

ACG	5205	Advanced Financial Accounting	3	BU	ACC	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	BU	ACC	PR: ACG 3113. CR: ACG 4632.	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	BU	ACC	PR: ACG 3113 and ACG 3401. CR: ACG 4632.	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	BU	MBA	Not available for credit for graduate students in the Master of Accountancy program.	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.
ACG	6028	Measuring Organizational Effectiveness	3	BU	ACC		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 access how well, and at what cost, these organizations are able to achieve strategic/operating goals and objectives.
ACG	6075	Management Accounting and Control	2	BU	MBA	PR: ACG 6025. Not available for credit for graduate students in the Master of Accountancy program.	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	BU	ACC	PR: ACG 3341 or equivalent and admission to the MAcc program.	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.
ACG	6405	Advanced Accounting Information Systems	3	BU	ACC	PR: Admission to MAcc and 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	BU	ACC	PR: ACG 3401, ACG 6405 or equivalent.	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	BU	ACC	PR: ACG 6405 or equivalent.	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	3	BU	ACC	PR: ACG 4632	This course explores contemporary

		Auditing					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	6637	Contemporary Issues in Accounting Information Systems	3	BU	ACC	PR: ACG 6405 or equivalent	An in-depth study of current accounting information systems issues confronting the accounting profession. Graduate students research and study contemporary and emerging topics in the field.
ACG	6835	Accounting Skills, Values, and Information Technology	3	BU	ACC	PR: Admission into MA Accountancy Program.	This course is designed to introduce Master of Accountancy students to the basic skills, competencies, and technologies of accounting.
ACG	6875	Financial Reporting and Professional Issues	3	BU	ACC	PR: Admission to MAcc program. 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	BU	ACC	PR: CC. S/U.	Independent Study. Student must have a contract with an instructor.
ACG	6915	Directed Research	1-19	BU	ACC	PR: GR. M.L, CC. S/U.	
ACG	6932	Integrative Accounting Seminar	3	BU	ACC	PR: Enrolled in final semester of program	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	BU	ACC	PR: CC	The course content will depend on student demand and instructor's interest.
ACG	7156	Seminar in Financial Accounting	3	BU	ACC	PR: ACG 6875 or CI	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	BU	ACC	PR: ACG 6346 or CI	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	BU	ACC	PR: ACG 6405 or CI.	Review and critical analysis of major topics and research methods in accounting information systems.
ACG	7646	Seminar in Auditing	3	BU	ACC	PR: ACG 6636 or equiv. or CI.	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	BU	ACC	PR: CI.	Coverage of particular topics of interest to doctoral faculty and students during any given semester.
ACG	7980	Dissertation in Accounting	2-21	BU	ACC	PR: Completion of comprehensive exams and CI.	Research and writing of a dissertation on an accounting topic.
ADE	6070	International Adult Education	3	ED	EDV		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	ED	EDV		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	ED	EDV		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.
ADE	6161	Curriculum Construction in Adult Education	4	ED	EDV		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	ED	EDV		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	ED	EDV	PR: ADE 6385 and ADE 6080 or Permission from Instructor.	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	6280	Administration in Local Adult Education Programs	4	ED	EDV		A study of the organization, selection of personnel, assignment of duties and responsibilities, and establishment of policies and procedures to accomplish the objectives of the local program within federal, state, and local requirements.
ADE	6287	Supervision of Local Adult Education Programs	4	ED	EDV		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	ED	EDV		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.
ADE	6370	Human Resource Development	3	ED	EDV		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	ED	EDV		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	ED	EDV		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	ED	EDV		Independent Study in which students must have a contract with an instructor.
ADE	6931	Selected Topics in ADE and HRD	1-5	ED	EDV		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	ED	EDV		A problem-centered field study in the local community, school, government, office, social agency, business, or industry setting.
ADE	6966	Final Master's Seminar	4	ED	EDV	PR: Students should be in the last few seminars of their master's degree program.	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	ED	EDV	S/U. Ma/EdS Candidates only.	Thesis/Specialist project hours.
ADE	7076	Continuing Education in Higher Education	3	ED	EDV	PR: ADE 6385 and ADE 6080 or Permission from Instructor.	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	ED	EDV		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	ED	EDV		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	ED	EDV		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.
ADE	7388	Adult Development and Learning	3	ED	EDV	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	ED	EDV	PR: ADE 6370 or Permission of Instructor.	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	7910	Directed Research In Adult Education	1-4	ED	EDV	PR: Advanced graduate level.	Directed research on topics related to adult education.

ADE	7930	Seminar in Adult Education	4	ED	EDV	PR: ADE 6385 and ADE 6080 or Permission from Instructor.	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	ED	EDV	PR: Advanced graduate level.	Seminar in advanced topics in Adult Education.
ADE	7947	Advanced Internship: Adult Education	2-4	ED	EDV	PR: Advanced graduate level only. S/U.	
ADE	7980	Dissertation	2-30	ED	EDV	PR: Admitted to Candidacy.	Dissertation hours.
AFA	5935	Issues in Africana Studies	1-4	AS	AFA		Variable topics course focusing on the history, culture, and lived experiences of Africans, African American, and/or other peoples of African descent worldwide. Rpt. Up to 12 hours as topics vary.
AFA	6108	Social Construction of Race and Racism	3	AS	AFA		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	AS	AFA		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	AS	AFA		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.
AFA	6318	Black English	3	AS	AFA		Black English focuses on linguistic patterns among African Americans in the US, South Central America and the Caribbean. It examines language in relation to issues of domination, education, economics, social stratification, and political empowerment. It is open to majors and non-majors and is cross-listed with ISS.
AFA	6338	Black Women Writers	3	AS	AFA		Black Women Writers focuses on the literature of women of Africa and the African Diaspora. It examines the social, historical, artistic, political, economic, and spiritual lives of Africana women in context of a global community. The course is open to majors and non-majors and is cross-listed with Women's Studies, English and ISS.
AFA	6355	African American Community Research: Ethnography	3	AS	AFA		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	AS	AFA		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	6390	The Global Challenge of	3	AS	AFA		This course focuses on human

		Diversity					differences arising from social, cultural, and genetic origins and how they lead to social inequality. Genocide and the depletion of natural resources, are used as models for ethical decision making.
AFA	6805	African Historiography	3	AS	AFA		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	AS	AFA	PR: CI, MI.	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	AS	AFA	PR: CI, Departmental Approval.	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.
AFA	6932	Topics in Africana Studies	3	AS	AFA		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	AS	AFA	PR: CI, Approval of Thesis Committee	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	AS	AFA	PR: Department, Major professor and thesis committee approval.	Thesis.
AML	6017	Studies in American Literature to 1860	3	AS	ENG		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	AS	ENG		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	AS	ENG		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	AS	ENG		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.
AMS	6002	American Lives	3	AS	AMS	PR: GS, CI.	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	AS	AMS	PR: GS.	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	AS	AMS		Open to non-majors. Interdisciplinary analysis of American life during a specific cultural era.
AMS	6375	The American South	3	AS	AMS		Open to non-majors. Examines the region since Reconstruction through architecture, art, literature, photography, music, history and interdisciplinary perspectives.
AMS	6805	Major Ideas in American Civilization	3	AS	AMS		Open to non-majors. Investigates the role of one or more influential ideas in American culture, e.g., community, domesticity, democracy, slavery, progressivism, radical reform.
AMS	6901	Directed Readings in American Studies	1-3	AS	AMS	PR: CI, CC. S/U.	Open to non-majors. A supervised program of intensive reading.
AMS	6915	Directed Research	1-12	AS	AMS	PR: GR, ML. S/U.	
AMS	6934	Selected Topics	1-3	AS	AMS		Open to non-majors. Variable topics such as American Autobiography, Film in American Culture, and Photography in American Culture.
AMS	6938	Seminar in American Studies	3	AS	AMS		Open to non-majors. Advanced interdisciplinary research. Topics include Popular Culture, Material Culture, Native American Culture.
AMS	6940	Internship in American Studies	1-3	AS	AMS	PR: Majors only. S/U.	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	AS	AMS	Z/U.	
ANG	5395	Visual Anthropology	3	AS	ANT	PR: Graduate standing.	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	AS	ANT	PR: Graduate Standing.	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	AS	ANT	PR: DPR. S/U.	Individual guidance in concentrated reading on a selected topic in Anthropology. Contract required prior to registration.
ANG	5910	Individual Research	2-4	AS	ANT	PR: DPR. Contract required prior to registration. S/U.	Individual guidance in selected research project.
ANG	5937	Seminar In	2-4	AS	ANT	PR: Senior or GS.	Topics to be chosen by students and

		Anthropology					instructor.
ANG	6081	Museum Methods	4	AS	ANT	PR: Graduate Standing or DPR.	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	6100	Topics in Archaeological Science	3	AS	ANT	PR: Graduate Standing.	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	AS	ANT	PR: GS in Anthropology.	Methodology and theory in archaeology, analysis, interpretation of data.
ANG	6115	Seminar In Archaeology	3	AS	ANT	PR: Graduate Standing or DPR.	An advanced critical survey of archaeology emphasizing contributions to applied anthropology.
ANG	6153	Topics in North American Archaeology	3	AS	ANT	PR: Graduate Standing.	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.
ANG	6155	Southeastern U.S. Archaeology	3	AS	ANT	PR: ANT 3101, Graduate standing or DPR.	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	AS	ANT	PR: Graduate Standing.	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	AS	ANT	PR: Graduate Standing.	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	AS	ANT	PR: Graduate Standing.	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	6197	Public Archaeology	3	AS	ANT	PR: GS or DPR.	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	AS	ANT	PR: GS.	Contemporary problems in Public Archaeology in the context of a specific region. Open to non-majors.
ANG	6270	Chiefdoms	3	AS	ANT	PR: Graduate standing, instructor consent.	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	AS	ANT	PR: Graduate Standing or DPR.	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.
ANG	6393	Anthropology, Contemporary Culture and the Media	3	AS	ANT	PR: GS or CI.	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	6436	Issues in Heritage Tourism	3	AS	ANT	PR: Graduate Standing or DPR.	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	AS	ANT	PR: GS.	Current topical issues in Urban Anthropology. Open to non-majors.
ANG	6448	Regional Problems in Urban Anthropology	3	AS	ANT	PR: GS.	Contemporary problems in Urban Anthropology in the context of a specific region. Open to non-majors.
ANG	6463	Social Epidemiology Applied Anthropology	3	AS	ANT	PR: GS or CI.	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	AS	ANT	PR: GS.	Contemporary problems in Medical Anthropology in the context of a specific region. Open to non-majors.
ANG	6469	Selected Topics in Medical Anthropology	3	AS	ANT	PR: GS.	Current topical issues in Medical Anthropology. Open to non-majors.
ANG	6490	Seminar in Cultural Anthropology	3	AS	ANT	PR: GS in Anthropology.	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	AS	ANT	PR: GS or CI.	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	AS	ANT	PR: Graduate Standing or DPR.	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	AS	ANT	PR: Graduate Standing or DPR.	A critical advanced survey of Physical Anthropology emphasizing contributions to Applied Anthropology.
ANG	6676	Seminar in Anthropological Linguistics	3	AS	ANT	PR: GS in Anthropology.	A critical advanced survey of Anthropological Linguistics emphasizing contributions to Applied Anthropology.
ANG	6701	Contemporary Applied Anthropology	3	AS	ANT	PR: GS.	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	AS	ANT	PR: Graduate standing in anthropology.	MA Foundations of Applied Anthropology I provides graduate students with an introduction to the philosophical basis of contemporary anthropology.
ANG	6706	Foundations of Applied Anthropology II	3	AS	ANT	PR: Graduate standing, 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	AS	ANT	PR: Graduate Standing.	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	AS	ANT	PR: Graduate Standing or DPR.	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	6739	Applied Anthropology and International Health	3	AS	ANT		An advanced international anthropology course on the health issues, organization, people, policies and limitations of the arena of international health.
ANG	6766	Research Methods in Applied Anthropology	3	AS	ANT	PR: GS.	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	6905	Independent Study	1-19	AS	ANT	Departmental approval required. S/U only.	Independent study in which students must have a contract with an instructor.
ANG	6915	Directed Research Internship	1-19	AS	ANT	PR: GR. ML. S/U. DPR.	
ANG	6971	Thesis: Master's	2-19	AS	ANT	Departmental approval required. S/U only.	
ANG	7487	Research Methods in Applied Anthropology	3	AS	ANT	PR: GS.	Critical review of specific approaches to the development, management, and analysis of sociocultural data. Emphasis on qualitative and quantitative applications of field oriented research designs. Open to non-majors.
ANG	7487	Advanced Quantitative Research Methods Applied Anthropology	3	AS	ANT	PR: GS or DPR.	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	AS	ANT	PR: 6D in Anthropology.	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.
ANG	7704	Legal and Ethical Aspects of Applied Anthropology	3	AS	ANT	PR: 6D in Anthropology.	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	AS	ANT	PR: Advanced Graduate Standing.	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	AS	ANT	PR: Advanced Graduate Standing.	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	AS	ANT	PR: DPR. S/U.	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	AS	ANT	PR: DPR. S/U. A written contract describing requirements must be signed by the student and the instructor.	An advanced directed research program in a selected topic of Applied Anthropology under the supervision of an anthropology faculty member.
ANG	7934	The Clientele of Applied Anthropology	3	AS	ANT	PR: Advanced Graduate Standing.	Review of the literature and practice of Applied Anthropology focusing on a specific segment or interest group within contemporary society. Typical offerings include: ethnic minorities, age categories, communities, the poor, migrants, public/private organizations, and industry. Open to non-majors.
ANG	7938	Doctoral Proseminar in Applied Anthropology	3	AS	ANT		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	AS	ANT	PR: Admission to Doctoral Candidacy, CI. S/U.	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	AS	ANT	PR: Admission to Candidacy.	
ARC	5175	Computer Technology	3	TA	ARC	PR: CC.	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.
ARC	5216	The Building Arts	3	TA	ARC	PR: CC.	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	TA	ARC	PR: DPR.	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	TA	ARC	PR: CC.	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.
ARC	5362	Core Design II	9	TA	ARC	PR: ARC 5361, CC.	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	TA	ARC	PR: ARC 5362, ARC 5467, ARC 5587, ARC 5731. CO: ARC 5689.	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.

ARC	5364	Advanced Design A	6	TA	ARC	PR: ARC 5363. CP: ARC 5588, ARC 5467.	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	TA	ARC	PR: ARC 5363. CP: ARC 5588, ARC 5467.	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.
ARC	5366	Advanced Design C	6	TA	ARC	PR: ARC 5363. CP: ARC 5588, ARC 5467.	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	TA	ARC	PR: ARC 5470, CC.	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	TA	ARC		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	TA	ARC	PR: Calculus, Physics, and ARC 5470, CC.	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.
ARC	5588	Structures II	3	TA	ARC	PR: ARC 5587, CC.	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	TA	ARC	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	TA	ARC		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.
ARC	5732	Architectural History II	3	TA	ARC		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	TA	ARC	PR: CC, CI.	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	TA	ARC	PR: CC.	Summer study abroad. Location and description varies from year to year.
ARC	5794	Florida Architectural History	3	TA	ARC		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.
ARC	5920	Architectural Design Studio Abroad	5	TA	ARC	PR: CC.	Summer study abroad. Location and description varies from year to year.
ARC	5931	Special Studies in Architecture	1-5	TA	ARC	PR: CC.	Variable titles offered on topics of special interest.
ARC	6176	Advanced Computer Technology	3	TA	ARC	PR: ARC 5175, CC.	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	TA	ARC	PR: ARC 5216, ARC 5364, CC.	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	TA	ARC	PR: ARC 6287, CC.	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	6	TA	ARC	PR: ARC 5364, ARC 5365, ARC 5366	Comprehensive studio problems emphasizing the integration of disciplinary and professional skills through the formulation of architectural propositions grounded in critical, speculative, and creative research.
ARC	6397	Introduction to Urban Design Theory, Methods & Processes	3	TA	ARC	PR: CC.	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.
ARC	6398	Introduction to Community and Urban Design	3	TA	ARC		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	TA	ARC	PR: ARC 5175, ARC 5587, and ARC 5588, CC.	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	TA	ARC	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	TA	ARC	PR: ARC 5175, ARC 5689, CC.	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	6936	Research Methods in Architecture	2	TA	ARC	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	TA	ARC	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.
ARC	6974	Master's Project Planning	3	TA	ARC	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	6	TA	ARC	PR: ARC 6970	Students will independently investigate an architectural topic of personal interest. The requirements the submission of a research and design document and the preparation of juried presentation of the work.
ARE	6262	Management Design for Art Institutions	3	TA	ART		Principles of administration and supervision of art programs in the school and art institutions.
ARE	6358	Art for the Elementary School Teacher	3	TA	ART		Exploration of various materials and techniques in relationship to current theories about art and the intellectual, creative, emotional, and aesthetic growth of children.
ARE	6746	Basis of Inquiry Into Artistic Mind	3	TA	ART		An in-depth study of the contemporary basis of inquiry into artistic mind including a multi-disciplined review of literature and research in art education. Includes a visual inquiry project.
ARE	6844	Experiential and Theoretical Basis of Artistic Mind	3	TA	ART		Experiential and theoretical explorations into past and contemporary philosophies and practices in art and art education.
ARE	6944	Field Work in Art Education	1-4	TA	EDA		For student with degree-seeking status. Supervised participation in activities related to art education in community centers, nonschool arts program,

							planned workshop and research.
ARH	5451	Cultural and Intellectual History of Modern Art	4	TA	ART	PR: CI.	A course in which theories of modern artists and of critics and historians of Modernism are treated as a part of general cultural and intellectual history.
ARH	5813	Methods of Art History	4	TA	ART	Must be taken during the student's first two semesters in the M.A. program	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	TA	ART	PR: Art Advisor's Approval	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	4	TA	ART	PR: CI. Registration by contract only.	A contract for research in any elective area of Art History.
ARH	6798	Seminar In Art History	4	TA	ART		Var. Specialized topics in art history.
ARH	6865	Current Historiography: Renaissance	4	TA	ART		This course explores current perspectives on problems of Renaissance historiography.
ARH	6866	Current Historiography: Baroque-Rococo	4	TA	ART		This course explores current perspectives on problems of Baroque and Rococo historiography.
ARH	6867	Current Historiography: 19th Century	4	TA	ART		This course explores current perspectives on problems in the historiography of 19th Century Art.
ARH	6868	Current Historiography: 20th Century	4	TA	ART		Cultural and intellectual history of modern art
ARH	6891	Paris Art History	4	TA	ART	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.
ART	5390C	Drawing	4	TA	ART	PR: ART 4320C, CI, DPR.	Advanced problems in various drawing techniques. Emphasis on individual creative expression. Repeatable.
ART	5422C	Lithography	4	TA	ART	PR: ART 4402C, CI, DPR.	Advanced problems in various lithographic techniques. Emphasis on individual creative expression. Repeatable.
ART	5448C	Intaglio	4	TA	ART	PR: CI. Registration by contract only.	Investigations into more complex intaglio processes including photoengraving and color printing procedures. Emphasis on personal conceptual development in graphic media.
ART	5580C	Painting	4	TA	ART	PR: CI. Registration by contract only.	Research in painting
ART	5740C	Sculpture	4	TA	ART	PR: ART 2701C, DPR.	Advanced problems in the various

							techniques of sculpture. Emphasis on individual creative expression. Repeatable.
ART	5790C	Ceramics	4	TA	ART	PR: ART 2750C, DPR.	Advanced problems in the various ceramic techniques, including throwing and glaze calculation. Repeatable.
ART	5910	Research	1-4	TA	ART	PR: CI, DPR. Registration by contract only. Repeatable.	
ART	5936	Studio Techniques: Selected Projects	2	TA	ART	PR: DPR.	Concentration in specialized media or processes. Repeatable.
ART	6391C	Drawing	4	TA	ART	PR: CI. Registration by contract only.	Advanced graduate research in drawing.
ART	6423C	Lithography	4	TA	ART	PR: CI. Registration by contract only.	Advanced graduate research in lithography.
ART	6449C	Intaglio	4	TA	ART	PR: CI. Registration by contract only.	Advanced graduate research in intaglio process.
ART	6581C	Painting	4	TA	ART	PR: CI. Registration by contract only.	Advanced graduate research in painting.
ART	6688	Electronic Media	4	TA	ART	PR: GS, CI, proof of proficiency in media.	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	TA	ART	PR: CI. Registration by contract only.	Advanced graduate research in ceramics.
ART	6792C	Sculpture	4	TA	ART		Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. Repeatable.
ART	6811	Paris Art Studio	3	TA	ART	PR: Dept Approval Required	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	2	TA	ART		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	TA	ART		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.
ART	6896	Graduate Seminar II	3	TA	ART	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	TA	ART	PR: Departmental Permission, Majors Only.	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	TA	ART	PR: CI. Registration by contract only. Achieved candidacy. S/U.	Independent study in which student must have a contract with an instructor.
ART	6911	Directed Research	1-19	TA	ART	PR: CI. Registration by contract only. Achieved candidacy.	Directed Research in which student must have a contract with an instructor.
ART	6937	Graduate Instruction Methods	1-4	TA	ART	S/U. CI. Registration by contract only.	Special course to be used primarily for the training of graduate teaching assistants.
ART	6940	Selected Topics In Art	1-4	TA	ART		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	TA	ART	PR: CI.	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	TA	ART	PR: CI, S/U. Registration by contract only.	
AST	5506	Introduction to Celestial Mechanics	3	AS	AST	PR: MAC 2313 or MAC 2283 and some knowledge of differential equations, or CI.	The two-body problem, introduction to Hamiltonian systems and canonical variables, equilibrium solutions and stability, elements of perturbation theory.
AST	5932	Selected Topics in Astronomy	1-5	AS	AST	PR: Senior or advanced junior standing or CI.	Intensive coverage of special topics to suit needs of advanced students.
ATR	5319	Rehabilitation Considerations for Children	3	ME			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	5508	Contemporary Issues in Athletic Training	3	ME			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	ME			Discusses the development and implementation of injury prevention programs for youth sports. Issues such as research, budgeting, marketing, and measuring effectiveness are identified.
ATR	5605	Youth Injury Epidemiology	3	ME			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.
ATR	6236	Pediatric Sports Medicine	3	ME			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	ME			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.
ATR	6516	Ethical & Legal Issues in Healthcare	3	ME			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	6615	Evidence Based Research and Writing	3	ME			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	6617	Capstone Project 1	3	ME		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.
ATR	66218	Capstone Project 2	3	ME		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	6920	Athletic Training Professional Collquium	3	ME			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	ME	MSG		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	ME	MSG		Students participate in maternal care and newborn care.
BCC	7144	Integrated Internal Medicine - Pediatrics	var	ME	MSG		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	ME	MSG		The Neuropsychiatry Clerkship is 4 weeks consultation liaison service, 4 weeks inpatient psychiatry, and 2 weeks outpatient neurology.
BCC	7164	Surgical Care Clerkship	var	ME	MSG		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	ME	MSG		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	ME	MSG		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	ME	MSG		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	AS	CHM	PR: Either CHM 2211, CHM 2211L, and CHM 3400 or CHM 4410 or graduate standing.	A one-semester survey course in biochemistry for graduate students in chemistry, biology, and other appropriate fields and for particularly well-qualified undergraduates.
BCH	5105	Biochemistry Laboratory Rotations	1-3	AS	CHM		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	ME	MSG		An introduction to modern molecular biological techniques and instrumentation. Lec. Lab.
BCH	6411	Biomedical Genomics and Genetics	4	ME	MSG	PR: GMS 6001 or GMS 6200C or CC or CI.	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	6506	Advances in Enzymology	3	ME	MSG		A discussion of the theory and mechanism of enzymological reactions with emphasis on enzymological techniques. Offered every other year.
BCH	6627	Metabolic and Genetic Basis of Human Diseases	3	ME	MSG	PR: GMS 6200C.	The course will deal with the genetic, molecular, and biochemical basis of human diseases.
BCH	6746	Proteomics and Structural Biology	3	ME	MSG	PR: GMS 6200C or CC.	The theory and application of modern physical biochemical techniques.
BCH	6806	Biochemical Endocrinology	2	ME	MSG		A study of the biochemical mechanisms of polypeptide, thyroid, and steroid hormones, including sites of action. Offered every other year.
BCH	6888	Bioinformatics	3	ME	MSG		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.
BCH	6889	Bioinformatics II	3	ME	MSG	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	Scientific Writing and Ethics	2	AS	CHM		
BCH	6942	Bioinformatics Internship I	2	ME	MSG	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	ME	MSG	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	EN	ECH	PR: Senior or graduate standing in engineering or CI.	Introduction to pharmaceutical engineering, including dosage forms (tablets, capsules, powders, liquids, topical forms, and aerosols), excipients, regulatory issues, clinical studies, and good manufacturing practices.
BME	5320	Theory and Design of Bioprocesses	3	EN	ECH	PR: Senior standing in engineering or CI. Open to majors and non-majors with CI.	Introduction to biotechnology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biosystems.
BME	5748	Selected Topics in Biomedical Engineering	1-3	EN	ECH		Selected topics in biomedical engineering, including biomedical engineering, biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems.
BME	5910	Directed Research in Bioengineering	1-3	EN	ECH	PR: CI.	Directed research in an area of biomedical engineering or engineering biotechnology.
BME	5937	Selected Topics in Biomedical Engineering	1-3	EN	ECH	PR: Senior or GS standing in Engineering or CI. Open to non-engineering students with CI.	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	EN	ECH	PR: Graduate standing in engineering or CI.	Biomedical engineering analysis, including biomedical thermodynamics, biomechanics, biomaterials, medical imaging, biomedical instrumentation, tissue/cellular engineering, clinical engineering, prosthetic/medical devices, and regulatory issues.
BME	6107	Biomaterials I: Material Properties	3	EN	EGX		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	EN	ECH	PR: Graduate standing in engineering or CI.	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	EN	ECH	PR: Graduate standing	Biomechanical properties of hard and

						in engineering or CI.	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	EN	ECH	PR: Graduate standing in engineering or CI.	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	6420	Human Sensory Processes	3	EN	ECH	PR: Graduate standing in engineering or CI.	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	EN	ECH	PR: Graduate standing in engineering or CI.	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	6634	Biotransport Phenomena	3	EN	ECH	PR: Graduate standing in engineering or CI.	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	6911	Research Methods in Biomechanics	1-3	EN	ECH	PR: Graduate standing in engineering or CI.	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	EN	ECH	PR: Graduate standing in biomedical engineering or CI.	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	EN	ECH	PR: Graduate standing in engineering or CI.	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.
BMS	5005	Professions of Medicine: Foundations of Doctoring	1-19	ME	MSG		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.	ME	MSG		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	5190	Anatomy by Diagnostic Testing	1-20	ME	MSG		Describing normal human anatomy in three dimensions (frontal, coronal, and axial), using contrast medical and imaging modalities available for diagnostic radiologists. Course will be oriented to organ systems describing anatomy of the organ and its vasculature and topographic anatomy. It will include didactic lecture series and a standing display of images for self-studies. Plain radiographs, contrast studies of gastrointestinal and urinary tract, arteriograms, computed tomograms, magnetic resonance, and ultrasound scans of body organs will be displayed.
BMS	6100C	Gross Anatomy	5-10	ME	MSG	PR: Anatomy Students only.	
BMS	6110	Microscopic Anatomy	5-10	ME	MSG	PR: Anatomy Students only.	
BMS	6206	Molecular Medicine	1-20	ME	MSG		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.	ME	MSG		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	6825	On Doctoring	var	ME	MSG		On Doctoring is a course that presents topics that make relevant connections between the Med 1 core curriculum courses and faculty clinical practice experiences as well as relevant insights from ethics and humanities.
BMS	6835	Evidence Based Clinical Practice	var.	ME	MSG		This course allows students to use an evidence-based approach as they develop the H&P exam skills to formulate a differential diagnosis & develop a diagnostic process to make a diagnosis & formulate a treatment plan for the patient.
BMS	7303	Clinical Microbiology and Immunology	var.	ME	MSG		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.	ME	MSG		This course will focus on a review of the major immune and infectious diseases that may be encountered by the general physician.
BOT	5185C	Marine Botany	4	AS	BIN	PR: BOT 3373C, PCB 3043 and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023 and CI. CP: CHM 2211.	A field course in marine plants with emphasis on ecology and functional morphology. Fieldwork will stress the ecological aspects of plants in the subtropical marine environment of Florida. Fieldwork required. Lecture and Laboratory.
BOT	5725C	Evolution of Flowering Plants	3	AS	BIN	PR: BOT 3373C and BOT 4152C or CI.	A study of the evolution and phylogeny of the Angiosperms; the origin and nature of early angiosperms, "primitive" angiosperms today; evolutionary processes leading to the origin of genera, families and orders, trends of specialization in the angiosperms; phylogenetic analysis, cladistics, traditional approaches, new approaches; readings from the current and historical literature. Lec/Lab.
BSC	5420	Genetic Engineering and Recombinant DNA Technology	3	AS	BCM	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	5444	Genomics	4	AS	BIN	PR: BSC 2011, CHM 2046, 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	5931	Selected Topics in Biology	1-4	AS	BIO	PR: CI.	
BSC	6436	Introduction to Biotechnology	3	ME	MSG	PR: BS in Biochemistry, Biology or Chemistry of CI.	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	ME	MSG		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.
BSC	6457	Modern Basic Tools of Research	4	AS	BCM	PR: CI or CC.	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	AS	BIO	PR: CI. S/U.	Independent study in which student must have a contract with an instructor.
BSC	6910	Directed Research	1-19	AS	BIO	PR: CI. S/U.	
BSC	6930	Lectures in Contemporary Biology	1	AS	BIN	PR: CC. S/U only.	This Biology lecture series includes a diversity of contemporary topics including: molecular regulatory

							mechanics, evolutionary genetics, organismal physiology and community ecology.
BSC	6931	Development and Physiology Seminar	1	AS	BIO		A critical examination and discussion of current literature of physiology and development of living organism, including cells.
BSC	6932	Selected Topics in Biology	1-4	AS	BIO	PR: CI.	
BSC	6935	Graduate Seminar in Biology	1	AS	BIO	PR: CI. S/U.	
BSC	6936	Scientific Grant Writing	3	AS	BIO		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	AS	BIO	PR: Permission of department.	Provides in-depth study of a single aspect of cancer biology. Topics offered vary by semester.
BSC	6945	Graduate Instruction Methods	1-3	AS	BIN	PR: CI. S/U only.	Special course to be used primarily for the training of teaching assistants.
BSC	6971	Thesis: Master's	2-19	AS	BIO	PR: CI.	Thesis: Master's
BSC	7910	Directed Research	1-19	AS	BIO	PR: CI. Ph.D. level. S/U.	
BSC	7911	Directed Research in Cancer Biology	1-12	AS	BCM	PR: CI.	Student research will be performed under the guidance of Ph.D. prior to formation of dissertation committee.
BSC	7936	Doctoral Seminar	1	AS	BIO	PR: 90 semester hours post B.S.	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	AS	BIO	PR: CI.	
BTE	5171	Curriculum Construction: Business Education	3	ED	EDV		Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation.
BTE	6944	Practicum: Business Education	3-6	ED	EDV		A problem-centered field study in the local community, school, government, office, social agency, business, or industry.
BUL	5332	Law and the Accountant	3	BU	GBA	PR: BUL 3320 or CI.	A comprehensive study of commercial law as it affects the practice of accounting.
CAP	5400	Digital Image Processing	3	EN	ESB	PR: EEL 4851C or GS.	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	EN	ESB	PR: EEL 4851C or GS.	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.
CAP	5682	Expert And Intelligent Systems	3	EN	ESB	PR: EEL 4851C or GS.	Basic concepts, techniques and tools for the design and implementation of

							expert and intelligent systems. Knowledge representation, inference methods, knowledge acquisition methods, and some advanced concepts. Tools to facilitate construction of expert and intelligent systems.
CAP	5771	Data Mining	3	EN	ESB	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	6100	Human Computer Interface	3	EN	ESB	PR: CI.	Introduction to the design and evaluation of the interface between a computer based application and a human user.
CAP	6415	Computer Vision	3	EN	ESB	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	EN	ESB	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.
CAP	6615	Neural Networks	3	EN	ESB	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	6672	Robot Intelligence and Computer Vision	3	EN	ESB	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.
CAP	6736	Geometric Modeling	3	EN	ESB	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.
CCE	5035	Construction Management & Planning	3	EN	EGX	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	6050	Pro Seminar in Criminology	1	BC	CJP	PR: CI. Should be taken during the first semester.	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	6285	Law, Crime and Justice	4	BC	CJP	PR: CI	An exposition of historical and contemporary legal principles, procedures, and issues as reflected in Constitutional provision, statutes, and case law.
CCJ	6406	Theory, Practice, and Research in Law Enforcement	3	BC	CJP	PR: CI	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.
CCJ	6605	Theoretical Approaches to Criminal Behavior	4	BC	CJP	PR: CI.	An introduction to, and comparison of, major historical and contemporary theories that seek to explain criminal behavior.
CCJ	6705	Research Methods in Criminology	4	BC	CJP	PR: CCJ 6920, CI	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	BC	CJP	PR: CCJ 6705, CI.	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	4	BC	CJP	PR: CCJ 6706, CI.	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	BC	CJP	PR: CCJ 6707 or equivalent.	This course familiarizes students with advanced multivariate linear and nonlinear statistical procedures appropriate for analyzing criminological data.
CCJ	6709	Qualitative Methods in Criminology	3	BC	CJP	PR: CCJ 6705.	An in-depth analysis and discussion of several qualitative perspectives and corresponding methodological designs as they pertain to criminological research and inquiry.
CCJ	6716	Evaluation Research in Criminology	3	BC	CJP	PR: CCJ 6705.	This course provides basic and advanced methods of evaluation research in a real world environment, paying particular attention to the idiosyncrasies of working with and within the Criminal Justice System. Grant preparation, survey techniques, and research design will be covered along with the policies, pressures, and peculiarities associated with evaluating agencies.
CCJ	6905	Directed Independent Study	1-12	BC	CJP	Majors only.	Independent study in which student must have contract with instructor.
CCJ	6910	Directed Research	1-19	BC	CJP	PR: CI. S/U.	
CCJ	6930	Current Issues in Corrections	3	BC	CJP	PR: CI. Repeatable with different subject matter.	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	BC	CJP	PR: CCJ 6605. Repeatable with different subject matter.	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	BC	CJP	PR: CI.	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	BC	CJP		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	6971	Thesis: Master's	2-19	BC	CJP	PR: CI.	
CCJ	6974	Area Project	1-12	BC	CJP	PR: GS in the Department and CI. Required of students not using the thesis option. Maximum of 3 hours toward the Master's degree. S/U.	
CCJ	7057	Ethics in Criminology	4	BC	CJP		This course is designed to review and analyze the various ethical issues and dilemmas that confront the criminal justice system and the discipline of criminology. Because of the unique characteristics of the people and problems dealt with in criminology, the ethical issues in the area often are novel when compared to those in other fields.
CCJ	7910	Advanced Research	1-12	BC	CJP	Doctoral Students only.	Course is designed to give students an opportunity to conduct independent research under the supervision of a faculty member. May be repeated.
CCJ	7980	Doctoral Dissertation	2-12	BC	CJP		
CDA	5416	Introduction to Computer-Aided Verification	3	EN	ESB	PR: CDA 3201, COT 3100, COT 4400, EEL 4851C.	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	EN	EGX	PR: CEG 4011 or CI.	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	EN	EGX	PR: CEG 4011 or CI.	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	EN	EGX	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	EN	EGX	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	EN	EGX	CR: CEG 4011 or CI.	Design of underdrains, wells, soil filters, fabric filters, and dewatering systems with special emphasis on case studies.
CES	5105C	Advanced Mechanics of Materials I	3	EN	EGX	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	EN	EGX	PR: CES 3102, EGN 3321.	Behavior of structural components and systems when subjected to periodic dynamic loads.
CES	5715C	Prestressed Concrete	3	EN	EGX	PR: CI, majors only.	Fundamental principles of prestressing; calculation of losses; stress analysis and design of simple beams for flexure and shear. Examples of pressures applications.
CES	6103	Experimental Stress Analysis	3	EN	EGX	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	EN	EGX	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.
CES	6116	Finite Element Analysis II	3	EN	EGX	PR: CES 4141	Finite Element method for structural analysis. Weighted residual and variational methods. Analysis of frame, plane stress/strain, axisymmetric, torsion, plate bending, shell and 3-dimensional elastic problems. Analysis of heat conduction, fluid flow, and electric and magnetic potential problems.
CES	6117	Finite Element Analysis III	3	EN	EGX	PR: CES 6116.	Nonlinear geometric and material finite element for formulation for trusses and frames. P-Delta and large deformation theories. Solution strategies for static and dynamic loads. Displacement and Flexibility approach for solution of problems. Mixed variational principles. Computational plasticity. Transient analysis of structures.
CES	6326	Design of Concrete Bridges	3	EN	EGX	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	EN	EGX		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	EN	EGX	PR: CES 4605.	Advanced topics in steel design. Topics covered include connection design, torsion of wide range sections, and optimum structural design.
CES	6706	Advanced Concrete	3	EN	EGX	PR: CES 4702, majors	Advanced topics in concrete designs.

		Design				only.	Topics include torsion two way floor systems, composite construction, slabs on grade, and deep beams.
CES	6716	Design of Continuous Post-Tensioned Structures	3	EN	EGX		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	EN	EGX	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	EN	EGX	PR: CES 4702. CR: CES 5715C.	This course focuses on the repair of structures using fiber reinforced polymers.
CGN	5933	Special Topics in Civil Engineering and Mechanics	1-5	EN	EGX	PR: CI.	New technical topics of interest to civil engineering students.
CGN	6720	Electrochemical Diagnostic Techniques	3	EN	EGX	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	EN	EGX	PR: CI. S/U.	Independent study in which students must have a contract with an instructor.
CGN	6915	Directed Research	1-19	EN	EGX	PR: GS, CI. S/U.	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	EN	EGX	PR: CI	Topics to be chosen by students and instructor permitting newly developing subdisciplinary special interests to be explored.
CGN	6941	Graduate Instruction Methods	1-5	EN	EGX	PR: GS, CC. Majors only. S/U.	Special course to be used primarily for the training of graduate teaching assistants.
CGN	6945	Graduate Research Methods in Civil & Environmental Engineering	1	EM	EGX		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	EN	EGX	PR: GS, CI. Majors only.	Thesis/Specialist project hours.
CGN	7915	Directed Research	1-19	EN	EGX	PR: GS, CI. Ph.D. level. S/U.	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	EN	EGX	PR: GS, CI, Admission to Candidacy, majors only. S/U.	Research and writing of a dissertation.
CGS	5765	Introduction to Unix and C	3	EN	ESB	No credit for Department of Computer Science & Engineering majors.	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.
CGS	6210	Computer Hardware	3	ED	EDK	PR: Computer literacy	This course focuses on the development

		Systems for Education					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.
CHM	5225	Intermediate Organic Chemistry I	3	AS	CHM	PR: CHM 2211, CHM 2211L, or equivalent or CI or GS.	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	AS	CHM	PR: CHM 5225 or CI.	An introduction to synthetic organic chemistry for graduate students and advanced undergraduates. Semester II.
CHM	5425	Applications in Physical Chemistry	3	AS	CHM	PR: CHM 4412 and CHM 4410 or CI or GS.	Applications of chemical theory to chemical systems.
CHM	5452	Polymer Chemistry	3	AS	CHM	PR: Either CHM 2211, CHM 2211L, and CHM 3400 or CHM 4410 or graduate standing.	Fundamentals of polymer synthesis, structure, properties, and characterization.
CHM	5621	Principles of Inorganic Chemistry	3	AS	CHM	PR: CHM 4411, CHM 4610 or CI or GS.	Chemical forces, reactivity, periodicity, and literature in organic chemistry; basic core course.
CHM	5931	Selected Topics in Chemistry	1-3	AS	CHM	PR: CI.	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	6150	Advanced Analytical Chemistry	3	AS	CHM	PR: CI	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	6250	Advanced Organic Chemistry I: Synthesis	3	AS	CHM	PR: CHM 5225 or CI.	Detailed consideration of modern synthetic methods. Lec.
CHM	6260	Advanced Organic Chemistry II: Physical-Organic	3	AS	CHM	PR: CHM 5225 or CI.	Organic reaction mechanisms emphasizing the interpretation of experimental data. Lec.
CHM	6280	Advanced Organic Chemistry III: Natural Products	3	AS	CHM	PR: CHM 5225 or CI.	A study of any of several of the following topics: terpenes, steroids, vitamins, alkaloids, porphyrins, purine, and antibiotics.
CHM	6460	Statistical Thermodynamics	3	AS	CHM	PR: CI.	Application of statistical mechanics to the thermodynamics; relation of molecular structure to thermodynamic properties. Lec.
CHM	6480	Quantum Chemistry	3	AS	CHM	PR: CI.	Introduction to elementary quantum mechanism. Atomic structure and spectra. Lec.
CHM	6650	Structural Inorganic Chemistry	3	AS	CHM	PR: CHM 5621 or CI.	Modern theories of bonding and structure of inorganic compounds, including coordination theory, stereochemistry, solution equilibria, kinetics, mechanisms of reactions, and use of physical and chemical methods. Lec.
CHM	6907	Independent Study	1-19	AS	CHM	S/U.	Independent study in which students must have a contract with an instructor.
CHM	6935	Graduate Seminars in	1	AS	CHM	PR: Admission to	Required every semester (when offered)

		Chemistry				graduate program in Chemistry. S/U.	for all students enrolled in Chemistry graduate program. Requires participation in and attendance at the weekly departmental seminar.
CHM	6936	Chemistry Colloquium	1	AS	CHM	PR: Admission to graduate program in Chemistry. S/U.	Frequent (usually weekly) small-group analysis of current developments.
CHM	6938	Selected Topics in Chemistry	1-3	AS	CHM	PR: CI.	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.
CHM	6946	Graduate Instruction Methods	1-4	AS	CHM	S/U.	Special course for the training of teaching assistants.
CHM	6971	Thesis: Master's	2-19	AS	CHM	PR: GR. M.L. S/U.	
CHM	6973	Directed Research	1-19	AS	CHM	PR: GR. M.L. S/U.	
CHM	7820	Directed Research	1-19	AS	CHM	PR: GR. Ph.D. level. S/U.	
CHM	7980	Dissertation: Doctoral	2-19	AS	CHM	PR: Admission to Candidacy. S/U.	
CIS	6900	Independent Study	1-19	EN	ESB	PR: GS, majors only. S/U.	Independent study in which students must have a contract with an instructor. Requires completed contract prior to enrollment.
CIS	6910	Computer Science Graduate Project	3	EN	ESB	PR: CI, majors only. S/U.	Computer science engineering project that may be taken by graduate students in place of Master's thesis. Requires completed contract prior to enrollment.
CIS	6930	Special Topics	1-5	EN	ESB	PR: CI.	
CIS	6940	Graduate Instruction Methods	1-4	EN	ESB	Majors only. S/U.	Special course to train graduate teaching assistants.
CIS	6971	Thesis: Master's	2-19	EN	ESB	PR: GS, majors only. S/U.	
CIS	7910	Directed Research	1-19	EN	ESB	PR: GR. Ph.D. level, majors only. S/U.	Requires completed contract prior to enrollment.
CIS	7980	Dissertation: Doctoral	2-19	EN	ESB	PR: Admission to Doctoral Candidacy.	
CJC	6020	Theory, Practice, and Research in Corrections	3	BC	CJP	PR: CI	Examination of the interrelationships between theory and practice in corrections, as these are affected by empirical research and systematic program evaluation.
CLP	6166	Psychopathology	3	AS	PSY	PR: Admission to graduate program in Psychology or CI	Exploration of current approaches to the understanding of pathological behavior and implications for theories of personality. A survey of treatment methods is included.
CLP	6438	Psychological Assessment: Theory and Research	1-4	AS	PSY	PR: CI.	Courses cover theory, research, and applications of psychological assessment in areas, such as interviewing, intellectual and cognitive functioning, neuropsychology, and personality testing.
CLP	6937	Topics in Clinical Psychology	1-3	AS	PSY	PR: CI.	Courses on topics, such as humanistic psychology, community psychology, and clinical neuropsychology.
CLP	7188	Clinical Psychology Interventions	1-4	AS	PSY	PR: CI.	Study of the theoretical, empirical, and applied foundations of the major systems of therapeutic intervention.
CLP	7379	Graduate Seminar in	1-3	AS	PSY	PR: CI.	Seminars on topics, such as

		Clinical-Community Psychology					psychopathology, community psychology, clinical issues, personality, and developmental psychology.
CNT	6215	Computer Networks	3	EN	ESB	PR: Graduate standing in the department.	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.
COM	5930	Topics in Communication Studies	3	AS	SPE		Topical issues in communication.
COM	6001	Theories and Histories of Communication	3	AS	SPE	Required of all M.A. and Ph.D. students.	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	AS	SPE	PR: Graduate Standing.	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	AS	SPE	PR: GS.	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	AS	SPE	PR: Graduate Standing.	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	AS	SPE		A study of communication theory and behavior within organizational settings: role of communication, communication climates, communication networks, leadership.
COM	6248	Historical Perspectives on Communication	3	AS	SPE	PR: Graduate Standing.	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	AS	SPE	PR: Graduate Standing.	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	AS	SPE	PR: Graduate Standing.	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	AS	SPE	PR: GS.	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	AS	SPE	PR: COM 6001.	An examination of communication theory through selected reading in the works of major theorists past and present.
COM	6418	Communication and Systems Practice	3	AS	SPE	PR: Graduate Standing.	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	AS	SPE	PR: GS.	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	AS	SPE	PR: Graduate Standing.	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	AS	SPE	Required of all Ph.D. students. Also required of all M.A. students wishing to pursue the thesis option.	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	AS	SPE	PR: GS.	Variable topics course.
COP	6611	Operating Systems	3	EN	ESB	PR: CC, majors only	Operating systems functions and design, resource management, protection systems, process communication, and deadlocks.
COP	6621	Programming Languages and Translation	3	EN	ESB	PR: CI, majors only	Grammars and languages, symbols, strings, syntax, parsing, the design of a compiler, storage organization and symbol tables, translator writing systems.
COT	6405	Introduction to the Theory of Algorithms	3	EN	ESB	PR: COT 3100, COT 4400, or equiv. GS or CI.	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	AS	POL	Sr./GS.	Studies specific substantive areas in Comparative Politics, such as political economy or the politics of specific countries or regions.
CPO	6036	Politics of Developing Areas	3	AS	POL	Sr./GS	Advanced study of ideologies, politics, political institutions, and the socio-economic conditions that influence them in developing nations.

CPO	6091	Seminar in Comparative Politics	3	AS	POL	GS.	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	AS	ENG		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	AS	ENG		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	AS	ENG	PR: Dept. Approval Required.	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	AS	ENG		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	AS	ENG		A study of the process of poetry writing and the demands associated with its form, both free verse and metrical.
CRW	6352	The Craft of Poetry	3	AS	ENG	PR: Dept. Approval Required.	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.
CST	6934	Special Topics in Graduate School: Research Practicum	3	AS	IDS	PR: Graduate Standing.	Variable titles offered on topics of special interest pertaining to research practices.
CST	6935	Special Topics in Graduate School: Professional Development	3	AS	IDS	PR: Graduate Standing.	Variable titles offered on topics of special interest pertaining to professional development.
CST	6990	Non-Credit Graduate Study		AS	IDS		
CWR	6235	Free Surface Flow	3	EN	EGX	PR: CWR 4202 or CI, majors only.	Fundamental and applied aspects of free surface flow, including river hydraulics, canal flow, and open channel design.
CWR	6239	Waves and Beach Protection	3	EN	EGX	PR: CWR 6820, majors only.	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	EN	EGX	PR: CI, majors only.	A study of the quantity and quality problems and solution techniques associated with urban runoff.
CWR	6533	Water Quality Modeling	3	EN	EGX		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	3	EN	EGX	PR: CI, majors only.	Digital modeling of coastal and estuary

		Modeling					systems, currents tide heights, sediment transport, erosion, data collection, temperature distribution, source and sinks. Special emphasis on Florida regions.
CWR	6535	Hydrologic Models	3	EN	EGX	PR: CI, majors only.	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.
CWR	6538	Advanced Hydrologic Models	3	EN	EGX	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	EN	EGX	PR: CI, majors only.	Fundamentals of wave motion and the mutual interaction of waves and structures. A design project is included.
DEP	6058	Developmental Psychology	3	AS	PSY	PR: Admission to graduate program in Psychology or CI.	Basic survey of research and theory in human developmental processes.
DEP	6136	Language Development	3	AS	PSY	PR: Admission to graduate program in Psychology or Communication Sciences and Disorders or CI.	Explores the course of and processes underlying normal language development. Presents data and theory on phonological, semantic, syntactic, and pragmatic development, with emphasis on recent research.
EBD	6215	Advanced Theories and Practices in Behavior Disorders	3	ED	EDS	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	ED	EDS		Advanced methods and materials for planning, implementing, and evaluating educational interventions with students with behavior disorders. For certification.
EBD	6246	Educating Students with Autism	3	ED	EDS	PR: GS.	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	ED	EDS	PR: CI. S/U.	Supervised graduate practicum experiences with children who have behavior disorders. For students seeking certification only.
ECH	5320	Chemical Process Engineering I	4	EN	ECH	PR: Bachelors degree in science, math, or engineering.	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	EN	ECH	PR: Bachelors degree in science, math, or engineering.	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	EN	ECH	PR: Bachelors degree in science, math, or	Basic concepts of fluid phase equilibrium, chemical equilibrium,

						engineering.	separation processes, and chemical reactors. Not available for chemical engineering students.
ECH	5324	Automatic Process Control II	3	EN	ECH	PR: ECH 4323C or CI, majors only / 2 hrs lec., 3 hrs. lab/week.	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	EN	ECH	PR: Bachelors degree in science, math, or engineering.	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	EN	ECH		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	EN	ECH	PR: Senior or GS standing in engineering or CI. Open to majors and non-majors with CI.	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	EN	ECH		Selected topics in biomedical engineering, including biomedical engineering, biomedical materials, biodynamics of circulation, separation processes in biomedical systems, and artificial organ systems.
ECH	5785	Sustaining the Earth: An Engineering Approach	3	EN	ECH	PR: CI.	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	EN	ECH	PR: Senior or Graduate Standing in Engineering, Public Health, Science	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	5820	Product Development	2	EN	ECH	PR: Senior or GS in Engineering or CI.	Introduction to the development of consumer products, including the history of innovation, creativity development, the product development environment, and a detailed examination of several product areas.
ECH	5930	Special Topics III	1-4	EN	ECH	PR: CI.	
ECH	5931	Special Topics IV	1-4	EN	ECH	PR: CI.	
ECH	6105	Advanced Thermodynamics I	3	EN	ECH	PR: CC, Majors only.	Selected topics in classical and irreversible thermodynamics.
ECH	6107	Selected Topics in Advanced Thermodynamics	3	EN	ECH	PR: GS or CI.	Advanced selected topics in Ch.E. Thermodynamics such as: molecular and statistical thermo, adv. phase and chemical equilibria, etc.
ECH	6230	Advanced Mass	3	EN	ECH	PR: ECH 5285 or	Advanced topics in mass transfer,

		Transfer				equiv.	including the mathematical description and solution of homogeneous and heterogeneous reacting systems, unsteady state, simultaneous heat and/or fluid transfer, particulate processes, and interfacial transport.
ECH	6285	Advanced Transport Phenomena	3	EN	ECH		Formulation of flux equations for fluid, heat & mass transport. Development & resolution of unsteady state and multidimensional models in various coordinate systems. Analytical & numerical techniques to solve the resulting equations will be presented.
ECH	6412	Processes Analysis and Modeling	3	EN	ECH	PR: CI.	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	EN	ECH	PR: Graduate standing in engineering or CI.	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	6515	Reacting Systems	3	EN	ECH	PR: ECH 4415C or CI.	Economic factors in the design of chemical reactors. Simulation of complex reacting systems.
ECH	6616	Computer-Aided Process Engineering I	3	EN	ECH	PR: ECH 4615.	Plant and process design with emphasis on computer-aided design.
ECH	6749	Biomaterials and Biocompatibility	3	EN	ECH	PR: CI	Physical and chemical properties of biomaterials, failure mechanisms, performance in vivo, interfacial phenomena and biocompatibility, including host response to implants. Also will discuss the regulatory aspects of biomaterials.
ECH	6840	Mathematical Methods for Chemical Engineering	3	EN	ECH		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	EN	ECH	PR: GR. ML. S/U.	
ECH	6907	Independent Study - Variable Title	1-19	EN	ECH	PR: GR. S/U.	Independent study in which students must have a contract with an instructor.
ECH	6930	Special Problems I	1-3	EN	ECH	PR: CC.	
ECH	6931	Special Problems II	1-3	EN	ECH	PR: CC.	
ECH	6939	Graduate Research Methods	1-4	EN	ECH	PR: CC. S/U.	Special course to be used for training of graduate research assistants.
ECH	6971	Thesis: Master's	2-19	EN	ECH	PR: CC	
ECH	7915	Directed Research	1-19	EN	ECH	GR Ph.D. level. Rpt. S/U. PR: CC	
ECH	7980	Dissertation: Doctoral	2-19	EN	ECH	PR: Admission to Candidacy	
ECO	6115	Microeconomics I	3	BU	ECN	PR: ECO 3101 or ECO 6114, ECO 4401 or CC.	Microeconomic behavior of consumers, producers, and resource suppliers, price determination in output and factor markets, general market equilibrium.
ECO	6120	Economic Policy Analysis	3	BU	ECN	PR: ECO 3101 or ECO 6114 or CC.	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	BU	ECN	PR: For Master of Accountancy students only.	Determination of income, employment, wages, prices, and interest rates, contemporary policy issues, long-run economic growth.
ECO	6206	Aggregate Economics	3	BU	ECN	PR: ECO 3203 or ECO 6204	Advanced macroeconomic analysis of income, employment, prices, interest rates and economic growth rates.
ECO	6305	History of Economic Thought	3	BU	ECN	PR: ECO 3101 or ECO 6114 or CI	Currents of modern economic thought in the last hundred years.
ECO	6405	Mathematical Economics I	3	BU	ECN	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	BU	ECN	PR: ECO 3203 or ECO 6204, QMB 3200, QMB 6305, or CI.	Theory and use of multiple regression to estimate relations in causal models, use of standard software packages.
ECO	6425	Econometrics II	3	BU	ECN	PR: ECO 6424	Advanced econometric techniques; model building, estimation and forecasting; design and execution of research projects.
ECO	6505	Public Finance	3	BU	ECN	PR: ECO 3101 or ECO 6114	Effects of tax and expenditure policies on resource allocation and income distribution.
ECO	6525	Public Sector Economics	3	BU	ECN	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	BU	ECN	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	BU	ECN	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	BU	MBA		Determination of prices, employment, and output in domestic and international settings.
ECO	6716	International Monetary Economics	3	BU	ECN	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	BU	ECN	PR: CC. S/U.	Independent study. Student must have a contract with an instructor.
ECO	6917	Directed Research	1-19	BU	ECN	PR: GR, ML, CC. S/U.	
ECO	6936	Selected Topics in Economics	1-4	BU	ECN	PR: GS and CI.	The course content will depend on student demand and instructor's interest.
ECO	7116	Microeconomics II	3	BU	ECN	PR: ECO 6115.	Topics in advanced microeconomic theory, including general equilibrium, welfare economics, intertemporal choice, uncertainty, information, and game theory.
ECO	7406	Mathematical Economics II	3	BU	ECN	PR: ECO 6115, ECO 6405	1. 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	BU	ECN	PR: ECO 6425, ECO 6405 or CC.	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.
ECO	7427	Econometrics IV	3	BU	ECN	PR: ECO 7426 or CC.	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	BU	ECN	PR: Advancement to Candidacy	Dissertation Research
ECP	6205	Labor Economics I	3	BU	ECN	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	BU	ECN	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	BU	ECN	PR: ECO 6115	Structure of industry and its effect on economic efficiency.
ECP	6406	Seminar in Industrial Organization	3	BU	ECN		
ECP	6415	Issues in Regulation and Antitrust	3	BU	ECN	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	BU	ECN	PR: ECO 3101 or ECO 6114	Impact of Tort, Criminal, Property, and Contract Law on the allocation of resources.
ECP	6535	Analysis of Health Care Issues	3	BU	ECN	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	BU	ECN	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	BU	ECN	PR: ECO 3101 or ECO 6114.	Economics of growth and development of urban areas, interurban location patterns.
ECP	6624	Regional Economics	3	BU	ECN	PR: ECO 3101 or ECO 6114	Geographical allocation of resources within and among regions, location of households and firms, interregional migration of labor and capital, regional growth and development, regional policy.
ECP	6702	Managerial Economics	2	BU	MBA		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	BU	ECN	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	BU	ECN	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	BU	ECN	PR: ECO 6536 or CC.	Advanced analysis of health economics with emphasis on recent empirical studies of health care.
ECT	6767	Improving Career and Technical Education Programs	3	ED			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.
EDA	6061	Principles of Educational Administration	3	ED	EDB		Educational administration as a profession. Consideration of organization, control, and support of the educational system.
EDA	6106	Administrative Analysis and Change	3	ED	EDB	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	ED	EDB	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	ED	EDB	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	ED	EDB	PR: EDA 6061.	Contemporary research on diffusion of innovations, political power in policy decision making. Role of establishing educational policies.
EDA	6232	School Law	3	ED	EDB	PR: GS, EDA 6061, or CI.	Basic essentials of School Law. A review of court decisions affecting American education with emphasis on Florida State statutes.
EDA	6242	School Finance	3	ED	EDB	PR: GS, EDA 6061, or CI.	Financial support of education by local, state, federal sources, with emphasis on Florida; introduction to educational budgeting.
EDA	6262	Planning Educational Facilities	3	ED	EDB	PR: GS, EDA 6061, or CI.	Problems in the planning, construction, and use of educational facilities. Visitation and/or evaluation of selected schools.
EDA	6503	The Principalship	3	ED	EDB	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	ED	EDB	PR: GS or ML, EDA 6061. S/U.	
EDA	6931	Case Studies in School Administration	3	ED	EDB	PR: GS, EDA 6061 or CI.	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	ED	EDB	PR: GS, EDA 6061 and completion of a significant amount of the student's	Field experiences in school systems for identifying and analyzing educational problems and their solutions. Application of concepts developed in the

						program.	student's program.
EDA	6971	Thesis: Masters/Educational Specialist	2- 19	ED	EDB	S/U.	
EDA	7069	Ethics and Educational Leadership	3	ED	EDB		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	7222	Administration Of School Personnel Policies And Practices	3	ED	EDB	PR: GS, EDA 6061 or CI.	Administration of school personnel policies and practices relating to professional staff, supporting staff, and students.
EDA	7233	Legal Dimensions Of School Administration	3	ED	EDB	PR: GS, EDA 6232, CI.	Historical perspective in law and education with in-depth reviews of case law showing the evolution of courts as educational policy makers.
EDA	7247	Advanced School Finance	3	ED	EDB	PR: GS, EDA 6242 or CI.	Advanced treatment of school finance. Development, implementation, and evaluation of financial resource and allocation systems. Emphasis is on intradistrict allocation.
EDA	7980	Dissertation	2- 30	ED	EDB	PR: Admitted to Candidacy.	
EDE	6205	School Curriculum: Elementary	3	ED	EDC	PR: EDG 4620, EDG 6627.	Organization, curriculum, and instruction of the elementary school with emphasis on the nature of the students served. Open to all education graduate students.
EDE	6225	Problems in Curriculum and Instruction: Elementary	1-3	ED	EDC	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.
EDE	6326	Planning and Organizing for Instruction in the Elementary School	3	ED	EDE		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	6458	Reflecting on Instructional Decision Making	1-3	ED	EDE	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	6458I	Reflections on Instructional Decision Making	1	ED	EDE		This course is designed to introduce and orient new MAT student to the program and field of elementary teaching. Students will explore their beliefs about teaching and characteristics of effective teachers as they make observations in K-6 settings.
EDE	6506	Classroom Management, School Safety, Ethics and Law	3	ED	EDE		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.
EDE	6906	Independent Study: Elementary/Early Childhood Education	1-6	ED	EDE	S/U.	Independent study in which students must have a contract.
EDE	6946	Practicum in the Elementary School	3	ED	EDE	PR: RED 6514, FLE 5345, and 9 additional credits in program courses. CR: EDE 6458-I.	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	ED	EDE	S/U, MA/EdS Candidates only.	
EDE	7206	Critical Analysis of Curriculum in Elementary Schools	3	ED	EDE		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	7481	Research in Teaching and Learning in Elementary Schools	3	ED	EDE		Collaboratively explore current and enduring research in elementary schools, elementary school teaching, and elementary teacher education.
EDE	7910	Directed Research in Elementary Education	1-19	ED	EDE	PR: Advanced graduate standing.	Independent student-faculty research course.
EDE	7980	Dissertation	2-30	ED	EDE	PR: Admitted to Candidacy.	
EDF	5607	Trends in the Social-Political Foundations of Schooling in the US	3	ED	EDF		Current debates re: purpose and practice of formal schooling in the U.S. with historical and sociological perspectives. Satisfies social foundations requirements for Fla. Teacher certification and ESL competency in knowledge of intercultural issues in education.
EDF	6120	Child Development	4	ED	EDF	PR: EDF 6211 or DPR.	Educational, emotional, hereditary, intellectual, social, and physical factors influencing child growth and development.
EDF	6165	Group Processes for Educational Personnel	1-3	ED	EDF		Application of group process research to the needs of professional educators and training officers.
EDF	6166	Consulting Skills for Staff Development	1-3	ED	EDF	PR: DPR.	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	ED	EDF		Selected topics in psychology of human development and learning, related to schools and educational settings.
EDF	6213	Biological Bases for Learning Behavior	3	ED	EDF	PR: One course in Educational Psychology.	Human biological development and its influence upon learning and behavior.
EDF	6215	Learning Principles Applied to Instruction	4	ED	EDF	PR: CI.	Learning principles and their application to classroom instruction.
EDF	6217	Behavior Theory and Classroom Learning	4	ED	EDF	PR: EDF 6215 or DPR.	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	ED	EDF		Knowledge and skills to design, conduct and/or administer, and evaluate both workshops and conferences.
EDF	6284	Problems in Instructional Design for	3	ED	EDK	PR: Computer literacy.	This course focuses on the systematic design of instructional courseware,

		Computers					including analysis, media selection, and evaluation. Topics include instructional strategies, screen design, response analysis, feedback and interactivity.
EDF	6288	Instructional Design I	3	ED	EDF	PR: EDF 6215 or DPR.	Instructional design models/theories and their systematic application to instructional goals.
EDF	6354	Human Development and Personality Theories	4	ED	EDF		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	ED	EDQ		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	ED	EDQ		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	ED	EDQ	PR: EDF 6432, EDF 6407. DPR.	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.
EDF	6461	Foundations of Applied Evaluation	3	ED	EDQ	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	ED	EDQ	PR: EDF 6432, or DPR.	Analysis of major types of educational research designs, including experimental, correlational, ex post facto and case studies.
EDF	6492	Applied Educational Program Evaluation	3	ED	EDQ	PR: EDF 6432, EDF 6446. DPR.	Design, development, implementation, interpretation, and communication of both formative and summative educational program evaluation studies.
EDF	6517	Historical Foundations of American Education	4	ED	EDF		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, Disability, and Deviance	3	ED	EDF	PR: Department approval required.	Historical development of the idea and experience of modern childhood. Social construction of age categories and age related institutions such as schools. Issues of diversity including concepts of deviance, ability and disability in historical perspective. Social policies and inequality by social class, race/ethnicity/culture and gender.
EDF	6544	Philosophical Foundations of American Education	3	ED	EDF		Major philosophies of education relevant to an understanding of contemporary educational issues.
EDF	6606	Socio-Economic Foundations of American Education	4	ED	EDF		Socio-economic factors as they relate to the work of professional educators and the role of public education in American

							society.
EDF	6705	Gender and the Educational Process	3	ED	EDF		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	ED	EDF	PR: CI.	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	ED	EDF		Estimates of future demands upon schools; critique of current paradigms, techniques, and literature.
EDF	6810	Comparative Education	3	ED	EDF		Comparison of contemporary educational systems of selected countries with that of the United States.
EDF	6812	Seminar in Comparative Education	4	ED	EDF		Policies and practices in education in selected countries.
EDF	6883	Issues in Multicultural Education	4	ED	EDF	PR: DPR.	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	6885	Internship in Community Agency Counseling	6 or 3	ED	EDG	PR: All required MHS courses.	Field experience involving one semester of full-time participation or two semesters of part-time participation in the counseling and related activities of a public or private agency providing mental health services to the community.
EDF	6906	Independent Study: Educational Foundations	1-6	ED	EDF	S/U.	Independent study in which students must have a contract with an instructor.
EDF	6935	Wellness Programming Seminar	2	ED	EDF	PR: CI.	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.
EDF	6938	Selected Topics	1-4	ED	EDF	PR: CC	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	ED	EDQ	PR: Pursuing the M. Ed. Program in Measurement And Evaluation or Graduate Certificate in Research Methods and CI.	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	ED	EDF	PR: CI.	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	ED	EDQ	S/U.	

EDF	7143	Measurement of Cognitive Functioning in Childhood and Adolescence	4	ED	EDF	PR: A course in measurement.	Investigation of theories and measurement of cognitive functioning in childhood and adolescence.
EDF	7145	Cognitive Issues in Instruction	4	ED	EDF	PR: Admission to doctoral program and 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	ED	EDF		Theory and methods of experiential learning in both formal and organizational contexts.
EDF	7227	Topics in Behavior Analysis and Automated Instruction	1-12	ED	EDF	PR: EDF 6215 or EDF 6217 or Advanced Graduate Standing, CI	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	7239	Supervised Experience in College Teaching	2	ED	EDF		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	7265	Psychology of Oral and Written Language Development	4	ED	EDF	PR: Doctoral Student.	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	7408	Statistical Analysis For Educational Research II	4	ED	EDQ	PR: EDF 6407 or equiv. or DPR.	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	ED	EDQ	PR: EDF 6407, EDF 7408 or equiv. or DPR.	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	ED	EDQ	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	7437	Advanced Educational Measurement I	3	ED	EDQ	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	ED	EDQ	PR: EDF 7437 or DPR.	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	ED	EDQ	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	ED	EDQ	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.
EDF	7469	Introduction to Computer-Based Testing	3	ED	EDQ	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	ED	EDQ	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	ED	EDQ	PR: Advanced GS or DPR.	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	ED	EDQ	PR: Advanced GS and 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	ED	EDQ	PR: EDF 7408 or DPR.	Theory and application of selected multivariate statistical procedures, including Canonical Correlation, Discriminate Analysis, Multivariate Analysis of Variance, Factor Analysis, and Path Analysis.
EDF	7485	Theory and Practice of Education Evaluation	3	ED	EDQ	PR: EDF 7493. DPR.	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.
EDF	7488	Problems in Educational Data Analysis	2	ED	EDQ	PR: EDF 7408 or DPR.	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	ED	EDQ	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	ED	EDQ	PR: Advanced GS or DPR.	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	ED	EDQ	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	3	EDQ	PR: 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.
EDF	7530	History of Higher Education in the United States	3	ED	EDF	PR: EDF 6517, its equivalent, or permission of the instructor.	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	ED	EDF	PR: Doctoral enrollment or upper year Masters level with permission of instructor.	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	ED	EDF	PR: GS; EDF 6517, EDF 6544, EDF 6606, or CI.	Examination of the context, methods, and significance of selected research studies in education.
EDF	7649	Analysis of Educational Issues	3	ED	EDF		Socio-cultural, historical, and axiological examination of selected issues in public education.
EDF	7655	Organization Development in Educational Institutions	4	ED	EDF		Application of social and behavioral science theory to the organizational and developmental problems of schools and school systems.
EDF	7682	Education in Metropolitan Areas	4	ED	EDF	PR: EDF 6517, EDF 6544, EDF 6606, or DPR.	Modern public education and its relationship to national development.
EDF	7910	Directed Research in Measurement and Evaluation	1-19	ED	EDQ	PR: CI.	Independent student-faculty research course.
EDF	7934	Seminar in Social Foundations of Education	4	ED	EDF	PR: GS; EDF 6517, EDF 6544, or EDF 6606, or DPR.	Significant research on socio-cultural issues in Education.
EDF	7940	Practicum In Educational Planning, Evaluation, And Development	1-8	ED	EDQ	PR: EDF 7408, EDF 7493. S/U.	Supervised practicum in which the student assumes major responsibility for significant planning, evaluation, research, or development activity.
EDF	7947	Research Practicum	1	ED	EDQ		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 fulfills Educational Psychology concentration requirement.
EDF	7980	Dissertation	2-	ED	EDQ	PR: Admission to	

			30			Candidacy.	
EDG	6285	School Curriculum Improvement	3	ED	EDC	PR: Workshop for the improvement of the curriculum of an elementary or secondary school, CC. Open only to teachers in service.	Open only to teachers in service. Complete faculty participation required.
EDG	6329	Creative Drama in a Developmental Context	3	TA	EDD		Theories and methods of applying three major approaches of creative drama to the use of improvised drama from kindergarten through secondary school. The course will involve students in applying the drama process as a teaching method which can be applied by classroom teachers of elementary, middle and high school.
EDG	6344	Project T.E.A.C.H. (Teacher Effectiveness and Classroom Handling)	3	ED	EDR	PR: CC.	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	6415	Project P.R.I.D.E. (Professional Refinements In Developing Effectiveness)	3	ED	EDE		Topics in academic questioning techniques, nonverbal communication, motivating changes in behavior, managing critical incidents in the classroom, and analyzing typical classroom practices for positive or negative impact.
EDG	6417	Teaching Through Learning Channels	3	ED	EDE		Focus on the area of teaching effectiveness in the cognitive domain and skill training on the identification and use of student learning channel strengths; analysis of curriculum based on learning channels to identify the skills necessary to complete learning tasks; the development of alternative strategies to meet the needs of all students.
EDG	6627	Foundations Of Curriculum And Instruction	3	ED	EDC	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	ED	EDV	S/U.	Independent study in which students must have a contract with an instructor.
EDG	6931	Selected Topics in Education	1-4	ED	EDC	PR: DPR.	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	ED	EDE		Critical evaluation of current research and curriculum literature, design and analysis of individual research topics leading to satisfaction of research requirements.
EDG	6947	Internship	1-9	ED	EDC	PR: DPR. S/U only.	Open to graduate degree candidates only. Supervised teaching at the secondary or junior college level as appropriate.
EDG	6971	Thesis:	2-	ED	EDC	S/U. Master's	

		Masters/Education Specialist	19			students only. Interdisciplinary Studies only.	
EDG	6975	Project: Master's/Specialist	1-9	ED	EDC		Individual scholarly project planned and completed with the approval of the advisor and program committee.
EDG	7046	Trends and Issues in Educational Policy: Literacy and Teacher	3	ED	EDC		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	7327	Differentiated Supervision & Teacher Professional Development	3	ED	EDC	PR: Doctoral Standing	This course cultivates the knowledge of job-embedded professional development tools that facilitates teacher effectiveness through collaborative instructional and school improvement efforts.
EDG	7357	Mentoring Theory and Leadership Practice	3	ED	EDH		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	7410	Qualitative Case Methods in Educational Leadership	3	ED	EDH	PF: Admission to doctoral program	Introduces qualitative Case methods, design, data collection, analysis and interpretation of data. Includes theories and sample software tools used in analysis
EDG	7667	Analysis of Curriculum and Instruction	3	ED	EDC	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	ED	EDC	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	7910	Directed Research	1-19	ED	EDC	S/U only.	
EDG	7931	Selected Topics	1-4	ED	EDC	PR: DPR.	Selected topics in advanced Education.
EDG	7937	Graduate Seminar	1-4	ED	EDC	PR: CC.	Seminar in advanced Education.
EDG	7938	Advanced Graduate Seminar: Introduction to Research	3	ED	EDC		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	ED	EDC	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	7980	Dissertation	2-19	ED	EDC	PR: Admitted to Candidacy. S/U. Interdisciplinary Studies only.	
EDH	6051	Higher Education in America	3	ED	EDH		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	ED	EDH		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	ED	EDH		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	ED	EDH		Independent study in which students must have a contract with an instructor. Rpt. S/U.
EDH	6938	Seminar in College Teaching	3	ED	EDH		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	ED	EDH		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	7225	Curriculum Development In Higher Education	3	ED	EDH	PR: GS or CI.	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.
EDH	7325	Supervised Teaching in Childhood Ed & Literacy Studies I	3	ED	EDH		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	ED	EDH		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	3	ED	EDH		This course is a doctoral level course with primary focus on the interface of

		Education					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	ED	EDH	PR: GS or CI.	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	ED	EDH	PR: Previous graduate work at the Master's level.	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.
EDH	7633	Governing Colleges and Universities	3	ED	EDH		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	ED	EDH	PR: GS or CI.	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	ED	EDH		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	ED	EDH		This course provides higher education program graduate students with an opportunity for directed research, under the supervision of a higher education program faculty member.
EDH	7930	Higher Education Seminar	1	ED	EDH		Topics of general and special concern in higher education, restricted to advanced graduate students.
EDH	7935	Higher Education Capstone Seminar	3	ED	EDH		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	ED	EDH	PR: Admitted to Candidacy.	

EDM	6235	School Curriculum: Middle	3	ED	EDC	PR: EDG 4620, EDG 6627.	Open to all education graduate students. Examines the organization, curriculum, and instruction of the middle school with special emphasis on the nature of the students served.
EDM	6256	Problems In Curriculum And Instruction: Middle School	1-3	ED	EDC	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	ED	EDM	Majors Only.	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	6623	Responsive Middle School Programs	3	ED	EDM	PR: EDM 6622.	Combination lecture/discussion/individual study course that examines in depth the current research on both the interdisciplinary team/advisory concepts and how these organizational patterns can promote thinking skills and integration of subject matter throughout the curriculum.
EDM	6624	Effective Instruction for Middle Schools	3	ED	EDM	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.
EDM	6935	Middle School Issues Seminar	1-3	ED	EDM		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	ED	EDB	PR: GS, 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	ED	EDB	PR: GS, EDS 6050 or CI.	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	ED	EDB	PR: EDA 6061, EDF 6432, CI.	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	ED	EDU		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.
EEC	6205	E.C.: Curriculum and Authentic Assessment	3	ED	EDU		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	6261	Advanced Programs In Early Childhood Education	3	ED	EDU	PR: EDF 6432, EEC 4203 or DPR.	Innovative curriculum designs in Early Childhood Education, with emphasis given to related research.
EEC	6265	Early Childhood Programs and Advanced Curriculum	3	ED	EDU		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	6405	Home - School - Community Interaction In Early Childhood Education	3	ED	EDU	PR: EDF 6432, EEC 4203 or DPR.	Roles of parents, teacher aides, and community agencies involved in the education of the young child.
EEC	6406	Social Growth In Childhood	3	ED	EDU		Principal factors that influence the social development of young children with particular emphasis upon those cultural influences that affect both child development and the educational programs for the young child.
EEC	6415	EC: Diversity in Home and School	3	ED	EDU		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	ED	EDU		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	ED	EDU		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.
EEC	6626	EC: Play and Learning	3	ED	EDU		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	ED	EDU		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	6705	Intellectual Growth In Childhood	3	ED	EDU		Intellectual development of the normal child with particular emphasis on the studies of Jean Piaget and how they relate to curriculum for children, ages 0-

							8. Child study through observation required.
EEC	6926	Workshop In Early Childhood Education	3	ED	EDU		Individual problems and innovations related to methods and materials of instruction in early childhood.
EEC	6971	Thesis: Masters/Educational Specialist	2- 19	ED	EDU		
EEC	7056	Leadership and Advocacy: Issues Affecting Young Children	3	ED	EDU		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	ED	EDU		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.
EEC	7306	Teaching and Learning in Early Childhood	3	ED	EDU		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	ED	EDU	PR: Doctoral Standing	Explores the interface between young children and information and communication technology (ICT) from a developmental perspective.
EEC	7416	Ecological Approaches to work with Children, Family, Community	3	ED	EDU	PR: Doctoral Standing	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	ED	EDU		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	7613	Assessment in Early Childhood Education	3	ED	EDU		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.
EEC	7615	Trends and Issues in Early Childhood Education	3	ED	EDU		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	7627	Arts & Aesthetics in Early Childhood Education	3	ED	EDU		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	ED	EDU	PR: Advanced graduate standing.	Independent student-faculty research course.
EEC	7980	Dissertation	2- 30	ED	EDU	PR: Admission to Candidacy	
EEE	5344C	Digital CMOS/VLSI	3	EN	EGE	PR: EEL 4705 or GS.	Design, layout, simulation, and test of

		Design					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	EN	EGE	PR: EEL 4351 or GS.	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	EN	EGE	PR: EEE 4301 or GS.	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	EN	EGE	PR: EEL 4471 or GS.	Quantum mechanics with emphasis on electronic properties in atoms, molecules, and crystals; quantum statistics; energy band theory; crystal structures; defect chemistry; semiconductor properties.
EEE	6273	Chemical/Biological Sensors and Microfabrication	3	EN	EGE		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	6318	Characterization of Semiconductors	3	EN	EGE		Electrical, optical, chemical, and physical methods used to characterize semiconductor materials and devices; includes surface and near surface spectroscopes. Available to non-majors.
EEE	6345	VLSI for Signal Processing	3	EN	EGE		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	EN	EGE		Theory of operation and application of circuits and devices.
EEE	6355	Compound Semiconductor Technology	3	EN	EGE		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	EN	EGE	PR: EEL 6353.	Theory of operation and application of circuits and devices.
EEE	6425	Introduction to Nanotechnology	3	EN	EGE	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.
EEL	5250	Power System Analysis	3	EN	EGE	PR: EGN 3375.	Analysis and design technique for AC power systems.
EEL	5462	Antenna Theory	3	EN	EGE	PR: EEL 4471 or GS.	Antenna theory beginning with fundamental parameter definitions and continuing with mathematical concepts, elemental antennas and arrays.
EEL	5572C	Local and Metropolitan Area Networks	3	EN	EGE	PR: EEL 4512C or GS.	Basics of data communication exchange of digital information over

							communication media; Basics of LANs/MANs and its components: media topologies, access methods, etc.; LAN/MAN architectures and protocols- IEEE 802.xLAN Standards; High speed LANs such as FDDI, IEEE 802.6 MAN, etc., Internetworking; LAN/MAN Design and selections.
EEL	5594L	Wireless Circuits and Systems Laboratory	2	EN	EGE	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	5631	Digital Control Systems	3	EN	EGE	PR: EEL 4657 or GS.	Sample data and digital control processes
EEL	5754C	Microprocessor Based Digital Signal Processing	3	EN	EGE	PR: EEL 4705 or CI.	Arithmetic systems, processing structures, efficient algorithms. DSP hardware, TI, NEC and other DSP microprocessors; multiprocessing hardware and software. System development. Application to telecommunications and voice processing.
EEL	5771	Introduction to Computer Graphics I	3	EN	ESB	PR: EEL 4851C.	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	EN	EGE		
EEL	5936	Special Electrical Engineering Topics II	1-3	EN	EGE		
EEL	5937	Special Electrical Engineering Topics III	1-3	EN	EGE		
EEL	6151	Advanced Circuit Theory II	3	EN	EGE	PR: EEL 6150.	Network fundamentals; network characterization, frequency analysis; superposition integrals; signal-flow techniques, stability problems; real and imaginary relations.
EEL	6226	Microsystems and MEMS Technology	3	EN	EGE		This course provides an overview of the MEMS Technology, focusing on devices and systems that can be developed using standard processing approaches.
EEL	6391	Noise in Electrical Devices	3	EN	EGE	PR: EEL 6387.	Characteristics, measurements and generation mechanisms of noise sources observed in electronic materials and devices. Materials and devices to be considered include thin and thick films, superconductors, semiconductors and semiconductor devices.
EEL	6425	RF & Microwave Measurements	2	EN	EGE	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	EN	EGE	PR: EEL 4471 and ELR 4316L or Graduate Standing.	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	EN	EGE	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	6434	Active Microwave Structures and Devices	3	EN	EGE	PR: EEL 5437	Theory and design of solid state low noise and high power amplifiers, solid state oscillators and high power tubes for waveguide, coax and integrated circuit applications.
EEL	6447C	Optoelectronics	3	EN	EGE		Basic principles and operations of lasers and analyses of power output and frequency pulling in laser oscillators.
EEL	6463	Advanced Antenna Theory	3	EN	EGE	PR: EEL 5462.	Electromagnetic radiating systems studied by analytical and numerical methods.
EEL	6481C	Numerical Techniques In Electromagnetism	3	EN	EGE	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.
EEL	6486C	Electromagnetic Field Theory	3	EN	EGE		Time harmonic electromagnetic fields emphasizing problems in transmission lines and electric power transmission.
EEL	6487C	Advanced Electromagnetic Field Theory	3	EN	EGE	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	6502	Digital Signal Processing I	3	EN	EGE		Digital signals and Fourier transforms. Z-transforms, digital filter networks; DFT, DCT, and fast transforms. Design of IIR and FIR filters; quantization effects. Multi-rate processing; interpolation and decimation.
EEL	6506C	Broadband Communication Networks	3	EN	EGE	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: SONET, SHD, ATM and BISDN. ATM: cell concept, virtual paths and channels, layer functions, interfaces and protocols; switch fabrics; CBR, VBR, ABR traffic, QOS. Current trends and internet. Applications to data/voice/video/multimedia traffic.
EEL	6509	Satellite Communication	3	EN	EGE	PR: EEL 6534.	Satellite characteristics, link calculations, earth station, frequency management, large and small mobile earth terminals. Digital communication for satellites: modulation coding and multiple-access techniques. Examples including the INTELSAT series.
EEL	6519	Ultra High Speed Communications	3	EN	EGE	PR: EEL 6535.	Ultra high-speed channels; radio, microwave, and lightwave. High-order constellations. Multiplexing, demultiplexing, and framing. Adaptive equalization for inter-symbol interference and multi-path fading. Switching space and time for UHS streams.
EEL	6534	Digital Communication Systems	3	EN	EGE		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.
EEL	6545	Random Processes in Electrical Engineering	3	EN	EGE		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.
EEL	6563	Optical Fiber Communication	3	EN	EGE	PR: EEL 6545.	A study of fiber-optic technology as applied to communications systems.
EEL	6586	Speech Signal Processing	3	EN	EGE	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	6592	Digital Video and Multimedia	3	EN	EGE		Principles of video transmission and television. Digital video standards. Multimedia principles (including video, image, and sound) and their applications. Enhanced definition and high definition television principles, standards, and technology.
EEL	6593	Mobile and Personal Communication	3	EN	EGE	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	EN	EGE	PR: EEL 6593 or CI.	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	6613	Modern Control Theory	3	EN	EGE		A study of modern control techniques including optimum and adaptive control.
EEL	6614	Systems and Control Theory I	3	EN	EGE		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	EN	EGE	PR: EEL 6614.	Continuation of EEL 6614.
EEL	6620	Nonlinear Control Systems	3	EN	EGE		Principles of state-variables, phase-plane and describing functions.
EEL	6640	Random Processes in Control Systems	3	EN	EGE		Analysis and design of control systems subject to random inputs and disturbances.
EEL	6706	Testing And Fault	3	EN	ESB	PR: COP 2400, CDA	Test generation for combinational and

		Tolerance In Digital Systems				4201 or CI, majors only.	sequential digital circuits, fault analysis and diagnosis. Methods for reliability improvement through fault tolerant and testable circuit design. Introduction to software reliability.
EEL	6707	Advanced Digital Systems	3	EN	EGE		Principles of combinational circuit analysis, duality, hazards, IC gates, circuit design. Analysis of fundamental mode sequential circuits, sequential circuit synthesis, design for testability, using MSI and standard cells. Register transfer design and hardware description languages.
EEL	6752	Digital Signal Processing II	3	EN	EGE	PR: EEL 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	EN	EGE	PR: EEL 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	EN	ESB	PR: CDA 4100 or CI.	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	6766	Advanced Computer Architecture	3	EN	ESB	PR: EEL 6764 or CI.	Control unit and microprogramming, reduced instruction set computers RISC, object oriented systems, multiprocessor systems, supercomputers. The macrostructure of computers is considered in this course, ranging from the orthodox von Neumann design to multiprocessors, stack processors, pipeline systems, and associative computers.
EEL	6820	Image Processing	3	EN	EGE		Two-dimensional signals including random, convolution and system functions. Fourier transform and FFT in two dimensions. Digitization of two-dimensional signals, quantization and aliasing errors. Filtering, restoration, and low bit-rate coding of images. Application to video-conferencing.
EEL	6846	Coding Theory	3	EN	EGE	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	EN	EGE	S/U.	Independent study in which students must have a contract with an instructor.
EEL	6932	Advanced Engineering Seminar	1-3	EN	EGE		
EEL	6935	Selected Electrical Topics	1-3	EN	EGE		

EEL	6936	Special Electrical Problems	1-3	EN	EGE		
EEL	6971	Thesis: Master's	2-19	EN	EGE	S/U.	
EEL	7910	Directed Research	1-19	EN	EGE	PR: GR. Ph.D. level. S/U.	
EEL	7931	ST in Communication	3	EN	EGE	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	EN	EGE	PR: Admission to Candidacy. S/U.	
EEX	5705	Seminar in Preschool Handicapped	2	ED	EDS		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	ED	EDS	PR: Introductory course in special education, GS.	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.
EEX	6025	Trends and Issues in Special Education	3	ED	EDS	Fall Semester. DPR.	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	ED	EDS	PR: Admission to the MAT.	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	ED	EDS	PR: Graduate Standing.	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	ED	EDS	PR: GS, introductory courses in exceptional student education and educational assessment.	Theory and methodology associated with norm-referenced, criterion-referenced, curriculum-based, ecological, and psychoneurological assessment procedures for exceptional students.
EEX	6224	Developing Individualized Educational Programs for Students with Disabilities	6	ED	EDS	PR: EEX 6051 and admission to the MAT.	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 Disabilities	3	ED	EDS	PR: Graduate Standing.	This course offers a critical analysis of the processes in place to identify students with low incidence disabilities. Subsequent influences on development, learning and curriculum assessment in a least restrictive environment is explored.
EEX	6245	Transitional Programming for the Adolescent and Young Adult Exceptional Student	3	ED	EDS	PR: GS, introductory course in educating exceptional students.	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	ED	EDS	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
EEX	6248	Instructional Approaches for Exceptional Populations	3	ED	EDS	PR: Introductory course in special education, GS.	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	ED	EDS	PR: Graduate level standing; one graduate level course in research design or methods; or by permission of instructor	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	ED	EDS	PR: Graduate Standing.	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	ED	EDS	Fall Semester.	Procedures that local, state, and national administrators may use to implement services for exceptional students.
EEX	6526	Grantsmanship	3	ED	EDS	PR: Advanced GS.	Fundamental skills for obtaining external funding of training, service, and research projects in education and the social sciences. Includes locating and communicating with sponsors, developing proposals, and preparing budgets. Emphasis is on grantsmanship in an academic environment.
EEX	6602	Observational Methods and Functional Assessment	3	ED	EDS		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.
EEX	6612	Management and Motivation of Exceptional and At-Risk Students	3	ED	EDS	PR: Introductory course in special education, GS.	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	3	ED	EDS	PR: GS.	Knowledge and skills to develop, implement, and evaluate the impact of positive behavior support. Understanding the communicative function of challenging behaviors, the teaching of new skills and the prevention of the reoccurrence of challenging behaviors.
EEX	6706	Education of the Preschool Handicapped Child	3	ED	EDS	Fall Semester.	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	ED	EDS	PR: Introductory course in special education, GS.	Theories of consultation and collaboration. Overview of service delivery models in special education.
EEX	6906	Independent Study: Special Education	1-6	ED	EDS	S/U.	Independent study in which students must have a contract with an instructor.
EEX	6936	Seminar in Integrating Exceptional Students in Regular Educational Environments	3	ED	EDS		Designed for non-special education graduate students. Surveys the characteristics of exceptional student populations, identification procedures, and systems for providing appropriate services for "mainstreamed" student in academic and non-academic settings.
EEX	6939	Advanced Seminar: Paradigms, Practices, and Policies in Special Education	3	ED	EDS	PR: DPR. Students should be in the last semester of coursework for master's degree.	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	ED	EDS	PR: Admission to Master's Degree Program in Special Education and DPR. S/U.	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	ED	EDS	S/U.	
EEX	7203	Educational Implications of Psychosocial Aspects of Exceptional Children	1-5	ED	EDS	DPR.	This course will be concerned with the identification of the psycho-social needs and characteristics of exceptional children; opportunity of analysis of the educational implications of these needs and characteristics.
EEX	7301	Selected Topics in Special Education	1-8	ED	EDS	PR: EEX 7341 or DPR.	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	3	ED	EDS	PR: EDF 6431, EDF 6481, or equiv., DPR.	This course will involve a study of current research and research methods used in exceptional child education. The

		Exceptional Children					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.
EEX	7342	Making Your Research Accessible	3	ED	EDS		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	7428	Teacher Education in Special Education: Conceptual	2	ED	EDS	PR: Admission to the PH.D. program in Special Education.	This four-semester seminar focuses on teacher education in special education.
EEX	7741	Philosophy and Theory in the Preparation of Special Education Specialists	3	ED	EDS	PR: Admission in the Program for Ed.S. or Ph.D. in Education. DPR.	In-depth exploration of the philosophy and theory in special education. A theoretical basis for the preparation of specialists in the field of exceptional child education.
EEX	7743	Philosophies of Inquiry	3	ED	EDS	PR: EDF 6481 or Equivalent, or permission of instructor	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	ED	EDS		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.
EEX	7745	Historical, Ethical, and Disciplinary Foundations of Special Education	3	ED	EDS		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	7797	Language and Learning Variability in Urban Schools	3	ED	EDS		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	2-3	ED	EDS	PR: Admission to Doctoral Program	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.
EEX	7868	Fieldwork With Exceptional Students	1-5	ED	EDS	DPR.	Practical field experience in curriculum development, classroom teaching, supervision, and/or administrative areas in special education.
EEX	7910	Directed Research	1-19	ED	EDS		
EEX	7911	Specialized Study In: Mental Retardation, Behavior Disorders, Specific Learning Disabilities, and Gifted Education	1-8	ED	EDS	DPR.	The specialized study enables advanced exploration of knowledge in an area of interest to the student in special education.
EEX	7980	Dissertation	2-30	ED	EDS	PR: Admission to Candidacy.	
EGI	5051	Nature and Needs of the Gifted	3	ED	EDS		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	ED	EDS		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.
EGI	6232	Advanced Educational Strategies for the Gifted	3	ED	EDS	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	ED	EDS		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	ED	EDS		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	1-	ED	EDS	PR: CC. S/U.	Planned experiences working with

		Gifted Education	12				students who are gifted, program development and administration, or an individualized inquiry of a specific issue related to gifted education.
EGM	6656	Theory of Elasticity	3	EN	EGX	PR: CES 6116	Classical and contemporary elasticity theory with applications to engineering problems.
EGN	5421	Engineering Applications for Vector Analysis	3	EN	EGB		Vector methods in electromagnetism and fluid mechanics. Vector operators, line and flux integrals, potential and transport theorems, applications.
EGN	5422	Engineering Applications of Partial Differential Equations	3	EN	EGB		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	EN	EGB	PR: Basics of differential equations and matrix algebra.	Advanced matrix algorithms: LU and QR factorizations, least-squares, pseudoinverse. Techniques for optimization.
EGN	5424	Engineering Applications of Complex Analysis	3	EN	EGB		Analytic functions, conformal mapping, residue theory, Laurent series, transforms. Applications to various problems in engineering and physics.
EGN	5425	Engineering Applications of Advanced Matrix Computations	3	EN	EGB		Survey of theory and software for matrix computations: factorization methods, least squares and pseudoinverses, eigenvector algorithms. Special matrices and representations for control system and finite element applications.
EGN	6426	Engineering Analysis VI	3	EN	EGB	PR: EGN 4420.	Application of computational and mathematical techniques and principles to advanced engineering problems.
EIN	5174	Total Quality Management Concepts	3	EN	EGS		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.
EIN	5182	Principles of Engineering Management	3	EN	EGS		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	EN	EGS		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	EN	EGS	PR: CC, majors only.	Human physiological limitations encountered in design, analysis and evaluation of man-machine systems.
EIN	5350	Technology and Finance	3	EN	EGS		A course for technical managers that focuses on how financial and economic principles are utilized to make technical investments and manage technical enterprises.
EIN	5357	Engineering Value Analysis	3	EN	EGS	PR: EIN 5219 or equiv., majors only	Statistical models for analyzing engineering alternatives from an economic viewpoint. The use of

							advanced engineering economy concepts in solving industrial problems.
EIN	5510	Manufacturing Systems Analysis	3	EN	EGS	PR: CC, majors only.	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.
EIN	6106	Technology and Law	3	EN	EGS	PR: CI.	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	6107	Professional Behavior and the Engineer	3	EN	EGS	PR: CI..	A study of professional ethics and morals as faced by technical managers in the development, production, and marketing of industrial products and services. Emphasis on case studies, class discussions, and guest lecturers regarding ethical issues in managerial decision making.
EIN	6108	EM-Human Relations	3	EN	EGS		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	EN	EGS		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	6119	Decision Support Systems in Engineering Management	3	EN	EGS	Majors only	Conceptual foundations of decision support systems with focus on the needs of engineering managers and effective decision making in technological and scientific organizations.
EIN	6121	Technology and Markets	3	EN	EGS		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	EN	EGS	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.
EIN	6154	Technical Entrepreneurship	3	EN	EGS		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	6178	ISO 9000/14000	3	EN	EGS	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 Total Quality Management Methods	3	EN	EGS	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.
EIN	6183	Engineering Management Policy And Strategy	3	EN	EGS	Majors only.	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	EN	EGS	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	EN	EGS	PR: GS in Public Health or Engineering or CI.	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	EN	EGS	PR: CI.	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.
EIN	6225	Total Quality Management Seminar	3	EN	EGS	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	6247	Engineering Information Processing	3	EN	EGS	Majors only.	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	6258	Human/Computer Interaction	3	EN	EGS	PR: EIN 5275, majors only.	Application of human factors in the design and operation of man/machine systems. Analysis of the use of microprocessors and computer-controlled devices in man/machine systems.
EIN	6265	Industrial Mental Health	3	EN	EGS	Majors only.	Theories and concepts of mental hygiene and positive mental health as applied to organizational settings.

							Review of research studies related to industrial mental health; stress management; strategies for improving mental health and employee performance.
EIN	6319	Work Design And Productivity Engineering	3	EN	EGS	Majors only.	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	EN	EGS	PR: CC, majors only.	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	6353	Risk and Decision Analysis	3	EN	EGS		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.
EIN	6386	Management of Technological Change	3	EN	EGS	Majors only.	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	EN	EGS		Course focused on various aspects of the new product development process including market sizing, concept testing, financing, and protecting intellectual property.
EIN	6430	Overview of Regulated Industries	3	EN	EGS		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	EN	EGS	PR: EIN 6430 or CI.	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	EN	EGS	PR: EIN 6430 or CI.	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	EN	EGS	PR: EIN 6430 or CI.	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	EN	EGS	PR: EIN 6430 or CI.	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.
EIN	6435	International Regulations for Medical Devices	3	EN	EGS	PR: EIN 6430 or CI.	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	6520	Systems Modeling and Performance Analysis	3	EN	EGS		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	6605	Robotics And Assembly Automation	3	EN	EGS	Majors only.	The use of robots in manufacturing assembly; coordinated use of robots, machine tools, feeders, holding devices, and material handling systems.
EIN	6934	Special Industrial Topics I	1-3	EN	EGS	PR: CC, majors only.	
EIN	6935	Special Industrial Topics II	1-3	EN	EGS	PR: CC, majors only.	
EIN	6936	Special Industrial Topics III	1-3	EN	EGS	PR: CC, majors only.	
EIN	6971	Thesis: Master's	2-19	EN	EGS	Majors only. S/U.	
EIV	5315	Program Management: Diversified Cooperative Training	3	ED	EDV		Organization, coordination, and budgeting of adult, cooperative, and special programs.
ELD	6015	Advanced Theories and Practices in Specific Learning Disabilities	3	ED	EDS	PR: Introductory course in exceptional child education, GS.	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	ED	EDS	PR: ELD 6015, EEX 6222.	Advanced educational procedures and materials development for the student with specific learning disabilities. For certification.
ELD	6943	Practicum With Learning Disabilities	1-12	ED	EDS	PR: CC. S/U.	Supervised experiences with children who have learning disabilities.
EMA	5326	Corrosion Control	3	EN	EGX	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	EN	ECH	PR: Graduate Standing or CI.	Principles of structure, structure modification and properties of materials with emphasis on structure-property relationships and modern theory of solids.
EME	5403	Computers in Education	3	ED	EDK		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	6425	Technology For School Management	3	ED	EDK		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	6613	Development of Technology-Based Instruction	3	ED	EDK	PR: EDF 6284 or DPR.	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	ED	EDI		Independent study under the direction of an IT faculty member. Student must have contract with instructor.
EME	6930	Programming Languages for Education	3	ED	EDK	PR: Computer literacy	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	ED	EDK	PR: Computer literacy	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	ED	EDI		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	ED	EDI	PR: Graduate Standing; computer and e-mail access	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.
EME	7631	Research in Technology Project Management	3	ED	EDI	PR: Graduate Standing; EDF 6284 or CI	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	ED	EDI	PR: CI.	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	ED	EDK	PR: Admission to program or DPR.	Seminar examining theory and application of computers and related technology in teaching and learning.
EME	7939	Research in Technology-Based Education	3	ED	EDK	PR: Admission to program or DPR.	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	ED	EDK	PR: Admission to Candidacy	
EML	5930	Special Topics III	1-4	EN	EGR	PR: CC.	
EML	6069	Advanced Mathematics for Mechanical Engineers	3	EN	EGR	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	EN	EGR	PR: ECH 3023C or EML 4106C or CI	Topics in classical thermodynamics, some elementary subjects in statistical mechanics and some applications in combustion.
EML	6145	Numerical Methods in Heat Transfer	3	EN	EGR	PR: CI, majors only	Application of finite difference and finite element techniques to problems of conduction and convection. Cartesian, cylindrical and spherical systems. Steady and transient solutions.
EML	6154	Advanced Conduction Analysis	3	EN	EGR	PR: EML 4124, EML 3041, majors only	Multi-dimensional heat transfer. Emphasis on solution techniques, exact and numerical.
EML	6157	Radiation	3	EN	EGR	PR: EML 4124, majors only	Review of basic principles of radiation, grey bodies and real surfaces, calculation of shape factors, absorbing gases.
EML	6223	Synthesis of Vibrating Systems	3	EN	EGR	PR: EML 4220, majors only	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.
EML	6232	Composite Laminated Materials	3	EN	EGR	PR: EML 3500, majors only.	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	EN	EGR	PR: EML 3624 or CI, majors only	Detailed study of velocities, accelerations and forces in machines with parts having rotating, reciprocating, and combined motion.
EML	6375	Dir Dig Ctrl I		EN	EGR		
EML	6570	Principles of Fracture Mechanics	3	EN	EGR	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	EN	EGR	PR: EM 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.
EML	6606	HVAC Systems Design	3	EN	EGR	PR: EML 4601 or CI, majors only	Criteria for selection of systems types; performance, characteristics of single zone, multizone, double duct and variable volume systems; energy conservation in HVAC design; HVAC controls; computer models of HVAC systems; solar energy used in HVAC.
EML	6653	Applied Elasticity	3	EN	EGR	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	EN	EGR	PR: CI, majors only	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	6801	Robotic Systems	3	EN	EGR	PR: CI, majors only	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	EN	EGR		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.
EML	6907	Independent Study	1-6	EN	EGR	PR: GR, majors only S/U.	Independent study in which students must have a contract with an instructor.
EML	6930	Special Problems I	1-3	EN	EGR	PR: CC, majors only	
EML	6931	Special Problems II	1-3	EN	EGR	PR: CC, majors only	
EML	6971	Thesis: Master's	2-6	EN	EGR	PR: CC, majors only	
EML	7915	Directed Research	1-6	EN	EGR	PR: CC and GR. Ph.D. level, majors only. S/U.	
EML	7980	Dissertation: Doctoral	2-12	EN	EGR	PR: Admission to Candidacy	
EMR	6052	Advanced Theories and Practices in Mental Retardation	3	ED	EDS	PR: GS; 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	ED	EDS		In-depth study of the specific curriculum and methodological problems in teaching students with mental retardation. For certification.
EMR	6943	Graduate Supervised Practicum in Mental Retardation	1-12	ED	EDS	PR: CC. For students seeking certification only. S/U.	Supervised graduate practicum encompassing teaching and supervising experiences in public school classes for students with mental retardation.
ENC	6261	Professional and Technical Communication	3	AS	ENG		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	AS	ENG	Methods of writing and publishing scholarly articles, monographs, and textbooks in rhetoric and composition, literary scholarship, and criticism. Required for Literature majors.
ENC	6336	Studies in the History of Rhetoric	3	AS	ENG	Examines the evolving relationship between rhetoric and composition from antiquity to the present.
ENC	6421	Studies in Rhetoric and Technology	3	AS	ENG	Examines the intersection of Rhetoric and technology, with emphasis on contemporary critical issues in composition studies.
ENC	6700	Studies in Composition Theory	3	AS	ENG	Major theories and models of composing. Selected theorists include Rohman, Emig, Sommers, Flowers, and Hayes.
ENC	6720	Studies in Composition Research	3	AS	ENG	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.
ENC	6740	Theory and Development of Writing Programs	3	AS	ENG	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	AS	ENG	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	AS	ENG	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	AS	ENG	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	AS	ENG	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.
ENG	6019	Studies in Criticism and Theory II	3	AS	ENG	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	AS	ENG	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	6916	Directed Research	1-19	AS	ENG	PR: GR. M.A. Level, CC. S/U.	
ENG	6939	Graduate Seminar in English	3	AS	ENG	PR: Consent of graduate advisor.	Intensive small-group discussion as well as shared and individual guided research in one of the student's areas of concentration.
ENG	6971	Thesis: Master's	2-19	AS	ENG	PR: CC. S/U.	
ENG	7916	Directed Research	1-19	AS	ENG	PR: GR. Ph.D. level. S/U.	
ENG	7939	Doctoral Seminar	1	AS	ENG	PR: Admission to Ph.D. Program.	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	AS	ENG	PR: Admission to Candidacy. S/U.	
ENL	5137	British Novel 1900 to the Present	3	AS	ENG		Provides advanced study of trends and influences in longer British fiction from about 1900 to the present It traces the development of the novel form focusing on works and authors considered to have made major contributions to British fiction
ENL	6206	Studies in Old English	3	AS	ENG		A study of Old English language, prose style, poetry.
ENL	6216	Studies in Middle English	3	AS	ENG		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	AS	ENG		Selected focused studies in sixteenth-century British literature; Shakespeare, Sidney, Spenser, Marlowe, and others.
ENL	6228	Studies in Seventeenth-Century British Literature	3	AS	ENG		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	AS	ENG		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	AS	ENG		A study of pre-Romantic and Romantic prose, fiction, nonfiction, and poetry.
ENL	6256	Studies in Victorian Literature	3	AS	ENG		A study of Victorian poetry, fiction, non-fictional prose, and drama.
ENL	6276	Studies in Modern British Literature	3	AS	ENG		A study of Irish and English drama, the modern novel, poetry, criticism, and the short story.
ENT	6126	Strategies in Technology Entrepreneurship	3	BU	MAN		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	BU	MAN		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.

ENT	6415	Fundamentals of Venture Capital and Private Equity	3	BU	MAN		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	BU	MAN		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	6947	Advanced Topics in Entrepreneurship	3	BU	MAN		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	EN	EGX	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.
ENV	5334	Hazardous Waste Management and Remedial Action	3	EN	EGX	PR: ENV 5345 and one of the following: ENV 6347, ENV 6519, ENV 6558; or CI, majors only. Undergraduate preparation in environmental engineering or an environmental science program.	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	EN	EGX	PR: CI. Undergraduate preparation in environmental engineering, or graduate standing in environmental engineering or an environmental science program.	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	EN	EGX	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.
ENV	6002	Physical and Chemical Principles in Environmental	3	EN	EGX	PR: B.S. in engineering or consent of instructor.	Investigates how chemical properties, physical processes, and environmental characteristics all influence the fate and

		Engineering					transport of chemicals in natural and engineered systems. Includes theory, practical examples, and laboratory experiments.
ENV	6347	Materials Recovery Engineering	3	EN	EGX	PR: ENV 5345 or CI, majors only	Analysis of materials for purposes of processing. Unit operation and plant analysis. Thermal treatment and energy recovery. Unit operations in materials processing and separation. Applications to resource recovery, recycling, mineral, and agricultural materials. Field trip.
ENV	6438	Natural & Small Scale Treatment Systems	3	EN	EGX	PR: CI, majors only.	A study of the theory, analysis and design of natural aquatic systems to treat wastewater. Emphasis is on use of treated and partially treated wastewater or residues to enhance, restore, or create wetlands, as well as land application.
ENV	6519	Advanced Physical/Chemical Processes	3	EN	EGX	PR: ENV 6666 or CI, majors only	Theory and design of processes used in advanced water and wastewater treatment, including membrane processes, absorption, electro dialysis, ozonation, irradiation.
ENV	6539	Sludge Treatment & Disposal	3	EN	EGX	PR: ENV 6667 or CI, majors only	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	6558	Industrial and Hazardous Waste Treatment	3	EN	EGX	PR: ENV 6667 or CI, majors only	Industrial waste surveys; contemporary industrial wastewater treatment and control methods; characteristics of industrial wastes and their effects on receiving streams.
ENV	6614	Quantitative Environmental Risk Analysis	3	EN	EGX	PR: Graduate standing in engineering or environmental science discipline; elementary knowledge of programming.	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.
ENV	6666	Aquatic Chemistry	3	EN	EGX	PR: CI.	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	EN	EGX	PR: CI.	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	AS	BIN	PR: ENY 3004C and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023 and CI. CP: PCB 3023 or PCB 3043 or PCB 3063 or PCB 3712 and CHM 2211.	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	ED	EDS	PR: EEX 4012 or DPR.	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	ED	EDS	PR: EPD 5051.	Educational management of students with cerebral palsy, motor disabilities and multihandicapped conditions including rehabilitation and other community services.
EPD	6944	Supervised Practicum in Motor Disabilities	3-12	ED	EDS	PR: EEX 4012 or CI. For students seeking certification only. S/U.	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	ED	EDI		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	ED	EDI		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	6215	School Curriculum: Secondary	3	ED	EDC	PR: EDG 4620, EDG 6627	Open to all education graduate students. Examines the organization, curriculum, and instruction of the secondary school with special emphasis on the nature of the students served.
ESE	6256	Problems In Curriculum Instruction: Secondary	1-3	ED	EDC	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	ED	EDI	S/U.	Independent study in which students must have a contract with an instructor.
ESE	7220	Curriculum Frameworks in Teacher Education	3	ED	EDC	PR: Doctoral standing or permission of the instructor.	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	7415	Teaching and Learning in the Content Area	3	ED	EDI	PR: Admission to Ph.D. program in College of Education or Permission of Instructor.	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	7910	Directed Research in Secondary Education	1-19	ED	EDI	PR: CI.	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	EN	EGS	Not open to students who have had EGN 3443.	Study of statistical methods applied to engineering management problems involving estimation and prediction under conditions of uncertainty.
ESI	5236	Reliability Engineering	3	EN	EGS	PR: ESI 5219 or equiv.,	Fundamental concepts of reliability.

						majors only PR: EGN 3443 or equivalent.	Estimation of reliability of systems and components. Measures of availability, maintainability and reliability.
ESI	5306	Operations Research For Engineering Management	3	EN	EGS	Not open to students who have had ESI 4312. ESI 5219 or equiv., majors only.	Linear programming, non-linear programming, queuing, inventory, network analysis.
ESI	5522	Computer Simulation	3	EN	EGS	PR: ESI 4521 or equiv., majors only.	Design of discrete and continuous simulation models. Model validation and verification. Statistical analysis of simulation model output.
ESI	6213	Stochastic Decision Models I	3	EN	EGS	PR: ESI 5219 or equiv.	Study of the theory behind the statistical techniques applied to the solving of engineering problems.
ESI	6225	Quality Assurance Plans	3	EN	EGS	PR: ESI 5219 or equiv., majors only	Advanced techniques in quality control systems. Includes study of articles in current journals.
ESI	6247	Statistical Design Models	3	EN	EGS	PR: ESI 5219 or equiv., majors only	Design of experimental mathematical models. Application of advanced analysis of variance techniques as applied to industrial problems.
ESI	6291	Special Topics in Statistics	3	EN	EGS	PR: CC, majors only.	Special topics in statistics related with research in engineering.
ESI	6324	Engineering the Supply Chain	3	EN	EGS	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.
ESI	6340	Probabilistic Systems Analysis	3	EN	EGS		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	6410	Optimization in Operations Research	3	EN	EGS		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	EN	EGS	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.
ESI	6447	Large-scale and Computational Optimization	3	EN	EGS	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	EN	EGS	PR: EEL 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	3	EN	EGS	PR: ESI 4312 or equivalent.	To provide students with the general theory and characteristics of linear

		Optimization					programming, network flows and integer programming as well as effective solution algorithms that can be used to support effective decision making.
ESI	6555C	Topics in Automation	3	EN	EGS	PR: CC, majors only.	Study of recent advances in automated systems, automation concepts, control methods, numerical control, adaptive control.
ESI	6605	Engineering Data Mining	3	EN	EGS	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	6906	Independent Study	1-19	EN	EGS	Majors only. S/U.	Independent study in which students must have a contract with an instructor.
ESI	6911	Directed Research	1-19	EN	EGS	PR: GR. ML, majors only. S/U.	
ESI	7911	Directed Research	1-19	EN	EGS	PR: GR. Ph.D. level, majors only. S/U.	
ESI	7980	Dissertation: Doctoral	2-19	EN	EGS	PR: Admission to Candidacy.	
EVR	6101	Geomorphology for Environmental Scientists	3	AS	ESP	PR: Introductory background in Geology or Physical Geography.	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	AS	ESP	PR: Graduate standing in EVR, ENV, GEO, GLY, GPY, PCB or PHC; or consent of instructor.	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.
EVR	6320	Environmental Management	3	AS	ESP	PR: Graduate Standing	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	AS	ESP	PR: Graduate standing. Undergraduate students may enroll under co-listed undergraduate number.	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	6921	Scholarly Presentation of Environmental Research	1-2	AS	ESP	PR: Advanced standing in ESP Department Masters program. CR: EVR 6971 or consent of instructor.	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	AS	ESP	PR: Departmental approval required.	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.
EVR	6930	Research Colloquium in Environmental Science and Policy	1	AS	ESP	PR: Graduate standing in Environmental Science and Policy or consent of instructor.	Scholarly presentations by invited academic researchers and leading policy decision-makers.
EVR	6936	Seminar in Environmental Science	3	AS	ESP		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	AS	ESP	PR: Graduate standing in EVR, ENV, GEO, GLY, GPY, PCB, or PHC; or consent of instructor.	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	AS	ESP	PR: CC. S/U	
EVR	7921	Doctoral Dissertation Preparation	3	AS	ESP	PR: Graduate standing and consent of instructor.	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	AS	ESP	PR: Accepted into the GEP Doctoral program; EVR 7920 is completed by all students that designate Environmental Science and Policy as their subject area; and permission of the student's major professor.	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).
EVT	5369	Preparation and Development for Teaching	4	ED	EDV		The development of selected instructional materials, use of new educational media, performance evaluation instruments, and counseling techniques.
EVT	6167	Enhancing Career and Technical Education Curriculum	3	ED	EDV		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.
EVT	6264	Administration Of Local Programs: Vocational	3	ED	EDV		Organization, personnel selection and assignment, and establishment of policies and procedures for local vocational programs within federal, state and local requirements.
EVT	6265	Supervision Of Local Programs: Vocational Education	3	ED	EDV		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.
EVT	6500	Individualized Instruction	3	ED	EDV		Emphasis given to individualized instruction to include the special needs student, the slow learner, and the more capable student.

EVT	6504	Placement of Severely Handicapped People	3	ED	EDV		A study of the purpose, methods, processes, and procedures used to plan, implement, and operate a Vocational Rehabilitation Cooperative School Counseling Program.
EVT	6656	Equity and Access in the New Economy	3	ED	EDV		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.
EVT	6661	Trends and Issues in Career and Technical Education	3	ED	EDV		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.
EVT	6664	School Community Relations	3	ED	EDV		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.
EVT	6685	Emerging Workplace Competencies	3	ED	EDV		An interactive exploration of emerging workplace competencies through research, analysis, and work-based experiences for the purpose of professional development and program improvement.
EVT	6769	Methods, Procedures, and Processes of Vocational Evaluation	3	ED	EDV		A study of the purposes, methods, processes and procedures used to plan, implement, and operate a vocational evaluation program.
EVT	6926	Staff Development	1-5	ED	EDV		Implementation of new procedures addressed to discrete developmental needs of the staff as identified by an educational agency.
EVT	6930	Seminar	3	ED	EDV		Focuses on special topics, interaction with visiting scholars, recent research and major initiatives within the profession.
EVT	6948	Practicum: Industrial-Technical Education	3-6	ED	EDV	S/U.	A problem-centered field study in the local community, school, government, office, social agency, business, or industry.
EVT	6971	Thesis: Masters/Educational Specialist	2-19	ED	EDV	S/U. Ma/Des Candidates only.	
EVT	7066	Foundations And Philosophy Of Vocational, Technical And Adult Education	3	ED	EDV	PR: Preliminary admission to the advanced graduate program and/or CI.	Historical development and contemporary philosophies, cultural bases and practices of Vocational, Technical, and Adult Education.
EVT	7155	Career Development in Vocational, Technical, and Adult education	3	ED	EDV	PR: Preliminary admission to the advanced Graduate Program and CI.	Development of a career model designed to facilitate career development of students and articulate vocational education and career guidance.
EVT	7168	Instructional Development For Vocational, Technical, And Adult Education	4	ED	EDV		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.
EVT	7267	Vocational And Adult Education Program Planning And Implementation	3	ED	EDV		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.
EVT	7761	Research Seminar In Vocational, Technical, And Adult Education	3	ED	EDV	PR: Completion of program requirements in measurement and research or DPR. Available to majors only.	Examination and critical evaluation of research in a particular specialization area of Vocational, Technical, or Adult Education. Preparation of an individual research prospectus.
EVT	7910	Directed Research in Vocational Education	1-19	ED	EDV	PR: CI.	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.
EVT	7980	Dissertation	2-30	ED	EDV	PR: Admitted to Candidacy.	
EXP	6307	Motivation and Emotion	3	AS	PSY	PR: CI.	A detailed examination of human motivation and emotion from both the physiological and psychological viewpoints.
EXP	6526	Human Memory	3	AS	PSY	PR: Admission to graduate program in Psychology or CI.	Review of methods, findings, and theoretical interpretations associated with the acquisition and retention of information.
EXP	6608	Cognitive Psychology	3	AS	PSY	PR: Admission to graduate program in Psychology or CI.	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	6643	Psychology of Language	3	AS	PSY	PR: GS.	Historical survey of relations between psychology and linguistics leading to the emergence of psycholinguistics as a field of study. Current status of theory and research in the field.
EXP	6930	Topics in Experimental Psychology	3	AS	PSY	PR: CI.	Electrophysiological methods and psychophysiology.
EXP	7099	Graduate Seminar in Experimental Psychology	1-3	AS	PSY	PR: CI.	Seminars on topics, such as learning, perception, memory, cognitive processes, and quantitative methods.
FIL	5469C	Cinematography	4	TA	ART	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	BU	FIN	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	BU	FIN	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.
FIN	6406	Financial Management	3	BU	MBA	PR: ACG 6025 and ECO 6114	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	BU	FIN	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	BU	FIN	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	BU	FIN	PR: FIN 6406 or CI	A case study approach to financial policy and strategy with emphasis on the firm's major financial decisions.
FIN	6465	Financial Statement Analysis	3	BU	FIN	PR: FN 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.
FIN	6515	Investments	3	BU	FIN	PR: FIN 6406, CC	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	BU	FIN	PR: FIN 6515 or equiv	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	BU	FIN	PR: FIN 6406 or equiv., CC	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	BU	FIN	PR: FIN 6406 or CI	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.
FIN	6906	Independent Study	Var.	BU	FIN	PR: CC. S/U.	Students must have a contract with an instructor.
FIN	6915	Directed Research	Var.	BU	FIN	PR: GR, ML, CC. S/U.	
FIN	6934	Selected Topics in Finance	1-4	BU	FIN	PR: GS and CI.	Depending upon the scope and magnitude of the work required. Includes special lecture series.
FIN	7808	Advanced Micro	3	BU	FIN	PR: FIN 6406, FIN	The study of advanced theoretical and

		Finance				6804, ECO 6424 or Departmental approval.	empirical works in finance primarily relating to financial decisions at the level of the firm.
FIN	7817	Financial Markets	3	BU	FIN	PR: FIN 6246, FIN 6515, or Departmental approval.	The study of advanced theoretical and empirical works in finance primarily relating to financial institutions and markets.
FIN	7930	Selected Topics in Finance	3	BU	FIN	PR: FIN 7808, QMB 7566, or Departmental approval.	A study of selected topics of current issues on the frontiers of financial thought.
FIN	7935	Finance Research Seminar	3	BU	FIN	PR: One semester of 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	7980	Dissertation	2-19	BU	FIN	PR: Admission to Candidacy.	
FLE	5145	Language Principles, Acquisition and Teaching	3	ED	EDX	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	ED	EDX	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	ED	EDX		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	ED	EDX	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	ED	EDX		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.
FLE	5366	ESOL Education in Content Areas	3	ED	EDX		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	ED	EDX		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	ED	EDX	PR: FLE 5313. CR: FLE 5331.	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	ED	EDX		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	6371	Instruct Methods and Strategies for Teaching ESOL	3	ED	EDX		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.
FLE	6434	Assessment and Progress Management for Teaching ESOL	3	ED	EDX		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.
FLE	6665	Current Trends in Secondary Foreign Language Education	3	ED	EDX	PR: FLE 4314/FLE 4333 or teaching experience. Fluency in the target language and in English.	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	ED	EDX	PR: CC. S/U only.	Special course to be used primarily for the training of graduate teaching assistants.
FLE	6906	Independent Study in Foreign Language Education	1-6	ED	EDX		Independent Study in which students must have a contract with an instructor. Rpt. S/U
FLE	6932	Selected Topics in Second Language Acquisition	3	ED	EDX	PR: Approval of graduate advisor.	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	6	ED	EDX	PR: CI.	Provides students with an extended school-based experience, under the guidance of a cooperating teacher and university supervisor, for a full semester at or near the end of their graduate program. Open to graduate degree candidates only. S/U (PR: CI)
FLE	7367	Sociocultural Theory in Second Language Acquisition	3	ED	EDX		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.
FLE	7939	Advanced Seminar in Foreign Language Education	3	ED	EDX	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	AS	WLE	PR: FOL 4101 or equivalent.	
FOW	6805	Bibliography	1	AS	WLE	S/U.	Research methods. Includes familiarity with major journals and bibliographies, with a practicum.
FRE	5425	Advanced Written Expression	3	AS	WLE	PR: FRE 4421, or equivalent.	Course is designed to give advanced training in free composition in French.
FRE	5566	Contemporary France	3	AS	WLE	PR: FRE 3500 or equivalent or graduate standing.	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	AS	WLE	PR: GR. ML, CC. S/U. Departmental approval required.	
FRE	6971	Thesis: Master's	2-19	AS	WLE	PR: CC. S/U. Departmental approval required.	
FRW	5222	Classical Prose and Poetry	3	AS	WLE	PR: FRW 4101.	Emphasis on Malherbe, Descartes, Pascal, La Fontaine, and Boileau.
FRW	5226	20th Century Poetry and Theatre	3	AS	WLE	PR: FRW 4101.	Valery, Claudel, Anouilh, Motherland, Sartre, Ionesco.
FRW	5286	The 20th Century Novel	3	AS	WLE	PR: FRW 4100.	Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet.
FRW	5314	Classical Drama	3	AS	WLE	PR: FRW 4101.	Corneille, Moliere, and Racine.
FRW	5415	Literature of the Middle Ages	3	AS	WLE	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	AS	WLE	PR: FRW 4100 or FRW 4101.	A study of Renaissance French humanism including Rabelais, Montaigne, and Pleiade poets.
FRW	5445	18th Century Literature	3	AS	WLE	PR: FRW 4100.	The classical tradition and the new currents of thought in the Age of Enlightenment.
FRW	5528	Pre-Romanticism	3	AS	WLE	PR: FRW 4100 or FRW 4101.	The precursors of romanticism. Emphasis on Rousseau, Bernardin de St. Pierre, Chenier, and Chateaubriand.
FRW	5535	Romanticism and Early Realism	3	AS	WLE	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	AS	WLE	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	AS	WLE	PR: A survey of Francophone literature and cultures is recommended.	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	AS	WLE	PR: A survey of French literature.	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.
FRW	5829	An Introduction to Modern French Literary	3	AS	WLE		A graduate elective 3 credit course entirely taught in French, which offers a

		Criticism					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	AS	WLE	PR: Upper-level or graduate standing.	Study of an author, movement or theme.
FRW	6315	Seminar on Classical Drama	3	AS	WLE		An in-depth study of the works of one or more of the following dramatists: Corneille, Racine, or Moliere.
FRW	6405	Old French	3	AS	WLE		An introduction to the Old French language and literature. Readings from representative texts.
FRW	6938	Graduate Seminar	3	AS	WLE		Topics vary.
GEA	6195	Seminar in Advanced Regional Geography	3	AS	GPY	PR: GS in Geography.	Analytic study of a selected region of the world.
GEA	6215	Seminar in North American Geography	3	AS	GPY	PR: GS in Geography or CI.	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	6252	Seminar in the Geography of the American South	3	AS	GPY	PR: GS in Geography or CI.	Intensive examination of regional geographic studies and their application to the American South, including concepts related to the physical and cultural landscapes, economic growth and change, urbanization, and cultural diffusion processes.
GEA	6406	Seminar in Latin American and Caribbean Geography	3	AS	GPY	PR: GS in Geography or CI.	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	AS	GPY	PR: GS in Geography or CI.	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.
GEA	6745	Asian Geography Seminar	3	AS	GPY	PR: GS in Geography or CI.	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	6115	New Venture Formation	3	BU	MBA	PR: ACG 6025, MAR 6815, or CI.	An introductory entrepreneurship course. Students learn to develop venture ideas, evaluate venture opportunities and understand financial, marketing, and managerial needs of a venture.
GEB	6116	Business Plan Development	3	BU	MBA	PR: ACG 6025, MAR 6815, or CI.	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."
GEB	6117	Consulting Field Project	3	BU	MBA	PR: ACG 6025, MAR 6815 or CI.	Student will be teamed with an entrepreneurial organization and will learn to prepare a business plan, feasibility study, strategic marketing plan or some other work agreed upon by client, student and instructor. Third

							course in entrepreneurship Track.
GEB	6445	Social, Ethical, Legal Systems	2	BU	MBA	PR: GS.	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	6895	Integrated Business Applications I	3	BU	MBA	PR: CC.	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.
GEB	6896	Integrated Business Applications II	3	BU	MBA	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	6930	Selected Topics	3	BU	MBA	PR: GS.	The content and organization of this course will vary depending on student demand and faculty interest.
GEB	6949	Consulting Field Project	3	BU	GBA	PR: ACG 6025; MAR 6815 or CI.	Student will be teamed with an entrepreneurial organization and will learn to prepare a business plan, feasibility study, strategic marketing plan or some other work agreed upon by client, student and instructor. Third course in Entrepreneurship Track.
GEB	6971	Thesis: Master's	1-19	BU	MBA		
GEO	6058	Geographic Literature and History	3	AS	GPY	PR: Senior or graduate standing in geography, or CI.	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	AS	GPY	PR: GS in Geography or CI.	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	AS	GPY	PR: GEO 6058 or CI.	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	AS	GPY	PR: GS in Geography.	Analytic study of a technique or investigation into an aspect of methodology.
GEO	6166	Multivariate Statistical Analysis	3	AS	GPY	PR: GS in Geography or CI, 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	AS	GPY	PR: GS in Geography or CI	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	AS	GPY	PR: GEO 4372 or CI.	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.
GEO	6217	Karst Geomorphology	3	AS	GPY	PR: GS in Geography or CI.	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	AS	GPY		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	AS	GPY	PR: GEO 4372 or CI.	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	AS	GPY	PR: GS in Geography or CI.	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	AS	GPY	PR: GEO 4372 or CI.	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.
GEO	6345	Technological Hazards and Environmental Justice	3	AS	GPY		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	AS	GPY	PR: GEO 4372 or CI.	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	AS	GPY	PR: GS in Geography, CI	Analytic study of a problem selected from aspects of the human landscape (urban, political, economic, population, settlement).
GEO	6475	Political Geography Seminar	3	AS	GPY	PR: GEO 4471 or CI.	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	AS	GPY	PR: GEO 4502 or CI.	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	AS	GPY	PR: GEO 3602; GEO 4604; or CI.	Advanced survey of urban issues such as: industrial restructuring and urban development, inner-city ethnic relations,

							the geopolitics of urban governance, and urban culture.
GEO	6627	Site Feasibility Analysis	3	AS	GPY	PR: GS in Geography or CI.	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	AS	GPY	PR: GEO 4114; GEO 4700; or CI.	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	AS	GPY	S/U.	Independent study in which students must have a contract with an instructor.
GEO	6918	Directed Research	1-19	AS	GPY	PR: GR. ML, CC. S/U.	
GEO	6944	Internship in Geography	3	AS	GPY	PR: GS in Geography, CC. S/U.	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	AS	GPY	PR: GS, CI.	
GEO	6970	Geographic Research Design	3	AS	GPY	PR: Graduate standing and consent of instructor.	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	AS	GPY	PR: CC. S/U.	
GEO	7021	Doctoral Dissertation Preparation	3	AS	GPY	PR: Graduate standing and consent of instructor.	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	AS	GPY	PR: Graduate standing and consent of instructor.	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	AS	GPY	PR: Accepted into the GEP Doctoral program; GEO 7920 (Doctoral Dissertation Preparation) is completed by all students in the program that designate Geography as their subject area; and permission of the student's major professor.	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	5605	Goethe	3	AS	WLE		Selected novels, poems: Werther, Wahlverwandtschaften, Wilhelm, Meister, Westostlicher, Divan.
GER	5845	History of the German Language	3	AS	WLE		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	AS	WLE		Designed to provide a reading ability in German that will support research in other disciplines.
GER	6908	Independent Study	1-19	AS	WLE	PR: CC. S/U.	Independent study in which student must have a contract with an instructor.
GEW	5475	20th Century Literature to 1945	3	AS	WLE		A study of major styles in German literature from 1900 to WW II with emphasis on Hauptmann, Schnitzler, Hofmannsthal, George Rilke, Kaiser, Heym, Trakl, Thomas Mann, Hesse, Kafka, Benn, Brecht.
GEW	5489	20th Century Literature: 1945 to Present	3	AS	WLE		Study of major trends in German literature since WW II with emphasis on Borchert, Frisch, Durrenmatt, Boll, Uwe, Johnson, Grass, Aichinger, Eich Enzensberger, Bachmann.
GEW	5515	The Enlightenment	3	AS	WLE		Selected dramas and critical writings by Lessing, Wieland, Kant.
GEW	5545	Romanticism	3	AS	WLE		Jenaer circle and Heidelberg circle; the late romantic period, the writers between Classicism and Romanticism.
GEW	5555	Realism	3	AS	WLE		Selected works by Grillparzer, Grabbe, Buchner, Hebbel, Heine, Immerman, Stifter, Keller, Meyer, Storm, Raabe, Hulshoff, and Morike.
GEW	5606	Faust	3	AS	WLE		Sources, form, content, and literary significance of Urfaust and Faust.
GEW	5615	Schiller	3	AS	WLE		Selected dramas, philosophical, and aesthetical writings.
GEW	5934	Selected Topics	1-3	AS	WLE	PR: Upper-level or graduate standing.	Study of an author, movement or theme.
GEY	5476	Program Evaluation in an Aging Society	3	BC	GEY		Students develop knowledge of the purposes of evaluation research and the approaches and methodologies necessary to evaluation aging services programs and organizations.
GEY	5501	Health Care Operations in Long Term Care	3	BC	GEY		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	BC	GEY		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	BC	GEY		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	BC	GEY		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.
GEY	6206	Family Caregiving in Aging and Chronic Illness	3	BC	GEY		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	6230	Principles of Health Care Risk Management and Patient Safety	3	BC	GEY		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	BC	GEY		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	BC	GEY		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.
GEY	6326	Geriatric Interdisciplinary Team Training	3	BC	GEY		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	6340	Housing for the Elderly	3	BC	GEY		Major issues and aspects of conventional and planned housing for the elderly. Several field trips will be taken.
GEY	6402	Statistical and Qualitative Methods in Aging Research	3	BC	GEY		The major goal of this course is to deliver fundamental quantitative and qualitative 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	BC	GEY		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	BC	GEY	PR: CI.	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	BC	GEY		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.
GEY	6500	Seminar in Principles of Administration	3	BC	GEY		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	BC	GEY		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	BC	GEY		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	BC	GEY		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	BC	GEY		Examination of the basic principles of abnormal psychopathology and basic concepts of psychopathology. Major theories about behavior and behavior change will be explored. Common gerontological mental health issues will be studied with particular focus upon adjustment to change and loss.
GEY	6615	Psychopathology and Aging II	3	BC	GEY		A continuation of Psychopathology and Aging I. It familiarizes the student with the psychopathology of aging. Major topics in the DSM-IV will be covered.
GEY	6616	Mental Health Assessment of Older Adults	3	BC	GEY	PR: GEY 6614 or CI.	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	BC	GEY	PR: GEY 6614 or CI.	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	BC	GEY	PR: GEY 6614 or CI.	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	BC	GEY		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	BC	GEY		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.
GEY	6643	End of Life Care for Dementia Patients	3	BC	GEY		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	BC	GEY		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	6647	Ethical and Legal Issues in Aging	3	BC	GEY		A consideration of major ethical and legal issues in aging and their implications for policies, priorities, and services.
GEY	6901	Directed Reading	1-4	BC	GEY	PR: CI. S/U.	A reading program of selected topics under the supervision of a faculty member.
GEY	6910	Directed Research	1-4	BC	GEY	PR: CI. S/U.	
GEY	6934	Special Topics In Gerontology	3	BC	GEY		Courses on topics such as preretirement, mental health, human services organization, and senior center administration.
GEY	6940	Field Placement	1-6	BC	GEY	PR: CI. S/U.	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	BC	GEY	PR: GEY 6616, GEY 6617 and GEY 6618 or CI.	A highly structured supervised counseling experience providing mental health services to older adults.
GEY	6971	Thesis: Master's	2-19	BC	GEY	S/U.	
GEY	7404	Ph.D. Seminar in Grant Writing	3	BC	GEY		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	BC	GEY		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	BC	GEY		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	BC	GEY		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.
GEY	7611	Ph.D. Seminar in Mental Health	3	BC	GEY		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	BC	GEY		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	BC	GEY		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	BC	GEY		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	BC	GEY		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.
GEY	7902	Directed Individual Study in Aging Studies	1-9	BC	GEY		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	BC	GEY		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	BC	GEY		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	BC	GEY	PR: Completion of Qualifying Examination, Admission to	

						Candidacy.	
GIS	5049	GIS for Non-Majors	3	AS	GPY		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	AS	GPY	PR: GIS 5049: GIS for Non-Majors or permission from the instructor.	Examination of the theory, operation and application of Global Positioning Systems (GPS).
GIS	6038C	Remote Sensing	3	AS	GPY	PR: GS in Geography or CI, GEO 4124C.	Study of digital image processing techniques. Topics include filtering techniques, geometric and radiometric normalization, and classification algorithms with emphasis on developing.
GIS	6039	Remote Sensing Seminar	3	AS	GPY	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	AS	GPY	PR: GS in Geography or CI.	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	AS	GPY	PR: GEO 6157 Advanced GIS or permission from instructor.	Examination of the concepts and techniques for customization of Geographical Information Systems (GIS) using object-oriented programming.
GIS	6112	Spatial Database Development	3	AS	GPY	PR: GEO 6157 Advanced GIS or permission from instructor.	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	AS	GPY	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	AS	GPY	PR: GIS 6100 or CI.	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.
GIS	6355	Water Resources Applications of GIS	3	AS	GPY	PR: GEO 6157 Advanced GIS or permission from instructor.	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	AS	GLY	PR: Senior standing in geology or CI.	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	AS	GLY	PR: STA 2023 or equivalent or CI.	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	AS	GLY	PR: Senior or advanced junior standing.	Each topic is a course under the direction of a faculty member. All areas of geology included.
GLY	6075	Greenhouse-Icehouse Earth	3	AS	GLY		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	6156	Geology of North America	2	AS	GLY	PR: GS or CI.	Regional structure, stratigraphy, and history of North America.
GLY	6246	General Geochemistry	3	AS	GLY	PR: One year college Chemistry, CI.	Age, formation and evolution of the earth with application of basic chemical concepts and processes that govern the distribution of elements in geologic environments.
GLY	6248	Sedimentary Geochemistry	3	AS	GLY	PR: GLY 6246 or CI.	The geochemistry of fluid-rock interaction with emphasis on the diagenesis of sedimentary material.
GLY	6255	Tracer Geochemistry	3	AS	GLY	PR: GLY 6246 or CI; GLY 6285 strongly recommended.	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	AS	GLY	PR: One year college Chemistry, GLY 4310 or CI.	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	6345	Sedimentary Petrography	3	AS	GLY	PR: GS or CI.	Classification, petrographic description and interpretation of sedimentary rocks including depositional environment and diagnoses. Lec./Lab.
GLY	6395C	Topics in Igneous and Metamorphic Petrology	2-4	AS	GLY	PR: GLY 3311C or equivalent, or CI.	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	6424	Global Tectonics	2	AS	GLY	PR: GS or CI	Development of the global tectonic hypothesis, global tectonic theory, and application of the theory in selected regions of the earth.
GLY	6475C	Principles of Applied Geophysics	4	AS	GLY	PR: One year of Physics or CI.	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	1-3	AS	GLY	PR: Enrollment in Hydrogeology Internship program; 24 hours of approved graduate courses.	Internship project in applied hydrogeology. Required for hydrogeology-internship M.S. program (minimum 3 hours).
GLY	6526	Advanced Stratigraphy	3	AS	GLY	PR: OCG 6656 or equiv. or CI.	Theory and practice of biostratigraphy of major microfossil groups. Emphasis on selected techniques of correlation. Detailed consideration of stratigraphic

							zonations, problems and limitations. Readings of current literature.
GLY	6573	Fluvial Hydrology and Geomorphology	3	AS	GLY	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	AS	GLY	PR: GLY 4555 or equiv. or CI.	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	6655	Topics in Paleobiology	3	AS	GLY	PR: GLY 3610 equiv., PCB 4674 or equiv. or CI.	Theory and practice of modern paleobiology including, consideration of diversity and extinction patterns, documentation and causes of trends, patterns, and causes of speciation, functional analysis and adaptation, tempo and mode in evolution, and the ecological context of evolutionary change.
GLY	6739	Selected Topics in Geology	1-4	AS	GLY	PR: CI.	Each topic is a course directed by a faculty member. All areas of geology are included.
GLY	6824	Ecohydrology	3	AS	GLY	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.
GLY	6827C	Advanced Hydrogeology	4	AS	GLY	PR: GLY 4822, one year college calculus or CI.	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	AS	GLY	PR: One year of college Chemistry, GLY 4822, GLY 6246, or CI.	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	AS	GLY	PR: GLY 6827C, or CI.	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	AS	GLY	PR: CC. S/U.	Independent study in which student must have a contract with an instructor.
GLY	6910	Directed Research	1-19	AS	GLY	PR: GR. ML, CC. S/U.	
GLY	6931	Graduate Seminar	1	AS	GLY	PR: CC. S/U.	
GLY	6933	Advanced Topics in Geology	2	AS	GLY	PR: GS.	Current topics in Geology.
GLY	6971	Thesis: Master's	2-19	AS	GLY	S/U.	
GLY	7912	Directed Research	1-30	AS	GLY	PR: GR. Ph.D. Level. S/U.	
GLY	7980	Dissertation: Doctoral	2-	AS	GLY	PR: Admission to	

			19			Candidacy. S/U.	
GMS	6001	Foundation in Biomedical Sciences	4-8	ME	MSG	PR: B.S./B.A. and admission into a Graduate Program at the University of South Florida. Instructor permission required for those not meeting these prerequisites.	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	ME	MSG	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	6012	Basic Medical Genetics	3	ME	MSG	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.
GMS	6020	Neuroscience	5-6	ME	MSG	PR: Cl.	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	6058	Cancer Biology Lab Rotations	1-3	ME	MSG	PR: Cl.	
GMS	6065	Advances in Cancer Research	2	ME	MSG	PR: Cl.	Participants will read and orally present current breaking research. They will gain experience in critically evaluating research reports.
GMS	6066	Molecular Medicine	11	ME	MSG		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	ME	MSG	PR: Admission to Graduate Program in Biomedical Sciences or CC.	A Journal Club in which graduate students and faculty present recent research publications of importance to molecular medicine.
GMS	6069	Translational Biotechnology	3	ME	MSG	PR: BS in Biochemistry, Biology or Chemistry or Cl.	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	ME	MSG		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	Introduction to Behavioral Medicine	4	ME	MSG	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.
GMS	6093	Clinical and Translational Mentored Research	1-12	ME	MSG	PR: Cl.	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	ME	MSG		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	6095	Principles of Intellectual Property	3	ME	MSG		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.
GMS	6100	Medical Microbiology	3	ME	MSG		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	ME	MSG	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	6102	Experimental Design and Analysis	3	ME	MSG	PR: B.S./B.A. and admission into the Ph.D. Program at the University of South Florida College of Medicine. Instructor permission required for those not meeting these prerequisites.	A focused course designed to introduce students to the scientific method, experimental designs, approaches, and analyses that are essential to the modern biomedical research scientist. The course is restricted to majors and is not repeatable.
GMS	6103	Foundations in Medical Microbiology and Immunology	4	ME	MSG	PR: GMS 6001 or equiv.	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.
GMS	6107	Advances in Virology	2	ME	MSG		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	6115	Medical Parasitology and Mycology	3	ME	MSG		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.

GMS	6141	Basic Medical Immunology and Microbiology	3	ME	MSG	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	6183	Clinical Research Methods	3	ME	MSG	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	ME	MSG		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).
GMS	6200C	Biochemistry, Molecular and Cellular Biology	5	ME	MSG	PR: Admission to graduate program in medical sciences or CC.	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	ME	MSG	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	ME	MSG		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	ME	MSG		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	6334	Pathobiology of Human Cancer	3	ME	MSG	PR: Pathology Departmental Approval.	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.
GMS	6340	Laboratory Fundamentals and Adjunct Cancer Therapies	3	ME	MSG		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	6400C	Core Physiology	4-6	ME	MSG	PR: B.S. and permission of instructor.	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	6411	Cardiovascular and Pulmonary Systems	3-8	ME	MSG	PR: GMS 6706	Examines fundamental principles governing the structure and function of

							the cardiovascular and pulmonary systems including the circulating blood. Restricted to M.S.M.S. students in the IMS concentration.
GMS	6418	Core Principles and the Musculoskeletal System	3-7	ME	MSG		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	ME	MSG	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	ME	MSG		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.
GMS	6440	Basic Medical Physiology	3	ME	MSG	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	ME	MSG		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	6451	Nutrition and Metabolism	3	ME	MSG		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.
GMS	6452	Clinical Nutrition	3	ME	MSG	PR: Undergraduate courses in biology and chemistry	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	ME	MSG		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	3	ME	MSG		This course covers advanced human

		and Infectious Disease					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	ME	MSG	Courses in Metabolic and Nutritional Medicine concentration	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	6461	Systems Physiology and Pharmacology	5	ME	MSG	PR: GMS 6001 OR equivalent Cell and Molecular Biology course OR Instructor approval; CR: None required - recommend Graduate Neuroscience (GMS 6020)	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	6503	Methods in Pharmacology	2-6	ME	MSG		This course is designed to familiarize students with selected research methods in pharmacology by participation in laboratory exercises designed and supervised by the faculty.
GMS	6505	Basic Medical Pharmacology	3	ME	MSG	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	6512	Ion Channel Pharmacology and Disease	3	ME	MSG		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	ME	MSG		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.
GMS	6514	Instructional Skills in Pharmacology	1	ME	MSG		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	ME	MSG	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	ME	MSG		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	ME	MSG	PR: GMS 6608 or CC.	This lecture and laboratory course deals with theoretical and technical issues regarding the use of the electron microscope in biomedical research.
GMS	6602	Neural Correlates of Behavior	3	ME	MSG	PR: CC.	This course focuses on the organization and function of nervous system structures that control and regulate various aspects of somatic and visceral motor behavior.
GMS	6604	Human Embryology	3	ME	MSG	PR: CC.	This course deals with the structural and functional development of the human from conception to birth.
GMS	6605	Basic Medical Anatomy	3	ME	MSG	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.
GMS	6608	Advanced Microscopic Anatomy	3-6	ME	MSG	PR: CC.	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	ME	MSG	PR: CC.	This lecture and laboratory course focuses on the anatomical relationships between various structures that comprise the human body.
GMS	6610	Advanced Neuroanatomy	3-6	ME	MSG	PR: Admission to Ph.D. Program in Medical Sciences and Anatomy Department.	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	ME	MSG	PR: Admission to Ph.D. Program in Medical Sciences and Anatomy Department.	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	ME	MSG	PR: GSM 6608, 6609, or 6610 and acceptance into the Anatomy Dept.	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	ME	MSG	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.
GMS	6671	History of Pathology and Cell Biology	2	ME	MSG		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	ME	MSG	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	MS	MSG	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	6735	Neuropharmacology	3	ME	MSG		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.
GMS	6751	Integrated Clinical Neurobiology	3	ME	MSG		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	ME	MSG		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	6770	A Metabolic Approach to Pain Management	3	ME	MSG		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	ME	MSG		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	ME	MSG		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	6836	Approach Clinical and Behavioral Research Adolescent	3	ME	MSG	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	6840	Cultural and Diversity Issues in Clinical Research	2	ME	MSG	PR: Postdoctoral status, doctoral student in Medical Sciences. CR: CI.	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	ME	MSG	PR: Postdoctoral status, doctoral student in Medical Sciences. CR: CI.	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	ME	MSG	PR: Postdoctoral status, doctoral student in Medical Sciences. CR: CI.	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	ME	MSG	PR: Postdoctoral Status. CR: CI.	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	6870	Medical Ethics and Humanities: Tools & Foundations	3	ME	MSG		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	ME	MSG	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	6875	Ethical and Regulatory Aspects of Clinical Research	3	ME	MSG	PR: Postdoctoral Status. CR: CI.	This course addresses ethical and regulatory aspects of clinical research, specifically in relation to biomedical research that is patient-oriented. Instructor permission is required. The course is 3 credits and is not repeatable.
GMS	6890	Medicine and the Arts	3	ME	MSG		Study opportunities in metropolitan cities in which students engage in one week of intensive study. (Medical Centers, Museums, Theatre)
GMS	6891	Medicine and the Movies	3	ME	MSG		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	ME	MSG	PR: Approval from program director/advisor.	Develop with faculty advisor an individual project with the goal of in-depth study in the focus area.
GMS	6905	Grantmanship I	1	ME	MSG	PR: Postdoctoral Status; CR: Permission of Instructor.	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	2	ME	MSG	PR: GMS 6905.	This course is the second in a two-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	1-3	ME	MSG	PR: Selected courses	Develop, in conjunction with a faculty

		Independent Study				in program of study, identified by advisor.	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.
GMS	6921	Building a Patient-Oriented Research Center	2	ME	MSG	PR: Postdoctoral Status, CI.	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	ME	MSG		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	6941	Bioethics and Medical Humanities Internship	3	ME	MSG	PR: Approval from advisor/program director.	Supervised Field experience in related activities/organizations relating to bioethics and/or medical humanities.
GMS	6942	Laboratory Rotations in Biomedical Sciences	1-3	ME	MSG	PR: B.S. in Biology, Chemistry, Physics, Engineering, or similar field.	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.
GMS	6943	Biotechnology Internship	3	ME	MSG	PR: BS in Biochemistry, Biology or Chemistry or CI.	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	7910	Directed Research	1-19	ME	MSG	PR: Gr. Ph.D. level.	
GMS	7930	Selected Topics	1-3	ME	MSG	PR: CC.	
GMS	7939	Graduate Seminar	1	ME	MSG	PR: CC.	
GMS	7980	Dissertation: Doctoral	2-19	ME	MSG	PR: Admission to Candidacy.	S/U
GRW	5905	Directed Reading	1-4	AS	WLE	Departmental approval required.	
GRW	5934	Selected Topics	1-4	AS	WLE	Available to majors and non-majors.	Study of an author, movement or theme.
HIM	6017	Legal Aspects of Health Information Management	3	ME	MSG	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	ME	MSG	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.
HIM	6114	Integrated Electronic Medical Records	3	ME	MSG		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	ME	MSG		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	ME	MSG	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	ME	MSG		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	ME	MSG		E-Medicine Business Models is designed to highlight the centrality of "business" processes to the practice of medicine and the provision of healthcare.
HIM	6667	Foundation in Management Information Systems	3	ME	MSG		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	ME	MSG	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.
HIS	6112	Analysis of Historical Knowledge	4	AS	HTY	PR: GS, CI.	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	AS	HTY	PR: CI. S/U.	Independent study in which students must have a contract with an instructor.
HIS	6914	Directed Research	1-19	AS	HTY	PR: CI. ML. S/U.	
HIS	6925	Colloquium in History	4	AS	HTY	PR: CI.	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	6939	Seminar in History	4	AS	HTY	PR: CI.	Research in selected topics within the fields selected by the instructor.
HIS	6971	Thesis: Master's	2-19	AS	HTY	PR: CI. Z/U.	
HSC	5037	Professional Foundations of Health Education	1	PH	CFH		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	6054	Design and Analysis of Experiments for Health Researchers	3	PH	EPB	PR: PHC 6051, PHC 6701 or CI.	An interdisciplinary overview of design and analysis of experimental and observational studies. Emphasis on applications in biological, clinical and health-related fields. Computer software used.
HSC	6055	Survival Analysis	3	PH	EPB	PR: PHC 6051, PHC 6701 or CI.	A study of statistical methods for analyzing censored life time data with applications in health sciences.

HSC	6056	Survey Sampling Methods in Health Sciences	3	PH	EPB	PR: PHC 6050, PHC 6701 or CI.	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	6556	Pathobiology of Human Disease I	3	PH	EOH	PR: CI.	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.
HSC	6557	Pathobiology of Human Disease II	3	PH	EOH	PR: HSC 6556 and CI.	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	7268	Professional Foundations III: Joining the Academy	2	PH	EOH		Prepares the public health doctoral candidate with tools for career building.
HSC	7285	Accreditation/ Licensed Health Care Organization	3	BC	FMH		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.
HUM	6453	Studies in American Arts and Letters I	3	AS	HUM	GS.	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.
HUM	6456	Studies in Latin American Arts and Letters	3	AS	HUM	GS.	Analysis of selected Latin American works of art in their cultural context.
HUM	6465	Studies in American Arts and Letters II	3	AS	HUM		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	AS	HUM	GS.	Concentration on major artists and recent trends.
HUM	6493	Studies in Classical Arts and Letters	3	AS	HUM	GS.	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	AS	HUM	GS.	Studies in medieval philosophies, visual arts, music, literature, and architecture and their interrelationships.
HUM	6495	Studies in Renaissance Arts and Letters	3	AS	HUM	GS.	Masterpieces and major artists of the Renaissance in Continental Europe and England.
HUM	6496	Studies in Enlightenment Arts and Letters	3	AS	HUM	GS.	Studies in painting, sculpture, music, literature, and architecture in relation to philosophical determinism and political absolutism.
HUM	6497	Studies in Nineteenth	3	AS	HUM	GS.	Examples from the arts and letters of

		Century Arts and Letters					the nineteenth century, their relationship to philosophical, social, and historical developments, and to the arts and letters of the twentieth century.
HUM	6585	Cinematic Art	3	AS	HUM	PR: Graduate Standing.	Films studied will be organized around a director, a nation, a movement, or a period. Cinema will be treated as a collaborative medium best approached from an interdisciplinary perspective, integrating visual, narrative, dramatic, and musical analysis.
HUM	6801	Theories and Methods of Cultural Studies	3	AS	HUM	PR: GS.	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	6815	Research in Humanities	3	AS	HUM		A course emphasizing the practical aspects of research in the humanities including analyzing primary sources, assembling a bibliography, synthesizing secondary sources, and defining an argument. Topic varies.
HUM	6870	Teaching Practicum in Humanities	1-3	AS	HUM	PR: GS.	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.
HUM	6909	Independent Study	1-19	AS	HUM	S/U.	Independent study in which student must have a contract with an instructor.
HUM	6915	Directed Research	1-19	AS	HUM	PR: CI. S/U.	
HUM	6939	Selected Topics in Humanities	1-3	AS	HUM	GS.	Each topic is a course of study in a subject not covered by a regular course.
HUM	6940	Internship in Humanities	1-3	AS	HUM	PR: GS.	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	AS	HUM		In consultation with an advisor, the student plans, organizes, and writes a thesis on a topic in interdisciplinary arts and ideas.
IDH	5956	Honors Graduate Project	3	HC	HON	PR: Senior Status and permission of Honors College.	Advanced Honors Project. Repeatable up to 12 hours.
IDH	5975	Honors Thesis	3	HC	HON	PR: Senior Status and permission of Honors College.	Advanced Honors Thesis. Repeatable up to 12 hours.
IDS	5177	The Atelier, Its Management and History	3	TA	ART		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	TA	ART	PR: Art Advisor's Approval	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	6215	Seminar in Global Sustainability	3	AS	IAS		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	6946	Sustainability Internship	6	AS	IAS		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	TA	ART		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	AS	IAS		This is the final project for the Master of Arts in Global Sustainability students.
INP	6057	Industrial Psychology	3	AS	PSY	PR: GS.	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.
INP	6935	Topics in Industrial-Organizational Psychology	3	AS	PSY	PR: CI	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	AS	PSY	PR: CI	Seminars on topics, such as industrial psychology, evaluation of performance in industry, and human factors.
INR	5012	Globalization	3	AS	INT		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	AS	POL	Sr./GS.	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	AS	POL	Sr./GS.	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	AS	POL	PR: POS 6736 or CI.	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.
INR	6107	American Foreign Policy	3	AS	POL	GS.	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	AS	INT	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.
ISC	7930	Selected Topics in Interdisciplinary Science	1-4	AS	IAS		Interdisciplinary studies will cell and molecular biology perspective.
ISM	6021	Management Information Systems	2	BU	QMB		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	BU	QMB	Semester of coursework in an object-oriented programming language.	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	BU	QMB	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.
ISM	6124	Advanced Systems Analysis and Design	3	BU	QMB		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	6125	Software Architecture	3	BU	QMB	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	6136	Data Mining	3	BU	QMB	PR: Students should have had a database course and a statistics course.	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	6145	Seminar on Software Testing	3	BU	QMB	PR: ISM 6124 or an introductory course in Software Engineering.	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	BU	QMB	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.

ISM	6156	Enterprise Resource Planning & Business Process Management	3	BU	QMB	PR: None for M.S./MIS student, For other graduate students ISM 6021 or consent of instructor	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	BU	QMB	PR: As a prerequisite, students should have had at least two courses covering relational database systems (usually including ISM 6218: Advanced Database Systems), or significant work experience.	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	BU	QMB	PR: ISM 6123 or equiv., CC.	Advanced principles of Database Administration. Database Organization Models. Disaster Planning for Database Files.
ISM	6218	Advanced Database Management	3	BU	QMB	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	BU	QMB	PR: ISM 6123, CC.	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.
ISM	6305	Managing the Information System Function	3	BU	QMB	PR: ISM 6021 or equiv., CC.	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	BU	QMB	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	BU	QMB		Introduction of frameworks to assess IT risk and implement IT general controls; development of technical skills to secure computer networks.
ISM	6405	Decision Support Systems Applications	3	BU	QMB	PR: QMB 6305, QMB 6603.	Demonstrates tools for evaluating a wide range of common business problems in scheduling, supply chains, project planning, ... and other fields. Hands-on, interactive learning is emphasized using spreadsheets and other commonly-available applications.
ISM	6436	Operations & Supply Chain Processes	3	BU	QMB	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.

ISM	6442	International Aspects of Information Science	3	BU	QMB	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	BU	QMB	PR: ISM 6021, CI or CC.	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	BU	QMB	PR: CC. S/U.	Independent Study as directed by designated faculty.
ISM	6930	Selected Topics in MIS	1-6	BU	QMB	PR: CC.	Selected topics in MIS.
ISM	6971	Thesis: Master's	2-6	BU	QMB		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	7120	Information Requirements Management	3	BU	QMB	PR: CC.	Understanding the theoretical foundation for analyzing problem situations and determining information technology requirements; tools and skill requirements of the systems manager; and methods of managing computer-based information systems.
ISM	7140C	Systems Development Methodologies	3	BU	QMB	PR: CC.	Realistic in-depth application perspective of the tools and techniques of systems development.
ISM	7231	File Access Methods and Systems Software for Application Development	3	BU	QMB	PR: Departmental Approval.	An information system, viewed as a user application process interacting with data in a particular hardware/software environment, is analyzed to provide insights into various file access alternatives and advantages.
ISM	7422	Business Applications or Artificial Intelligence and Expert Systems	3	BU	QMB	PR: Departmental Approval.	Theory, concepts, methodologies, current trends, potential, interrelationships of artificial intelligence, expert systems, and decision process.
ISM	7441C	Computer-Based Applications in Operations Management	3	BU	QMB	PR: Departmental Approval.	Introduction to applications of computer technology in manufacturing and operations management. Focus on the design and implementation of applications to support the operations manager.
ISM	7905	Independent Study	1-6	BU	QMB	PR: CC. S/U.	Independent study in which student must have a contract with an instructor.
ISM	7910	MIS Research Seminar I	3	BU	QMB	PR: Departmental Approval.	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	BU	QMB	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	3	BU	QMB	PR: ISM 7910	This course is team taught by IS/DS

		IS Research					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	BU	QMB	PR: CC.	
ISM	7931	Directed Research	1-6	BU	QMB	PR: Ph.D. level, CC. S/U.	
ISM	7980	Dissertation	2-21	BU	QMB	PR: CC.	
ISS	5934	Selected Topics	1-3	AS	AFA	PR: CI plus senior standing or graduate status.	Interdisciplinary studies with course content dependent on student demand and instructor's interest.
ISS	6184	Development Ethics: Principles and Practice	3	AS	ISS		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	AS	ISS	PR: CI and GS or senior standing.	A supervised program of intensive reading of interdisciplinary materials of specific interest.
ISS	6910	Directed Research	1-19	AS	ISS		A supervised program of intensive reading of interdisciplinary materials of specific interest.
ISS	6934	Selected Topics	1-3	AS	ISS	PR: CI and senior standing or GS.	Interdisciplinary studies with course content dependent on student demand and instructor's interest. Rpt. As topics vary.
ITW	6910	Directed Research	1-19	AS	WLE	PR: GR. ML. S/U.	Selected topics in Italian literature.
JOU	5105	Newsriting and Editing	3	AS	COM	PR: GS in Mass Communications or CI.	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	5305	Explorations in Newsriting	3	AS	COM	PR: CC.	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	AS	COM	PR: An appropriate undergraduate degree in mass communications or significant professional experience in journalistic writing styles.	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	AS	COM	PR: CC.	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	AS	COM	PR: CC.	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	AS	COM	PR: CC.	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.
JOU	6349	Advanced Multimedia Journalism	3	AS	COM	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	AS	COM		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.
JOU	6707	Studies in Press Criticism	3	AS	COM	PR: CC.	A study of the principles and methods of journalism and the performance of its practitioners from a multi-disciplinary perspective of critical analysis.
LAE	5462	Young Adult and World Literature for New Teachers	3	ED	EDI	PR: Teaching position w/either English degree or 30 hrs of Undergraduate English	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	ED	EDI		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.
LAE	5932	Selected Topics in the Teaching of English	3	ED	EDT	PR: Certification in English and/or Mass Communications and approval of graduate advisor.	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	6301	Language Learning in Childhood	3	ED	EDE		Research used to assess the language behavior of normal children and application of selected research methodology to understanding linguistic behavior of children.
LAE	6315	Writing and Writers: Trends & Issues	3	ED	EDE		The purpose of this course is to examine writing as a developing symbol system that is embedded in social and cultural contexts. Students will develop instructional strategies to facilitate

							children's writing development, as well as develop individual strategies for composing personal and professional texts.
LAE	6316	Trends in Literature in a Diverse Society	3	ED	EDE		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.
LAE	6325	Methods of Teaching Middle School Language Arts	4	ED	EDI		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	ED	EDI		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.
LAE	6345	Teaching Written Composition	3	ED	EDT		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	ED	EDT	PR: Certification in English or Mass Communications	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	AS	ENG		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	AS	ENG		Examines the important research and theory in contemporary position pedagogy.
LAE	6389	Practice in Teaching Literature	1-3	AS	ENG		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.
LAE	6415	Literature And The Learner	3	ED	EDE		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	6467	World Literature for Teachers	3	ED	EDE	PR: English Education majors only or Certification in English or Mass Communications.	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	ED	EDE	PR: LAE 4314 or equivalent or DPR	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	ED	EDT	PR: LAE 4335 or LAE 4642 or Certification in English or Mass Communications.	Curricular patterns and instructional practices in secondary English.
LAE	6644	Current Teaching of the English Language and the Study of Traditional Grammar	3	ED	EDT	PR: Certification in English or Mass Communications.	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	ED	EDI	PR: Either in the MAT program or CI.	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	6793	Professional Leadership and Research in the Teaching of Writing	3	ED	EDI	PR: Must be invited to attend the Tampa Bay Area Writing Project Invitational Summer Institute, having fulfilled all application requirements, including the interview. 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.
LAE	6861	American and British Literature with Technology	3	ED	EDI		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	ED	EDT		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	ED	EDI	PR: Must be invited to attend the Tampa Bay Area Writing Project Invitational Summer Institute, having fulfilled all application requirements, including the	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.

						interview. CR: LAE 6792.	
LAE	6947	Internship	6	ED	EDI	CI.	Provides students with an extended school-based experience, under the guidance of a cooperating teacher and university supervisor, for a full semester at or near the end of their graduate program. Open to graduate degree candidates only. S/U (PR: CI)
LAE	6971	Thesis: Masters/Educational Specialist	2-19	ED	EDT	S/U.	
LAE	7376	Problems in Advanced English Instruction of Composition	3	AS	ENG	PR: Admission to the Ph.D. program in English.	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.
LAE	7390	Problems in Advanced English Instruction and Scholarly Research	3	AS	ENG	PR: Ph.D. Candidacy.	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	ED	EDE	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	ED	EDE	PR: Advanced understanding of reading and literacy processes. Admission to Ph.D. program.	Examines the historical, theoretical, and applied aspects of the relationships between linguistics and literacy.
LAE	7735	Advanced Seminar in English Education	3-15	ED	EDE		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	ED	EDI	PR: Doctoral standing or CI.	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	ED	EDE	PR: Doctoral Level Status	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.
LAE	7747	Literature Program Design	3	ED	EDE	PR: EDF 6481, LAE 6415, or LAE 6336 or DPR.	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	ED	EDE	PR: Ph.D. Standing.	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	ED	EDE	PR: Doctoral student standing.	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	7910	Directed Research in English Education	1-19	ED	EDT	PR: CI.	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	ED	EDI	PR: Admission to Candidacy	Rpt. S/U
LAS	6913	Independent Study and Research in Latin American	1-9	AS	INT	PR: CI.	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	AS	INT		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	AS	INT	PR: Graduate Standing.	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	AS	WLE		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	6018	Topics in Theoretical Linguistics	3	AS	WLE		Offerings will include current issues in any area of linguistic theory.
LIN	6081	Introduction to Graduate Study in Linguistics	3	AS	WLE	Required of all M.A. candidates.	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.
LIN	6117	History of Linguistic Thought	3	AS	WLE	PR: CC.	Survey of the development of language study in the West from Antiquity to the present. Classical and medieval theories of language; origins of traditional grammar; rationalist linguistic theory and philosophical grammar, and an examination of the origin of contemporary linguistic controversies.
LIN	6129	Studies in English Language and Linguistics	3	AS	WLE		An advanced study of the origin, historical development and contemporary structure of British and American English in its social and cultural milieu, with emphasis upon modern techniques for linguistic analysis and description.
LIN	6322	Phonological	3	AS	WLE	PR: CI.	Analysis of the phonological component

		Description					
							of a grammar, its role and formal structures. The generative model is compared to taxonomic descriptions. Theory and data-solution problems.
LIN	6351	The Sound System of English	3	AS	WLE	PR: LIN 5700 or EQ.	Training in applied phonetic transcription of American English speech; analysis and description of major phonological processes and dialect features of American English, with practice in teaching pronunciation.
LIN	6571	The Structure of a Specific Language	3	AS	WLE		Analysis of the linguistic structures of both common and uncommon languages.
LIN	6601	Sociolinguistics	3	AS	WLE		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	AS	WLE	PR: LIN 5700 or EQ.	Analysis and description of major morphological and syntactic structures of American English, with emphasis upon applied linguistics.
LIN	6715	Language Acquisition	3	AS	WLE	PR: LIN 3010, LIN 4377 or CI.	A survey of current research and theory in the processes of normal language acquisition and development.
LIN	6720	Second Language Acquisition	3	AS	WLE	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	AS	WLE	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	6748	Contrastive Analysis	3	AS	WLE		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	AS	WLE	PR: CC. S/U.	Independent study in which the student must have a contract with an instructor.
LIN	6910	Directed Research	1-10	AS	WLE	PR: GR. ML, CC. S/U.	
LIN	6932	Selected Topics	1-4	AS	WLE	PR: CC.	Content will depend upon instructor's interests and students' needs. Such topics and neurolinguistics, bilingualism, and discourse analysis may be taught.
LIN	6940	Graduate Instruction Methods	1-4	AS	WLE	S/U only.	Special course to be used primarily for the training of teaching assistants.
LIN	6971	Thesis: Master's	2-19	AS	WLE	S/U.	
LIS	5020	Foundations of Library and Information Science	3	AS	LIS		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.
LIS	5268	Microcomputer Applications Library and Information Centers	3	AS	LIS		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	AS	LIS		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	AS	LIS		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	AS	LIS	PR: LIS 5020 or LIS 6620. CR: LIS 6475.	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	5937	Selected Topics in Library Studies	1-4	AS	LIS		Covers a variety of topics in such areas as collection development, reference services, technical services, and administration.
LIS	6110	History of Libraries	3	AS	LIS		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	AS	LIS		Historical bibliographical survey of imaginative and information literature for children.
LIS	6206	Adult Services in Libraries	3	AS	LIS	PR: LIS 6511 or CI.	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	6212	Reading Guidance Programs in Libraries and Classrooms	3	AS	LIS		Working with factors and forces influencing reading habits of children and youth; programs for teaching investigative and library skills materials and methods for guidance of reading, listening, and viewing.
LIS	6225	Storytelling	3	AS	LIS	PR: LIS 6585 or CI.	Building storytelling programs for school and public libraries or other educational institutions. Analysis of historical aspects, materials suitable for use and audience reaction.
LIS	6260	Information Science in Librarianship	3	AS	LIS		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	AS	LIS	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	AS	LIS		Fundamentals of preparing and using audiovisuals as they relate to the communication process.
LIS	6316	Visualization of	3	AS	LIS	PR: LIS 6260	This course covers the perceptual basis

		Knowledge					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	AS	LIS		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	AS	LIS		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	AS	LIS	PR: LIS 6409 or CC.	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	AS	LIS	PR: LIS 6409 or CC.	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.
LIS	6455	Organization and Administration of the School Media Center	3	AS	LIS	PR: LIS 6409 or CC.	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	AS	LIS		Development of library networks at the local, state, regional, and national levels with consideration of organization, administration, services, funding, and legislation.
LIS	6464	Library Systems Analysis and Planning	3	AS	LIS		Application of systems planning and data processing technology to library files. Emphasis on analysis of selected library subsystems.
LIS	6472	Seminar in Special Libraries	3	AS	LIS	PR: LIS 6409 or CC.	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	AS	LIS	PR: LIS 6260, LIS 6409, LIS 6603, LIS 6735, or CC.	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	AS	LIS	PR: LIS 6260, LIS 6409, LIS 6603, LIS 6735 or CC. Field trip may be required.	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.
LIS	6511	Collection Development and Maintenance	3	AS	LIS	CP: 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	6542	The Curriculum and Instructional Technology	3	AS	LIS		Effective utilization of instructional materials as they relate to specific areas of curriculum in elementary and high school programs.
LIS	6565	Books and Related Materials for Young Adults	3	AS	LIS		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	6585	Materials for Children	3	AS	LIS		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	6603	Basic Information Sources and Services	3	AS	LIS		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	6609	Online Information Sources and Services	3	AS	LIS	PR: LIS 6260, LIS 6603, or CC.	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	AS	LIS	PR: LIS 6603 or CC.	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	AS	LIS	PR: LIS 6603 or CC.	Consideration of the bibliographical and reference materials in the social sciences with training and practice in their use for solving problems in reference service.
LIS	6624	Information Sources and Services in Business and Law	3	AS	LIS	PR: LIS 6603 or CI.	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	AS	LIS	PR: LIS 6603 or CC.	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	AS	LIS		The nature of state, federal, United Nations, and international documents, their reference and research value; the techniques of acquisition, organization, and reference use.
LIS	6724	Classification and Cataloging of Non-Book Materials	3	AS	LIS	PR: LIS 6735 or CC.	Principles and practices in cataloging and organizing non-book materials.

LIS	6725	Organization of Knowledge I	3	AS	LIS		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	6726C	Indexing and Abstracting	3	AS	LIS	PR: LIS 6725 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	AS	LIS		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	6745	Organization of Knowledge II	3	AS	LIS	PR: LIS 6725.	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	6906	Independent Study	1-4	AS	LIS	PR: 20 hours in program and consent of advisor. S/U.	
LIS	6946	Supervised Field Work	3	AS	LIS	PR: CC.	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	AS	LIS	PR: LIS 5937, LIS 6711, LIS 6724 Co-R: LIS 6603, LIS 6409, LIS 6271, LIS 6511	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.
LIT	6096	Studies in Contemporary Literature	3	AS	ENG		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	AS	ENG		General areas include the Renaissance, the Enlightenment, the Novel in Europe, the Romantic Movement on the Continent, and Classical Comedy.
LIT	6934	Selected Topics in English Studies	1-6	AS	ENG		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	AS	WLE	Departmental approval required. S/U.	
LNW	5934	Selected Topics	4	AS	WLE		Study of an author, movement, or

							theme.
LNW	6505	Roman Philosophy	3	AS	WLE		Readings in the philosophic writings of Cicero, Seneca, and Lucretius, together with an examination of Stoic, Epicurean, and Eclectic thought.
LNW	6655	Horace	3	AS	WLE		Readings in the Odes and Epodes of Horace; study of the Ode's tradition.
LNW	6665	Vergil	3	AS	WLE		Readings in the Aeneid, the Eclogues, and the Georgics.
LNW	6910	Supervised Research	3	AS	WLE	PR: CC.	
LNW	6940	Supervised Teaching	3	AS	WLE		
MAA	5306	Real Analysis I	3	AS	MTH	PR: MAA 4211.	Riemann-Stieltjes integrals, uniform convergence, Fourier series, Lebesgue measure and integration on R.
MAA	5307	Real Analysis II	3	AS	MTH	PR: MAA 5306.	Metric spaces, Banach spaces, and function spaces; measure and integration on abstract spaces.
MAA	5405	Applied Complex Analysis	3	AS	MTH	PR: CI.	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	AS	MTH	PR: MAA 5405 or CI.	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	AS	MTH	PR: MAA 6406 or CI.	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	AS	MTH	PR: MAA 5307, MAS 5107 or CI.	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	AS	MTH	PR: MAA 6506.	Hilbert spaces, spectral theory, and other topics.
MAA	6616	Abstract Integration	3	AS	MTH	PR: MAA 5307 or CI.	Measure as abstract integration; Riesz representation theorem, Fubini's Theorem, Radon-Nikodym Theorem, LP spaces.
MAD	5101	LISP: Programming With Algebraic Applications	3	AS	MTH	PR: MHF 5306 or MAD 6510 or MAS 5311 or CI.	Programming in LISP, functional languages, foundations of Lambda Calculus and algebraic applications (theorem proving and game playing).
MAD	5305	Graph Theory	3	AS	MTH	PR: MAS 3105 or CI.	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	AS	MTH	PR: MAS 3105 and MAS 4301 or CI.	Elementary counting principles, distributions, sets, multisets, partitions of sets and integers, generating functions and recurrences, graphical methods, probabilistic methods.
MAD	6207	Combinatorics II	3	AS	MTH	PR: MAS 5311 and MAD 6206 or CI.	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	AS	MTH	PR: MAS 4301 or CI.	Mathematical theory of algorithms for information processing, including time

							and space requirements of algorithms, construction of optimal algorithms.
MAD	6616	Algebraic Automata Theory	3	AS	MTH	PR: MAS 4301 or CI.	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	AS	MTH	PR: MAS 5311 or CI.	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.
MAE	5875	Abstract Algebra for Teachers	3	AS	MTH	PR: MAS 3105 and MAS 4301 and Bachelor's degree or CI. No credit for Mathematics majors.	Groups, fields, vector spaces as they relate to high school algebra and geometry.
MAE	6115	Current Trends in Elementary Mathematics Education	3	ED	EDE	PR: MAE 4310 or equiv.	Philosophy, content, and process of mathematics instruction in elementary school programs.
MAE	6117	Teaching Elementary Math	3	ED	EDE		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	ED	EDO	PR: Admission to the MAT program in middle grades mathematics or CI and 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	ED	EDO	PR: Admission to the MAT program in middle grades mathematics or CI.	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	ED	EDO	PR: MAE 4330 or DPR.	Curricular patterns and instructional practices in secondary mathematics.
MAE	6137	Topics in Teaching Probability and Statistics	3	ED	EDO	PR: Admission to a graduate program in mathematics education.	This course examines issues related to teaching probability and statistics in secondary schools.
MAE	6315	Algebraic Thinking for Elementary Teachers	3	ED	EDO	PR: Admission into the MA in Elementary with a Mathematics/Science emphasis.	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	ED	EDO	PR: Admission into the MA in Elementary with a Mathematics/Science emphasis.	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	ED	EDO	PR: Admission into the MAT in Middle Grades Mathematics or CI. Completion of	This course examines advanced functions topics, basic concepts of trigonometry, and the foundations of calculus. Teachers experience

						MAE 6127, MAE 6328, MAE 6329, and MAE 6325.	instructional approaches appropriate for use in middle grades classrooms.
MAE	6325	Number Theory for Middle Grades Teachers	3	ED	EDO	PR: Admission into the MAT in Middle Grades Mathematics or CI.	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	ED	EDO	PR: Admission into the MAT in Middle Grades Mathematics or CI. Completion of 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.
MAE	6329	Geometry and Measurement for Middle Grades Teachers	3	ED	EDO	PR: Admission into the MAT in Middle Grades Mathematics or CI.	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	ED	EDO	PR: Admission into the MA in Elementary with a Mathematics/Science emphasis.	This course analyzes problem-solving strategies of elementary teachers and their students.
MAE	6336	Topics in Teaching Calculus	3	ED	EDO	PR: Admission to a graduate program in mathematics education.	This course examines issues related to teaching calculus in secondary schools.
MAE	6337	Topics in Teaching Algebra	1-4	ED	EDO	PR: Undergraduate degree in mathematics or certification in secondary school mathematics	Topics in algebra, philosophy, new trends, and methods of teaching secondary school algebra.
MAE	6338	Topics in Teaching Geometry	1-4	ED	EDO	PR: Undergraduate degree in mathematics or certification in secondary school mathematics	Topics in geometry, philosophy, new trends, and methods of teaching secondary school geometry.
MAE	6356	Teaching of Pre-Secondary School Mathematics	3	ED	EDO	PR: 12 hours of mathematics. DPR.	Development of strategies and materials for teaching mathematical concepts and skills appropriate to pre-secondary school years.
MAE	6362	Senior High Mathematics Methods	3	ED	EDO	PR: Admission into the MAT in Mathematics Education (6-12) or CI.	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	ED	EDO	PR: Admission to a graduate program in mathematics education.	This course examines high school mathematics from an advanced perspective and makes connections between college level mathematics and the mathematics of the secondary school.
MAE	6643	Communication Skills in Mathematics	3	ED	EDO	PR: Admission into the MAT in Middle Grades Mathematics or CI.	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	ED	EDO	PR: Admission into a graduate initial certification program in mathematics education. CR: MAE 6947, Graduate Internship: Mathematics Education.	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	ED	EDO		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	ED	EDO	PR: Admission into a graduate initial certification program in mathematics education.	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	ED	EDI	PR: CI.	Provides students with an extended school-based experience, under the guidance of a cooperating teacher and university supervisor, for a full semester at or near the end of their graduate program. Open to graduate degree candidates only. S/U (PR: CI)
MAE	6971	Thesis: Masters/Educational Specialist	2-19	ED	EDO	S/U.	
MAE	7138	Assessment in Mathematics Education	3	ED	EDO	PR: Admission to the Ph.D. Program with emphasis in Mathematics Education or CI.	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	ED	EDO	PR: Admission to the Ph.D. Program with emphasis in Mathematics Education or CI.	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	ED	EDO	PR: Admission to the Ph.D. Program with emphasis in Mathematics Education or CI.	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	7718	Childhood Education & Literacy Studies	3	ED	EDO	PR: Advanced understanding of reading and literacy processes. Admission to Ph.D. program.	Examines the historical, theoretical, and applied aspects of the relationships between linguistics and literacy.
MAE	7735	Advanced Seminar in English Education	3-15	ED	EDO		Doctoral seminar explores theories, perspectives and research related to the study of the English Language Arts. Topics vary by semester. Doctoral standing only.
MAE	7745	Literary Theory and Research in Children's Literature	3	ED	EDO	PR: Doctoral Level Status.	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.
MAE	7794	Preparing Teachers of Mathematics, K-12	3	ED	EDO	PR: Admission to the Ph.D. Program with emphasis in Mathematics Education or CI.	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	ED	EDO	PR: Admission to the Ph.D. Program with emphasis in Mathematics Education or CI.	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.
MAE	7910	Directed Research in Mathematics Education	1-19	ED	EDO	PR: CI.	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	ED	EDO	PR: Admission to the Ph.D. Program with emphasis in Mathematics Education or CI.	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	ED	EDO	PR: Admission to Candidacy.	
MAN	6053	Politics and Control in Organizations	3	BU	MAN	PR: GS.	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	6055	Human Behavior and Organization	2	BU	MBA	PR: GS.	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	Leadership Perspective	3	BU	MAN		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	Managing Diversity	3	BU	MAN		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	2	BU	MAN		
MAN	6149	Leadership and Teams	3	BU	MAN	PR: GS.	) 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	6204	Organization Design and Structure	3	BU	MAN		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.
MAN	6256	Politics and Control in Organizations	3	BU	MAN		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	BU	MAN	PR: MAN 6055 or CI.	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	BU	MAN	PR: GS.	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	6448	Negotiating Agreement and Resolving Conflict	3	BU	MAN		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	6525	Quality Management	3	BU	MAN	PR: GS.	This course provides the student with an understanding of the fundamentals of quality management. Students will develop an appreciation for the complexities of modern organizations in the pursuit of quality. A cross-function multidisciplinary approach is used.
MAN	6527	Advanced Seminar in Quality Management	3	BU	MAN	PR: MAN 6525	This course explores the new paradigm shift occurring in business. Focusing on quality enhancement initiatives, the course explores the execution of quality management programs and their associated complexities.
MAN	6569	Quantitative Applications for Management Decisions	3	BU	QMB	PR: QMB 6305 and QMB 6603	The integration of quantitative approaches and management science tools into the decision making process at various organizational levels and in various organizational settings involved in the production and dissemination of goods and services.
MAN	6601	International Management	3	BU	MAN	PR: GS.	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	BU	MAN	PR: GS.	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.
MAN	6726	Strategic Planning	3	BU	MAN	PR: Graduate Standing	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	6806	Entrepreneurship and Small Business Management Counseling	1-3	BU	MAN		Small business management consulting to an on-going firm or development of a business plan for a new enterprise. Emphasis on developing consulting skills and recognizing implications of entrepreneurs capabilities and attitudes for success.
MAN	6905	Independent Study	1-19	BU	MAN	PR: CC. S/U.	Independent study in which student must have a contract with an instructor.
MAN	6911	Directed Research	1-19	BU	MAN	S/U. PR: GR. ML, CC.	
MAN	6930	Selected Topics	1-4	BU	MAN	PR: CC.	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	6971	Thesis: Master's	1-19	BU	MAN		
MAN	7205	Organization Theory	3	BU	MAN	PR: MAN 7225 or CI.	Interdisciplinary overview of theory and research on macro organizational variables affecting organizational design and effectiveness. Focus on relationships between organizational structure and dynamics of human behavior.
MAN	7225	Research Elective in Management	3	BU	MAN	PR: MAN 6055, Research Methods I and II or equiv.	Parametric & nonparametric statistics required. Research: Methods for organization analysis and management, design, sample selection, data collection, interpretation and presentation of results.
MAN	7245	Organizational Behavior	3	BU	MAN	PR: MAN 7205 or CI.	Behavioral concepts and practices in organizations. Emphasis on individual groups, intragroup and intergroup development and actions; organization; socialization; motivation; values; performance; communication effectiveness.
MAN	7285	Organizational Development	3	BU	MAN	PR: MAN 7205 or CI.	Theory and research relating to management efforts to design and implement continual developmental activities to alter climate and improve productivity and effectiveness in dynamic organizations.
MAN	7900	Directed Readings in Management	3	BU	MAN	PR: MAN 7245 and MAN 7285 or CI.	Advanced reading program from selected areas in management under supervision of faculty member, requiring written contract describing requirements, prior to registration.
MAN	7905	Independent Study in Management	1-4	BU	MAN	PR: CC. S/U only.	Course permits a management doctoral student to conduct research and pursue specific areas of interest with a faculty member as supervisor. Contract required to establish performance levels expected.
MAN	7910	Directed Research in Management	3	BU	MAN	PR: MAN 7245 and MAN 7285 or CI. S/U.	Advanced directed research program in a specific area of management under supervision of a management faculty member.
MAN	7920	Research Symposium	1	BU	MAN		

MAN	7930	Selected Topics in Management	3	BU	MAN	PR: MAN 7245 and MAN 7285 or CI.	A flexible format to offer specialized courses in management not available in regular curriculum.
MAN	7932	Seminar in Management	3	BU	MAN	PR: MAN 7245 and MAN 7285 or CI.	Critical examination of problems and issues relevant to contemporary management, such as productivity improvement, environmental constraints, etc.
MAN	7935	Seminar in Strategic Management	3	BU	MAN	PR: CC.	Introduces basic theoretical issues and empirical research in strategic management.
MAN	7980	Dissertation	2-21	BU	MAN	PR: Successful completion of preliminary exams; successful completion of Field Exams in each Major and Secondary field and admission to candidacy for Ph.D. program in Management.	
MAP	5316	Ordinary Differential Equations I	3	AS	MTH	PR: MAP 2302 and MAA 4211, or CI.	Existence and uniqueness theory, properties of solutions, linear systems, stability theory. Sturm-Liouville theory.
MAP	5317	Ordinary Differential Equations II	3	AS	MTH	PR: MAP 5316 and MAA 5307 or CI.	Topics selected from fixed point theory, comparison theory, oscillation theory, Poincare-Bendixson Theory, Lyapunov functions, eigenfunction expansions.
MAP	5345	Applied Partial Differential Equations	3	AS	MTH	PR: MAP 5407 or CI.	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	AS	MTH	PR: MAP 2302 or CI.	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	AS	MTH	PR: MAA 5307 and MAP 5316 or CI.	Projection theorems and minimum norm problems, convex analysis, duality principle, constrained optimization, finite dimensional linear systems, controllability, optimal control and pontryagin maximum principle
MAP	6206	Mathematical Optimization Theory II	3	AS	MTH		
MAP	6336	Theory of Ordinary Differential Equations I	3	AS	MTH	PR: MAA 5307 and MAP 5317, or CI.	Advanced topics selected from: existence and uniqueness theory, singularity theory, asymptotics and stability, eigenfunctions, perturbations, topological methods, spectral theory of differential operators.
MAP	6356	Partial Differential Equations	3	AS	MTH	PR: MAP 5345 and MAA 5307, or CI.	Advanced topics from: elliptic boundary value problems, semigroup theory, Sobolev spaces, degree theory, regularity, evolution equations
MAR	6158	International Marketing Management	3	BU	MKT	PR: MAR 6815, CC.	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.
MAR	6216	Logistics and Physical Distribution	3	BU	MKT	PR: MAR 6815 or CI.	A study of managerial methods focusing on the establishment and control of

		Management					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	BU	MKT	PR: MAR 6815, CC.	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	BU	MKT	PR: MAR 6815, CC.	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	BU	MKT	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.
MAR	6815	Marketing Management	2	BU	MBA	PR: ECO 6114, CC.	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	BU	MKT	PR: MAR 6815, CC.	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	BU	MKT	PR: CC. S/U.	Must have a contract with an instructor.
MAR	6916	Directed Research	1-19	BU	MKT	PR: GR. M.L, CC. S/U.	
MAR	6936	Selected Topics in Marketing	1-4	BU	MKT	PR: CI.	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	BU	MKT	PR: CC.	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	BU	MKT	PR: QMB 7565, QMB 7566 or CI.	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.

MAR	7667	Marketing Models and Strategy Applications	3	BU	MKT	PR: CC.	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	BU	MKT	PR: GS and CI.	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	BU	MKT	PR: CC. S/U.	This course permits a doctoral student to pursue research in a specific area under the direct supervision of a faculty member.
MAR	7930	Advanced Seminar in Marketing	3	BU	MKT	PR: CC.	Broad readings within the field of marketing; an intensive survey and analysis of current marketing problems, their significance, evaluation, and probable outcome; suggestions of possible future empirical research directions and investigations.
MAR	7931	Seminar on Selected Marketing Topics	3	BU	MKT	PR: CC.	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	7980	Dissertation	2-21	BU	MKT	PR: Successful completion of preliminary exams; successful completion of field exam in each major and secondary field; and admission to candidacy for Ph.D. program in marketing.	Directed research.
MAS	5107	Advanced Linear Algebra	3	AS	MTH	PR: MAS 3105 and MAS 4301 CP: MAS 5311.	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	AS	MTH	PR: MAS 3105 and MAS 4301, or CI.	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	AS	MTH	PR: MAS 3105 and MAS 4301 or CI.	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	AS	MTH	PR: MAS 5311 or Cl.	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	AS	MTH	PR: Cl.	Each course covers a single topic outside the usual curriculum.
MAT	6908	Independent Study	1-19	AS	MTH	S/U.	Independent study in which student must have a contract with an instructor.
MAT	6911	Directed Research	1-19	AS	MTH	PR: Master's degree. S/U.	
MAT	6932	Selected Topics	1-4	AS	MTH	PR: Cl	Each course covers a single topic outside the usual curriculum.
MAT	6939	Graduate Seminar	1-4	AS	MTH	S/U.	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	AS	MTH	PR: Cl. S/U	
MAT	7912	Directed Research	1-19	AS	MTH	PR: Ph.D. level. S/U.	
MAT	7980	Dissertation: Doctoral	2-19	AS	MTH	PR: Admission to Candidacy	
MCB	5206	Public Health and Pathogenic Microbiology	3	AS	BCM	PR: MCB 3020C, Cl.	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	AS	BCM	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	AS	BIN	PR: MCB 3020C.	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	AS	BCM	PR: MCB 3020C or Cl.	A modern biological survey of the medically important fungi (yeasts and molds) important to microbiologists and environmental scientists.
MCB	6433	Clinical Correlations in Molecular Medicine	3	ME	MSG	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	6760	Microbial Symbioses	3	AS	BIN		A detailed study of the diversity and biological significance of symbiotic associations formed by prokaryotic and eukaryotic microbes with higher organisms. Emphasis is on the regulatory interplay between host and symbiont and the factors influencing the initiation, development, and maintenance of these associations.
MCB	6919	Independent Study	1-	AS	BCM	PR: Cl. S/U.	Independent study in which student

			19				must have a contract with an instructor.
MCB	6930	Graduate Microbiology Seminar	1	AS	BCM		A critical examination and discussion of current literature of microbiology.
MCB	6971	Thesis: Master's	2-19	AS	BCM	PR: CI. S/U.	
MET	6140	Weather, Climate, and Society	3	AS	GPY	PR: Undergraduate general meteorology or CI.	This course explores the societal impacts of weather as well as the human impact on weather and climate. Students lead and participate in discussions
MHF	5306	Mathematical Logic and Foundations I	3	AS	MTH	PR: MAS 4301 or CI.	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	AS	MTH	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	AS	MTH	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	AS	MTH	PR: MHF 5306	Continuation of MHF 5306.
MHS	5020	Foundations of Mental Health Counseling	3	BC	REH	PR: CC.	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	BC	REH	PR: RCS 5780, MHS 5020, Majors only.	Human development theory as applied in psychotherapy and case management rehabilitation, mental health, and addiction settings.
MSH	5721	BRIDGE Proseminar I	2	BC			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.
MSH	5722	BRIDGE Proseminar II	2	BC		PR: Bachelor's Degree.	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	BC		PR: Because this is an advanced review course students should have completed an undergraduate research methods course Students not meeting this requirement can seek permission of the instructor.	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 certificate.
MSH	5746	Applied Quantitative Research Methods	3	BC		PR: Because this is an advanced review course students should have	Reviews quantitative research methods while focusing on the application of such concepts in real research contexts preparing students to understand the

						completed an undergraduate research course and an introductory statistics class Students not meeting these requirements can seek permission of the instructor.	nature assumptions processes and ethical application of quantitative methodology.
MHS	5889	BRIDGE Community Field Experience	2	BC		PR: Bachelor's Degree.	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	ED	EDG		Independent studies on a selected topic.
MHS	6006	Trends and Principles of the Counseling Profession	4	ED	EDG	PR: CI	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	6021	Counseling in Community Settings	3	ED	EDG	PR: MHS 6006, MHS 6070, MHS 6200, MHS 6340, MHS 6400, MHS 6420, MHS 6470, MHS 6509, MHS 6700. CR: MHS 6800.	The study of community counseling within the context of health and human service systems including treatment modalities, administration, and fiscal considerations.
MHS	6065	Issues and Trends in Developmental Disabilities	3	BC		PR: Bachelor's Degree.	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	6070	Study of Mental Disorders for Counselors	4	ED	EDG	PR: MHS 6006 or CI.	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	BC	FMH		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.
MHS	6073	Child and Adolescent Psychopathology and Resilience	3	BC	FMH		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	BC	FMH		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	3	BC	FMH		Course introduces students to the science of implementation and key

		Children's Mental Health					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	BC	FMH		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	BC	FMH		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.
MHS	6200	Assessment and Appraisal Procedures	4	ED	EDG	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	BC	FMH		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	6210	Wraparound Interventions and the System of Care	3	BC	FMH		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	6311	Online Services in Counseling and Helping Professions	3	ED	EDG		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	ED	EDG	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	ED	EDG	PR: MHS 6006	Study of the various components of designing, implementing, managing and evaluating effective career programs.
MHS	6400	Counseling Theories and Practices	4	ED	EDG	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.
MHZ	6410	Intensive Individualized Positive Behavior	3	BC			Provides class participants with knowledge and skills necessary to

		Support					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	ED	EDG	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	ED	EDG	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.
MHS	6421	Counseling Children	4	ED	EDG	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	6430	Dynamics of Marriage & Family Systems Theory	4	ED	EDG	PR: MHS 6400.	The major theoretical approaches to systems therapy including strategic, structural, contextual, object-relations and Adlerian models are presented. Also included is the investigation of transgenerational problems and symbolic structures in families as they relate to General Systems Theory.
MHS	6431	Family Therapy & Techniques	4	ED	EDG	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	6432	Marriage Therapy	4	ED	EDG	PR: MHS 6430.	A study of the marriage relationship with emphasis on issues of premarital, marital, divorce, intimacy, and conflict management. Course activities introduce students to a wide variety of therapy procedures and intervention strategies.
MHS	6450	Counseling Substance Abuse in School and Community	4	ED	EDG	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	ED	EDG	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.
MHS	6494	Women's Mental Health	3	BC			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	6509	Group Counseling Theories and Practices	4	ED	EDG	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	ED	EDG	PR: MHS 6400 and MHS 6006. Non-majors need instructor's approval.	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	BC			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.
MHS	6608	Schoolwide Positive Behavior Support	3	BCC			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	ED	EDG		Study of community counseling within the context of health and human service systems including treatment modalities, administration, and fiscal considerations.
MHS	6645	Mental Health Informatics	3	BC	FMH		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	ED	EDG	PR: MHS 6006.	Study of legal, ethical and related issues affecting the role and responsibilities of counselors in schools and mental health facilities.
MHS	6800	Practicum in Counseling Adolescents and Adults	4	ED	EDG	PR: MHS 6400. S/U. DPR.	Supervised counseling for integration and application of knowledge and skills gained in didactic study.
MHS	6885	Internship in Community Agency Counseling	3-6	ED	EDG		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	ED	EDG	PR: MHS 6800, MHS 6006, MHS 6200, MHS 6340, MHS 6341, MHS 6400, MHS 6420, MHS 6700, EDF 6481; CR: MHS 6601.	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	BC	FMH		This course will address selected special topics. Prerequisite is at least three credits in research and evaluation courses at the graduate level.
MHS	6901	Independent Studies in Mental Health Studies	1-4	BC	FMH		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	ED	EDG	PR: DPR.	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	ED	EDG	PR: Program approval required - FAO 126.	Independent study in behavior analysis provides students opportunities to focus on special areas of study under a contractual agreement with a faculty member.
MHS	6930	Seminar In Guidance	1-4	ED	EDG	PR or CR:MHS 6006, DPR. S/U.	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	BC	FMH		Addresses selected topics in behavior analysis applications in complex community environments through lecture, class discussion, and supervised special projects.
MHS	6940	Practicum in Behavior Analysis in Community Settings	2-4	BC	FMH	PR: Program approval required - FAO 126.	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	6970	Thesis: Masters/Educational Specialist	2-19	ED	EDG	S/U. MA/EdS Candidates only.	
MHS	6971	Thesis in Applied Behavior Analysis	2-6	BC	FMH	PR: Program approval required - FAO 126.	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.
MHS	7401	Advanced Counseling: Theories and Practicum	4	ED	EDG	PR: CI.	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	ED	EDG	PR: CI.	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	7740	Survey Course in Planning, Evaluation and Accountability	3	BC	FMH	PR: Masters in field related to human services or at least 16 credits toward a masters degree.	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	BC	FMH	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	7930	Advanced Seminar in Counselor Education	2	ED	EDG	PR: DPR. S/U.	Seminar for advanced graduate students in counselor education. Issues and trends in professional counseling will be addressed.
MHS	7980	Dissertation	2-30	ED	EDG	PR: Admission to Candidacy.	
MMC	6206	Mass Communications Ethics	3	AS	COM	PR: GS in Mass Communications or CI.	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	AS	COM	PR: CC.	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	AS	COM	PR: CC.	The study of mass communication theories, structures, influences, and their relationships to institutions in American society.
MMC	6415	Strategic Communication Media	3	AS	COM	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	AS	COM		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.
MMC	6421	Research Methods in Mass Communications	3	AS	COM	PR: CC.	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	6607	Public Opinion and the Mass Media	3	AS	COM	PR: CC.	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	AS	COM	PR: CC.	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.
MMC	6900	Directed Reading in Mass Communications	1-3	AS	COM	PR: CI and permission of graduate advisor.	Readings in specialized areas of mass communications as agreed to by the

						S/U.	instructor and the student by contract.
MMC	6910	Individual Research in Mass Communications	1-3	AS	COM	PR: CI and permission of graduate advisor. S/U.	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	AS	COM	PR: CC.	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	AS	COM	PR: CC.	Courses designed to meet current, specific topics of interest to students and instructors.
MMC	6945	Professional Practicum	3	AS	COM	PR: 12 graduate hours in mass communications and CC. S/U.	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	AS	COM	PR: CI and permission of graduate advisor. S/U.	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	AS	COM	PR: CI and permission of graduate advisor. S/U. Students must take minimum of 6 hours.	
MTG	5256	Differential Geometry	3	AS	MTH	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	AS	MTH	PR: MAA 4211.	Topological spaces, continuity, homeomorphisms, connectedness, compact spaces, separation axioms, product spaces.
MTG	5317	Topology II	3	AS	MTH	PR: MTG 5316.	The fundamental group; elements of homotopy theory and homology theory.
MUC	5625	Jazz Composition	2	TA	MUS	PR: CI. Required of all composition majors.	Private instruction in original composition.
MUC	6251	Composition	4	TA	MUS	PR: DPR.	Private instruction in original composition. Required of composition majors.
MUC	6444	Electronic Music/Analog/Digital Systems Research I	3	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	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	6625	Seminar In Jazz Compositional Styles	2	TA	MUS	PR: DPR.	A seminar study of the major compositional figures in jazz. Oriented toward the continuing development of

							students' own writing ability.
MUC	6626	Jazz Composition	4	TA	MUS	PR: Cl. Required of all composition majors.	Private instruction in original composition.
MUE	6080	Foundations And Principles Of Music Education	3	TA	MUS	PR: Acceptance into Music Education Graduate Program or DPR.	Investigation of historical, philosophical, and psychological foundations of music education.
MUE	6097	Music, Medicine, and Myths	2	TA	MUS	PR: Graduate standing and upper-level undergraduate with advisor's permission.	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	TA	MUS	PR: Acceptance in the Music Education Graduate Program or DPR.	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	TA	MUS	PR: Acceptance in the Music Education Graduate Program or DPR.	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.
MUE	6347	Advanced Techniques and Research in Instrumental Music Education	3	TA	MUS	PR: Acceptance in the Music Education Graduate Program or DPR.	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	6648	Techniques and Research in Alternate Music Education Methods	3	TA	MUS	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	6906	Independent Study: Music Education	1-6	TA	MUS	S/U. DPR.	Independent study in which students must have a contract with an instructor.
MUE	6942	Graduate Internship in Music Education	6	TA	MUS		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	TA	MUS	PR: DPR.	
MUE	7746	Measurement and Evaluation in Music	2	TA	MUS		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	2	TA	MUS		This course is designed to acquaint students with foundations, methods, and applications of qualitative research in education and music education.
MUE	7815	Psychology of Music	3	TA	MUS	PR: Acceptance in the Music Education Graduate Program, a	A critical examination of current findings regarding the phenomena of the psychology of musical behaviors

						graduate level educational psychology course or its equivalent, or DPR.	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	2	TA	MUS		A critical examination of theories and research in music cognition in relation to perception and developmental psychology.
MUE	7835	Philosophical and Historical Issues in Music Education	3	TA	MUS	PR: Acceptance in the Music Education Graduate Program or Cl.	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	TA	MUS		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	TA	MUS	PR: Dept. Approval Required	This course will provide an opportunity to examine selected topics in the research of choral, instrumental, general, and alternative music instruction models.
MUE	7939	Center for Music Education Research Seminar	1-2	TA	MUS	PR: Admission to Ph.D. Program	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	TA	MUS	PR: Admitted to Candidacy. S/U. DPR.	
MUE	7990	Seminar on Music in Higher Education	2	TA	MUS	PR: Dept. Approval Required	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	6256	Choral Literature And Conducting I	4	TA	MUS	PR: DPR.	Combination of seminar, classroom, and laboratory types of experience designed to provide depth in stylistic study of choral music literature and performance.
MUG	6257	Choral Literature And Conducting II	4	TA	MUS	PR: DPR.	Combination of seminar, classroom, and laboratory types of experience designed to provide depth in stylistic study of choral music literature and performance.
MUG	6258	Choral Literature And Conducting III	4	TA	MUS	PR: DPR.	Combination of seminar, classroom, and laboratory types of experience designed to provide depth in stylistic study of choral music literature and performance.
MUG	6307	Band/Wind Ensemble Conducting	3	TA	MUS	PR: DPR.	Combination of lecture, seminar, laboratory and individual instruction experiences designed to provide development of advanced conducting

							skills.
MUG	6930	Advanced Choral Techniques	3	TA	MUS	PR: DPR.	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.
MUL	6205	Advanced Choral Conducting	2	TA	MUS	PR: Dept. Approval Required.	Combination of private study and laboratory experiences designed to teach conducting technique and rehearsal skills while encouraging leadership qualities in the choral conductor.
MUL	6375	Twentieth Century Music Literature	3	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	A study of style, history, and performance practice in keyboard repertory including masterworks of all periods.
MUL	6411	Keyboard Repertory II	2	TA	MUS	PR: DPR.	A study of style, history, and performance practice in keyboard repertory including masterworks of all periods.
MUL	6505	Symphonic Literature	2	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	A survey and stylistic analysis of chamber music repertory from 1750 through the present day.
MUL	6624	Song Literature I	2	TA	MUS	PR: DPR.	Solo song literature from the 17th century through the contemporary with emphasis on German lieder, French songs, and contemporary English and American songs; special emphasis on performance.
MUL	6625	Song Literature II	2	TA	MUS	PR: DPR.	Solo song literature from the 17th century through the contemporary with emphasis on German lieder, French songs, and contemporary English and American songs; special emphasis on performance.
MUL	6655	Choral Literature 1500-1800	3	TA	MUS	PR: Dept. Approval Required.	A study and analysis of choral music from 1500-1800.
MUL	6656	Choral Literature 1800-present	3	TA	MUS	PR: Dept. Approval Required.	A study and analysis of choral music from 1800-present.
MUL	6671	Opera Literature	2	TA	MUS	PR: DPR.	A chronological study of the development of opera from 1600 to the present; emphasis on the technical, stylistic, and performance aspects of opera.
MUL	6687	Solo Vocal Literature In Oratorio	2	TA	MUS	PR: DPR.	A survey of literature for the solo voice in cantatas and orchestral music.
MUN	6145	Wind Ensemble	1	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	6385	University-Community Chorus	1	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	6437	Horn Quartet	1	TA	MUS	PR: DPR.	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	6445	Percussion Ensemble	1	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	6455	Piano Ensemble	1	TA	MUS	PR: DPR.	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	6456	Piano Ensemble	1	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	6716	Jazz Chamber Ensemble	1	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	Independent studies in the various areas of music; course of study and credits must be assigned prior to registration.
MUS	6520	Computer Applications in Music Education	3	TA	MUS		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	3	TA	MUS	PR: DPR.	A study of the methods of research and

		In Music And Music Education					professional bibliography and with an individual, formal project as a terminal requirement.
MUS	6906	Independent Study	1-19	TA	MUS	PR: DPR,S/U.	Independent study in which student must have a contract with an instructor.
MUS	6910	Directed Research	1-19	TA	MUS	PR: GR. ML, DPR, S/U.	
MUS	6971	Thesis: Master's	2-19	TA	MUS	PR: DPR, S/U	
MUS	6976	Graduate Recital	2	TA	MUS	PR: DPR	
MUT	5051	Graduate Review Of Music Theory	2	TA	MUS	PR: DPR.	A graduate level review of basic theoretical concepts with emphasis on the common practice period. The course serves to satisfy deficiencies in music theory and does not count toward the graduate degree requirements.
MUT	6545	Analysis of 18th and 19th Century Music	3	TA	MUS	PR: CI.	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	6586	Critical Analysis-History	2	TA	MUS	PR: DPR.	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.
MUT	6626	Analysis of Twentieth Century Music	3	TA	MUS	PR: CI.	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	6627	Schenkerian Analysis	3	TA	MUS		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	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR.	Comparative study of teaching, techniques, procedures, and materials used in teaching visual and aural theory.
MUT	6760	History of Music Theory	3	TA	MUS	PR: DPR.	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	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special	Private and class instruction.

						non-degree seeking students, and students who have a secondary applied music requirement.	
MVB	5252	Applied French Horn	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVB	5253	Applied Trombone	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVB	5254	Applied Euphonium	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVB	5255	Applied Tuba	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVB	6451	Applied Trumpet	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVB	6452	Applied French Horn	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVB	6453	Applied Trombone	4	TA	MUS	PR: DPR. Necessary competency	Required of all applied music majors. Private and class instruction.

						determined by faculty jury audition. Required registration in major performance ensemble.	
MVB	6454	Applied Euphonium	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVB	6455	Applied Tuba	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVJ	5250	Applied Jazz Piano Secondary	2	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	5252	Applied Jazz Bass Secondary	2	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	5253	Applied Jazz Guitar Secondary	2	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	5254	Applied Jazz Bass Secondary	2	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	5259	Applied Jazz Percussion Secondary	2	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	5951	Applied Jazz	2	TA	MUS	PR: Necessary	Private and class instruction.

		Performance				competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	
MVJ	6460	Applied Jazz Piano Major	4	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	6463	Applied Jazz Guitar	4	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	6464	Applied Jazz Bass	4	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	6469	Applied Jazz Percussion	4	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVJ	6952	Applied Jazz Performance	4	TA	MUS	PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Required registration in major performance ensemble.	Private and class instruction.
MVK	5251	Applied Piano	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVK	6451	Applied Piano	4	TA	MUS	PR: DPR. Necessary	Required of all applied music majors.

						competency determined by faculty jury audition. Required registration in major performance ensemble.	Private and class instruction.
MVK	6650	Graduate Piano Pedagogy I	2	TA	MUS	PR: GS in performance and DPR	Emphasis on techniques used in teaching the individual student in performance.
MVK	6651	Graduate Piano Pedagogy II	2	TA	MUS	PR: GS in performance and DPR	Emphasis on techniques used in teaching the individual student in performance.
MVP	5251	Applied Percussion, Secondary	2-4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVP	6451	Applied Percussion	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVS	5251	Applied Violin	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVS	5252	Applied Viola	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVS	5253	Applied Cello	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVS	5254	Applied Double Bass	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special	Private and class instruction.

						non-degree seeking students, and students who have a secondary applied music requirement.	
MVS	6451	Applied Violin	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVS	6452	Applied Viola	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVS	6453	Applied Violoncello	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVS	6454	Applied Double Bass	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVV	5251	Applied Voice	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVV	6451	Applied Voice	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVW	5251	Applied Flute	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVW	5252	Applied Oboe	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate	Private and class instruction.

						students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	
MVW	5253	Applied Clarinet	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVW	5254	Applied Bassoon	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVW	5255	Applied Saxophone	2-4	TA	MUS	PR: DPR. Open to senior and advanced undergraduate students who have completed recital requirements, special non-degree seeking students, and students who have a secondary applied music requirement.	Private and class instruction.
MVW	6451	Applied Flute	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVW	6452	Applied Oboe	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVW	6453	Applied Clarinet	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
MVW	6454	Applied Bassoon	4	TA	MUS	PR: DPR. Necessary competency determined by faculty	Required of all applied music majors. Private and class instruction.

						jury audition. Required registration in major performance ensemble.	
MVW	6455	Applied Saxophone	4	TA	MUS	PR: DPR. Necessary competency determined by faculty jury audition. Required registration in major performance ensemble.	Required of all applied music majors. Private and class instruction.
NGR	5151L	Accelerated Fundamentals Clinical	2	NU	NUR		Clinical experience in fundamentals of clinical nursing practice. Focuses on developing effective communication skills, critical thinking physical assessment, and concepts of health and illness to meet basic needs of the individual across the life span.
NGR	5580L	Accelerated Integrated Clinical I	4	NU	NUR		Clinical intervention for patients with selected physical and mental health problems. Emphasis is on advancing communication and clinical judgment skills in therapeutic nursing interventions for patients across the life span.
NGR	5680L	Accelerated Integrated Clinical II	3-4	NU	NUR	PR: NGR 5580L, NUR 3026, NUR 3026L, NUR 3066, NUR 3215, NUR 4216, NUR 4355, NUR 4455	Clinical experiences with people across the life-span in hospital and community sites, focus on critical thinking, effective communication, therapeutic interventions, disease prevention, health promotion and synthesis of nursing theory with practice.
NGR	5871	Informatics in Nursing and Healthcare	3	NU	NUR	PR: CI.	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	4	NU	NUR	PR: Undergraduate assessment course and NGR6140, NGR 6172 may be taken prior to or concurrent with NGR 6001C.	An advanced history and physical examination course designed to increase competency in obtaining and recording health histories; in performing and recording physical examinations; and in symptom analysis for developing a differential diagnosis.
NGR	6037	Advanced Health Assessment for the Older Adult	1	NU	NUR		Focus on advanced history and physical examination skills with older adults.
NGR	6060	Medical Laboratory Interpretation for the Advanced Practice Nurse	1	NU	NUR		Interpretation of common medical laboratory results for the Advanced Practice Nurse with focus on the differential diagnosis.
NGR	6080	Family and Population-Based Health Promotion	3	NU	NUR	PR: NGR 6121; CI.	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	NU	NUR	PR: CI.	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	NU	NUR	PR: CI.	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	NU	NUR	PR: NGR 6140; NGR 6121; CI.	This course will explore pathophysiologic mechanisms of the major body systems in critically ill patients across the lifespan.
NGR	6172	Pharmacology for Advanced Nurse Practitioners	4	NU	NUR	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	NU	NUR	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.
NGR	6202C	Primary Care of Adults II	6	NU	NUR	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	6205	Primary Care : Adolescents	2	NU	NUR	PR: NGR 6002C, NGR 6140, NGR 6199.	Course provides content in assessment, analysis, and management of adolescent health and health problems through nursing interventions. Developmental stages, lifestyle variations, cultural diversity, and environmental stressors, are included.
NGR	6205L	Primary Care Practicum: Adolescents and Women	2-3	NU	NUR	PR: NGR 6002C, NGR 6140, NGR 6199.	Focus on application of the knowledge gained in the classroom in Primary Care: Adolescents and Women to this patient/client population. Health screening and management of commonly presenting health problems will structure the clinical experiences of this course.
NGR	6207	Primary Care: Adults	3	NU	NUR	PR: NGR 6002C, NGR 6140, NGR 6199.	Focus on the adult patient/client from mid-life to old age related to health promotion, maintenance and prevention of diseases. Including assessment and management of episodic and chronic illness for these individuals in primary care settings including culturally diverse and vulnerable populations.
NGR	6207L	Primary Care Practicum: Adults	2-3	NU	NUR	PR: NGR 6002C, NGR 6140, NGR 6199. CR:	Focus on application of the knowledge gained in the classroom in Primary Care:

						NGR 6207.	Adults to the patient/client population between mid-life and older adult. Health screening and management of commonly presenting health problems will structure the clinical experience of this course.
NGR	6215	Primary Care: Adult Health Management	3	NU	NUR	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.
NGR	6220	Pathobiology Of Neoplasia	3	NU	NUR	PR: CI.	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	NU	NUR	PR: CI.	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	NU	NUR	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	NU	NUR	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.
NGR	6224L	Practicum III in Advanced Oncology Nursing Practice	1-9	NU	NUR	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	6232	Selected Concepts in the Acutely Ill Adult	3	NU	NUR	PR: NGR 6140.	This course analyzes the multiple needs of the critically ill adult. Focuses on age specific critically ill population. Examines the response to the experience of critical illness.
NGR	6243	Clinical Management of the Acutely Ill Adult	3	NU	NUR	PR: NGR 6002C, NGR 6143, CI.	Focuses on advanced therapeutics and clinical management of selected acute health problems of adults. Diagnostic reasoning and intervention strategies are emphasized.
NGR	6253L	Gerontology Nursing Practicum I	3-4	NU	NUR		
NGR	6255	Primary Care of Older Adults	3	NU	NUR	PR: NGR 6002C, NGR 6140, CI.	Emphasis on functional ability of the older adult, normal biological aging, changes, developmental tasks, psychosocial, cultural and spiritual

							dimensions. Focuses on health promotion, disease prevention and management of acute and chronic illnesses of culturally diverse older adults.
NGR	6258	Advanced Primary Care of Older Adults	3	NU	NUR	PR: NGR 6002C, NGR 6140, CI.	Provides in-depth knowledge of: demographic, comparative, and differential aging; geriatric anatomy and physiology; the biological influence on aging psychology; the control of aging sociology; geriatric pharmacology; management of geriatric syndromes; and management of multiple diagnoses.
NGR	6259	Gerontological Nursing Practicum	1-9	NU	NUR	PR: NGR 6255 or NGR 6258.	Students will apply gerontological theories and assessment techniques in the advanced care of the elderly (1:4 ratio).
NGR	6260	Geriatric Pathophysiology for the Advanced Practice Nurse	1	NU	NUR		Central concepts of chronic illness and functional ability among the elderly and the implications for advanced nurse practitioners.
NGR	6283	Geropsychiatric Nursing	3	NU	NUR	CI	Focuses on theoretical implications and foundations for providing geropsychiatric nursing care for the elderly who have been diagnosed or have potential emotional/mental problems with emphasis of various therapies in a variety of clinical settings. (CI)
NGR	6285	GeroPharmacology for Advanced Nurse Practitioners	1	NU	NUR		Focus on pharmacokinetic and pharmacodynamic changes unique to the elderly along with the potential adverse drug effects and factors that affect therapeutic decision-making.
NGR	6301	Primary Care of Children & Adolescents I	3	NU	NUR	PR: NGR 6080, NGR 6121, NGR 6140, NGR 6172, NGR 6737, NGR 6800. CR: NGR 6002C (or previous course, 6001).	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	NU	NUR	PR: NGR 6002C, NGR 6080, NGR 6121, NGR 6140, NGR 6172, NGR 6305, NGR 6737, NGR 6800.	Didactic basis and practical experience for diagnosing and managing chronic health conditions of children and adolescents and health promotion; emphasis on compiling and analyzing data, developing and implementing a plan with individual and family.
NGR	6305	Primary Care: Children	3	NU	NUR	PR: NGR 6002C, NGR 6121, NGR 6140, NGR 6199.	Focus on the primary health care of children from birth to pre-adolescent. Health maintenance and the management of common acute illnesses are included.
NGR	6305L	Primary Care Practicum: Children	2-3	NU	NUR	PR: NGR 6002C, NGR 6121, NGR 6140, NGR 6199. CR: NGR 6305.	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	6343C	Primary Care of Women	5	NU	NUR	PR: NGR 6002C, NGR 6080, NGR 6140, NGR 6121, NGR 6135, NGR 6172, NGR 6800, NGR 6247 AND NGR 6248C OR NGR 6307 AND	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

						NGR 6308C.	gained in the didactic.
NGR	6362	Midwifery and Women's Health Seminar III	1	NU	NUR	PR: NGR 6002C, NGR 6140, NGR 6172, NGR 6205, NGR 6402, NGR 6403 and NGR 6455.	This course introduces professional midwifery and advanced practice nursing issues such as certification, practice management, and malpractice liability. Intrapartum Complications will be examined.
NGR	6400	Chemistry, Biochemistry and Physics for Nurse Anesthesia	3	NU	NUR	PR: Admission into CRNA program and an 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	NU	NUR	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.
NGR	6420	Foundations & Methods of Nurse Anesthesia Practice	4	NU	NUR	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	NU	NUR	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 Nurse Anesthesia I	3	NU	NUR	PR: NGR 6140, NGR 6422, NGR6404, NGR6400, NGR6460, NGR6422, GMS 6451, NGR6002C, PHC6050, NGR6800.	Examines basic physiology, pathophysiology and anesthetic management of cardiac, thoracic, and trauma. Evaluation of cardiothoracic systems, emphasis on anesthetic implications and anesthesia management for cardiothoracic surgery will be explored.
NGR	6424	Principles of Nurse Anesthesia II	3	NU	NUR	PR: NGR 6423, NGR 6492, NGR 6490	Physiology, pathophysiology and anesthetic management and evaluation of orthopedic, neurologic, endocrine, hepatic, urology systems with emphasis on anesthetic implications and anesthesia management for surgery.
NGR	6431	Nurse Anesthesia Clinical Residency I	4	NU	NUR	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	NU	NUR	PR: NGR 6431. CR: NGR 6929.	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	NU	NUR	PR: NGR 6432. CR: NGR 6929.	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	NU	NUR	PR: NGR 6002C, NGR 6080, NGR 6121, NGR 6140, NGR 6172, NGR 6737, NGR 6800 AND	This course focuses on clinical application of didactic material from the nurse anesthesia curriculum through an advanced level of practice in the role of

						NGR 6201, NGR 6202C OR NGR 6301 AND NGR 6302C.	a nurse anesthetist.
NGR	6460	Pharmacology for Nurse Anesthesia I	3	NU	NUR	PR: Admission into CRNA Program.	This course focuses on the pharmacokinetics, pharmacodynamics and general pharmacological principles of anesthetic drugs and adjunctive agents. Restricted to majors.
NGR	6491	Nurse Anesthesia Practice Comprehensive	2	NU	NUR	PR: NGR 6433, NGR 7892, NGR 6929. CR: NGR 6434.	This course is designed to measure the knowledge base and clinical competency of the nurse anesthesia student.
NGR	6492	Nurse Anesthesia Role Development	3	NU	NUR	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	NU	NUR	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.
NGR	6500L	Psychiatric APN Practicum: Psychiatric Care Outpatient	1-6	NU	NUR	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	NU	NUR		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	NU	NUR	PR: NGR 6500, CI.	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	NU	NUR		Examination of treatment modalities for advanced practice psychiatric nursing. Focus on theoretical and conceptual foundation for specialty practice with individuals, families, and groups.
NGR	6503L	Practicum III: Advanced Psychiatric Mental Health Nursing	3	NU	NUR	PR: NGR 6230.	Clinical experience in advanced psychiatric mental health nursing that focuses on individual, group, family, and community interventions with culturally diverse populations.
NGR	6504	Practicum III: Advanced Psychiatric Mental Health Nursing	3	NU	NUR	PR: NGR 6230.	Field experience in a variety of community settings with culturally diverse psychiatric/mental health populations. Emphasis on implementing prevention and intervention strategies with individuals, group, families and communities (1:6 ratio).
NGR	6538	Psychopharmacology	3	NU	NUR	PR: NGR 6140, CI.	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.
NGR	6650	Occupational Health Nursing I	2	NU	NUR	Cl.	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	NU	NUR	Cl.	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	NU	NUR		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.
NGR	6651L	Clinical Experiences in Occupational Health II	1	NU	NUR	Cl.	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	NU	NUR		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	NU	NUR		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	NU	NUR	PR: Graduate standing or instructor permission	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	NU	NUR		Provides specialized psychological and psychosocial content with a focus on the principles and techniques for conducting psychosocial counseling with terminally ill patients.
NGR	6700C	Advanced Practice Nurse Transitions	5	NU	NUR	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	NU	NUR	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	3	NU	NUR	PR: NGR 6713.	This course focuses on classroom and

		Nursing Education					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	NU	NUR	PR: Admission to graduate program or permission of instructor.	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	NU	NUR	PR: NGR 6710, NGR 6713 or CI.	This course provides an overview of evaluation strategies used in the class, clinical setting and in web-based instruction. Program evaluation models are explored.
NGR	6723	Leadership and Applied Management in Nursing Healthcare	3	NU	NUR	PR: CI	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	6737	Ethical, Legal, and Policy Issues in Advanced Nursing Practice	3	NU	NUR	PR: CI.	Emphases 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	6749C	Advanced Practice Nurse Transitions	5	NU	NUR	PR: NGR 6002C, NGR 6080, NGR 6140, NGR 6199, NGR 6121, NGR 6135, NGR 6800, NGR 6247 AND NGR 6248C OR NGR 6307 AND NGR 6308C.	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	6770C	Introduction to the Clinical Nurse Leader Role	1	NU	NUR	PR: Admission to the CNL concentration.	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.
NGR	6771L	CNL Clinical Seminar	1	NU	NUR		Exploration and application of the clinical concepts essential to the role of the Clinical Nurse Leader.
NGR	6773L	CNL Residency	3	NU	NUR		Residency practice in the role of the Clinical Nurse Leader.
NGR	6777C	Shaping the Practice Environment	1	NU	NUR	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	6790	Consultation Liaison Nursing	3	NU	NUR	PR: Clinical and Theoretical courses for clinical concentration, or CI.	Emphasizes evolution of the consultation/liaison role for advanced nurse practitioners with emphasis on the consultation process in a variety of clinical settings.
NGR	6800	Nursing Research	3	NU	NUR	CI.	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	6804	Foundations of Clinical Research for Health Professionals	3	NU	NUR		Research designs and methods for health professionals. Emphasis on quantitative approaches to research designs.
NGR	6821	Applied Analysis for Outcomes Research Using Large Healthcare Databases	3	NU	NUR	PR: Nursing Majors Only	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	6822	Measurement for Nursing Education and Research	3	NU	NUR	CI.	Course purposes are to increase skill in measurement of nursing variables as part of the research process, to enhance ability of nurse educators to identify or develop valid and reliable measurement instruments for evaluation of students, clients and educational programs.
NGR	6824	Data Analysis for Health Sciences	3	NU	NUR		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	NU	NUR	PR: NGR 6770C.	Concepts essential to examine health information technologies that promote safety, improve quality, and foster consumer centered care and efficiency.
NGR	6885	Bioethics in Contemporary Society	3	NU	NUR		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.
NGR	6898	Microsystem Concepts of Health Care Finance	3	NU	NUR		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	NU	NUR	CI, S/U.	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	NU	NUR	PR: NGR 6800, CI.	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	NU	NUR	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	NU	NUR	CI.	Seminars for the analysis and discussion of selected issues in nursing of topical

							concern to student and faculty.
NGR	6944	Practicum in Acute Care Nursing	1-9	NU	NUR	PR: NGR 6143, NGR 6333 or NGR 6232, CI.	Clinical experiences in critical care settings focusing on the role of the advanced practice nurse (1:4 ratio).
NGR	6947	Practicum in Nursing Education	1-4	NU	NUR	PR: NGR 6822, NGR 6710, NGR 6712, CI.	Instructional experiences that utilize educational concepts and instructional strategies in a variety of educational settings in nursing. (CI)
NGR	6949	Clinical Correlational Conferences	1	NU	NUR	PR: NGR 6431 or 6432 or 6433 or 6434.	
NGR	6971	Thesis	1-9	NU	NUR	PR: NGR 6800, CI.	Restricted to majors; repeatable for credit.
NGR	7003	Advanced Health Assessment II	3	NU	NUR	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	NU	NUR		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	NU	NUR		Advanced ECG Interpretation, including 12 lead ECG for the Advanced Practice Nurse.
NGR	7103	Evidence-Based Practice	3	NU	NUR	PR: NGR 7774 or NGR 7766 with a B or higher or Instructor's Permission.	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	7123	Theory Development in Nursing	3	NU	NUR	PR: Admission to doctoral program or CI.	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	NU	NUR		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.
NGR	7141	Pathophysiology for Advanced Practice II	3	NU	NUR	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	NU	NUR	PR: A grade of B or higher must have been earned in master's level course in pathophysiology, pharmacology, and	Progressive pharmacotherapeutics for advanced nursing practice. Focus diagnostic reasoning of scientific evidence relating to prescribing and monitoring drugs.

						health assessment.	
NGR	7411	Basics for Surgical Assistants	1	NU	NUR		Overview and basics for the Advanced Practice Nurse as the surgical assistant.
NGR	7761	Breast Workshop for the Advanced Practice Nurse	1	NU	NUR		Breast assessment techniques and interpretation for Advanced Practice Nurse.
NGR	7762	Casting and Splinting for the Advanced Practice Nurse	1	NU	NUR		Basics of casting and splinting for the Advanced Practice Nurse.
NGR	7763	Minor Surgical Procedures for the Advanced Practice Nurse	1	NU	NUR		Basics of minor surgical procedures for the Advanced Practice Nurse.
NGR	7764	Neurological Techniques for the Advanced Practice Nurse	1	NU	NUR		Basic neurological techniques for the Advanced Practice Nurse.
NGR	7765	Invasive Medical Procedures for the Advanced Practice Nurse	1	NU	NUR		Basics of invasive medical procedures for the Advanced Practice Nurse.
NGR	7766	Leadership and Systems Analysis	3	NU	NUR		This course focuses on understanding theories of change and their application in clinical and educational setting. A leadership skills and organizational theory will be examined.
NGR	7767	Practice Management	3	NU	NUR		This course presents the legal, economic and business basis for developing advanced nursing clinical practice models.
NGR	7811	Concepts in Nursing Practice	3	NU	NUR		Emphasis on analysis of phenomena (concepts) that impact on nursing practice. Phenomena are selected and analyzed from theoretical and research perspectives.
NGR	7815	Qualitative Research Methods in Nursing	3	NU	NUR	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	NU	NUR		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	NU	NUR	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	7841	Statistical Methods in Nursing Research I	3	NU	NUR	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	NU	NUR	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	NU	NUR	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	NU	NUR		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	7881	Ethics in Research and Practice	3	NU	NUR		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 Policy Issues in Nursing and Health Care	3	NU	NUR	PR: NGR 7841 and NGR 7842 or CI.	Use of data bases to develop approaches for decision making, policy formulation and outcome evaluation. Focus on policy analysis, agenda setting, and factors affecting nursing and health care policy.
NGR	7915	Advanced Directed Research in Nursing	1-6	NU	NUR	PR: Admission to doctoral program or CI.	Specialized individual participation in research activity, including but not limited to pilot studies and other investigative activities.
NGR	7932	Special Topics	1-4	NU	NUR		Seminars for the analysis and discussion of selected issues in nursing of topical concern to student and faculty.
NGR	7941	Nursing Research Pro Seminar	1-6	NU	NUR	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	7945	DNP Clinical Residency	1-9	NU	NUR	PR: Completion of course work for DNP or consent of program director.	The DNP for the nurse practitioner includes additional educational preparation and clinical competencies derived from nationally developed core competencies that extend core competencies required for clinical practice of the Master's prepared NP.
NGR	7951	Scientific Writing - Writing for Publication	3	NU	NUR	PR: Admission to DNP or Ph.D. program.	This course focuses on the development of a scholarly empirical manuscript or technical report of publishable quality.
NGR	7974	Evidenced-based Practice Project	1-4	NU	NUR	PR: Completion of core courses with grade of B or higher in all courses.	This course serves as the final capstone project for the Doctorate of Nursing Practice degree and is completed over a minimum of two semesters.
NGR	7980	Dissertation: Doctoral	2-12	NU	NUR	PR: Admission to candidacy.	Directed research and writing of dissertation topic appropriate to the discipline. Restricted to majors; repeatable for credit
NGR	7981	Dissertation Proposal Writing	2	NU	NUR		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	MS	MSC	PR: GS or CI.	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	MS	MSC	PR: B.S. in Biology, OCB 6050, or CI.	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	6646	Marine Zoogeography	3	MS	MSC	PR: B.S. in Biology, OCB 6050, or CI.	The geographical distribution of animals in the marine environments of the world including the major habitats of the benthic and pelagic realms. Studies of the relationships between distribution and evolutionary patterns.
OCB	6666	Ecological Physiology	3	MS	MSC	PR: B.S. in Biology, 1 year general and Organic Chemistry, OCB 6050, or CI.	The study of those physiological mechanisms that enable organisms to live in their environment, and deal with changes in the environment. Coursework is focused on aquatic ecosystems. Topics include osmotic and ionic regulation, nitrogen excretion, feeding and digestion, respiration, temperature, and energetics. Lab separate.
OCB	6671L	Methods in Biological Oceanography	1	MS	MSC	PR: CI.	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.
OCB	6931C	Special Topics in Ichthyology	1-3	MS	MSC	PR: GS or CC. S/U only.	Presentation and discussion of ichthyological topics from the primary literature. The objectives of this course are: 1) to review and discuss the primary literature on ichthyological topics, both current and historical; 2) to provide a forum in which students can develop discussion skills; 3) to identify, through examination of the literature, areas of needed research; 4) to provide means by which graduate students can receive formal course instruction in a non-lecture format.
OCC	6050	Chemical Oceanography	3	MS	MSC	PR: CHM 2046 and GS or CI.	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	MS	MSC	PR: OCC 6050 or CI.	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	MS	MSC	PR: OCC 6050 or CI.	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	3	MS	MSC	PR: OCC 6050 and CI.	Analytical techniques of high resolution gas chromatography and combined gas chromatography-mass spectrometry are

		Marine Science					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.
OCC	6216	Marine Organic Chemistry	3	MS	MSC	PR: B.S. in Biology or Chemistry, Biochemistry, OCC 6050 or CI.	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.
OCC	6418	Petroleum Geochemistry	3	MS	MSC	PR: OCC 6216 or CI.	An investigation of the geochemical aspects of petroleum generation, migration, accumulation, and maturation. Additional topics include the composition of petroleum, the use of molecular biomarkers to investigate petrochemical and geochemical processes, and petroleum prospecting.
OCE	6908	Independent Study	1-10	MS	MSC	S/U.	Independent study in which students must have a contract with an instructor.
OCE	6934	Selected Topics in Oceanography	1-3	MS	MSC	PR: CI.	Special topics in Biological, Chemical, Geological, and Physical Oceanography.
OCE	6939	Graduate Seminar in Oceanography	1	MS	MSC	PR: GS. S/U.	
OCE	6971	Thesis: Master's	2-19	MS	MSC	PR: CC, GR, ML. S/U.	
OCE	6972	Directed Research	1-19	MS	MSC	PR: GR. ML, CI. S/U.	
OCE	7910	Directed Research	1-19	MS	MSC	PR: GR. Ph.D. level, CI. S/U.	
OCE	7980	Dissertation: Doctoral	2-19	MS	MSC	PR: Admission to Candidacy, CC. S/U	
OCG	6051	Geological Oceanography	3	MS	MSC	PR: GS or CI.	Marine geology including plate tectonics; coastal, shelf and pelagic sedimentation; geochemical cycling; and sedimentary history of the ocean basins. Lec
OCG	6075	Methods in Geological Oceanography	1	MS	MSC	PR: OCG 6051 or CI.	Description and application of the modern techniques used to investigate Marine Geology and Geophysics.
OCG	6080	Plate Tectonics	3	MS	MSC		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	6086	Geology of Continental Margins	3	MS	MSC	PR: B.S. in Geology, OCG 6051, or CI.	Analysis of tectonic, structural and stratigraphic development and general geologic history of the major types of continental margins. Includes interpretation of seismic data.
OCG	6356C	Stratigraphic Interpretation of Seismic Data	3	MS	MSC	PR: B.S. in Geology, OCG 6051, or CI.	Study of seismic reflection data for the purpose of determining structural and sedimentological development, facies distribution, and general geological history of stratigraphic packages. Course includes fundamentals of seismic reflection and depositional sequence/seismic facies analyses.
OCG	6453	Geochemistry Marine	3	MS	MSC	PR: BA in Chemistry or	General survey course of the

		Sediments				Geology or CI.	mineralogy, chemical composition, physical properties and origin of marine sediments. Topics include the transport, deposition, and burial diagenesis of organic matter and carbonate, aluminosilicate and silica minerals. Theoretical and practical aspects of x-ray diffraction.
OCG	6455	Marine Isotope Geochemistry	3	MS	MSC	PR: Chemical Oceanography or CI.	Study of stable and radioactive isotope variations in the marine environment and the use of these variations as tracers and in determining ages, rates and paleoclimatic conditions.
OCG	6551C	Scanning Electron Microscopy: Theory and Technique	4	MS	MSC	PR: One year Physics and Chemistry or CC. Full time graduate students in the department of Marine Science are not required to obtain an individual permit. All other graduate and undergraduate students should obtain a permit.	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	MS	MSC	PR: B.S. in Geology or Biology, OCG 6051, or CI.	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	MS	MSC	PR: OCB 6050, OCC 6050, OCG 6051, and OCP 6050, or CI.	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.
OCG	6666	Carbonate Depositional Systems	3	MS	MSC	PR: BA in Geology or CI.	In-depth presentation of production, transport, and accumulation of carbonate sediments on platforms and shelves. Characteristics of carbonate sediment type, primary environment controls, and relationships to surrounding facies will be presented. Available to non-majors.
OCG	6668	Evolution and Ecology of Reefs	3	MS	MSC	PR: OCB 6050 and OCG 6051 or CI.	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	MS	MSC	PR: Diff/int. calculus, General Physics, and GS or CI.	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	AS	SPE		Variable topics course.
ORI	6018	Performance Art	3	AS	SPE	PR: Graduate Standing.	Explores historical, theoretical, and critical perspectives on performance art in the US.
ORI	6020	Performing Social Resistance	3	AS	SPE	PR: Graduate Standing.	Explores performance as a site of and means for creating social resistance and change.

ORI	6107	Texts in Performance	3	AS	SPE	PR: Graduate Standing.	Explores contemporary literary texts through dramatic analysis, live performance, adaptation and staging strategies.
ORI	6250	Performance and Technology	3	AS	SPE	PR: Graduate Standing.	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	6435	Performance as Cultural Study	3	AS	SPE	PR: GS.	Impact of performance and performance forms as cultural communication. The course examines literary, festive, religious, political and social performance in dialogue with culture.
ORI	6456	Performance Theory	3	AS	SPE	PR: Graduate Standing.	A survey of modern and contemporary approaches to performance as constitutive of identity, verbal art, communication, and culture.
ORI	6506	Performance Criticism	3	AS	SPE	PR: Graduate Standing.	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	6930	Communication Aesthetics	3	AS	SPE		This course examines the historical evolution of the aesthetic dimension of communication as performance in terms of major concepts and theorists from Plato to the present.
ORI	7930	Seminar in Performance Studies	3	AS	SPE	PR: GS.	Variable topics course.
PAD	5035	Issues in Public Administration and Public Policy	3	AS	PAD	Sr. & GS only.	Selected issues and topics in Public Administration and Public Policy.
PAD	5044	Environment of Public Administration	3	AS	PAD		Examination of the legal, political, and ethical environment in which public managers work.
PAD	5333	Concepts and Issues in Public Planning	3	AS	PAD	PR: URP 4050 or URP 6056, GS or Sr.	Analysis of basic concepts, issues, and strategies of planning, policy determination, collection of information, and decision-making.
PAD	5605	Administrative Law and Regulation	3	AS	PAD		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	AS	PAD	PR: MPA, GCPM, and GCNM majors only.	Research design; skills in public agencies. Must be prepared to demonstrate proficiency in EXCEL, Access, and other relevant software programs.
PAD	5807	Urban and Local Government Administration	3	AS	PAD	GS or Sr.	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	AS	PAD	GS or Sr.	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	AS	PAD		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	AS	PAD	PR: Completion of all MPA core courses and five electives. Must be taken in last semester of coursework.	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	AS	PAD	GS.	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	AS	PAD		In-depth coverage of organizational theory and focus with special attention to issues and problems of organizational change and reform in the public sector.
PAD	6134	Project Management	3	AS	PAD		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	AS	PAD		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	AS	PAD	GS.	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	AS	PAD		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	AS	PAD		Selected issues in public financial management and budgeting related to state agencies or local governments in Florida.
PAD	6227	Public Budgeting	3	AS	PAD		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	6275	Political Economy for Public Managers	3	AS	PAD	PR: Graduate status or CI, PAD 5700 and PAD 6703 are recommended.	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	AS	PAD		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 for Public and Nonprofit Organizations	3	AS	PAD		Emphasizes methods of strategic planning as tools to lead, strengthen, and develop public and nonprofit organizations.
PAD	6336	Community Development Programs and Strategies	3	AS	PAD		Discusses community development principles and practices in historical and contemporary perspectives, federal, state and local initiatives, physical, social, and economic approaches to community development.
PAD	6338	Urban Land Use and Policy Administration	3	AS	PAD		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	AS	PAD		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	AS	PAD		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	AS	PAD	GS or Sr.	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	AS	PAD		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.
PAD	6703	Quantitative Aids for Public Managers	3	AS	PAD	PR: PAD 5700; Proficiency in EXCEL, Access and other relevant software programs.	Techniques, models, to analyze managerial/policy problems. Descriptive, inferential, associational statistics; evaluate/make recommendations/alternative policy/decisions.
PAD	6710	Public Information Management	3	AS	PAD		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	AS	PAD	PR: CI. S/U.	A flexible format for conceptual or

							theoretical studies in public administration.
PAD	6909	Problem Report	3	AS	PAD	Majors only.	Analysis of a significant administrative or policy problem facing a public agency or manager.
PAD	6915	Directed Research	1-3	AS	PAD	PR: CI. S/U.	A flexible format for structured field research in Public Administration.
PAD	6934	Selected Topics in Public Administration	1-3	AS	PAD		A flexible format to offer specialized courses not available within the regular curriculum.
PAD	6946	Internship in Public Administration	2-6	AS	PAD	PR: CI. Majors only. S/U	Structured learning and work experience in a public agency or non-profit organization.
PCB	5256	Developmental Mechanisms	3	AS	BCM	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
PCB	5307	Limnology	3	AS	BIN	PR: PCB 3043 and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023 and PHY 2053. CP: CHM 2211.	An introduction to the physical, chemical, and biological nature of fresh-water environments. Lecture only.
PCB	5307L	Limnology Laboratory	1	AS	BIN	PR: CI. CP: PCB 5307.	Laboratory portion of Limnology. Laboratory and field experience in the area of aquatic ecology.
PCB	5415	Behavioral Ecology	3	AS	BIN	PR: PCB 3043 and PCB 3063 or PCB 4674 and CHM 2210 and MAC 1105 or higher-level MAC course or STA 2023. CP: CHM 2211.	An emphasis on the evolutionary mechanisms that influence an organisms behavioral responses to environmental events. The theoretical framework is presented and analyzed. Lecture only.
PCB	5525	Molecular Genetics	3	AS	BCM	PR: PCB 3063, CI.	Detailed examination of DNA, RNA and protein synthesis; the effects of mutations on proteins, cellular control; selected aspects of viral, bacterial, and fungal genetics.
PCB	5616	Molecular Phlogenetics	3	AS	BCM	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	6107	Advanced Cell Biology	4	AS	BCM	PR: CI.	Detailed examination of the structure, function and molecular biology of eukaryotic cells.
PCB	6176C	Biological Electron Microscopy	5	AS	BIN	PR: PCB 3023 and CI.	Discussion of theory and techniques in electron microscopy. Emphasis on preparation of biological microscope. Lec/Lab.
PCB	6230	Cancer Biology I	4	AS	BCM		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	4	AS	BCM		A continuation of Cancer Biology I. Topics will include a comprehensive review of immunology as it relates to cancer and modern methods of cancer treatment.
PCB	6236	Advanced Immunology	4	AS	BCM	PR: CI.	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	AS	BCM		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	AS	BIN	PR: CI.	Effect of environmental factors on animal function at the cellular and organ system level with emphasis on control and mechanism.
PCB	6405	Chemical Ecology	3	AS	BIN	PR: PCB 3043 and CHM 2211.	A broad introduction to the biochemistry of plant and animal interactions. Emphasis on the roles of secondary metabolites such as alkaloids, flavonoids, and terpenes in the complex animal/animal, animal/plant, plant/plant, and plant/microorganism interactions occurring in natural, terrestrial, and aquatic environments.
PCB	6426C	Population Biology	3	AS	BIN	PR: GS, CI.	Introduction to population dynamics with emphasis on the ecological components of growth, competition, and perdition.
PCB	6447	Community Ecology	3	AS	BIN	PR: CI.	In-depth examination of community ecology with emphasis on diversity, stability, trophic structure and the mechanisms which affect how communities are structured.
PCB	6455	Statistical Ecology	3	AS	BIN	PR: CI.	Introduction to exploratory data analysis in ecology. Techniques for dealing with encountered data are emphasized.
PCB	6456C	Biometry	4	AS	BIN	PR: MAC 2241 and MAC 2242, GS.	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	AS	BIN	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	6910	Cancer Lab Rotations	1-3	AS	BCM	PR: CI.	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	AS	BCM	PR: PCB 6107 or CI.	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.
PCB	6930	Current Topics in Oncology	2	AS	BCM		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	Advanced in Cancer Biology Research	2	AS	BCM		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	6933	Seminar In Ecology	1-3	AS	BIN	PR: Cl.	A detailed examination of topics in ecology pertaining to individual organisms, populations, communities and/or ecosystems.
PET	6003	Theories & Models of Health & Physical Activity	3	ED	EDP		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.
PET	6081	Lifespan Fitness	3	ED	EDP		The course is designed to assist students in developing an understanding of how fitness habits and recommendations change over a lifetime.
PET	6085	Body Composition: Assessment and Management	3	ED	EDP		This course covers advanced principles of body composition assessment and management. The role of physical activity and medical intervention will be considered.
PET	6098	Topics in Strength and Conditioning	3	ED	EDP		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	6205	Psycho-Sociological Aspects of Human Movement	3	ED	EDP	DPR.	Psychological and sociological implications of movement to historical and contemporary society. Emphasis on concept, role of movement in society, and values and attitudes.
PET	6216	Sport Psychology	3	ED	EDP		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	ED	EDP	PR: Department Approval/Permission of Instructor.	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.
PET	6256	Sport in Society: Contemporary Issues	3	ED	EDP	PR: Graduate Standing.	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	6312	Applied Biomechanics	3	ED	EDP	PR: Department Approval/Permission of Instructor.	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	6339	Neuromuscular Aspects of Exercise Physiology	3	ED	EDP		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.
PET	6356	Advanced Exercise Physiology	3	ED	EDP	PR: PET 3351 (or equivalent) and Department Approval/Permission of Instructor.	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.
PET	6358	Developmental Exercise Physiology	3	ED	EDP	PR: PET 3351 (or equivalent) and Department Approval/Permission of Instructor.	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.
PET	6367	Sports Nutrition and Exercise Metabolism	3	ED	EDP		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	6369	Cardiorespiratory Aspects of Exercise Physiology	3	ED	EDP		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.
PET	6388	Physical Activity, Health, and Disease	3	ED	EDP		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.
PET	6389	Fitness Assessment and Prescription	3	ED	EDP		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	ED	EDP	PR: CI. DPR.	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	ED	EDP	PR: Florida certificate in physical education, 3 years teaching experience in physical education, principal's recommendation. CI. DPR.	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	ED	EDP	PR: CI.	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	ED	EDP		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	ED	EDP		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.
PET	6494	Legal Aspects of Physical Activity	3	ED	EPF		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	6496	Specialized Study In Curriculum And Instructional Process In Physical Education	1-4	ED	EDP	PR: CI. DPR.	Will provide in-depth study in specific areas related to the teaching-learning process of physical education.
PET	6516	Learner Assessment in Physical Education	3	ED	EDP		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	ED	EDP	PR: Department Approval/Permission of Instructor	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	ED	EDP		Introduces students to the concepts, methods, and applications of research within exercise science. Development of research skills will be the primary focus.
PET	6535C	Professional Assessment	3	ED	EDP	PR: CI. DPR.	Personal assessment of current trends and knowledge in the professional literature. Development of competencies in research review, written and oral communication skills.
PET	6625	Topics in Sports Medicine	3	ED	EDP	PR: Department Approval/Permission of Instructor	This course covers selected topics regarding the science and medicine of sports participation. Areas covered include the medical supervision of the athlete, special populations, general medical conditions, environmental concerns, and sports nutrition.
PET	6645	Physical Education for Individuals with Disabilities	4	ED	EDP	DPR.	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.
PET	6695C	Physical Education for the Handicapped Practicum	2-4	ED	EDP	PR: PET 6645 or DPR and CI.	School or treatment center-based experience providing evaluation and instructional services. Seminars are conducted to discuss professional literature, teaching strategies, and curriculum organization and evaluation.
PET	6706	Analysis of Research in	3	ED	EDP		This course is designed to help teachers

		Physical Education					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	ED	EDP		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	ED	EDP	S/U. PR: CI. DPR.	Independent study. Students must have a contract with an instructor.
PET	6910L	Research Project in Physical Education	1-4	ED	EDP	PR: CI. DPR.	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	ED	EPD	Acceptance into the M.S. program in Exercise Science and completion of 18 graduate credits.	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	3	ED	EDP	PR: Dept. Approval Required – Completion of 24 Credit Hours in School of Physical Education, Wellness, and Sport Studies in Student's Graduate Program Plan of Study and Permission from Instructor.	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.
PET	7937	Graduate Seminar	1-6	ED	EDP	PR: Doctoral standing in Exercise Science.	Development of a research knowledge base that has significant depth for the seminar topic will be a primary focus.
PGY	5425C	Art Photography III	4	TA	ART	PR: CI.	Advanced work in photography and related media leading to development of personal/expressive statements.
PHC	5933	Special Topics	1-3	PH	PHC		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	PH	EPB	PR: CI.	Study of epidemiological methods to evaluate the patterns and determinants of health and diseases in populations.
PHC	6002	Infectious Disease Epidemiology	3	PH	CFH	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	6010	Epidemiology Methods I	3	PH	EPB	PR: PHC 6000 or CI.	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 quantitative measures and results.
PHC	6011	Epidemiology Methods II	3	PH	EPB	PR: PHC 6000, PHC 6010 or CI.	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	PH	EPB	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	6017	Design and Conduct of Clinical Trials	3	PH	EPB	PR: PHC 6050, PHC 6000 and CI.	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	PH	EPB	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	6050	Biostatistics I	3	PH	EPB	PR: College Algebra or CI.	Concepts, principles, and methods of statistics applied to public health issues.
PHC	6051	Biostatistics II	3	PH	EPB	PR: PHC 6000 and PHC 6050 or CI.	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	6057	Biostatistical Inference I	3	PH	EPB	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 Consulting I	3	PH	EPB	PR: Entry into the Biostatistics Doctoral Program or CI.	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.
PHC	6061	Biostatistical Case Studies and Consulting II	3	PH	EPB	PR: PHC 6060 or CI.	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	6074	Epidemiology of Diseases of Major Public Health Importance	3	PH	EPB	PR: PHC 6000, PHC 6050, and CI.	A study of the distribution and determinants of specific infectious and non-infectious human diseases of public health importance using epidemiological methods.
PHC	6075	Cancer Epidemiology	3	PH	EPB	PR: PHC 6000 or CI.	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	6076	Cardiovascular Disease Epidemiology	3	PH	EPB	PR: PHC 6000 or CI.	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	6102	Principles of Health Policy and Management	3	PH	HPM	PR: CI.	General principles of planning, management, evaluation, and behavior of public and private health care organizations at the local, state, and national levels.
PHC	6104	Management of Public Health Programs	3	PH	HPM	PR: PHC 6102 and CI.	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	PH	EPB	PR: PHC 6102.	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	6110	International Health and Health Care Systems	3	PH	HPM	PR: CI.	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	6111	Global Primary Health Care Strategies	3	PH	HPM	PR: PHC 6102 or CI.	Addresses the rationale, planning and implementation of primary health care programs from an international perspective. Emphasis is given to primary care as an integral part of a health care system and an essential component of public health.
PHC	6114	Health Insurance and Managed Care	2	PH	HPM	PR: PHC 6102 and ACG 6025 or CI.	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.
PHC	6115	Global Health Principles and Contemporary	3	PH	EPB		This course introduces students to the global context of public health and its

		Issues					dimensions particular to international settings; examines major themes and policies in global health; and analyzes health problems and varying responses globally.
PHC	6116	International Health Education	3	PH	CFH	PR: Graduate Status.	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	6120	Community Partnerships and Advocacy	3	PH	CFH		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	PH	HPM		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	PH	HPM	PR: PHC 6050 or CI.	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	PH	HPM	PR: PHC 6102 or CI.	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.
PHC	6148	Strategic Planning and Health Care Marketing	3	PH	HPM	PR: PHC 6102 or CI.	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	6150	Health Policy Analysis	3	PH	HPM	PR: PHC 6102 or CI.	A detailed study of policies, policy making, and policy analysis in health services and their relationship to health planning, management, and health care delivery.
PHC	6151	Health Policy and Politics	3	PH	HPM	PR: PHC 6102 or CI.	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	PH	HPM	PR: At least one undergraduate course in Financial or Managerial Accounting and PHC 6102 or CI.	An introduction to the application of financial management practices in health care organizations, cost behavior analysis, working capital management, financial statement analysis, and capital decision making.
PHC	6161	Health Care Finance and Costing	4	PH	HPM	PR: PHC 6102 and ACG 6025 or CI.	Uses lectures, cases and online learning activities to develop and apply skills in finance and costing required in health care management.
PHC	6180	Health Services Management	3	PH	HPM	PR: PHC 6102 and undergraduate accounting course or CI.	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	PH	HPM	PR: PHC 6102 or CI.	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	6183	Overview of United States and International Emergency/Disaster Management	3	PH	EOH		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	6184	Emergency/Disaster Recovery	3	PH	EOH	PR: PHC 6183.	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	PH	EOH	PR: PHC 6183.	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.
PHC	6186	Public Health Emergencies in Large Populations (PHLEP)	3	PH	EOH		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	PH	EPB	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	PH	HPM	PR: PHC 6050, PHC 6102 and QMB 6305 or CI.	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.
PHC	6193	Qualitative Methods in Community Health Research	3	PH	CFH		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	6195	Public Health Data, Information and Decision Making	3	PH	HPM	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	6196	Information Systems in Health Care Management	3	PH	HPM	PR: PHC 6050 or CI.	The course is designed to prepare students to analyze and design information systems in health services organizations.
PHC	6197	Community Health Data Sources and Technology	3	PH	CFH		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	PH	PHC		This course is designed to develop or improve the skills of persons interested in providing emergency health services in international humanitarian emergencies.
PHC	6231	Organizing Emergency Humanitarian Actions	3	PH	PHC	PR: PHC 6230.	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	PH	PHC	PR: 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	PH	PHC	PR: PHC 6232.	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	6251	Disease Surveillance and Monitoring	3	PH	CFH		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. PR: Biostatistics Epidemiology, or CI.
PHC	6301	Water Pollution and Treatment	3	PH	EOH	PR: CI.	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	PH	EOH	PR: CHM 3610C or CI.	A study of air pollutants. Emphasis is given to sources and control technologies as well as health effects and environmental impact.
PHC	6304	Environmental Health Microbiology	3	PH	EOH	PR: MCB 3010C or CI.	Techniques for isolation and enumeration of microorganisms of health significance from food and aquatic sources.
PHC	6305	Environmental Analytical Laboratory	4	PH	EOH	PR: CI.	Techniques used for quantitative sampling and analysis of air, water, and soil contaminants.
PHC	6306	Radiation Health Principles	2	PH	EOH	PR: CI.	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.
PHC	6310	Environmental Occupational Toxicology	3	PH	EOH	PR: CI.	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	6312	Environmental Fate of Chemical Releases	3	PH	EOH	PR: CHM 2046, PHY 2054, MAC 2312 or CI.	Provides an understanding of the environmental and physico-chemical factors involved in the transport, transformation, and fate of compounds released to the environment. Material covered includes sources of chemical releases as well as the factors affecting the distribution and transformation of chemicals. Routes of exposure and accumulation by humans and other

							organisms will also be evaluated.
PHC	6313	Indoor Environmental Quality	2	PH	EOH		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	PH	EOH	PR: CI.	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.
PHC	6350	Occupational Health Risk Assessment	3	PH	EOH	PR: PHC 6050 or CI.	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	PH	EOH	CI.	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 Risk Assessment	2	PH	EOH	PR: CI.	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.
PHC	6354	Safety and Health Administration	2	PH	EOH		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	6356	Industrial Hygiene	2	PH	EOH	PR: CI.	A study of the recognition, evaluation, and control of the workplace affecting the health of employees.
PHC	6357	Environmental and Occupational Health	3	PH	EOH	PR: CI.	The study of major environmental and occupational factors that contribute to development of health problems in industrialized and developed countries.
PHC	6358C	Industrial Hygiene-- Physical Agents	2	PH	EOH	PR: PHC 6356 and 1 year college physics or CI.	Recognition, evaluation, and control of physical agents in the workplace. Laboratory exercises and field surveys will be conducted in addition to class lectures. Lec/Lab.
PHC	6359	Xenobiotic Metabolism in Environmental and Occupational Health	3	PH	EOH		Study of enzymes involved in biotransformation of foreign compounds important in environmental and occupational health.
PHC	6360	Safety Management Principles and Practices	2	PH	EOH	PR: CI.	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	PH	EOH	PR: PHC 6360 or CI.	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	PH	EOH	PR: PHC 6356 or CI.	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	PH	EOH	PR: PHC 6356 or CI.	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	PH	EOH	PR: PHC 6356 or CI.	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.
PHC	6366C	Analytical Methods in Industrial Hygiene II	2	PH	EOH	PR: PHC 6356 or CI.	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	PH	EOH	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	PH	EOH		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.
PHC	6370	Biological and Surface Monitoring	2	PH	EOH	PR: CHM 2200, CHM 2211, BSC 2010 and CI.	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	PH	EOH		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	PH	EOH		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	PH	CFH		This course will identify and analyze public health policy and research issues specific to the area of child maltreatment.
PHC	6401	Homelessness: Implications for Behavioral Healthcare	3	PH	CFH		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	PH	CFH	PR: CI.	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	PH	CFH	PR: CI.	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, Diversity and Cultural Compete	4	PH	CFH		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.
PHC	6413	Family and Community Violence in Public	3	PH	CFH		The objective of this course will be to identify and to focus on the most serious

		Health					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	PH	CFH		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	PH	CFH		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.
PHC	6419	Global Issues in Community and Family Health	3	PH	CFH		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	PH	CFH		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	PH	HPM	PR: PHC 6102 recommended.	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	PH	EOH	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.
PHC	6423	Occupational Health Law	2	PH	EOH	PR: EOH 6357.	Review and analysis of Federal and State laws and regulations in relation to Occupational Health and safety.
PHC	6430	Health Economics I	3	PH	HPM	PR: ECO 2023 or equiv. and CI.	Microeconomic analysis of the structure of the health care industry and economic incentives facing physicians, patients, and hospitals.
PHC	6433	Health Economics II	3	PH	HPM	PR: PHC 6430 or CI.	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	Perspectives on Health Insurance	3	PH	HPM	PR: Undergraduate Microeconomics, PHC 6430 or CI.	Presents an overview of major health insurance issues, including demand, supply, employment based coverage, the uninsured, government sponsored programs, managed care, and national health. The analysis will be based on microeconomic tools and is intended for management or policy oriented students with an interest in health insurance and managed care.
PHC	6441	Social Determinants of Health	3	PH	CFH	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	PH	EPB		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.
PHC	6460	Social Marketing Program Management	3	PH	CFH	PR: PHC 6411, PHC67705	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	PH	CFH	PR: PHC 6411, PHC 7605	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	6500	Theoretical and Behavioral Basis for Health Education	4	PH	CFH	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.
PHC	6505	Program Planning in Community Health	3	PH	CFH	PR: PHC 6500 or CI.	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	6506	Program Planning Methods in Community Health	3	PH	CFH	PR: PHC 6500 or CI.	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 Methods	3	PH	CFH	PR: PHC 6500 or CI.	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	PH	CFH	PR: PHC 6500, 30 hours toward MPH, or CI.	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	PH	EOH	PR: CI.	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	PH	EOH	PR: CI.	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.
PHC	6512	Vectors of Human Disease	3	PH	EOH	PR: CI.	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	PH	EOH	PR: CI.	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	PH	EOH	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	6516	Tropical Diseases	3	PH			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.
PHC	6517	Infectious Disease Prevention Strategies	3	PH	EOH	PR: CI.	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, antisepsis and sterilization; role of immunization, antimicrobial prophylaxis and therapy.
PHC	6521	Public Health Nutrition	3	PH	CFH	PR: CI.	An analysis of nutritional issues concerned with health and disease. Biological and social interactions are studied as they relate to the development, monitoring, and evaluation of community nutrition intervention programs.
PHC	6522	The Biological Role of Nutrition in Health	3	PH	CFH	PR: HUN 2201, ZOO 3713C, PCB 4723, BCH 3023, or CI.	Advanced study of the biochemical and physiological roles of nutrition in health and disease.

PHC	6523	Policies and Practices in Maternal and Child Nutrition	3	PH	CFH	PR: CI.	Study of nutrition policies and practices in maternal and child health from pregnancy through the pre-school years. Focus on issues concerned with risk identification, interventions and outcome evaluations.
PHC	6524	Public Health Nutrition for the Adult and Aging Population	3	PH	CFH	PR: PHC 6521, PHC 6522, or CI.	Study of policies and practices of nutrition in health promotion and disease prevention in adults. Focus on issues concerned with risk identification, nutrition interventions and outcome evaluations.
PHC	6526	Nutrition Assessment of Individuals and Communities	3	PH	CFH	PR: PHC 6521, PHC 6522, or CI.	Comparative study of anthropometric, biochemical, dietary, clinical and socioeconomic indicators of nutritional status including the differential use of these indicators for individuals and communities.
PHC	6527	Case Studies in Public Health Nutrition	3	PH	CFH	PR: CI.	Capstone course intended to provide a unifying opportunity to utilize concepts, principles and skills learned from other public health nutrition courses.
PHC	6530	Issues and Concepts in Maternal and Child Health	3	PH	CFH	PR: CI.	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	6531	Health Programs for Children with Special Needs	3	PH	CFH	PR: CI.	A study of causative factors, characteristics, care needs and programs for handicapped children with emphasis on health and health care issues.
PHC	6532	Women's' Health Issues in Public Health	3	PH	CFH	PR: CI.	A public health orientation of women's health needs with their impact on society, family, and children.
PHC	6533	Health Program Development and Change Process	3	PH	CFH	PR: CI.	A study of approaches to program development, implementation and management of change process in maternal and child health.
PHC	6534	Cultural Competency in Children's Mental Health	3	PH	CFH	PR: Graduate Status	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	6535	International Maternal and Child Health	3	PH	CFH	PR: CI.	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	PH	CFH	PR: PHC 6410 or CI.	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.
PHC	6537	Case Studies in MCH Programs, Policies and Research	3	PH	CFH	PR: PHC 6530, PH Core Courses, or CI.	Capstone course intended to provide unifying opportunity to utilize concepts, principles, and skills learned in other MCH and public health courses.
PHC	6540	Public Mental Health	3	PH	HPM	PR: CI.	Current state of community mental health emphasizing history and future of the movement and involvement of public agencies; methods, goals, evaluation of treatment, funding and administration of programs.
PHC	6541	Public Mental Health Administration	3	PH	HPM	PR: PHC 6540, PHC 6102 or CI.	General principles of management theory, methods, administrative processes, and organizational structure of public and private mental health organization in hospital and ambulatory care settings.
PHC	6543	Foundations in Behavioral Health Systems	3	PH	CFH	PR: Graduate Status	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.
PHC	6544	Children's Mental Health Services	3	PH	CFH	PR: Permit Required CI	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	PH	CFH	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	PH	CFH	PR: Graduate Status	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.
PHC	6548	Grant Writing in Mental Health	3	PH	CFH	PR: Graduate Status	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	PH	CFH	PR: Graduate Status	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	6550	Community-Based Prevention in Behavioral Health	3	PH	CFH	PR: Graduate Status	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.
PHC	6560	The Public Health Laboratory System	3	PH	HPM		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.
PHC	6562	Microbiology for Healthcare Workers	3	PH	CFH	PR: BSC 2010, BSC 2011, CHM 2046, or CI.	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	PH	CFH	PR: CI.	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	6590	Reproductive Health Trends And Issues	3	PH	CFH	PR: CI.	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.
PHC	6591	Reproductive and Perinatal Epidemiology	3	PH	EPB	PR: PHC 6000, PHC 6050 or CI	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	PH	EPB	PR: PHC 6000, PHC 6050 and CI.	Planning, execution, analysis and intervention of epidemiological studies.

PHC	6701	Computer Applications for Public Health Researchers	3	PH	EPB	PR: CI.	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	PH	CFH	PR: Introduction to Social Marketing	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.
PHC	6706	Focus Group Research Strategies	3	PH	CFH		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	6708	Evaluation Methods in Community Health	3	PH	CFH	PR: PHC 6505 or CI.	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	PH	CFH		This seminar course is designed to facilitate communication, sharpen research skills in the context of air pollution monitoring and modeling.
PHC	6715	Research Foundations in Public Health	3	PH	CFH	PR: PHC 6000 and PHC 6050.	Course covers foundations of research for understanding and evaluating public health research; plus how to plan and conduct research with minimal assistance including proposal development, grant writing and budgets. Nonmajors accepted. Non-repeatable.
PHC	6716	Advanced Formative Research Methods	3	PH	CFH	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	6760	Health Program Evaluation	3	PH	HPM	PR: PHC 6430, PHC 6180, and PHC 6151 or CI.	The course develops the skills needed to evaluate health and medical care programs. Emphasis is given to research design, determination of qualitative and quantitative criteria, measurement techniques, and interpretation of findings
PHC	6761	Global Health	3	PH	EPB		This course provides a systematic

		Assessment Strategies					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	6907	Independent Study: Public Health	1-6	PH	PHC	PR: CI. S/U.	Independent study determined by the student's needs and interests.
PHC	6930	Public Health Seminar	1-3	PH	PHC	PR: Graduate Standing. S/U.	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	PH	CFH	PR: CI.	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	PH	PHC	PR: CI.	The content of this course will be governed by student demand and instructor interest.
PHC	6936	Public Health Capstone	3	PH	PHC	PR: Students need to have completed all College-wide core courses and at least 75% of their required concentration courses.	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	PH	PHC	PR: CI. S/U only.	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	6971	Thesis: Master Of Science in Public Health	2-19	PH	PHC	PR: CI.	Research-oriented study for students seeking the M.S. degree in Public Health.
PHC	6974	Social Marketing Capstone	3	PH	CFH	PR: PHC 64111, 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	PH	PHC	PR: CI. S/U.	In-depth study of a selected issue in public health. A topic will be selected according to student's needs and interests.
PHC	7001	Practical Issues in Epidemiology	3	PH	EPB	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	PH	EPB	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	PH	EPB	PR: PHC 6000, PHC 6700, PHC 6051 and CI.	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.
PHC	7018	Environmental	3	PH	EPB	PR: PHC 6000 and CI.	This course will consider the relationship

		Epidemiology					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	PH	EPB	PR: PHC 6000 and CI.	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	7028	Advanced Clinical Trials	4	PH	EPB	PR: PHC 6000, PHC 6050, PHC 6700, PHC 6701, PHC 6017.	The many facets of clinical trials will be covered including study design, ethics, monitoring, and analysis. Real datasets will be used to provide the student with the opportunity to learn database management and data analysis using SAS.
PHC	7053	Generalized Linear Models	3	PH	EPB	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	PH	EPB	PR: CI	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	PH	EPB	PR: STA 6447 and PHC 7058, or CI.	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	PH	EPB	PR: PHC 7058 and PHC 7053 or CI.	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.
PHC	7058	Biostatistical Inference II	3	PH	EPB	PR: STA 6447 or CI.	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	PH	EPB	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	PH	PHC	PR: College-level calculus, introductory	Probability theory and models with applications in Public Health. Contents:

						Public Health knowledge, statistical software experience, such as SPPlus/SAS.	fundamental probability theories; stochastic process; probability modeling with application to health data.
PHC	7122	Vaccinology	3	PH		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.
PHC	7152	Policy and Practice in Community and Family Health	3	PH	CFH		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	7317	Risk Communication in Public Health	2	PH	CFH		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	PH	EOH	Admission to Ph.D. program or CI.	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 Foundations Community and Family Health	3	PH	CFH		This course is designed for beginning public health doctoral students specializing in Community and Family Health to encourage scholarly discourse of pertinent concepts, theories, and paradigms, and the critical analysis of related scholarly works.
PHC	7417	Family Systems and Public Health	3	PH	CFH		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	PH		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	7702	Advanced Public Health Research and	3	PH	CFH	PHC 6010; PHC 6708; PHC 6701; PHC6410;	This course focuses on advanced research and evaluation methods of

		Evaluation Methods				PHC 7XXX, Professional Foundations I; PHC 6500; PHC 7417	multi-level community based public health initiatives. Models and processes for evaluation of multi-level program interventions, study design and appropriate methods are covered.
PHC	7703	Advanced Research Methods in Epidemiology	3	PH	EPB	PR: PHC6700. CR: Computer Applications.	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	7708	Applied Research Methods in Community and Family Health	3	PH	CFH	PR: PHC 6050, PHC 6700, PHC 6708, or CI.	A detailed study of philosophical questions and applied techniques of research in community and family health. A project oriented course to prepare students to conduct their own independent research.
PHC	7709	Case Studies in the Quantitative Analysis of Public Health Data	3	PH	CFH	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	7908	Specialized Study in Public Health	1-9	PH	PHC	PR: CI. Advanced graduate standing.	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	PH	PHC	PR: CI, Graduate Standing. S/U only.	Advanced research design and application.
PHC	7931	Advanced Interdisciplinary Seminar in Public Health	1-3	PH	PHC	PR: Advanced Standing, Ph.D. or Advanced Master's only. For advanced graduate students in Public Health programs.	Students, faculty and other health professionals will participate in presenting and discussing contemporary health issues and possible solutions.
PHC	7934	Writing for Scholarly Publication in Health Science	3	PH	PHC		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	PH	PHC	PR: CI.	Content will include recent or current issues in public health.
PHC	7936	Seminar in Health Care Outcomes Measurement	3	PH	PHC	PR: CI.	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	PH	CFH	PR: Doctoral Status or CI.	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	PH	PHC	PR: Admission to candidacy.	
PHH	6265	Continental Philosophy I: Phenomenology to Hermeneutics	3	AS	PHI		A general survey of the 20th century continental schools of phenomenology, ontology, and hermeneutics, with

							special emphasis on the works of Husserl and Heidegger.
PHH	6266	Continental Philosophy II: Political Theory and Continental Social Theory	3	AS	PHI		A general survey of the 20th century continental social and political theory, dealing with both the younger and the older generations of the Critical Theory tradition, together with their contemporaries and critics.
PHH	6267	Continental Philosophy III: From Structuralism to Deconstructionism	3	AS	PHI		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.
PHH	6938	Seminar in the History of Philosophy	3	AS	PHI	PR: GS or CI.	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	AS	PHI	PR: PHI 2101 or CI.	Study of topics such as the following: Metatheory of propositional and predicate logic, related metatheoretic results, alternative logic.
PHI	5225	Philosophy of Language	3	AS	PHI	PR: Eight hours of philosophy, major in linguistics, or CI.	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	AS	PHI	PR: CI. Approval slip from instructor required.	Individual research supervised by a faculty member.
PHI	5934	Selected Topics	1-3	AS	PHI	PR: CI. Approval slip from instructor required.	Selected topics according to the needs of the student.
PHI	6105	Seminar in Logic	3	AS	PHI	PR: GS or CI.	Foundations and basic problems of logical theory. Seminar format.
PHI	6155	Modal Logic	3	AS	PHI	PR: PHI 2100 and GS or CI.	A study of the main systems of Modal Logic together with their metatheory, with considerable attention to the varieties of modality.
PHI	6305	Seminar in Epistemology	3	AS	PHI	PR: Major in philosophy or psychology and CI.	An analysis of recent and contemporary problems of knowledge. Seminar format.
PHI	6405	Seminar in the Philosophy of Natural Science	3	AS	PHI	PR: GS or CI.	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	AS	PHI	PR: 8 hours of philosophy or CI.	Philosophical issues arising in the social sciences; value assumptions, laws and the theories, models, etc. Seminar format.
PHI	6506	Seminar in Metaphysics	3	AS	PHI		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	AS	PHI	PR: GS and CI.	Advanced study of the problems of moral philosophy.

PHI	6634	Seminar in Biomedical Ethics	3	AS	PHI		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	6665	Metaethics	3	AS	PHI	PR: PHI 2600 or CI or GS.	A study of alternative theories of metaethics including emotivism, moral point of view, supererogate virtue theory.
PHI	6706	Seminar in the Philosophy of Religion	3	AS	PHI	PR: GS or CI.	An analysis of fundamental religious concepts in terms of contemporary philosophy. Seminar format.
PHI	6808	Seminar in Aesthetics	3	AS	PHI	PR: GS or CI.	An analysis of fundamental special problems of aesthetics; value, perception, communication, technique, context. Seminar format.
PHI	6908	Directed Research	1-19	AS	PHI	PR: GR. ML. S/U.	
PHI	6934	Selected Topics	1-3	AS	PHI	PR: GS and CI.	Selected topics according to the needs of the student. Approval slip from instructor required.
PHI	6945	Graduate Instruction Methods	1-3	AS	PHI	S/U.	Special course to be used primarily for the training of teaching assistants.
PHI	6971	Thesis: Master's	2-19	AS	PHI	PR: CC. S/U.	
PHI	7980	Dissertation: Doctoral	2-19	AS	PHI	PR: Admission to candidacy.	
PHM	5125	Topics in Feminist Philosophy	3	AS	PHI		A study of recent feminist philosophical approaches to epistemology, aesthetics and political philosophy. May also be taken for credit in Women's Studies.
PHM	5126	Social Issues in Biomedical Ethics	3	AS	PHI		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	AS	PHI	PR: CI.	A detailed study of the philosophical theories of society, class societies (Capitalism), advanced technocracy (all types). Seminar format.
PHM	6305	Seminar in Political Philosophy	3	AS	PHI	PR: GS or CI.	An examination of the main political philosophies. Seminar format.
PHM	6406	Seminar in the Philosophy of Law	3	AS	PHI	PR: GS or CI.	A study of the metaphysical, ethical, and epistemological bases of law. Seminar format.
PHM	6506	Seminar in the Philosophy of History	3	AS	PHI	PR: GS or CI.	The analysis of language and logic of historical explanation, historical idealism, historical materialism, positivism, and historical sociology. Seminar format.
PHM	6646	Seminar in Development Ethics	3	AS	PHI		This course presents and critically examines the major ethical theories related to both national and international development institutions, policies, and practices. Open to all graduate students.
PHP	6005	Plato	3	AS	PHI	PR: GS or CI.	A systematic study of Plato's dialogues.
PHP	6015	Aristotle	3	AS	PHI	PR: GS or CI.	A systematic study of Aristotle's philosophy.
PHP	6415	Kant	3	AS	PHI	PR: GS. 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.
PHT	5021	Professional Issues I	2	ME	PHT		Foundations of systems thinking, decision making, professional expression, responsibility, and accountability (including legal/ethical concepts), culture and argumentation for the roles of the physical therapist in administration, consultation, critical inquiry, education and patient/client management. Restricted to majors.
PHT	5022	Professional Issues II	2	ME	PHT		An introduction to critical injury and educator roles and responsibilities; explores the concepts of decision-making, evaluation of research, theories of learning, research and clinical pathways. Restricted to majors.
PHT	5023	Professional Issues III	3	ME	PHT		Focus on legal, ethical, and professional responsibility and accountability of the physical therapist. Learners will further develop their abilities to make legal and ethical decisions. The class will examine state laws governing the practice of physical therapy and other health care services. Restricted to majors.
PHT	5171C	Foundational Science I	3	ME	PHT		Introduction to the peripheral neuromuscular, skeletal, integumentary, and circulatory systems in normal and pathological states. Includes the anatomy and physiology of bones, joints, skin, nerves, and blood vessels, as well as the response of these tissues to injury and their potential for healing. Restricted to majors.
PHT	5172C	Foundational Science II	1	ME	PHT		Emphasis on physiology of the peripheral sensorimotor and cardiopulmonary systems. Restricted to majors.
PHT	5173C	Foundational Science III	2	ME	PHT		Emphasis on physiology of the peripheral sensorimotor and cardiopulmonary systems. Restricted to majors.
PHT	5184	Movement Science I	2	ME	PHT		A basic introduction to movement science and its foundational principles from four different perspectives: biomechanics; kinesiology; exercise physiology; and motor control, learning and development. Restricted to majors. Repeatable for 2 cr.
PHT	5185	Movement Science II	3	ME	PHT	PR: PHT 5184	Elaboration of movement science principles with emphasis on biomechanics, kinesiology, functional anatomy, exercise physiology, histopathology, motor control and connective tissue properties. Restricted to majors. Repeatable for 3 cr.
PHT	5271	Patient/Client Management I	3	ME	PHT		Foundational principles of histology, pathology, histopathology, applied biomechanics, pharmacology and clinical medicine are introduced and applied to the physical therapy management of

							individuals with musculoskeletal disorders involving the limbs. Restricted to majors.
PHT	5272	Patient/Client Management II	2	ME	PHT		Application of principles of patient/client management to patients with cardiopulmonary disease or dysfunction and diabetes in order to identify and write plans of care for related movement dysfunction. Restricted to majors.
PHT	5273	Patient/Client Management III	3	ME	PHT		Learners apply principles of patient/client management to patients with progressive, non-progressive diseases and injuries of the nervous system. Restricted to majors.
PHT	5275C	Physical Therapy Science I	4	ME	PHT		Introduction to physical therapy skills in examination, evaluation, and diagnosis for clients with uncomplicated musculoskeletal impairments involving the extremities. Emphasis on obtaining a history and performing physical therapy tests and measures leading to a differential diagnosis by application of principles of movement. Restricted to majors.
PHT	5276C	Physical Therapy Science II	4	ME	PHT		Introduction to physical therapy skills used in examination, evaluation, diagnosis of and intervention for clients with activity limitations associated with cardiovascular, hematological, or pulmonary disorders. Major emphasis on selecting, justifying, administering, and interpreting physiological responses to physical agents and therapeutic exercises. Restricted to majors.
PHT	5277C	Physical Therapy Science III	3	ME	PHT		Examination, evaluation, diagnosis, and intervention for movement-related problems secondary to impairments of the nervous system. Contemporary theories of motor development, motor learning and motor control will be introduced. Student knowledge will be demonstrated with clinical problem-solving scenarios. Restricted to majors.
PHT	5283C	Physical Therapy Procedures	3	ME	PHT		Introduction to selected physical therapy interventions, obtaining a patient history, and conducting a systems screen. Restricted to majors. Repeatable for 3 cr.
PHT	5316	Medical Management I	1	ME	PHT		Introduction to medical diagnostics, pharmacological principles, and common orthopedic surgical procedures as components of medical management including repair of bone and soft tissue. Restricted to majors. Repeatable for 1 credit.
PHT	5380	Medical Management II	1	ME	PHT	PR: PHT 5316	Seminar on the medical and surgical management; epidemiology; pathophysiology; pharmacology of injuries and diseases of the cardiopulmonary system including repair and regeneration. Restricted to majors. Repeatable for 1 credit.
PHT	5822	Clinical Education I	3	ME	PHT		Initial clinical practice experience for the development of patient care skills. The

							course is graded Satisfactory/Unsatisfactory. Restricted to majors.
PHT	5906	Directed Independent Study	1-10	ME	PHT		Directed independent stud, content to be decided. Restricted to majors.
PHT	5934	Special Topics I	1-10	ME	PHT		Exploration of physical therapy practice issues. Topics may vary each semester the course is offered. A seminar and/or lab course. Restricted to majors. Not repeatable for credit.
PHT	5960	Clinical Proficiency and Problem Solving I	1	ME	PHT		Practicum for patient/client management of individuals with musculoskeletal related movement disorders complemented by direct patient care learning. Restricted to majors. Repeatable for 1 credit hour.
PHT	5961	Clinical Proficiency and Problem Solving II	1	ME	PHT	PR: PHT 5960	Practicum for the synthesis of skills, knowledge, and values for management of individuals with cardiopulmonary and endocrine related movement disorders complemented by direct patient care learning. Restricted to majors. Repeatable for 1 credit hour.
PHT	6015	Orientation to Physical Therapy	var.	ME	PHT		Concepts of a profession, the physical therapy profession, and the roles of the physical therapist are applied to the practice of physical therapy and its professional organization. The Guide to Physical Therapy Practice is introduced.
PHT	6174	Movement Science I - DPT	var.	ME	PHT		A basic introduction to movement science and its foundational principles from four different perspectives: biomechanics; kinesiology; exercise physiology; and motor control, learning and development. Restricted to majors.
PHT	6178	Movement Science II - DPT	var.	ME	PHT		Elaboration of movement science principles with emphasis on biomechanics, kinesiology, functional anatomy, exercise physiology, histopathology, motor control and connective tissue properties. Restricted to majors.
PHT	6186	Movement Science III	4	ME	PHT	PR: PHT 5184, PHT 5185	Integration of movement science concepts (biomechanics; kinesiology; functional anatomy; motor control, learning and development; and exercise physiology) to planning interventions for complex movement disorders. Restricted to majors. Repeatable for 4 cr.
PHT	6284C	Scientific and Professional Foundations of Physical Therapy I	var.	ME	PHT		Introduction to theoretical foundation and clinical practice of physical therapy interventions. Restricted to majors.
PHT	6285C	Scientific and Professional Foundations of Physical Therapy II	var.	ME	PHT		Theoretical foundations and clinical practice of examination skills with emphasis on performing physical therapy tests and measures as listed in the Guide to Physical Therapist Practice. Restricted to majors.
PHT	6313	Medical Management III	1	ME	PHT	PR: PHT 5380	Seminar on the medical and surgical management; epidemiology; pathophysiology; pharmacology, and repair of common injuries to and diseases of the nervous system across

							the life span. Restricted to majors. Repeatable for 1 credit hour.
PHT	6341	Medical Management II	1	ME	PHT	PR: PHT 6313	Seminar on the medical and surgical management; epidemiology; pathophysiology, and pharmacology of complex multisystem disorders and movement disorders across the life span. Restricted to majors. Repeatable for 1 credit hour.
PHT	6352	Pharmacology for Healthcare Professionals	var	ME	PHT		This course is designed to provide a basic understanding of drug absorption, distribution, metabolism, and excretion, effects on the body and side effects or toxicity.
PHT	6391C	Foundational Science IV	2	ME	PHT		Application of the movement sciences to examination, evaluation, diagnosis, intervention, and prevention of movement dysfunction related to the musculoskeletal, cardiopulmonary, and neuromuscular systems. Restricted to majors.
PHT	6392C	Foundational Science V	1	ME	PHT		Application of the behavioral foundational sciences (sociology, psychology, human development) and biopsychosocial model to each of the roles of the physical therapist. Restricted to majors.
PHT	6521	Professional Issues IV	3	ME	PHT		Focuses on the administrative role of the physical therapist. Includes formulation of budgets, policies, procedures, reimbursement, legal concepts of risk management and malpractice, and the ethical concept of pro bono service and the APTA judicial process. Restricted to majors.
PHT	6522	Professional Issues V	2	ME	PHT		Development of a strategic plan for professional growth which reflects commitment to all roles of the Physical Therapist (administration, consultation, critical injury, education and patient/client management) and exploration of the nature of individual and cultural differences, organizational cultures, mentoring, and leadership. Restricted to majors.
PHT	6606	Critical Inquiry I	3	ME	PHT		Introduction to critical inquiry skills of the physical therapist with successful preparation of an in-depth literature review on a selected topic in musculoskeletal or cardiopulmonary movement disorders. Restricted to majors. Repeatable for 3 credits.
PHT	6731	Patient/Client Management IV	3	ME	PHT		Learners adapt principles of patient/client management to complex patient situations in order to identify and state movement dysfunctions and to write plans of care. Restricted to majors.
PHT	6732	Advanced Patient/Client Management II	2	ME	PHT		Learners adapt principles of patient/client management to lifestyle and socioeconomic issues in order to identify dysfunctions that can be addressed by the physical therapist. Restricted to majors.
PHT	6735C	Physical Therapy	4	ME	PHT		The role of the physical therapist in

		Science IV					ameliorating activity limitations and participation restrictions encountered by people with physical impairments. Emphasis will be placed on the physical therapy assessment and intervention procedures intended to identify and minimize physical disabilities occurring secondary to traumatic, acquired or congenital amputation and disorders of the spine. Restricted to majors.
PHT	6736C	Advanced Physical Therapy Science II	2	ME	PHT		Focus on the physical therapist in ameliorating activity limitations and participation restrictions encountered by people with irreversible physical impairments. Emphasis on the physical therapy assessment and intervention procedures to identify and minimize physical disabilities occurring secondary to complex, multi-system disorders. Restricted to majors.
PHT	6841	Clinical Education I - DPT	var.	ME	PHT		Initial full-time clinical practice experience for the development of patient care skills.
PHT	6863	Longitudinal Clinical Experience II	var.	ME	PHT		Continuation of the initial clinical practice experience for the development of patient care skills. Students will be supervised in one center for the spring term. The course is graded Satisfactory/Unsatisfactory.
PHT	6935	Special Topics II	1-10	ME	PHT		Analysis of issues related to the education, critical inquiry, administration, and/or consultant roles of the physical therapist. Topics in this seminar may vary each semester. Restricted to majors. Not repeatable for credit.
PHT	6962	Clinical Proficiency and Problem Solving III	1	ME	PHT	PR: PHT 5961	Practicum for the synthesis of skills, knowledge, and values required for the management of individuals with neuromuscular related movement disorders complemented by direct patient care learning. Restricted to majors. Repeatable for 1 credit hour.
PHT	6963	Clinical Proficiency and Problem Solving IV	1	ME	PHT	PR: PHT 6962	Practicum for the synthesis of skills, knowledge, and values management of individuals with complex movement and multisystem disorders complemented by direct patient care learning. Restricted to majors. Repeatable for 1 credit hour.
PHT	7151	Health Promotion and Wellness	var.	ME	PHT		Prepares students for practice as primary care providers in direct access environments with a focus on identification of health risk factors and interventions to promote wellness in individuals and populations. Restricted to majors.
PHT	7264C	Clinical Problem Solving I - DPT	var.	ME	PHT		Intro to clinical problem solving in physical therapy following a normative model for professional practice across the lifespan utilizing musculoskeletal, neuromuscular, cardiopulmonary, and integumentary preferred practice patterns.
PHT	7265C	Clinical Problem Solving II - DPT	var.	ME	PHT		A continuation of clinical problem solving in physical therapy following a

							normative model for professional practice across the lifespan utilizing musculoskeletal, neuromuscular, cardiopulmonary, and integumentary preferred practice patterns.
PHT	7328	Pediatric Physical Therapy	var.	ME	PHT		This course is designed to provide the student the opportunity for hands on physical therapy examination and intervention skill development with the pediatric patient population. Group discussion of issues impacting care of this population is included.
PHT	7402	Psychosocial Aspects of PT Practice	3	ME	PHT		Utilization of behavioral foundational sciences and the biopsychosocial model and their contribution to patient/client management and understanding organizational behavior. Restricted to majors. Repeatable for 3 credit hours.
PHT	7421	Professional Issues I - DPT	var.	ME	PHT		Focus on the consultant and educator roles of the physical therapist. Restricted to majors.
PHT	7507	Medical Spanish for Physical Therapists	var.	ME	PHT		Students will learn basic Spanish skills with an emphasis on communicating across cultures in a health care setting. The course is designed for non-speakers of Spanish as well as those with limited Spanish -speaking skills
PHT	7531	Professional Issues II - DPT	var.	ME	PHT		Focus on legal, ethical, & professional responsibility and accountability of the physical therapist. Students further develop their abilities to make legal and ethical decisions.
PHT	7551	Principles of Health Policy and Management	var	ME	PHT		General principles of planning, management, evaluation, and behavior of public and private health care organizations at the local, state, and national levels.
PHT	7607	Critical Inquiry I - DPT	var.	ME	PHT		Introduction to the critical inquiry role of the physical therapist. Course involves the successful preparation of an in-depth review of the literature and evidence related to a selected movement disorder topic.
PHT	7617	Critical Inquiry II	2	ME	PHT	PR: PHT 6606	Course involves the preparation of a patient case report related to movement disorders secondary to a neuromuscular or complex multi-system problem. Restricted to majors. Repeatable for 2 credits.
PHT	7618	Critical Inquiry III	3	ME	PHT	PR: PHT 7617	Development, implementation, and presentation of a capstone investigative project. Restricted to majors. Repeatable for 3 credits.
PHT	7626	Critical Inquiry II	var.	ME	PHT		Course involves the successful preparation of a case report of a person with a movement disorder. Topic must be approved by course instructor. Restricted to majors.
PHT	7640	Biostatistics I	var	ME	PHT		After completing this course, the student should be able to apply basic descriptive and inferential techniques in her/his research endeavors and be able to read statistically oriented public health research articles with greater understanding.

PHT	7817	Critical Education II	6	ME	PHT	PR: PHT 6806, PHT 6962, PHT 6963	Intermediate clinical education to develop skills in inpatient physical therapy centers. Satisfactory/Unsatisfactory grade. Restricted to majors. Repeatable for 6 credit hours.
PHT	7842	Clinical Education II - DPT	var.	ME	PHT		8-week clinical experience that takes place in one center. Course is graded Satisfactory/Unsatisfactory.
PHT	7864	Integrated Clinical Experience I	var.	ME	PHT		Clinical practice experience for all components of patient client management. Students will spend the fall term in one center. The course is graded Satisfactory/Unsatisfactory.
PHT	7866	Integrated Clinical Experience II	var.	ME	PHT		Clinical practice experience for all components of patient client management. Students will spend the fall term in one center and the spring term in another. The course is graded Satisfactory/Unsatisfactory.
PHT	7906	Independent Study	1-3	ME	PHT		A seminar and/or lab course for small groups of students or independent study for individual students to address areas of special interest in physical therapy. Restricted to majors. Not repeatable for credit.
PHT	7907	Physical Therapy Elective	var.	ME	PHT		A special topics course for small groups of students to address a specific area of special interest or advanced practice in physical therapy.
PHT	7936	Special Topics III	1-10	ME	PHT		Analysis of issues related to physical therapy as a component of the health care system. Topics in this seminar may vary each semester the course is offered. Restricted to majors. Not repeatable for credit.
PHT	8179	Movement Science III - DPT	var.	ME	PHT		Motion analysis of movement related disorders performed and presented by small groups. Restricted to majors.
PHT	8266	Clinical Problem Solving III - DPT	var.	ME	PHT		A culmination of clinical problem solving in physical therapy following a normative model for professional practice. Focus is on student development and presentation of a case-based educational module incorporating all aspects of professional practice.
PHT	8504	Service Learning	var.	ME	PHT		In small groups, students plan and implement a program to meet the needs of an underserved population(s). Restricted to majors.
PHT	8550	Professional Issues III - DPT	var.	ME	PHT		The administrative role of the physical therapist is viewed through current issues in the profession. Students prepare a strategic plan for professional growth reflecting commitment to all 5 roles of the physical therapist & leadership responsibilities.
PHT	8628	Critical Inquiry III - DPT	var.	ME	PHT		Development, implementation, and presentation of a capstone study. Restricted to majors.
PHT	8702	Advanced Prosthetics and Orthotics	var.	ME	PHT		An advanced practice seminar in which students explore special topics in prosthetic and Orthotic devices and physical therapy management of

							patients/clients who use prosthetic and Orthotic devices.
PHT	8724	Anatomical Basis of Physical Therapy and Rehabilitation	var.	ME	PHT		In depth study of a selected joint complex of both the musculoskeletal system in both anatomic and clinical contexts with particular emphasis on the intricate relationship of this system to other functional entities of human body.
PHT	8843	Clinical Education III - DPT	var.	ME	PHT		Final 16-week clinical experience that takes place in a comprehensive center or cluster of centers. Course is graded Satisfactory/Unsatisfactory.
PHY	5720C	Electronics for Research	3	AS	PHY		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	AS	PHY	PR: Senior or advanced standing and CC.	Each topic is a course in directed study under the supervision of a faculty member.
PHY	6246	Classical Mechanics	3	AS	PHY	PR: PHY 4222 or Cl. Fall Semester.	Dynamics of particles and systems of particles, Lagrange's equation, central forces, rigid body dynamics.
PHY	6346	Electromagnetic Theory I	3	AS	PHY	PR: PHY 4324 or Cl.	Electrostatics, magnetostatics, potential and boundary value problems. Maxwell's equations. First semester of sequence PHY 6346, PHY 6347.
PHY	6347	Applied Electromagnetic Theory	3	AS	PHY	PR: PHY 6346 or Cl.	Second semester of sequence PHY 6346, PHY 6347. Electromagnetic waves, wave guides and resonant cavities, diffraction, relativistic-particle kinematics and dynamics, plasmas and magnetohydrodynamics.
PHY	6446	Lasers and Applications	3	AS	PHY	PR: PHY 4324 and PHY 4604 or Cl.	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	AS	PHY	PR: PHY 6446 or Cl.	Nonlinear optics including optical phase conjugation, second harmonic and sum frequency generation, and stimulated Raman scattering. Selected applications of lasers and nonlinear optics.
PHY	6536	Statistical Mechanics	3	AS	PHY	PR: PHY 5624 or Cl.	Kinetic theory, configuration and phase space. Boltzmann theorem, Liouville theorem, ensemble theory, quantum statistics.
PHY	6645	Quantum Mechanics I	3	AS	PHY	PR: PHY 4604 or Cl.	Hilbert space, continuous spectrum, matrix and wave mechanics, quantum dynamics, symmetries, angular momentum, perturbation methods
PHY	6646	Applied Quantum Mechanics	3	AS	PHY	PR: PHY 6645 or Cl.	Approximation and perturbation methods, hydrogen fine structure, scattering, identical particles, second quantization, Dirac equation.
PHY	6753	Measurement and Instrumentation	3	AS	PHY	PR: PHY 4744 or PHY 5720 or Cl.	Measurement, signals and noise; analog/digital conversion; data communication; digital signal processing. Weekly labs for LabVIEW programming, instrument control and data acquisition through RS232 and GPIB interface.

PHY	6909	Independent Study	1-19	AS	PHY	PR: CI.	Independent study in which student must have a contract with an instructor.
PHY	6911	Directed Research	1-19	AS	PHY	PR: GS.	An individual investigation of a research topic under the supervision of an instructor.
PHY	6935	Graduate Seminar	1	AS	PHY	PR: CI. All Physics graduate students are expected to enroll in this course at least once.	
PHY	6938	Selected Topics in Physics	1-10	AS	PHY	PR: CI	Each topic is a course in directed study under the supervision of a faculty member.
PHY	6940	Supervised Teaching	3	AS	PHY	PR: Dept. Approval Required.	Laboratory teaching under the direction of a Physics Department faculty member.
PHY	6971	Thesis: Master's	2-19	AS	PHY	PR: CI.	
PHY	7910	Directed Research	1-9	AS	PHY	PR: Graduate Ph.D. level.	
PHY	7980	Dissertation: Doctoral	2-9	AS	PHY	Rpt. S/U, PR: Admission to Candidacy.	
PHZ	5115	Methods of Theoretical Physics I	3	AS	PHY	PR: MAP 2302 or CI.	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	AS	PHY	PR: MAP 2302 or CI.	Applications of mathematical techniques to classical and modern physics. Selected topics in complex analysis, differential and integral equations, numerical methods, and probability theory.
PHZ	5156C	Computational Physics I	3	AS	PHY	PR: CGS 5765 or CI.	C programming applied to real science and engineering problems. Data analysis, numerical algorithms, modeling, parallel computation. Subjects selected from current research may include neurobiology, quantum magnetism, chaos, finance, materials science.
PHZ	5304	Nuclear Physics	3	AS	PHY	PR: PHY 4604 or CI.	Nuclear forces, nuclear models, nuclear structure, decay, nuclear reactions, and high energy physics.
PHZ	5405	Solid State Physics I	3	AS	PHY	PR: PHY 3101, MAP 2302, CI.	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	6136	Physical Applications of Group Theory	3	AS	PHY	PR: CI.	Matrices, symmetry elements and point groups, reducible and irreducible representations, molecular vibrations, selection rules, rotation groups and atomic levels, molecular orbitals and electronic energies, space groups and spectra of crystals, crystal field theory and symmetry.
PHZ	6204	Atomic and Molecular Spectra I	3	AS	PHY	PR: PHY 4604 or CI.	Hydrogen atom, one electron systems, central field and vector models, perturbations, Zeeman and Stark effect, hyperfine structure, atomic structure

							calculations; diatomic spectra, rotational and vibration analysis, intensities, temperatures from spectra, isotope effects.
PHZ	6205	Atomic And Molecular Spectra II	3	AS	PHY	PR: PHZ 6204 or Cl.	Electronic transitions in diatomic molecules, Hund's coupling schemes, electron configuration and valence, astrophysical applications, predissociation, normal modes of polyatomic molecules, Raman and IR spectra, rotation-vibration interaction, microwave spectra, thermodynamic properties, stellar atmospheres.
PHZ	6426	Solid State Physics II	3	AS	PHY	PR: PHZ 5405 or Cl.	Optical, electrical and magnetic properties of insulators, superconductivity, imperfections in solids. Second semester of sequence PHZ 5405, PHZ 6426.
POS	5094	Issues in American National and State Government	3	AS	POL		Selected topics of study in American government.
POS	5155	Issues in Urban Government and Politics	3	AS	POL		Selected issues and topics in Urban Government and politics.
POS	5159	Urban Policy Analysis	3	AS	PAD		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	AS	POL	Sr./GS.	Advanced study of selected topics of institutions and processes of American national government and politics.
POS	6127	Issues in State Government and Politics	3	AS	POL	GS.	Advanced study of selected topics in institutions, processes, and behavior of American state governments and Florida government.
POS	6157	Seminar in Urban Government and Politics	3	AS	POL		Analysis of literature with emphasis on urban political behavior, development of various theories, and propositions regarding governmental structure and the formation and implementation of public policy.
POS	6415	The American Presidency	3	AS	POL	GS.	Analysis of problems and powers of the presidency with emphasis on crisis management, staffing, legislative leadership, and decision making.
POS	6427	The Legislative Process	3	AS	POL	GS.	Analysis of formal and informal decision-making processes in legislative bodies, with emphasis on U.S. House of Representatives and U.S. Senate. Executive-legislative conflict and cooperation; input/output analysis.
POS	6455	Political Parties and Interest Groups	3	AS	POL	GS.	Analysis of statutes, functions, and characteristics of political parties and interest groups, as well as their interactions with political processes, actors, and institutions.
POS	6607	Constitutional Law	3	AS	POL	PR: GS.	Advanced study of legal, political, philosophic, and methodological problems in constitutional law.
POS	6698	Seminar in Law and Politics	3	AS	POL	PR: GS.	Advanced study of institutions and processes in the field of law and politics.
POS	6735	Foundations of Political	3	AS	POL		Survey of philosophical, intellectual, and

		Inquiry					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	Political Research Methods	3	AS	POL	PR: POS 3713 or equiv.	A graduate level, introductory survey of empirical research methodology, including statistics and computer data analysis. Topics include measurement, sampling, research design, and selected bivariate analysis techniques.
POS	6909	Independent Study	1-3	AS	POL	PR: 3.0 in Political Science, CC. S/U.	Specialized independent study determined by the student's needs and interests. Needs instructor's consent.
POS	6919	Directed Research	1-19	AS	POL	PR: GR. ML. S/U.	
POS	6933	Selected Topics in Political Science	3	AS	POL		Selected topics, issues, and problems in political science.
POS	6942	Field Work in Political Science	1-3	AS	POL	PR: 3.0 in Political Science and GS.	Application of research models now employed in governmental agencies, including development of a structured research proposal.
POS	6971	Thesis: Master's	2-19	AS	POL	PR: CC. S/U.	
POT	6007	Seminar in Political Theory	3	AS	POL	PR: GS.	Provides students who are capable of independent work with the opportunity to explore advanced problems of political theory.
PPE	6058	Personality	3	AS	PSY		Survey of research and theories of personality, including its relationship to the development of normal and abnormal behavior.
PSB	6056	Physiological Psychology	3	AS	PSY	PR: Admission to graduate program in Psychology or CI.	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	AS	PSY	PR: CI.	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	AS	PSY	PR: Admission to graduate program in Psychology or CI.	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	AS	PSY	PR: Majors only. S/U.	Independent study in which student must have a contract with an instructor.
PSY	6917	Directed Research	1-19	AS	PSY	PR: GR. ML, CC. S/U.	
PSY	6946	Practicum and Internship in Clinical Psychology	1-15	AS	PSY	PR: CI.	Supervised training in community and university settings in the application of Psychology.
PSY	6947	Graduate Instruction Methods	1-3	AS	PSY	PR: CI. S/U.	Special course to be used primarily for the training of teaching assistants.
PSY	6971	Thesis: Master's	2-19	AS	PSY	PR: CC. S/U	
PSY	7908	Directed Readings in Psychology	1-15	AS	PSY	PR: CI.	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	AS	PSY	PR: GR. Ph.D. level. S/U.	
PSY	7931	Seminar in Ethics and Professional Problems	2	AS	PSY	PR: Second year in Ph.D. program in Psychology or CI.	Ethical issues and professional problems in the practice of psychology.
PSY	7980	Dissertation: Doctoral	2-19	AS	PSY	PR: Admission to Candidacy. S/U.	
PUP	5607	Public Policy and Health Care	3	AS	POL		The study of health care policy as it relates to the policy process in the American setting.
PUP	6007	Seminar in Public Policy	3	AS	POL		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	AS	COM		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.
PUR	6603	Strategic Communication Campaigns	3	AS	COM	PR: CC.	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	AS	COM	PR: GS in Mass Communications or CI.	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	BU	MBA		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	6365	Applied Business Forecasting	3	BU	QMB	PR: QMB 6305 or equiv., CC.	Logic and application of quantitative forecasting, techniques to problems in business.
QMB	6375	Applied Linear Statistical Models	3	BU	QMB	PR: QMB 6305 or equiv., CC.	A study of multivariate data analysis techniques and their applications to problems and systems in business.
QMB	6603	Operations Management and Quality Enhancement	2	BU	MBA	PR: GS and 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	7565	Introduction to Research Methods	3	BU	QMB	PR: CC.	A course in research strategies, design, analysis, and measurement for business research.
QMB	7566	Applied Multivariate Statistical Methods	3	BU	QMB	PR: CC.	A course in research analysis and measurement focusing on multivariate statistical analysis techniques.

RCS	5035	Rehabilitation Counseling: Concepts and Applications	3	BC	REH	PR: CC.	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.
RCS	5080	Medical Aspects of Disability	3	BC	REH	PR: RCS 5780 or CP.	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	Substance Abuse I	3	BC	REH	PR: CI.	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	BC	REH	PR: CC.	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	BC	REH	PR: CI.	Supervised rehabilitation studies under the direction of a faculty member.
RCS	6220	Individual Evaluation and Assessment	3	BC	REH	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.
RCS	6301	Career and Lifestyle Assessment	3	BC	REH	PR: RCS 5080, RCS 5035, MHS 5020, RCS 6470 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	BC	REH	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	BC	REH	PR: MHS 5020, RCS 6440, RCS 5080, RCS 5035. Majors Only.	Psychopathology as applied to psychotherapy and case management in mental health, addictions, and other rehabilitation settings.
RCS	6409	Counseling in Community Settings	3	BC	REH	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	BC	REH	PR: RCS 5780 or CC.	Counseling issues in a multicultural and diverse society. Special emphasis on psychosocial adjustment and counseling for individuals with physical and mental disabilities.
RCS	6459	Professional Skills for Addictions Counselors	3	BC	REH	PR: RCS 5450 or CI.	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	BC	REH		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	BC	REH	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	BC	REH	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	BC	REH	PR: RCS 5080, MHS 5020, RCS 6440, RCS 5035.	Field work experience in rehabilitation mental health counseling.
RCS	6825	Internship	3	BC	REH	PR: CP, All required courses in M.A. program., CC. S/U.	Student placement in an approved intern setting for a minimum of 600 hours of supervised experience.
RCS	6906	Independent Study	1-19	BC	REH	PR: CC. S/U.	Independent study where the student must have a contract with a faculty member.
RCS	6930	Seminar in Rehabilitation Counseling	1-4	BC	REH	PR: CI.	Selected issues and problems in rehabilitation counseling with subject and scope to be determined by instructor.
RCS	6970	Thesis: Master's	2-19	BC	REH	PR: CC. S/U.	
RED	6116	Current Trends in Elementary Reading Instruction	3	ED	EDE	PR: RED 4310 or equiv. Not to be used as a first course in reading.	Approaches, materials, and procedures in Elementary Reading instruction, with emphasis on pertinent research.
RED	6247	District and School Level Supervision in Literacy	3	ED	EDR	PR: LAE 6315, RED 6544, RED 6545, RED 6747.	District and School Level Supervision in Literacy familiarizes students with issues related to the organization and monitoring of elementary and secondary reading programs at the school and district levels, with an emphasis on the former.
RED	6365	Reading In Secondary And Higher Education	3	ED	EDR		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	ED	EDR		Literacy and Technology focuses on technology as a tool for literacy instruction. Throughout the course, students will preview and evaluate literacy-related software and websites, critique research related to literacy and technology, and design, develop, and present software programs for literacy learning and instruction.
RED	6514	The Reading Process in the Elementary Grades	3	ED	EDE		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	6516	Corrective Reading in the Classroom	3	ED	EDR	PR: RED 4310 or CI.	Use of diagnostic and prescriptive procedures with individual and group reading instruction.
RED	6540	Assessment in Literacy	3	ED	EDR	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.
RED	6544	Cognition, Comprehension, and Content Area Reading: Remediation of Reading	3	ED	EDR		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	ED	EDR		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	6749	History and Models of Reading: Prevention and Intervention of Reading Difficulties	3	ED	EDR		History and Models of Reading: Prevention and Intervention of Reading Difficulties reintroduces students to literacy through the historical and scientific research perspective.
RED	6786	Teacher Research Methods in Reading	3	ED	EDR	PR: EDF 6481, RED 6747, RED 6545, RED 6544, RED 6247, RED 6449.	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-based research methodologies for teachers.
RED	6846	Practicum in Reading	3	ED	EDR	PR: RED 6747, RED 6545, RED 6544, RED 6540, or CI.	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	ED	EDR	S/U.	Independent study in which students must have a contract with an instructor.
RED	6971	Thesis: Masters/Educational Specialist	2-19	ED	EDR		
RED	7048	Reading as a Symbolic	3	ED	EDR	PR: RED 6116 or RED	Seminar designed to develop critical

		Process				6365, GS or DPR.	thinking about the reading process and reading acquisition.
RED	7742	Research in Vocabulary and Word Study	3	ED	EDR	PR: Advanced graduate status: Masters level coursework in reading or related field.	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	ED	EDR	PR: RED 6116 or RED 6365, GS or DPR.	Seminar examining in depth the current research on instruction in the field of reading education.
RED	7798	Research in Transdisciplinary Texts and Teaching	3	ED		PR: Doctoral Level Status	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	ED	EDR	PR: Advanced graduate standing.	Independent student-faculty research course.
RED	7938	Advanced Graduate Seminar	1-3	ED	EDR	PR: Enrollment in at least 3 hours is required for each doctoral student.	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	ED	EDR	Admission to Candidacy.	
REE	6938	Selected Topics in Real Estate	4-2	BA		PR: CC, CI	Topics to be selected by instructor and department chairperson on pertinent real estate issues.
REL	6035	Theory and Method in Religious Studies	4	AS	REL	PR: GS in the Department of Religious Studies.	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.
REL	6126	Religion in America	3	AS	REL		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.
REL	6143	Religion, Culture, and Society	3	AS	REL		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.
REL	6175	Religion, Ethics and Public Policy	3	AS	REL		This seminar will explore the relation between religion, ethics, the social sciences, and social policy. Problems of ideological conflict and ethical relativism will be examined, as well as possible religious and theoretical foundations for a normative ethics of social change.
REL	6178	Comparative Religious Ethics	3	AS	REL		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.
REL	6182	Faith and Reason in Western Religious Ethics	3	AS	REL		A seminar course examining the history of Western thinking about morality and its relation to religion. Concepts including faith, reason, right and wrong,

							values, virtue, duty, obligation, rights, and justice are explored in light of theories about the nature of morality.
REL	6195	Religion and Modernization	3	AS	REL		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.
REL	6285	Studies in Biblical Archaeology	3	AS	REL		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.
REL	6327	Seminar: Ancient Religions and Literatures	3	AS	REL		A research seminar in some aspect of ancient religion and literature: Hebrew Bible, New Testament, Mithraism, Mystic Religions, Pseudepigrapha, and others taught in translation.
REL	6328	Religion and Culture of the West	3	AS	REL		Examines some of the most important religious literature of the Western world -- Jewish, Christian, and Islamic -- attempting to understand each classical expression within its own historical and cultural context.
REL	6447	Liberation Theology	3	AS	REL		A critical examination of Third World, Black American, and Feminist Liberation Theologies of the Christian tradition.
REL	6617	The History of Judaism: The Formative Age	3	AS	REL	PR: REL 3602	The history of how the Judaism that predominated from the first century to the present took shape in the first six centuries AD.
REL	6906	Independent Study	1-3	AS	REL	PR: GS, ML	Independent study in which the student must have a contract with the instructor.
REL	6911	Directed Research	1-3	AS	REL	PR: GS, ML. Majors only.	Individual guidance in concentrated reading in a carefully delimited area of religious studies research skills.
REL	6938	Special Topics in Religious Studies	2-4	AS	REL	PR: GS.	Open to non-majors. Variable titles offered on topics of special interest.
REL	6940	Graduate Instruction Methods	1-4	AS	REL	Var. S/U.	Offered primarily for the supervision of Graduate Teaching Assistants.
REL	6971	Thesis: Master's	2-19	AS	REL	PR: GR. ML, majors only. S/U	
SCE	5325	Methods of Middle Grades Science Education	3	ED	EDN	PR: 18 sem hrs in science, meeting FL content standards for mid grades general science.	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	ED	EDN		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.
SCE	5564	Reading and Communication in Science Education	3	ED	EDN		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	ED	EDN		
SCE	6115	Trends in Science Instruction	3	ED	EDE	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	6347	Methods for Interpretive & Transformative Standards Based Education	3	ED	EDN		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	ED	EDN	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.
SCE	6444	Community Resources for Environmental Education	3	ED	EDN		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	ED	EDN	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	ED	EDN	PR: Bachelor's degree with major in science area, and certification in secondary science.	Curricular patterns and instructional practices in secondary science.
SCE	6645	Mathematics and Science Education Policy, Change, and School Improvement	3	ED	EDN	PR: EDF 7655 or Advanced GS. May also be taken as MAE 6738. DPR.	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	ED	EDN		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.
SCE	6736	Research Implications for Teaching Pre-College Mathematics and Science	3	ED	EDN		Generates new perspectives on research by comparing research techniques in mathematics, natural sciences, and mathematics and science education, and by matching mathematics, science and technology questions to appropriate research paradigms.
SCE	6744	Survey Update of Environmental Research Management Policies	3	ED	EDN		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	ED	EDN	PR: Advanced GS or DPR. May also be taken as MAE 6737.	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	ED	EDN	PR: Advanced GS or DPR. May also be taken as MAE 6735.	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	ED	EDN		Independent Study in which students must have a contract with the instructor. Rpt. S/U
SCE	6938	Topics in Science Education: Field Practicum	3	ED	EDN	PR: Admission into a graduate initial certification program in science education, and at least 9 hours of SCE (Science Education) courses. Course must be taken at least one semester before final internship.	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	6	ED	EDN	PR: CI.	Provides students with an extended school-based experience, under the guidance of a cooperating teacher and university supervisor, for a full semester at or near the end of their graduate program. Open to graduate degree candidates only. S/U (PR: CI)
SCE	7697	Socioscientific Issues in Science Education	3	ED	EDN		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	7910	Directed Research in Science Education	1-19	ED	EDN	PR: CI.	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	ED	EDN	PR: Admission to Candidacy.	
SDS	6042	Introduction of Student Affairs	3	ED	EDG		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.
SDS	6050	Comparative Guidance and Counseling	3	ED	EDG	PR: DPR.	Study of guidance theories and practices in selected foreign countries as compared with the American guidance model. Evaluation of foreign guidance through critical analysis of primary sources. For example: guidance philosophy and practice in countries of the Soviet Bloc, Western Europe, and Latin America.

SDS	6411	Introduction to Student Personnel Work in Higher Education	2	ED	EDG	PR: DPR.	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	ED	EDG	PR: SDS 6411. S/U.	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	ED	EDG	PR: Acceptance to College Student Affairs Program or CI.	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	ED	EDF	PR: GS	Provides students with an understanding of the changing demographics, environmental and developmental issues facing college students.
SDS	6641	Student Affairs Auxiliary Functions	3	ED	EDF	PR: Acceptance to Student Affairs Administration Doctoral Program & SDS 6042 or CI	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	ED	EDF		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	6701	Issues in Diversity	2	ED	EDF	PR: Admission to CSA or CI graduate Program	Addresses individual and organizational issues of multiculturalism and diversity in higher education.
SDS	6703	The Law and Student Affairs	3	ED	EDF	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	ED	EDG	S/U.	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	ED	EDG	PR: All required MHS courses. S/U.	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	ED	EDF	PR: Acceptance to Student Affairs Administration Doctoral Program &	Leadership, management and organizational models, perspectives and issues in administration of Student Affairs will be studied.

						SDS 6042 or CI.	
SDS	7642	Advanced Seminar in Student Affairs	1-4	ED	EDF	PR: Acceptance to Student Affairs Administration Doctoral Program or CI	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.
SDS	7643	Advanced Student Development Theories	4	ED	EDF	PR: SDS 6645 or equivalent and acceptance to Student Affairs Administration Doctoral Program or CI.	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	ED	EDF	PR: Acceptance to Student Affairs Administration Doctoral Program or CI	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	ED	EDG	S/U.	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	ED	EDF	PR: Acceptance to Student Affairs Administration Doctoral Program and completion of 25 hours or consent of Program Director	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	ED	EDF	PR: Admitted to Candidacy	
SED	6943	Graduate Instruction Methods	1-4	AS	SPE	S/U only.	Special course to be used primarily for the training of teaching assistants. Var. Rpt. To a total of 4 credits.
SLA	7910	Directed Research in Second Language Acquisition/ Instructional Technology	1-6	ED	EDI	PR: CI.	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.
SLA	7911	Second Language Acquisition Research Laboratory	1-4	ED	EDI		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	ED	EDI		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-	ED	EDX	PR: Admission to	

			18			Candidacy.	
SOP	6068	Personality and Social Psychology	3	AS	PSY	PR: Bachelors Degree in Psychology or related discipline.	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.
SOP	7609	Graduate Seminar in Social-Organizational Psychology	1-3	AS	PSY	PR: CI.	Seminars on topics, such as social psychology, job stress, and decision making.
SOW	5930C	Selected Topics in Social Work	1-4	BC	SOK	PR: CC.	Restricted to Social Work majors, both graduate and undergraduate; other by School permission. Course is taken as an elective. Various title course will selectively expand specific social work content areas.
SOW	6105	Foundations in Human Behavior	3	BC	SOK	PR: CC.	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.
SOW	6114	Individual Growth and Development Theory	3	BC	SOK	PR: CC.	This course presents various theoretical perspectives in individual growth and development commonly used in clinical practice with individuals, families, and groups. Ethnic, cultural, and lifestyle differences in normative development will be addressed, as will the influence of poverty, resource deprivation, sexual stereotyping, and illness/disability on social functioning.
SOW	6124	Theoretical Perspectives on Mental Dysfunctioning	3	BC	SOK	PR: CC. Majors only.	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	Theoretical Perspectives on Physical Dysfunctioning	2	BC	SOK	PR: CC. Majors only.	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	6235	Foundations of Social Welfare Policy	3	BC	SOK	PR: CC.	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 Analysis and Design	3	BC	SOK	PR: CC.	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.
SOW	6305	Fundamentals of Social Work Practice	3	BC	SOK	PR: CC.	Describes full range of social work interventions, from micro to macro.

							Historical development of practice methods and survey of current techniques.
SOW	6342	Individual, Family and Group Treatment I	3	BC	SOK	PR: CC.	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	BC	SOK	PR: CC.	Theories for clinical practice, with emphasis on the psychosocial model. Explores basic skills for clinical practice.
SOW	6362	Individual, Family and Group Treatment II	4	BC	SOK	PR: CC.	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	Individual, Family and Group Treatment III	3	BC	SOK	PR: CC.	Focus on psychosocial model of group treatment. Comparison with individual and family modality.
SOW	6375	Macro Practice Seminar	3	BC	SOK	PR: CC, 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	BC	SOK		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.
SOW	6425	Clinical Research	2	BC	SOK		This is the second in a series of four required research courses. It focuses on the design and implementation of evaluation studies in social work.
SOW	6426	Field Research I	1	BC	SOK	GS in Social Work only.	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	BC	SOK	GS in Social Work only.	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	BC	SOK	PR: Must be admitted to the graduate Masters of Social Work program. This course is restricted to majors only. CR: Undergraduate degree.	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	4	BC	SOK	PR: CC. S/U.	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	BC	SOK	PR: CC. S/U.	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	BC	SOK	PR: CC. S/U.	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	6553	Field Instruction Sequence IA: Part-Time	2	BC	SOK	PR: SOW 6114, SOW 6348. CR: SOW 6124.	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	1	BC	SOK	PR: SOW 6553. S/U.	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	BC	SOK	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	BC	SOK	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	BC	SOK	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.
SOW	6558	Field Instruction Sequence IIIA: Part-Time	2	BC	SOK	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	BC	SOK	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	BC	SOK	PR: Admission to MSW program, CC.	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	BC	SOK	PR: CC. Restricted to MSW students; others by School permission.	
SOW	7417	Advanced Statistics in Social Work Research	3	BC	SOK	PR: Must be admitted to the graduate Ph.D. social work program. This course is restricted to majors only. SOW 6405 or equivalent. CR: MSW.	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	BC	SOK		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.
SOW	7490	Foundations of Social Work Research	3	BC	SOK	PR: Must be admitted to the graduate Ph.D.	This is a doctoral level course designed to prepare students on the role of

		Methods				social work program. This course is restricted to majors only. CR: MSW.	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	BC	SOK	PR: Must be admitted to the graduate Ph.D. social work program. This course is restricted to majors only. CR: MSW.	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	BC	SOK	PR: Must be admitted to the graduate Ph.D. social work program. This course is restricted to majors only. CR: MSW.	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	BC	SOK	PR: Must be admitted to the graduate Ph.D. social work program. This course is restricted to majors only. CR: MSW.	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	BC	SOK		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.
SOW	7775	Critical Issues in Social Work	3	BC	SOK	PR: Ph.D. Majors only.	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.
SOW	7776	The Social Work Educator in the University	3	BC	SOK		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	BC	SOK	PR: Must be admitted to the graduate Ph.D. social work program. This course is restricted to majors only. CR: MSW.	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	BC	SOK	PR: Must be admitted to candidacy in Social Work Ph.D. Program. This course is restricted to majors only. CR: MSW.	Dissertation hours
SOW	7981	Proposal Writing I	3	BC	SOK		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	7982	Proposal Writing II	3	BC	SOK		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.
SPA	5120	Psychoacoustics	3	BC	CSD		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	Instrumentation	3	BC	CSD	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	BC	CSD	PR: DPR or SPA 3011 or equivalent.	Underlying principles and laboratory exercises in the use of audio recording, acoustic analysis, and clinical instrumentation.
SPA	5153	Quantitative Problem Solving in Speech Pathology and Audiology	3	BC	CSD		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	BC	CSD		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	BC	CSD		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	5312	Peripheral and Central Auditory Tests	4	BC	CSD	PR: DPR.	The study of behavioral and electro physiologic clinical tests designed to assess the functions of the peripheral and the central auditory system. Tests that incorporate nonspeech stimuli and those that utilize speech stimuli will be included.
SPA	5328	Rehabilitative Audiology for Adults	3	BC	CSD	PR: DPR.	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	BC	CSD	PR: SPA 4201 and DPR.	Metalinguistic and metacognitive development are linked to the interactional demands of classroom and clinical discourse; observational tools are applied to evaluation and intervention planning.
SPA	5506	Speech-Language Pathology and	1-8	BC	CSD	PR: DPR.	Participation in speech-language pathology and audiology practicum in

		Audiology Practicum					the University Communication Disorders Center and selected field settings.
SPA	5552	Diagnostic Principles and Practices	3	BC	CSD	PR: Admission to the graduate program or DPR.	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	BC	CSD	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	6106	Neurological Correlates of Language	3	BC	CSD	PR: DPR.	Review of the anatomy and physiology of the nervous system. Discuss neurological correlates of receptive and expressive language in verbal and non-verbal transmission and feedback.
SPA	6211	Advanced Vocal Disorders	3	BC	CSD		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	BC	CSD		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.
SPA	6232	Neuromotor Communication Disorders	3	BC	CSD	PR: DPR.	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	BC	CSD	PR: DPR.	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	BC	CSD	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	BC	CSD	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	BC	CSD	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.
SPA	6314	Electrophysiology	3	BC	CSD	PR: SPA 5303 and SPA 5312 or DPR.	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	BC	CSD	PR: SPA 5303 and SPA 5312 or DPR.	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	BC	CSD	PR: DPR.	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	6326	Curriculum Procedures and Materials for the Hearing Impaired	3	BC	CSD	PR: Major in Aural Rehabilitation or DPR.	Curricular adaptation, methods, techniques, and organization necessary for teaching the hearing impaired.
SPA	6329	Educational Audiology	3	BC	CSD		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	BC	CSD		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.
SPA	6341	Principles of Amplification II	3	BC	CSD	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	BC	CSD	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	BC	CSD	PR: DPR.	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	BC	CSD		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	6401	Pediatric Language Disorders	3	BC	CSD	PR: DPR.	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	BC	CSD	PR: DPR.	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	BC	CSD	PR: SPA 6106 and DPR.	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	6413	Augmentative and Alternative Communication	3	BC	CSD	PR: DPR.	This course details the in-depth assessment and treatment of communication modes in non-speaking 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	6417	Communication + Cognition in Traumatic Brain Injury	3	BC	CSD	PR: Permission of Instructor.	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	6421	Language for the Hearing Impaired	3	BC	CSD	PR: SPA 3030, SPA 3310, SPA 4363, and DPR.	Techniques and materials of teaching language to children with auditory disorders as well as evaluation and analysis of contemporary intervention and clinical methods.
SPA	6422	Speech Perception and Production for the Hearing Impaired	3	BC	CSD	PR: SPA 3310, SPA 3311 or CC.	In depth study of the effects of hearing loss on speech perception and on the development of speech production skills in children. Methods for testing/training speech perception/production skills in the hearing-impaired are discussed.
SPA	6473	Multicultural Differences in Language	3	BC	CSD	PR: CI.	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	6505	Practicum	1-10	BC	CSD	PR: DPR.	Participation in speech-language pathology and audiology practicum in the University clinical laboratory and selected field settings.
SPA	6535L	Audiology Clinical Laboratory I	3	BC	CSD		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	BC	CSD	PR: SPA 5506 Audiology Clinic Lab II (number change requested, currently being processed)	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	BC	CSD	PR: DPR.	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.
SPA	6564	Seminar in Aging, Cognition, and Communication	3	BC	CSD		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	BC	CSD	PR: SPA 6410 or permission of instructor.	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	BC	CSD		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	6675	Reading for the Hearing Impaired	2	BC	CSD	PR: RED 4310 and DPR.	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	BC	CSD	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	BC	CSD	PR: DPR.	Advanced research and experimental design techniques employed in clinical and laboratory settings in speech-language pathology and audiology.
SPA	6906	Independent Study	1-19	BC	CSD	PR: DPR. S/U grading only.	Independent study in which students must have a contract with an instructor.
SPA	6910	Directed Research	1-19	BC	CSD	PR: GR. ML, DPR. S/U grading only.	
SPA	6930	Selected Topics	3	BC	CSD	PR: DPR.	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	BC	CSD	PR: DPR.	
SPA	7150	Advanced Speech Science	3	BC	CSD	PR: SPA 3011 or equivalent; SPA 5150L; DPR.	Advanced study of the acoustics, production, and perception of normal and disordered speech.
SPA	7346	Cochlear Implants	3	BC	CSD	PR: SPA 5303, SPA 5120, SPA 5506, Permission of Instructor.	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	BC	CSD	PR: SPA 6410, SPA 6232 and DPR.	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.
SPA	7834	Audiology Doctoral Project Seminar	1	BC	CSD	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.
SPA	7931	Seminar in Communication Sciences and Disorders	3	BC	CSD	PR: DPR.	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	2-19	BC	CSD	PR: Admission to Candidacy.	PR: Admission to Candidacy. Doctoral Dissertation.
SPC	5238	Topics in Rhetorical Analysis	3	AS	SPE		Introduces a variety of critical perspectives applied to rhetoric in specialized contexts. Topics vary depending upon interest of students and faculty.
SPC	5930	Topics in Discourse	3	AS	SPE		Variable topics course.
SPC	6214	Ethnography of Communication	3	AS	SPE	PR: Graduate Standing.	Explores ethnography as an approach to conducting research and a means of theorizing about human communication.
SPC	6231	Survey of Rhetorical Theory	3	AS	SPE		Historical development of rhetorical theory from Plato to contemporary theorists with emphasis upon the evolution of trends and concepts in rhetorical theory.
SPC	6236	Contemporary Rhetorical Theory	3	AS	SPE	PR: GS.	Basic texts in 20th century rhetorical theory. Readings may vary.
SPC	6391	Interpersonal Communication	3	AS	SPE		Study of theory and research related to interpersonal communication.
SPC	6432	Family Communication	3	AS	SPE	PR: Graduate Standing.	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	6545	Persuasion	3	AS	SPE		Study of contemporary theories and research in persuasion.
SPC	6645	Rhetoric in Society	3	AS	SPE	PR: GS.	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	AS	SPE		The study of theoretical perspectives in rhetorical criticism. The application of criticism to selected rhetorical situations.
SPC	6726	Communication in Close Relationships	3	AS	SPE	PR: Graduate Standing.	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.
SPC	6728	Communicating Grief, Loss, and Illness	3	AS	SPE	PR: Graduate Standing.	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	AS	SPE	PR: CC.	
SPC	6913	Directed Research	1-19	AS	SPE	PR: ML, CC, S/U.	
SPC	6934	Selected Topics in Communication	1-4	AS	SPE		
SPC	6935	Pro Seminar in	1-3	AS	SPE	PR: GS.	Reading and discussion of current books,

		Communication					articles, and papers in communication theory and research.
SPC	6971	Thesis: Master's	2-19	AS	SPE	PR: CC. S/U.	
SPC	7900	Doctoral Research Tutorial	1-3	AS	SPE	PR: Admitted to doctoral program.	Advanced directed research.
SPC	7930	Seminar in Rhetorical Studies	3	AS	SPE	PR: GS.	Variable topics course.
SPC	7980	Dissertation: Doctoral	2-19	AS	SPE	PR: Admission to candidacy.	
SPN	5525	Modern Spanish American Civilization	3	AS	WLE	PR: SPN 3520 or equivalent or graduate standing.	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	AS	WLE	PR: SPN 3500 or equivalent or graduate standing.	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	6795	Phonology and Dialectology	3	AS	WLE	PR: SPN 3300.	A study of the Spanish sound system.
SPN	6845	History of the Spanish Language	3	AS	WLE		Traces the development of Spanish from its Latin origins to the present.
SPN	6940	Graduate Instruction Methods	1-3	AS	WLE	S/U.	Special course to be used primarily for the training of teaching assistants.
SPS	6101	Child and Adolescent Behavior Disorders	4	ED	EDF		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	ED	EDF		Conceptualizations of personality and personality assessment; perspectives of disturbed and disturbing behavior, and personality assessment measures.
SPS	6197	Psychoeducational Diagnosis and Prescription I	4	ED	EDF	PR: Acceptance to graduate program in School Psychology.	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	6198	Psychoeducational Diagnosis and Prescription II	4	ED	EDF	PR: Acceptance to graduate program in School Psychology.	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	ED	EDF	PR: Acceptance to School Psychology Graduate Program or CI. Concurrent enrollment required with 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.
SPS	6701C	Psychoeducational Interventions With Children and Adolescents II	4	ED	EDF	PR: Acceptance to School Psychology Graduate Program or CI. Concurrent enrollment required with 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	ED	EDF	PR: Acceptance to School Psychology Graduate Program or CI. Concurrent enrollment required with 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	6806	Developmental Bases of Diverse Behaviors	4	ED	EDF		This course deals with some of the major social and educational policy concerns posed by developmental and cultural diversity in our society.
SPS	6936	Graduate Seminar in School Psychology	1-3	ED	EDF	PR: CI.	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	ED	EDF	PR: Concurrent enrollment in Psychoeducational Interventions with Children and Adolescents - I or II (SPS 6700C or SPS 6701C), or DPR.	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	ED	EDF	PR: Concurrent enrollment in Psychoeducational Interventions with Children and Adolescents - I or II (SPS 6700C or SPS 6701C), or DPR.	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	ED	EDF	Open to School Psychology graduate degree candidates only.	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	ED	EDF	S/U. MA/EdS Candidates only.	
SPS	7090	Supervision Processes in School Psychology	4	ED	EDF		Theory, skills, and practice of supervision in school psychology.
SPS	7199	Advanced Psychoeducational Assessment	2-4	ED	EDF	PR: SPS 6197/SPS 6198 or DPR.	Advanced topics and techniques in the comprehensive assessment of children and adolescents typically referred for school psychological services.
SPS	7205	Advanced Consultation Processes in School Psychology	2-4	ED	EDF	PR: EDF 6166, or DPR.	Advanced topics and techniques in consultation processes for advanced school psychologists.
SPS	7700	Advanced Psychoeducational Interventions	2-4	ED	EDF	PR: SPS 6700C/SPS 6701C and SPS 6940/SPS 6941, or DPR.	Advanced topics and techniques in psychoeducational interventions for children and adolescents referred for school psychological services.
SPS	7701	Advanced Child and Adolescent Psychotherapy	2-4	ED	EDF	PR: SPS 6702C, or DPR.	Covers advanced topics and techniques in child and adolescent psychotherapy relevant to school psychological services.
SPS	7910	Directed Research in School Psychology	1-19	ED	EDF	PR: CI.	A doctoral research experience supervised by a faculty member.
SPS	7936	Advanced Seminar in School Psychology	1-3	ED	EDF		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	ED	EDF	PR: Admission to Candidacy.	
SPW	5135	Colonial Spanish American Literature	3	AS	WLE	PR: SPW 4131.	Introduction to Colonial Spanish American Literature from the discovery through the Romantic Period.
SPW	5355	Spanish American Drama and Poetry	3	AS	WLE	PR: SPW 4131.	Major writers of all genres. Emphasis on modern writers.
SPW	5387	Spanish American Prose	3	AS	WLE	PR: SPW 4131.	Emphasis on the gaucho theme and contemporary prose fiction.
SPW	5388	Golden Age Poetry and Drama	3	AS	WLE	PR: SPW 4100.	Lope de Vega, Alarcon, Tirso, Calderon, and others.
SPW	5405	Medieval Literature	3	AS	WLE	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	AS	WLE	PR: SPW 4101.	An appreciation of the romantic and realist periods in Spanish literature.

SPW	5605	Cervantes	3	AS	WLE		Cervantes' masterpiece Don Quijote de la Mancha.
SPW	5725	Generation of 1898	3	AS	WLE	PR: SPW 4101.	The major figures of the period and their main followers.
SPW	5726	Vanguard Literature 1918 and 1936	3	AS	WLE	PR: SPW 4101.	A study of Vanguard literature in Spain between 1918 and 1936.
SPW	5934	Selected Topics	3	AS	WLE	PR: Upper-level or GS.	Study of an author, movement, or theme.
SPW	6427	Golden Age Novel	3	AS	WLE		Realistic prose-fiction of the Renaissance and Golden Age.
SPW	6485	Post Civil War Literature	3	AS	WLE	PR: SPW 4101.	The drama and novel since 1936.
SPW	6775	Caribbean Literature	3	AS	WLE	PR: SPW 4131	Emphasis on contemporary Cuban and Puerto Rican literature.
SPW	6910	Directed Research	1-19	AS	WLE	PR: GR. ML, CC. S/U.	
SPW	6936	Graduate Seminar	3	AS	WLE	PR: CC	Topics vary.
SPW	6971	Thesis: Master's	2-19	AS	WLE	PR: CC. S/U.	
SSE	5331	Foundations, Curriculum & Instruction of Social Science Education	3	ED	EDI		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.
SSE	5332	Methods & Strategies in Social Science Education	3	ED	EDI		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	ED	EDI		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	5644	Economic Decision-Making for Teachers	3	ED	EDW	PR: Admission to College of Education or DPR.	Provides teachers (K-12) with content related to the operation of businesses in a market economy. Teachers analyze economic/business concepts from the perspective of individuals currently operating businesses in the Tampa Bay area. Focus of the instruction is on the application of content to K-12 instructional programs.
SSE	5946	Practicum in Social Science Education	3	ED	EDI	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	ED	EDE	PR: Dual Track or MAT Admission.	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.
SSE	6636	Trends in Secondary Social Science Education	3	ED	EDW	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	ED	EDW		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	ED	EDI	PR: Admission to Masters	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	ED	EDI	PR: CI.	This course provides students with an extended school-based experience, under the guidance of a cooperating teacher and a university supervisor, for a full semester at or near the end of their graduate program. Open to graduate degree candidates only. Supervised teaching at the secondary level as appropriate. S/U (PR: CI)
SSE	7700	Social Science Curriculum and Instruction Issues	4	ED	EDI	PR: Admittance to the Social Science Ph.D. program.	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	ED	EDI	PR: Admittance to the Social Science Ph.D. program.	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.
SSE	7720	Social Science Education Technological Innovations	4	ED	EDI	PR: Admittance to the Social Science Ph.D. program.	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	ED	EDI	PR: Admittance to the Social Science Ph.D. program.	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	ED	EDI	PR: Admission to Doctoral Program in C&I with an emphasis in SSE.	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	ED	EDW	PR: CI	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	2	ED	EDI	PR: Admittance to the Social Science	This course provides doctoral students in social science education with the

		Education				Ph.D. program.	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	ED	EDW	PR: Admission to Candidacy	Rpt.
STA	5166	Statistical Methods I	3	AS	MTH	PR: STA 4321 or CI.	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	5228	Sampling Techniques	3	AS	MTH	PR: STA 4321 or CI.	Sampling versus total enumeration. Planning of a survey. Statistical sampling methods and their analysis; simple, stratified, systematic cluster, and double and multistage sampling. Use of auxiliary information in sampling. Ratio and regression estimates. Case study.
STA	5326	Mathematical Statistics I	3	AS	MTH	PR: STA 5446.	Sample distribution theory, point & interval estimation, optimality theory, statistical decision theory, and hypothesis testing.
STA	5446	Probability Theory I	3	AS	MTH	PR: STA 4442 and MAA 4212 or CI.	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	AS	MTH	PR: STA 5326 or CC.	Theory and methods of non-parametric statistics, order statistics, tolerance regions, and their applications.
STA	6167	Statistical Methods II	3	AS	MTH	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	AS	MTH	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.
STA	6208	Linear Statistical Models	3	AS	MTH	PR: STA 5167 or STA 5326 or CI.	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	AS	MTH	PR: STA 5446 and MAA 5306 or CI.	Characteristic functions, central limit theorem, martingale inequalities and convergence theorems, optional stopping, ergodic theorems and applications.
STA	6746	Multivariate Analysis	3	AS	MTH	PR: STA 5326 or CI.	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	AS	MTH	PR: STA 5326 or CI.	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	AS	SOC	PR: Undergraduate course in sociological theory or CI	Emphasizes logical and conceptual dimensions of theory and theory construction.
SYA	6205	Social Construction of Reality	3	AS	SPE	PR: Graduate Standing.	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.
SYA	6305	Methods of Research	3	AS	SOC	PR: Undergraduate course in sociological research methods or CI.	Logic and practice of research; problems of observation and data collection, data processing, and evaluation.
SYA	6315	Qualitative Research Methods	3	AS	SOC	PR: Undergraduate course in sociological research methods or CI.	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	AS	SOC	PR: Graduate Standing or CI.	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	AS	SOC	PR: Undergraduate statistics course or CI.	Logic and application of parametric and nonparametric statistical analysis for sociological data.
SYA	6437	SPSS and Social Research	3	AS	SOC	PR: Research Methods and Statistics.	Provides students with practical experience using SPSS (Statistical Package for the Social Sciences). Introduces students to measurement of sociological variables, data processing, and various parametric and nonparametric data analysis procedures.
SYA	6505	The Communication of Sociology	1-3	AS	SOC		Designed to help students define and formalize more effective efforts at communicating sociology.
SYA	6909	Independent Study	1-19	AS	SOC	PR: GS, CI. S/U.	Independent study in which student must have a contract with an instructor.
SYA	6912	Directed Research	1-19	AS	SOC	PR: GS, CI. S/U.	
SYA	6933	Special Topics-Sociology	3	AS	SOC	PR: GS.	Content varies according to interests of students and instructor.
SYA	6940	Internship	1-6	AS	SOC	PR: Graduate Standing.	Designed for students wishing to develop practical sociological skills and apply sociological knowledge to questions of practical concern. Internship experiences include those in basic and applied research, community organization, and public policy.
SYA	6971	Thesis: Master's	2-19	AS	SOC	PR: CC. S/U.	
SYA	7980	Doctoral Dissertation	1-3	AS	SOC	PR: Permission of Major Professor	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.
SYD	6605	City and Community	3	AS	SOC	PR: Graduate standing or CI.	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	AS	SOC	PR: GS or Departmental Approval.	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.
SYG	6936	Seminar in Teaching Sociology	3	AS	SOC	PR: GS or Departmental Approval	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	5365	Industrial Sociology	3	AS	SOC		
SYO	6125	Family Analysis	3	AS	SOC	PR: Course in family or CI.	Theory of interpersonal relations and interaction in the modern family. Analysis of functions and roles.
SYO	6255	Seminar in Sociology of Education	3	AS	SOC	PR: GS or Departmental Approval.	Sociological analysis of the institution of education. Primary attention directed toward class, race, and gender inequalities and educational transformations.
SYO	6406	Sociology of Health and Illness	3	AS	SOC	PR: GS.	Survey of core concepts and current research in the sociology of health and illness: social correlates of disease, health care utilization, physician-patient relations, medical compliance, and illness behavior.
SYO	6545	Complex Organizations	3	AS	SOC	PR: Course in social organizations or CI.	Organizational theory, bureaucratic models, authority, power legitimation, and types of formal organization.
SYO	7435	Sociology of Disability in Urban Society	3	AS	SOC		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	6008	Social Problems, Identity, and Community	3	AS	SOC	PR: GS or Department Approval	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	AS	SOC	PR: Graduate Standing or CI.	Explores the role of emotions in the everyday lives of individuals, within the micro-social contexts of identities, interactions, and social relationships.
SYP	6357	Comparative Social Movements	3	AS	SOC	PR: GS or department approval.	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	AS	SOC	PR: GS or department approval.	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	AS	SOC	PR: GS or Department Approval.	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	BU	ACC	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	BU	ACC	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	6016	Advanced Corporate Taxation I	3	BU	ACC	PR: TAX 4001	This is the first of two sequential courses on Advanced Corporate Taxation. This course studies advanced income tax problems involving corporations, including organization, operation, distribution, and liquidation. Topics include "S" Corporations, collapsible corporations, personal holding companies, accumulation of earnings, and acquisition and disposition of corporations. The planning and business aspects of corporate transactions are emphasized.
TAX	6025	Advanced Corporate Taxation II	3	BU	ACC	PR: TAX 6016	This is the second of two sequential courses on Advanced Corporate Taxation. This course covers advanced corporation topics including multiple corporations, transfer of corporate attributes, corporate divisions, corporate reorganizations, consolidated corporate tax returns, limitation on corporate loss carry-forwards and taxation of foreign corporations and foreign source income.
TAX	6065	Contemporary Issues In Taxation	3	BU	ACC	PR: TAX 4001 and TAX 5015 or equivalent and admission to MAcc program. CR: ACG 6453.	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.
TAX	6134	Advanced Corporate Taxation	3	BU	ACC	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	BU	ACC	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	TA	TAR	PR: CI and CC.	Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.
THE	5931	Selected Topics In	1-8	TA	TAR	PR: CI.	The content of the course will be

		Theatre					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	TA	TAR	PR: Graduate standing or Cl.	A study of contemporary theatrical practice and key dramatic texts in the British Isles. Departmental permit required of majors and non-majors.
THE	6720	Drama in Elementary School	3	TA	EDD		Methods of using theatre and drama activities in elementary school, including use of drama and theatre for interdisciplinary, integrated projects. Available to majors and non-majors, no extra laboratory sections.
THE	6736	Methods of Directing the High School Play	3	TA	EDD		Directing the high school play including script selection, analysis and interpretation, audition and casting procedures, composition, picturization, staging movement, rhythm and pacing, pantomimic dramatization, organizing and conducting rehearsals.
THE	6930	Selected Topics in the Teaching of Theatre	3	TA	EDD	PR: Open only to students who have completed all other graduate level Theatre Education courses). S/U.	Investigation of topics related to theatre teaching of special interest to the student. Topics will be selected by the student and approved by the graduate advisor.
TSL	5085	ESOL I - Theory and Practice of Teaching English Language Learners	3	ED	EDX		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.
TSL	5086	ESOL II-Secondary Language & Literacy Acquisition in Children & Adolescents	3	ED	EDX	PR: FLE 5430.	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	ED	EDX	PR: FLE 5431.	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	ED	EDX		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	ED	EDX		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	AS	WLE		Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.
TSL	5372	ESOL Curriculum and Instruction	3	AS	WLE		Analysis of the methods of teaching English pronunciation and structure to speakers of other languages.
TSL	5440	Language Testing	3	AS	WLE	PR: TSL 5371.	Lecture course on testing English as a second/foreign language.

TSL	5525	Cross-Cultural Issues in ESL	3	AS	WLE	PR: LIN 5700.	Lecture course on cultural issues in Teaching English as a Second/Foreign language.
TSL	5940	ESOL Practicum	1-3	ED	EDX	PR: FLE 5345 and FLE 5145. Must be taken in the semester prior to final internship.	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	ED	EDX		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	6700	ESOL for School Psychologists and School Counselors	3	ED	EDX		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	AS	WLE	PR: TSL 5371 and TSL 5372. S/U.	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	EN	EGX	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	EN	EGX	PR: College Algebra & Cl.	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	6270	Intelligent Transportation Systems	3	EN	EGX	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	EN	EGX	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	EN	EGX	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	EN	EGX	PR: TTE 5501.	Statistical modeling of travel demand forecasting; emphasis on trip generation and trip chaining.
TTE	6651	Public Transportation	3	EN	EGX		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	EN	EGX		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.
TTE	6835	Pavement Design	3	EN	EGX	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	EN	EGX	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	EN	EGX	PR: Majors only. S/U.	Seminars, presentations, and discussions of contemporary transportation issues.
URP	6056	City and Regional Planning	3	AS	POL	GS.	A review of goals, objectives, and interrelationships between regional and city planning; intergovernmental and policy issues. Cross-listed with Political Science.
URP	6100	Planning Theory and History	3	AS	GPY		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.
URP	6115	Planning, policy and politics	3	AS	GPY		Introduction to politics, government and policy making for planning students. Part of the required core for the URP program.
URP	6232	Research Methods for Urban and Research Planning	3	AS	GPY		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	6930	Special Topics in Urban and Regional Planning	3	AS	GPY		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	AS	GPY		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.
WST	5308	Feminist Spirituality	3	AS	WST		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	5825	Internship in Women's Studies	3	AS	WST	PR: Must have completed	Student placement in approved intern setting for a minimum of 150 hours of

						Comprehensive Exam. Majors Only. All required courses in MA program, CC.	supervised experience. S/U. Department Approval Required.
WST	5934	Selected Topics	1-4	AS	WST	PR: DPR.	Study of current research methods and scholarship on women from a multidisciplinary perspective.
WST	5940	Internship in Women's Studies	3-6	AS	WST	PR: Majors only. All required courses in MA program, CC. Permit.	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	AS	WST		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.
WST	6002	Feminist Scholarship and Pedagogy	3	AS	WST		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	6406	Women of Color: Activism and Social Change	3	AS	WST		Intensive reading and discussion of the participation of women of color in contemporary and reformist activities.
WST	6560	Advanced Feminist Theory	3	AS	WST		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	AS	WST		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	6705	Women and Policy	3	AS	WST		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	6900	Directed Readings	1-3	AS	WST	PR: CI.	Supervised program of intensive readings of an interdisciplinary nature focusing on women. Student must have contract with instructor.
WST	6910	Directed Research	1-3	AS	WST	PR: CC and signed contract. S/U.	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	AS	WST		Content varies according to scholarship focus of students and instructor. Repeatable-- content and instructor will vary.
ZOO	5456	Ichthyology	3	AS	BIN	PR: Senior or GS in Biology; ZOO 2701C, CI. PCB 4674 is suggested.	Evolution, systematics, structure, behavior, physiology, and ecology of fishes.
ZOO	5456L	Ichthyology Lab	1	AS	BIN	CR/PR: ZOO 5456	Laboratory portion of Ichthyology relating to evolution, systematics,

							structure, behavior, physiology and ecology of fishes.
ZOO	5463C	Herpetology	4	AS	BIN	PR: CI.	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	AS	BIN	PR: PCB 3043, senior standing, CI.	Investigation of energy flow, biogeochemical cycles, and community structure in marine environments. Lec.-lab.
ZOO	6455	Advances in Ichthyology	1	AS	BIN	PR: CI.	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.