Spanish at USF.
SPW	6910	Directed Research	1-19		
SPW	6971	Thesis: Master's	2-19		
SSE	5331	Foundations, Curriculum & Instruction of Social Science Education	3		Social studies curriculum, methods of instruction and social, philosophical and psychological foundations are examined. Students are expected to plan and present instructional plan(s) appropriate to middle and secondary school levels demonstrating command of the course content.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SSE	5332	Methods & Strategies in Social Science Education	3		Social studies methods and strategies are examined with an emphasis on the secondary school environment. The teaching profession, school settings, and current issues are examined. Students are expected to plan and present instructional plan(s) appropriate to senior high school demonstrating command of the course content.
SSE	5641	Reading and Basic Skills in the Content Area	3		Reading skills and the other basic skills as applied to the social studies are examined. Students are expected to plan and present instructional plan(s) appropriate to the social studies classroom demonstrating command of the course content. Fieldwork in a middle school is required.
SSE	5946	Practicum in Social Science Education	3	PR: SSE 5331.	The course is a practicum course in which pre-service teachers apply the knowledge, skills, and dispositions learned in prerequisite program courses to teach the social studies themes adopted by the National Council for the Social Studies.
SSE	6617	Trends in K-6 Social Science Education	3		This course focuses on theoretical foundations and strategies employed by effective social studies teachers in motivating K-6 aged youth to acquire the information, skills, and reasoning unique to the social sciences. Students also conduct research.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SSE	6636	Trends in Secondary Social Science Education	3	PR: SSE 4333, SSE 4334, SSE 4335.	This course is designed for graduate students to research the history, theory, practices and current trends of social science education and to develop a personal, academic social science philosophy.
SSE	6906	Independent Study in Social Sciences Education	1-6		An opportunity for advanced graduate students to examine a specific issue or topic in the field of social science education.
SSE	6932	Selected Topics in Social Science Education	3		Readings and discussions organized around an in-depth examination of selected social studies education topics selected by professors.
SSE	6947	Internship in Secondary Education for Science	6		Students will work with a cooperating teacher and university supervisor to complete their internship requirements in a classroom setting assigned by the university.
SSE	7700	Social Science Curriculum and Instruction Issues	4		This advanced graduate course investigates current trends and new directions in the social science curriculum, leading theories and practices related to instructional methodology, and implications of significant research and developments in the field.
SSE	7710	Research in Social Science Education	4		This course prepares doctoral students in social science education to be active scholars. Students engage in a preliminary research study, examine theoretical, technical, ethical and practical issues related to conduct of research in education.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SSE	7720	Social Science Education Technological Innovations	4		This course examines the use of technology in the social science classroom, barriers to integration, unrealized potential of technology and consequences of technological development on children and youth.
SSE	7730	Philosophy of Social Science Education	4		This advanced graduate course allows students to research the philosophical and theoretical underpinnings of a social science education and the role of a university as well as to develop a personal, philosophical construct.
SSE	7740	History of the Social Studies Since 1880	4		This course is a historical investigation of the development of the secondary school history/social studies curriculum, including questions related to objectives, content, and methods of instruction.
SSE	7910	Directed Research in Social Sciences Education	1-9		This course permits a doctoral student to conduct advanced research and to pursue specific areas of interest with a faculty member as supervisor. A contract is required with the faculty member. S/U
SSE	7945	Applied Research in Social Science Education	2		This course provides doctoral students in social science education with the opportunity to teach post-“secondary courses, engage in sustained research, pursue external funding, and participate in professional activities.
SSE	7980	Dissertation in Social Science Education	2-24		Rpt.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
STA	5166	Statistical Methods I	3	PR: STA 4321	Statistical analysis of data by means of statistics package programs. Regression, ANOVA, discriminant analysis, and analysis of categorical data. Emphasis is on inter-relation between statistical theory, numerical methods, and analysis of real life data.
STA	5326	Mathematical Statistics I	3	PR: STA 5446.	Sample distribution theory, point & interval estimation, optimality theory, statistical decision theory, and hypothesis testing.
STA	5446	Probability Theory I	3	PR: STA 4442 and MAA 4212	Axioms of probability, random variables in Euclidean spaces, moments and moment generating functions, modes of convergence, limit theory for sums of independent random variables.
STA	5526	Non-Parametric Statistics	3	PR: STA 5326	Theory and methods of non-parametric statistics, order statistics, tolerance regions, and their applications.
STA	6167	Statistical Methods II	3	PR: STA 5166.	Design of statistics programs, pivoting and other technology used in stepwise regressions, algorithms in non-linear regression, balanced and unbalanced ANOVA. Iteration methods for numerical solutions of likelihood equations.
STA	6206	Stochastic Processes	4	PR: STA 5446.	Poisson processes, renewal theorems, Markov chains on a countable state space, continuous-time Markov processes with a countable state space, birth and death processes, branching processes, introduction to Brownian motion.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
STA	6208	Linear Statistical Models	3	PR: STA 5167 or STA 5326	Distribution theory, estimation, and hypothesis testing for the general linear model. Experimental designs, including randomized block and incomplete block designs. Multiple regression, ANOVA, and ANCOVA.
STA	6447	Probability Theory II	3	PR: STA 5446 and MAA 5306	Characteristic functions, central limit theorem, martingale inequalities and convergence theorems, optional stopping, ergodic theorems and applications.
STA	6746	Multivariate Analysis	3	PR: STA 5326	Multivariate normal distribution; its properties and inference; matrix random variables; multiple and partial correlation; discriminant analysis, principle components and factor analysis; multivariate ANOVA; analysis of covariance; applications using computers.
STA	6876	Time Series Analysis	3	PR: STA 5326	Theory and applications of discrete time series models illustrated with forecasting problems. Filtering, forecasting, modeling, and spectral analysis of time series. Control problems. Applications using a computer.
SYA	6126	Contemporary Sociological Theory	3	PR: Undergraduate course in sociological theory	Emphasizes logical and conceptual dimensions of theory and theory construction.
SYA	6205	Social Construction of Reality	3		Evolution of the concept of social construction; emphasizes the consequences of understanding lived experiences and discursive representations as social constructions. Topics include depression, child abuse, masculinity/femininity, and sexual harassment.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SYA	6305	Methods of Research	3	PR: Undergraduate course in sociological research methods	Logic and practice of research; problems of observation and data collection, data processing, and evaluation.
SYA	6315	Qualitative Research Methods	3	PR: Undergraduate course in sociological research methods	Designed to introduce students to qualitative research methods, such as participant observation and intensive interviewing that require the researcher to get close to the social situation of interest.
SYA	6316	Ethnography	3		Examines the theoretical and practical issues in ethnographic research and various styles of ethnography. Provides hands-on training in ethnographic data collection and qualitative data analysis.
SYA	6405	Sociological Statistics	3	PR: Undergraduate statistics course	Logic and application of parametric and nonparametric statistical analysis for sociological data.
SYA	6909	Independent Study	1-19		Independent study in which student must have a contract with an instructor.
SYA	6912	Directed Research	1-19		
SYA	6933	Special Topics-Sociology	3		Content varies according to interests of students and instructor.
SYA	6971	Thesis: Master's	2-19		
SYA	7357	Introduction to Social Network Analysis	3		Introduction to the methods by which properties of networks are described, quantified, and analyzed with attention to networks of interest to social scientists (such as, social, knowledge, and semantic networks).

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SYA	7939	Selected Topics for Ph.D. Students	3		In this course, doctoral students will examine theoretical, methodological and/or substantive scholarship in a variety of areas related to identity, community and sustainability in global context.
SYA	7980	Doctoral Dissertation	2-20		The dissertation represents the culmination of the research experience for Sociology doctoral students and will involve the creation of an original book-length study with many interrelated parts. May be repeated for credit.
SYA	7988	Dissertation Proposal	1-6		This course will guide Ph.D. students toward the completion of their dissertation proposal under close supervision of their faculty mentors.
SYD	6605	City and Community	3		Provides training in the field of urban and community sociology. Focuses on the field's early theoretical foundations, \classic\" research, and contemporary debates. Concentrates on the U.S., although some cross-cultural comparisons will be offered."
SYD	6706	Race and Ethnicity	3		Introduces historical development of race, social construction of racial and ethnic identities, race-class-gender interrelationships, and various issues of immigration. Exploration of theories used to explain racial and ethnic inequality today.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SYG	6936	Seminar in Teaching Sociology	3		Provides a key link for future teaching sociologists, assisting them to make the switch from consumers to educators of the sociological perspective. Places equal emphasis on theoretical and practical issues surrounding teaching sociology.
SYO	6255	Seminar in Sociology of Education	3		Sociological analysis of the institution of education. Primary attention directed toward class, race, and gender inequalities and educational transformations.
SYO	7435	Sociology of Disability in Urban Society	3		This course critically evaluates current controversies over the utility of a variety of theoretical perspectives and research methods in understanding the lived experience of disability in 21st century urban society.
SYP	6007	Constructing Social Problems	3		An examination of social problems using social constructionism theoretical perspectives. Topics focus on how humans create meaning and how this meaning influences reactions to conditions defined as social problems.
SYP	6008	Social Problems, Identity, and Community	3		An examination of social problems using social constructionist theoretical perspectives. Topics focus on how meaning is created within historically, culturally, and politically situated communities.
SYP	6016	Emotions in Everyday Life	3		Explores the role of emotions in the everyday lives of individuals, within the micro-social contexts of identities, interactions, and social relationships.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
SYP	6357	Comparative Social Movements	3		Provides an overview of the various theoretical perspectives used to explain the emergence, growth, strategies and success of social movements in contemporary America and in other countries.
SYP	6425	Sociology of Consumer Culture	3		This course critically examines the key theories and analyses of American consumerism with special attention to inequalities of race, class, and gender.
SYP	6515	Sociology of Deviance	3		Develops knowledge of traditional theories of deviance as well as critiques them. Through development of alternative perspectives, challenges constructions of deviance and the mechanisms of power.
TAX	5015	Federal Taxation of Business Entities	3	PR: TAX 4001 with a grade of C or better, not C-.	Tax issues encountered by small businesses. Includes tax planning, capital formation and preservation, tax compliance and tax alternatives.
TAX	6005	Advanced Partnership Taxation	3	PR: TAX 4001.	A study of advanced income tax problems involving partnerships, including organization, operation, distributions, liquidations, basis, family partnerships, and sales and exchanges. The planning and business aspects of partnerships are emphasized.
TAX	6065	Contemporary Issues In Taxation	3	PR: TAX 4001 AND TAX 5015 OR EQUIVALENT	A study of contemporary issues in taxation with an emphasis on related computer research. Current tax issues in the areas of corporations or partnerships will be explored when appropriate, along with related tax planning techniques

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
TAX	6134	Advanced Corporate Taxation	3	PR: TAX 4001 AND TAX 5015	A study of advanced income tax problems involving corporations, including organization, operation, distributions, liquidations, consolidated corporate tax returns, and taxation of foreign corporations and foreign source income.
TAX	6445	Estate Planning	3	PR: TAX 4001.	This course covers the basics of estate, gift, and trust taxation and introduces the student to tax planning techniques to minimize the tax-burden on inter-generation transfers of wealth.
THE	5909	Directed Studies	1-6		Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.
THE	5931	Selected Topics In Theatre	1-8		The content of the course will be governed by the student demand and instructor interest. May be lecture or class discussion or studio format.
THE	6175	New British Theatre and Drama	3		A study of contemporary theatrical practice and key dramatic texts in the British Isles. Departmental permit required of majors and non-majors.
TSL	5085	ESOL I - Theory and Practice of Teaching English Language Learners	3		This course is for undergraduate degree holding, preprofessional (preservice) teachers to learn about appropriate instruction, assessment and learning opportunities for Limited English Proficient (LEP) students in the content areas.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
TSL	5086	ESOL II-Secondary Language & Literacy Acquisition in Children & Adolescents	3	PR: TSL 5085.	This course is designed to provide students with a critical understanding of instructional delivery which caters for the linguistic and literacy needs of minority / heritage communities.
TSL	5242	ESOL III-Language Principles, Acquisition & Assessment for English Language Learners	3	PR: TSL 5086.	This course provides an overview of the components of language, linking them to methods and techniques of providing comprehensible instruction to LEP students.
TSL	5325	ESOL Strategies for Content Area Teachers	3		Course designed for public school teachers working with limited English Proficient (foreign) students in the classroom. The new ESOL requirements specify that this course be offered to content area teachers and to ESOL teachers.
TSL	5326	L2 Reading for ESOL Students across Content Areas	3		This ESOL course will provide students with understanding of the linguistic and literacy needs of minority/heritage students, and will negotiate issues of second language learning, language varieties, as well as critical literacy and reading.
TSL	5371	Methods of Teaching English As A Second Language	3		Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.
TSL	5372	ESOL Curriculum and Instruction	3		Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.
TSL	5440	Language Testing	3	PR: TSL 5371.	Lecture course on testing English as a second/foreign language.
TSL	5525	Cross-Cultural Issues in ESL	3	PR: LIN 5700.	Lecture course on cultural issues in Teaching English as a Second/Foreign language.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
TSL	5940	ESOL Practicum	1-3	PR: FLE 5345 and FLE 5145.	This course is restricted to Education majors and will not be repeatable for credit. A structured field experience with Limited English Proficient students.
TSL	6253	Applied Linguistics for Teaching ESOL	3		Course is designed to prepare participants with linguistic concepts & issues relevant to the field of applied linguistics 7 second language teaching. Course will survey sub-fields of linguistics (phonetics, phonology, morphology, semantics, and syntax).
TSL	6380	Instruct Methods & Strategies For Teaching ESOL	3		Effective use of ESOL methods and strategies. Conceptual focus of this course is based on the teacher as self-directed, reflective practitioner and problem solver who is able to facilitate learning and change within diverse populations and environments.
TSL	6390	Instruct Methods and Strategies for Teaching ESOL	3		Effective use of ESOL methods and strategies. Conceptual focus of this course is based on the teacher as self-directed, reflective practitioner and problem solver who is able to facilitate learning and change within diverse populations and environments.
TSL	6470	Assessment and Progress Management for Teaching ESOL	3		Designed to develop knowledge 7 skills necessary to prepare students to select, adapt, design assessment instruments & testing techniques reflective of instructional goals & needs of linguistically & culturally diverse students in ESOL or mainstream class.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
TSL	6700	ESOL for School Psychologists and School Counselors	3		Prepare school psychologists & school counselors to provide services for Eng language learners in their schools. Provides them with current research and guidance in the areas of program development, legislative mandates, and learner characteristics.
TSL	6945	Internship	1-6	PR: TSL 5371 and TSL 5372.	Required of all candidates for the M.A. degree in TESL. Supervised teaching of English as a second language to non-native speakers at appropriate levels and settings.
TTE	5205	Traffic Systems Engineering	3	PR: TTE 4004 or equivalent.	Traffics models, intersection analysis, capacity analysis, data methods collection, parking studies, volume and speed studies, freeway management, and advanced technologies.
TTE	5501	Transportation Planning and Economics	3	PR: College Algebra	Fundamentals of urban transportation planning: trip generation, trip distribution, modal split, traffic assignment. Introduction to environmental impact analysis, evaluation an choice of transportation alternatives.
TTE	5620	Air Transportation	3		This is a course for graduate students in the College of Engineering who are interested in air transportation. It covers topics such as, airport management, air traffic flow management, air transport economics, and etc. No registration restrictions.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
TTE	6270	Intelligent Transportation Systems	3	PR: TTE 5205.	ITS architecture design and evaluation, simulation and modeling, advanced traffics management systems, traveler information systems, vehicle control systems, commercial vehicle operations, public transportation systems, and telecommunications.
TTE	6315	Transportation Safety	3	PR: TTE 5205.	Transportation safety studies, accident data analysis, traffic safety control devices, special population regiment safety, highway conflict studies, accident reconstruction, and tort and liability issues.
TTE	6505	Discrete Choice Models of Travel Behavior	3	PR: TTE 5501.	Theories of travel behavior; multinominal logit and nested logit models of mode choices, destination choice, and car ownership. Theory and application to travel forecasting.
TTE	6507	Travel Demand Modeling	3	PR: TTE 5501.	Statistical modeling of travel demand forecasting; emphasis on trip generation and trip chaining.
TTE	6651	Public Transportation	3		Planning, design and operation of public transportation systems; costs and productivity of transit; impacts of transit on travel behavior and urban form; ridership forecasting; public transportation policy analysis.
TTE	6655	Transportation and Land Use	3		Relationships between transportation and land use, coordinated transportation and land use planning, theory of urban development, urban sprawl, integrated transportation and land use models, transportation friendly urban design, and accessibility.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
TTE	6835	Pavement Design	3	PR: TTE 4005 or equivalent.	Analysis of flexible and rigid pavements, equivalent single wheel loads, pavement material and their properties, pavement evaluation, reliability, flexible and rigid pavement design, overlay design, pavement life-cycle cost analysis.
TTE	6837	Pavement Management Systems	3	PR: TTE 4005 or equivalent.	Review of flexible and rigid pavement design, overlay design; pavement evaluation, pavement network delineation, condition prediction models, pavement maintenance and rehabilitation, pavement management techniques, life-cycle analysis.
TTE	6930	Graduate Transportation Seminar	1		Seminars, presentations, and discussions of contemporary transportation issues.
URP	6056	City and Regional Planning	3		A review of goals, objectives, and interrelationships between regional and city planning; intergovernmental and policy issues. Cross-listed with Political Science.
URP	6058	Community Development Planning	3		Course explores the process by which human communities emerge, grow, and sometimes decline and disappear. Also provides knowledge necessary to maximize use of communities' assets and minimize damage from natural or man-made features in their environment.
URP	6100	Planning Theory and History	3		The course is designed acquaint the student with major trends in the evolution of urban planning thought and practice and introduce the student to fundamental theories of relevance to the field of urban and regional planning.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
URP	6115	Planning, policy and politics	3		Introduction to politics, government and policy making for planning students. Part of the required core for the URP program.
URP	6126	Zoning & Local Economic Development	3		To familiarize students with the evolution and purpose of zoning as an instrument for regulating and controlling land use activities in the US. In addition, the course seeks to acquaint with the implications of zoning for local economic development.
URP	6201	Quantitative Analysis in Urban & Regional Planning	3	PR: URP 6232	Focuses on quantitative analysis techniques and their application in urban and regional planning.
URP	6232	Research Methods for Urban and Research Planning	3		The course is designed to introduce students to strategies for designing research and the appropriate methods for collecting urban and regional planning data; familiarize students with social research and evaluation methods used in planning.
URP	6316	Land Use Planning	3		The course is designed to acquaint the student with the principles, theory and practice of land use planning. The course constitutes one of the required courses in the MURP degree.
URP	6406	Urban Environmental Policy	3		The purpose of this course is to examine issues related to environmental planning and policy within the context of the urban/humanly-built environment and its relation to surrounding natural environments.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
URP	6422	Environmental & Planning Issues in Coastal Communities	3		The content of this course will familiarize students with issues in environmental and urban planning unique to coastal communities, and explore the connections “ current and potential ” between the oceans and coastal urban areas.
URP	6549	Urban & Metropolitan Economic Development Strategies	3		The course is designed to provide the student an opportunity for community service and “real world” learning. Community service learning will be employed as a pedagogical strategy to prepare students for “real-world” issues in local economic development.
URP	6906	Independent Study	1-6		Independent study. Student must have contract with Instructor.
URP	6910	Supervised Research	1-6		This course will allow graduate students to earn credits while working on an independent research project that is focused in Urban and Regional Planning.
URP	6930	Special Topics in Urban and Regional Planning	3		Topical issues in the study of Urban and Regional Planning. Content will vary each semester. It is repeatable for credit. There are no limits on the number of times a student can take courses listed under this title.
URP	6940	Internship in Urban and Regional Planning	3-6		Students will gain practical experience in planning, working on projects with local planning agencies and firms. Course is restricted to URP masters students, and can be repeated for up to 6 credits.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
URP	6971	Thesis	2-19		This course will allow graduate students to earn credits while working on a thesis that is focused in Urban and Regional Planning.
VIC	6316	Brand Management	3		This course focuses on developing an understanding of brand equity in strategic communication management. It investigates how to build, measure, and manage brand equity, including management of brands over time, geographic boundaries, and market segments.
WST	5308	Feminist Spirituality	3		Open to non-majors. Focuses on the many voices of contemporary feminist spirituality, emerging from women's experiences in diverse religious, ethnic and cultural traditions, and representing a range of theoretical perspectives from biblical feminism to goddess worship and wicca.
WST	5934	Selected Topics	1-4		Study of current research methods and scholarship on women from a multidisciplinary perspective.
WST	5940	Internship in Women's Studies	3-6		Student placement in an approved intern setting for a minimum of 240 hours of supervised experience. S/U only.
WST	6001	Feminist Research and Methodology	3		To develop a more comprehensive understanding of the situation of women in society and to develop a theoretical basis for integrating this knowledge into the student's graduate course of study. Available to non-majors.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
WST	6003	Feminist Scholarship and Pedagogy	3		Introduces students to techniques of feminist teaching and scholarly writing. Covers issues of professionalism, an overview of contemporary scholarly issues in feminist studies, and basic feminist pedagogy. Department Approval Required.
WST	6005	Women and Policy	3		Examination of policy areas such as employment, violence, welfare which have a significant impact on women. The aim is to achieve a deeper understanding of the way in which gender functions as a category of analysis in policy decision, and also examines and critiques the area from which policy is produced.
WST	6406	Women of Color:Activism and Social Change	3		Intensive reading and discussion of the participation of women of color in contemporary and reformist activities.
WST	6560	Advanced Feminist Theory	3		An in-depth exploration of current issues and debates in Feminist Theories. Topics may include: representation, essentialism, authority structures, subjectivity, identity and difference. Department Approval Required.
WST	6562	Body Politics	3		An in-depth feminist exploration of how the body is produced, inscribed, replicated, and often disciplined as a result of various powers at work.
WST	6900	Directed Readings	1-3		Supervised program of intensive readings of an interdisciplinary nature focusing on women. Student must have contract with instructor.

SUB	NUM	TITLE	HRS	PREREQUISITES	DESCRIPTION
WST	6910	Directed Research	1-3		Provide graduate students with research experience in areas of specific interest utilizing feminist perspectives and research methods.
WST	6936	Selected Topics in Women's Studies	3		Content varies according to scholarship focus of students and instructor. Repeatable-- content and instructor will vary.
WST	6971	Thesis	1-9		Content varies according to scholarship focus of students and instructor. Repeatable-- content and instructor will vary.
ZOO	5456L	Ichthyology Lab	1	CPR: ZOO 5456	Laboratory portion of Ichthyology relating to evolution, systematics, structure, behavior, physiology and ecology of fishes.
ZOO	5463C	Herpetology	4		Major aspects of amphibian and reptilian biology emphasizing fossil history, evolutionary morphology, sensory physiology, life history and reproductive behavior. Lec.-lab. Field trip.
ZOO	5555C	Marine Animal Ecology	4	PR: PCB 3043	Investigation of energy flow, biogeochemical cycles, and community structure in marine environments. Lec.-lab.
ZOO	6455	Advances in Ichthyology	1		This course discusses current topics in Ichthyology. Readings are taken from the primary literature. The course is restricted to graduate students with a background in Ichthyology.