Fall 8-1-2005

Graduate Course Descriptions, 2005 Fall

Wright State University

ACADEMIC_PERIOD_DESC	COURSE_IDENTIFICATION	COURSE_NUMBER	TITLE_SHORT_DESC	SUBJECT	SUBJECT_DESC	CREDIT_MIN	COURSE_TEXT_NARRATIVE	COURSE_LEVEL	SCHEDULE	SCHEDULE_DESC
Fall 2005	ABS700	700	COMPUTER SCHOLARSHIP	ABS	APPLIED BEHAVIORAL SCIENCE	2	Emphasis is on computer software and technologies available to assist in the assembling and communication of information relevant to social research, such as e-mail, the Internet, and bibliographic databases.	GR		Lecture
Fall 2005	ABS701	701	RESEARCH METHODS I	ABS	APPLIED BEHAVIORAL SCIENCE	4	Emphasis on research designs, testing hypotheses, and techniques for collecting data such as questionnaire formation, sampling, surveys, scaling, interviewing, and analysis of documents and records.	GR		Lecture
Fall 2005	ABS702	702	RESEARCH METHODS II	ABS	APPLIED BEHAVIORAL SCIENCE	4	Analysis and interpretation of data in social research, with emphasis on multivariate statistical techniques.	GR		Lecture
Fall 2005	ABS703	703	APPLIED METHODOLOGY	ABS	APPLIED BEHAVIORAL SCIENCE	4	Addresses issues pertaining to the collection and analysis of data in various settings, for the purpose of program evaluation, policy analysis, and other applied objectives.	GR		Lecture

Fall 2005	ABS730	730	THEORIES OF IR/COMP POL	ABS	APPLIED BEHAVIORAL SCIENCE	4	Introduction to the theories and concepts employed in modern political analysts with emphasis on the study of international relations and comparative policies.	GR	S	Seminar
Fall 2005	ABS731	731	GRAD SEM IN IR/COMP POL	ABS	APPLIED BEHAVIORAL SCIENCE	4	Selected topics or issue areas in international relations or comparative politics. May be repeated for credit under a differing subtitle.	GR	S	Seminar
Fall 2005	ABS741	741	LIFE STAGES & LIFE CHNGS	ABS	APPLIED BEHAVIORAL SCIENCE	4		GR		Lecture
Fall 2005	ABS746	746	COMMUNITY DEV & PLANNING	ABS	APPLIED BEHAVIORAL SCIENCE	4	Basic concepts and theories of community development and the planning practice. Evaluation of current developments in the field of community development and planning with special emphasis on implementation strategies.	GR		Lecture
Fall 2005	ABS751	751	THEORETICAL FOUNDATIONS	ABS	APPLIED BEHAVIORAL SCIENCE	4	Focuses on theories of anomie, alienation, social disorganization, and social dysfunction that underlie contemporary paradigms in the study of deviance, criminology, and criminal justice.	GR		Lecture

Fall 2005	ABS752	752	SEMINAR SOCIAL DEVIANCE	ABS	APPLIED BEHAVIORAL SCIENCE	4	Study of contemporary theories of deviant behavior from both an institutional and social-psychological perspective, with emphasis on the relationship between social change and social disorganization.	GR		Lecture
Fall 2005	ABS753	753	SEMINAR CRIMINAL JUSTICE	ABS	APPLIED BEHAVIORAL SCIENCE	4	(Also listed as SOC 770.) An investigation of the criminal justice system in the United States and its relation to deviant adult and juvenile behavior.	GR		Lecture
Fall 2005	ABS773	773	PROF EXPERIENCE PORTFOLIO	ABS	APPLIED BEHAVIORAL SCIENCE	2		GR		Lecture
Fall 2005	ABS774	774	APPLIED PROBLEM SOLVING	ABS	APPLIED BEHAVIORAL SCIENCE	2		GR		Lecture
Fall 2005	ABS775	775	METH IN HLTH CARE RES&EV	ABS	APPLIED BEHAVIORAL SCIENCE	4	Seminar in the designs and methods used in health care research and evaluation. Emphasis on current and future areas of health care research and evaluation. Focus of seminar is on skill development.	GR		Lecture
Fall 2005	ABS777	777	INDEPENDENT RESEARCH	ABS	APPLIED BEHAVIORAL SCIENCE	1	Independent laboratory or field research under the sponsorship of a faculty supervisor. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	ABS779	779	PRACTICUM IN ABS	ABS	APPLIED BEHAVIORAL SCIENCE	2	On-site participation of students in selected behavioral science projects. Jointly supervised by faculty and on-site personnel. May be repeated once for credit.	GR	I	Independent Study
Fall 2005	ABS781	781	SEMINAR FAMILY PROBLEMS	ABS	APPLIED BEHAVIORAL SCIENCE	4		GR		Lecture
Fall 2005	ABS788	788	GRADUATE SEMINAR IN ABS	ABS	APPLIED BEHAVIORAL SCIENCE	1	In-depth coverage of special topics in applied behavioral science. Topics vary. May be taken for a letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	ABS789	789	CONTINUING REGISTRATION	ABS	APPLIED BEHAVIORAL SCIENCE	1	Continuing Registration	GR	I	Independent Study
Fall 2005	ABS798	798	ABS GRADUATE PROJECT	ABS	APPLIED BEHAVIORAL SCIENCE	1	Practical application of knowledge gained through student courses is applied to a capstone experience. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	ABS799	799	GRAD THESIS RESEARCH	ABS	APPLIED BEHAVIORAL SCIENCE	1	Research for the master's degree thesis.	GR	I	Independent Study
Fall 2005	ABS853	853	WRKSPACE DES & ANTHROPOM	ABS	APPLIED BEHAVIORAL SCIENCE	4	Analyses of design parameters for effective use of workspace, includes seated, standing and hand-arm manipulation.	GR		Lecture
Fall 2005	ACC711	711	FINANCIAL ACC CONCEPTS I	ACC	ACCOUNTANCY	3		GR		Lecture

Fall 2005	ACC712	712	FINANCIAL ACC CONCEPTS II	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC717	717	PROF RESEARCH METHODOLOGY	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC721	721	FEDERAL INCOME TAX ACC	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC723	723	MGT & FIN INFORMATN SYSTE	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC731	731	CONTEMPORARY THEORY	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC732	732	RISK ANALYSIS AND ATTESTA	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC733	733	NOT-FOR-PROFIT ACCOUNTING	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC736	736	SYSTEMS CONTROL ASSESSMNT	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC738	738	TAX RESEARCH AND PLANNING	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC739	739	PROFESSIONAL STANDARDS	ACC	ACCOUNTANCY	3		GR		Lecture
Fall 2005	ACC753	753	INTERNATIONAL ACCTG	ACC	ACCOUNTANCY	3		GR		Lecture

Fall 2005	ACC775	775	ACCOUNTING INTERNSHIP	ACC	ACCOUNTANCY	1	One quarter, faculty-supervised internship in the area of public, industrial, or not-for-profit accounting. Course requires written reports. Students may register for internship twice during their graduate programs. May be taken for letter grade of pass/unsatisfactory.	GR		Lecture
Fall 2005	ACC780	780	SPECIAL TOPICS IN ACC	ACC	ACCOUNTANCY	3	Titles vary. Seminar in accounting topic of current interest.	GR		Lecture
Fall 2005	ACC781	781	SPECIAL STUDIES IN ACC	ACC	ACCOUNTANCY	1	Titles vary.	GR	I	Independent Study
Fall 2005	ACC789	789	CONTINUING REGISTRATION	ACC	ACCOUNTANCY	1		GR	I	Independent Study
Fall 2005	AED623	623	FIBERS AND FABRICS	AED	ART EDUCATION	4		GR	L	Lab
Fall 2005	AED624	624	WEAVING	AED	ART EDUCATION	4		GR	L	Lab
Fall 2005	AED625	625	TEXTILES	AED	ART EDUCATION	4	Methods of silk-screen printing on fabrics; emphasis on silk-screen as it can be used in the public school program; and analysis of textile design in contemporary living.	GR	L	Lab
Fall 2005	AED626	626	CREATIVE STITCHERY	AED	ART EDUCATION	4	Study of the various methods and procedures used in stitchery and applied forms, and exploration of ways to work with flat and stitched fabrics that lead to wall hangings and other art forms.	GR		Lecture

Fall 2005	AED630	630	INDEPENDENT READINGS	AED	ART EDUCATION	3	Independent work that extends and amplifies students' knowledge of philosophy, aesthetics, and creative and mental growth as related to art teaching and art education curricula. Emphasis on current books, magazines, and research in art education.	GR	I	Independent Study
Fall 2005	AED631	631	ART AND THE CHILD	AED	ART EDUCATION	3	Develops an understanding of child growth and development through creative expression. Emphasis is on functions and procedures of art in the classroom and experiences in drawing and painting. Emphasis on assessment and use of technology.	GR		Lecture
Fall 2005	AED632	632	ART AND THE ADOLESCENT	AED	ART EDUCATION	3		GR		Lecture
Fall 2005	AED636	636	MINOR PROBLEMS IN AED	AED	ART EDUCATION	1	Individual problems in specified areas for the purpose of intense and concentrated work in at least one medium and the development of proficiency in one or more craft areas.	GR	I	Independent Study
Fall 2005	AED637	637	MINOR PROBLEMS IN AED	AED	ART EDUCATION	1		GR	I	Independent Study

Fall 2005	AED638	638	MULTI-AGE VISUAL ARTS ME	AED	ART EDUCATION	5	Theoretical/practical methods of teaching multi-age visual arts. Integration of artistic and educational ideas into creative programs as continuum of issues and skills for the developing art education with mentorship by master teachers.	GR		Lecture
Fall 2005	AED641	641	ART APPREC CRIT IN SCHLS	AED	ART EDUCATION	4		GR		Lecture
Fall 2005	AED642	642	ADV PROBLEMS IN ART ED	AED	ART EDUCATION	3		GR		Lecture
Fall 2005	AED731	731	THEORIES AND PHILOSOPHIES	AED	ART EDUCATION	4		GR		Lecture
Fall 2005	AED741	741	ART WITH GIFTED & TALENT	AED	ART EDUCATION	1		GR		Lecture
Fall 2005	AED752	752	RESEARCH ART ED	AED	ART EDUCATION	4		GR		Lecture
Fall 2005	AED770	770	INDEPENDENT STUDY	AED	ART EDUCATION	1	Readings, project, participation/observation clinic experiences, or other appropriate study on an independent basis. Work is supervised by an art therapy faculty member.	GR	I	Independent Study
Fall 2005	AED789	789	CONTINUING REGISTRATION	AED	ART EDUCATION	1		GR	I	Independent Study
Fall 2005	AED821	821	SPEC PROB ART ED	AED	ART EDUCATION	4		GR	I	Independent Study

Fall 2005	AED831	831	SUPERV ART PUB SCH	AED	ART EDUCATION	4		GR		Lecture
Fall 2005	AED899	899	THESIS	AED	ART EDUCATION	1		GR	I	Independent Study
Fall 2005	ANT520	520	ANATOMY OF HUMAN MOTION	ANT	ANATOMY	5	Skeletal, articular, nervous, cardiovascular, and respiratory systems as they pertain to the muscular system are presented. Basic muscle actions are described; sequential muscle actions and other concepts of kinesiology are not discussed.	GR		Lecture
Fall 2005	ANT520	520	ANATOMY OF HUMAN MOTION L	ANT	ANATOMY	0	The skeletal, articular, nervous, cardiovascular, and respiratory systems are presented as they pertain to the muscular system. Basic muscle actions are described; sequential muscle actions and other concepts of kinesiology will not be discussed.	GR	L	Lab
Fall 2005	ANT691	691	HUMAN NEUROBIOLOGY FUND	ANT	ANATOMY	4	(Also listed as BMS 913.) Development, structure, and function of the human nervous system as it relates to neuropathology, clinical neurology, and behavioral science. Completion of general biology and/or general psychology courses and permission of instructor required.	GR		Lecture

Fall 2005	ANT699	699	SPEC PROBLEMS IN ANATOMY	ANT	ANATOMY	1	Maximum of 4 credit hours applicable to degree requirements.	GR	I	Independent Study
Fall 2005	ANT700	700	HUMAN ANATOMY INSTRUCTION	ANT	ANATOMY	2	Overview of gross anatomy, histology, neuroanatomy, embryology, and educational theory that enables students to be more effective in the teaching of undergraduate courses in anatomy. For first-year graduate teaching assistants in the Department of Anatomy only.	GR		Lecture
Fall 2005	ANT700	700	HUMAN ANATOMY INSTRUCT LA	ANT	ANATOMY	0	Overview of gross anatomy, histology, neuroanatomy, embryology, and educational theory that enables students to be more effective in the teaching of undergraduate courses in anatomy. For first-year graduate teaching assistants in the Department of Anatomy only.	GR	L	Lab
Fall 2005	ANT701	701	SELECTED ANATOMY TOPICS	ANT	ANATOMY	1	Selected topics in anatomy. Topics vary.	GR	I	Independent Study

Fall 2005	ANT702	702	ANATOMICAL TECHNIQUES	ANT	ANATOMY	3	Students will learn to prepare anatomical specimens for teaching and research. Techniques will include preparation of prosected materials, preparation of tissues for microscopy, processing of photographic materials, or other laboratory techniques. The course may be repeated once for credit.	GR	L	Lab
Fall 2005	ANT711	711	HUMAN GROSS ANATOMY LAB	ANT	ANATOMY	0	Lectures and dissection of human cadaver; includes introductory embryology. 3.5 hours lecture, 9 hours lab.	GR	L	Lab
Fall 2005	ANT711	711	HUMAN GROSS ANATOMY	ANT	ANATOMY	9	(Also listed as BMS 837.)Lectures and dissection of human cadaver; includes introductory embryology. 3.5 hours lecture, 9 hours lab.	GR		Lecture
Fall 2005	ANT715	715	ADV HUMAN EMBRYOLOGY	ANT	ANATOMY	4	Classical and contemporary issues in human developmental biology. Emphasis is on the clinical relevance of developmental processes, and on modern methods used to study the mechanisms of development.	GR		Lecture
Fall 2005	ANT721	721	HUMAN MICROANATOMY	ANT	ANATOMY	8	Detailed microanatomy of human cells, tissues, and organ systems. 3 hours lecture, 6 hours lab.	GR		Lecture

Fall 2005	ANT721	721	HUMAN MICROANATOMY LAB	ANT	ANATOMY	0	Detailed microanatomy of human cells, tissues, and organ systems. 3 hours lecture, 6 hours lab.	GR	L	Lab
Fall 2005	ANT731	731	HUMAN NEUROBIOLOGY	ANT	ANATOMY	7	(Also listed as BMS 903.) Detailed survey of the anatomy and physiology of the major fiber tracts and cell groups of the human central nervous system. 3 hours lecture, 4 hours lab.	GR		Lecture
Fall 2005	ANT731	731	HUMAN NEUROBIOLOGY LAB	ANT	ANATOMY	0	Detailed survey of the anatomy and physiology of the major fiber tracts and cell groups of the human central nervous system. 3 hours lecture, 4 hours lab.	GR	L	Lab
Fall 2005	ANT732	732	CELLULAR NEUROBIOLOGY	ANT	ANATOMY	3	Correlated ultrastructure, chemistry, and physiology of vertebrate neurons, neuroglia, and synapses under normal conditions and during development, degeneration, and regeneration.	GR		Lecture
Fall 2005	ANT732	732	CELLULAR NEUROBIOLOGY LAB	ANT	ANATOMY	0	Correlated ultrastructure, chemistry, and physiology of vertebrate neurons, neuroglia, and synapses under normal conditions and during development, degeneration, and regeneration.	GR	L	Lab

Fall 2005	ANT777	777	MEDICAL NEUROSCIENCE	ANT	ANATOMY	7	(Also listed as P&B 777 and BMS 854.) Interdisciplinary/interdepartmental course for graduate and medical students that integrates basic and clinical neurosciences. Structural and functional topics are combined with clinical information to address major neurological and psychiatric disorders.	GR		Lecture
Fall 2005	ANT789	789	CONTINUING REGISTRATION	ANT	ANATOMY	1		GR	I	Independent Study
Fall 2005	ANT800	800	ANATOMY SEMINAR	ANT	ANATOMY	1	Topics vary. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	ANT811	811	COMPREHENSIVE ANATOMY	ANT	ANATOMY	5	Integrates general principles and concepts of the following systems: cardiovascular, gastrointestinal, lymphatic, nervous, respiratory, endocrine, integumentary, muscular, reproductive, and urinary. Knowledge is assessed by an oral examination before a faculty review committee. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	ANT850	850	SCHOLARLY PROJECT I	ANT	ANATOMY	3	Intensive analysis of scientific literature with emphasis on content and organization of anatomical journal articles. Course concludes with oral presentations of student projects involving contemporary anatomical issues based on selected journal articles.	GR	I	Independent Study
Fall 2005	ANT851	851	SCHOLARLY PROJECT	ANT	ANATOMY	4	Project culminates in a paper on a contemporary anatomical issue in which students integrate the primary objectives, results, and significance of selected journal articles and identify areas for potential research.	GR	I	Independent Study
Fall 2005	ANT899	899	ANATOMY RESEARCH	ANT	ANATOMY	1	Supervised thesis research.	GR	I	Independent Study
Fall 2005	ANT900	900	GRAD SEMINAR-ANATOMY	ANT	ANATOMY	1	Topics vary.	GR		Lecture
Fall 2005	ART600	600	STUDIO WORKSHOP	ART	ART	1	Studio experience directly involving students with professional artists executing special projects. Covers a range of information from preliminary planning to final discussion on the projects.	GR	L	Lab
Fall 2005	ART601	601	INDEPENDENT STUDY IN ART	ART	ART	1	Special studies for qualified students. Intensive individually directed work in art with faculty consultation and supervision.	GR	I	Independent Study

Fall 2005	ART604	604	STUDIES IN ART HISTORY	ART	ART	1	Titles vary.	GR		Lecture
Fall 2005	ART605	605	STUDIES IN ART	ART	ART	1	Provides opportunities to explore special problems and approaches to art and includes cross-media and interdisciplinary studies. Titles vary.	GR		Lecture
Fall 2005	ART609	609	ART THEORY AND CRITICISM	ART	ART	4	Historical surveys and intensive studies in art theory and criticism.	GR		Lecture
Fall 2005	ART610	610	STUDIES IN AMERICAN ART	ART	ART	4	General surveys and intensive studies of periods, major movements, and artists in American art. Titles vary.	GR		Lecture
Fall 2005	ART611	611	STUDIES ANCIENT/CLASSICAL	ART	ART	4	(Also listed as CLS 540.) General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR		Lecture
Fall 2005	ART612	612	STUDIES IN MEDIEVAL ART	ART	ART	4	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR		Lecture
Fall 2005	ART613	613	STUDIES IN RENAISSANCE AR	ART	ART	4	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR		Lecture
Fall 2005	ART614	614	STUDIES IN BAROQUE ART	ART	ART	4	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR		Lecture

Fall 2005	ART615	615	NINETEENTH CENTURY ART	ART	ART	4	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR		Lecture
Fall 2005	ART616	616	STUDIES 20TH CENTURY ART	ART	ART	4	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR		Lecture
Fall 2005	ART628	628	DRAWING	ART	ART	4	Exploration of the structure and interrelationships of visual form in drawing, painting, and sculpture. Principal historical modes of drawing are examined.	GR	L	Lab
Fall 2005	ART648	648	PAINTING	ART	ART	4	Emphasis on pictorial organization with increased attention to the individual student's personal imagery.	GR	L	Lab
Fall 2005	ART649	649	PAINTING	ART	ART	4		GR	L	Lab
Fall 2005	ART658	658	PHOTOGRAPHY	ART	ART	4	Exploration of personal concepts and aesthetic expression in photography. Intensive individual work with faculty supervision.	GR	L	Lab
Fall 2005	ART666	666	PRINTMAKING: RELIEF	ART	ART	4	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of relief. Titles vary. May be taken for letter grade or pass/unsatisfactory.	GR	L	Lab
Fall 2005	ART667	667	PRINTMAKING: INTAGLIO	ART	ART	4	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of intaglio.	GR	L	Lab

Fall 2005	ART668	668	PRINTMAKING: LITHOGRAPHY	ART	ART	4	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of lithography.	GR	L	Lab
Fall 2005	ART669	669	PRINTMAKING: SCRNPRNTING	ART	ART	4	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of screenprinting.	GR	L	Lab
Fall 2005	ART678	678	SCULPTURE	ART	ART	4	Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by the students.	GR	L	Lab
Fall 2005	ART697	697	MUSEOLOGY & GALLERY MGT	ART	ART	4	Supervised independent field experience and practical work in all areas of Art Museum management in the university and greater Dayton area communities. Each student to be handled as a tutorial intern. Graduate standing required with twelve hours of 400 level Museology and Gallery Management or permission of instructor.	GR	I	Independent Study
Fall 2005	ART701	701	IND STUDY IN ART HISTORY	ART	ART	1	Intensive individually directed work in art history with faculty consultation and supervision.	GR	I	Independent Study

Fall 2005	AT 629	629	WORKSHOP IN ART THERAPY	AT	ART THERAPY	1	A workshop focusing on problems, processes, and techniques for the development of art therapy in special settings with diverse populations. Work in art media, assessment strategies, and treatment plans included. Implementation procedures with populations discussed.	GR		Lecture
Fall 2005	AT 644	644	ART & THE SPECIAL STUDENT	AT	ART THERAPY	3	Theories and methods to help those who will work with the child who has emotional, motor, perceptual or neurological problems, and who is in the classroom or clinical setting. Philosophy, art, media and therapeutic procedures included. Developmental content and approaches with specific art media discussed.	GR		Lecture
Fall 2005	AT 644	644	ART & SPECIAL STUDENT LAB	AT	ART THERAPY	0	Theories and methods to help those who will work with the child who has emotional, motor, perceptual or neurological problems, and who is in the classroom or clinical setting. Philosophy, art, media and therapeutic procedures included. Developmental content and approaches with specific art media discussed.	GR	L	Lab

Fall 2005	AT 648	648	ARTS FOR DISABLED & HDCP	AT	ART THERAPY	1	A multidisciplinary, integrative approach to the various creative, expressive, and performing arts, and their applications to understanding of and working with persons with emotional, perceptual, neurological and motor problems. Teaching/clinical strategies included. May be repeated.	GR		Lecture
Fall 2005	AT 723	723	ART MEDIA IN SPEC SETTING	AT	ART THERAPY	3	Experiences with a variety of art media. Determination of strategies and media to use in expression, diagnostic evaluation and remediation. Application of art media to various problems and settings.	GR		Lecture
Fall 2005	AT 723	723	ART MEDIA IN SPEC SETTING	AT	ART THERAPY	0	Experiences with a variety of art media. Determination of strategies and media to use in expression, diagnostic evaluation and remediation. Application of art media to various problems and settings.	GR	L	Lab
Fall 2005	AT 730	730	ART THERAPY	AT	ART THERAPY	3	A study of the origin, historical development, and philosophy of the profession of Art Therapy; comparative approaches to therapy and the application of the creative art process within the therapeutic frameworks.	GR		Lecture

Fall 2005	AT 735	735	ART THERAPY I:THEORIES&ME	AT	ART THERAPY	3	Theories and application of art therapy in the assessment and diagnosis of developmental, neuroligical, psychological, and multiple disabilities. Direct clinical application of the visual arts in designing objectives and implementation of individual and group therapy sessions. Demonstration of clinical sessions and participation in therapy in on-campus and community settings.	GR		Lecture
Fall 2005	AT 736	736	ART THERAPY II:THEORIES&M	AT	ART THERAPY	3	Art therapy procedures and media selection for diverse clinical populations, settings, and handicapping conditions. Emphasis on group and family therapy processes, supervision, clinical reporting, and staff presentations. Application of audiovisual instrumentations to facilitate art therapy. Demonstration of clinical sessions and participation in therapy.	GR		Lecture
Fall 2005	AT 738	738	ART THERAPY III:THEORY&ME	AT	ART THERAPY	3	Art psychotherapy theories and methods for working with children, adolescents, and adults diagnosed as having emotional and psychological problems. Case studies included.	GR		Lecture

Fall 2005	AT 739	739	ART THERAPY IV:THEORIES &	AT	ART THERAPY	3	Advanced art psychotherapy theory and methods for working with children, adolescents, and adults diagnosed as having emotional and psychological problems. Understanding of symbolic structures and references to projective methods in art psychotherapy included.	GR		Lecture
Fall 2005	AT 743	743	ART WITH THE OLDER ADULT	AT	ART THERAPY	1	An orientation using art with older populations in varied settings. Study of aspects of ageing, life review, death and dying and application of appropriate media adaptations. Observation and participation experiences.	GR		Lecture
Fall 2005	AT 744	744	ART WITH EXCEPTIONAL POPU	AT	ART THERAPY	1	An orientation using art with a specified population, e.g., learning disabilities; mental retardation; perceptually impaired; physically handicapped; culturally disadvantaged; multiple handicapped; persons in correctional institutions and prisons. May be repeated.	GR		Lecture

Fall 2005	AT 746	746	ART THERAPY WITH FAMILY	AT	ART THERAPY	3	Coursework includes the systemic family therapy theory and the use of art therapy in strategic family intervention. The course focuses on experiences in the practice of art therapy with a family, investigation of existing testing tools, and creative development of new tools. Clinical hours are included.	GR		Lecture
Fall 2005	AT 748	748	MULTICULTUR AL DIMEN AT	AT	ART THERAPY	3	This experiential and didactic course explores the role of the arts in healing among various cultures and examines how diverse cultural perspectives intersect in the therapeutic relationship. Includes exploration of personal and cultural values that underlie clinical work and cross-cultural implications for art evaluation and treatment.	GR		Lecture
Fall 2005	AT 753	753	RESEARCH IN ART THERAPY	AT	ART THERAPY	1	Emphasis is given to the qualitative/quantitative aspects of research in art therapy with focus on the case study method, observational and phenomenological procedures, and the longitudinal study in a clinical setting.	GR		Lecture

Fall 2005	AT 766	766	PROJECT IN ART THERAPY	AT	ART THERAPY	1	Independent study intended for the graduate student who elects to complete the program in art therapy with a major project. May be repeated.	GR	I	Independent Study
Fall 2005	AT 770	770	IND STUDY ART THERAPY	AT	ART THERAPY	1	Readings, project, observation, or other appropriate study on an independent basis. Work is supervised by an art therapy faculty member. May by repeated to a maximum of nine credit hours. Regular standing in the graduate school and twelve credit hours of graduate credit in art therapy.	GR	I	Independent Study
Fall 2005	AT 771	771	ART THERAPY CLINIC I	AT	ART THERAPY	1	The application of Art Therapy in the identification of emotional psychological, physical, motor, perceptual and the multiple handicaps. Study of the systems involved, causal relationships, and related problems. Various settings will be studied and observed: the educational setting, hospitals, clinics, community agencies, and nursing homes.	GR	I	Independent Study
Fall 2005	AT 772	772	ART THERAPY CLINIC II	AT	ART THERAPY	1	On campus clinical art therapy experience under supervision of a registered art therapist.	GR	I	Independent Study

Fall 2005	AT 773	773	ART THERAPY CLINIC III	AT	ART THERAPY	1	Extended on-campus or off-campus clinical experiences intended for the student who elects to complete the degree with additional clinical hours. May be repeated.	GR	I	Independent Study
Fall 2005	AT 774	774	SEMINAR IN ART THERAPY	AT	ART THERAPY	1	Seminar for group discussion of student's clinical art therapy experience. Includes analysis of clinical case load assessment, therapy and recommendations for patient or client. Preparations for in-service presentation for clinical team members. May be repeated.	GR	S	Seminar
Fall 2005	AT 899	899	THESIS	AT	ART THERAPY	1		GR	I	Independent Study
Fall 2005	ATH542	542	SEX AND GENDER	ATH	ANTHROPOLOGY	4	Study of male and female roles and how they vary from one society to the next. Topics include sex and gender stereotypes, physical and behavioral differences, and cross-cultural differences in roles and status.	GR		Lecture
Fall 2005	ATH546	546	ANTHROPOLOGY OF RELIGION	ATH	ANTHROPOLOGY	4	(Also listed as REL 562.) Anthropological approach to the meaning and function of religion in social life, and the nature of the thought or belief systems that gave rise to different forms of religious life. Emphasis on primitive and peasant societies.	GR		Lecture

Fall 2005	ATH569	569	FIELD SCHOOL ARCHAEOLOGY	ATH	ANTHROPOLOGY	6	Excavation training on prehistoric sites.	GR	L	Lab
Fall 2005	ATH599	599	STUDIES IN SELECTED SUBJ	ATH	ANTHROPOLOGY	1	Problems, approaches, and topics in the field of anthropology. Topics vary.	GR		Lecture
Fall 2005	ATH600	600	SPEC TOPICS ARCHAEOLOGY	ATH	ANTHROPOLOGY	4	Advanced study of various specialized aspects of archaeology.	GR		Lecture
Fall 2005	ATH610	610	SPEC TOPICS-CULTURAL ATH	ATH	ANTHROPOLOGY	4	Examines selected topics concerning the method and theory of anthropological thought and their relationship to the allied disciplines of economics, linguistics, art, politics, and history. Emphasis on current trends influencing research in cultural anthropology. Topics vary.	GR		Lecture
Fall 2005	ATH646	646	PEOPLES/CULTURES SO ASIA	ATH	ANTHROPOLOGY	4	Survey and analysis of cultural diversity and unity in Southern Asia, particularly India, Pakistan, Bangladesh, and Sri Lanka.	GR		Lecture
Fall 2005	ATH648	648	DEV ETHNOLOGICAL THOUGHT	ATH	ANTHROPOLOGY	4	Surveys historical development of ethnological thought; emphasizes theories of social and cultural change.	GR		Lecture

Fall 2005	ATH650	650	POLITICAL ANTHROPOLOGY	ATH	ANTHROPOLOGY	4	(Also listed as PLS 650.) Study of that part of the culture of primitive societies that is recognized as political organization. An attempt is made to show how in less complex, primitive societies, new local communities come into being through fission.	GR		Lecture
Fall 2005	ATH655	655	BIOMEDICAL ANTHROPOLOGY	ATH	ANTHROPOLOGY	4	An anthropological perspective of health and illness in selected societies of the world that integrates physical, social, and cultural dimensions of disease, nutrition, fertility and population growth, health beliefs and practices, and the consequences of culture change and modernization.	GR		Lecture
Fall 2005	ATH658	658	ANTH OF WOMEN'S HEALTH	ATH	ANTHROPOLOGY	4	Integrates biological and sociocultural dimensions of women's health throughout the world. Examines cross-cultural variation in disease and illness and the sociocultural contexts that define models of women's health.	GR		Lecture

Fall 2005	ATH665	665	SEM WOODLAND ARCHAEOLOGY	ATH	ANTHROPOLOGY	4	Intensive review of the prehistoric Woodland period (600 BC-AD 900) of eastern North America. Regional cultures such as Adena and Ohio Hopewell. Trade, economy, political organization, and mortuary customs are considered.	GR		Lecture
Fall 2005	ATH675	675	HISTORICAL ARCHAEOLOGY	ATH	ANTHROPOLOGY	4	Focuses on the post-European discovery period of America; archaeological interpretations of colonial, plantation, industrial, frontier, and urban sites and materials are explored in seminar discussions, and through lab analysis of southwest Ohio site collections.	GR		Lecture
Fall 2005	ATH692	692	DIR STUDIES ANTHROPOLOGY	ATH	ANTHROPOLOGY	2	May be taken for letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	BIO521	521	HUMAN GENET HEALTH PROFS	BIO	BIOLOGY	3	Describes mechanisms of inheritance and genetic diseases so that health professionals can recognize possible genetic abnormalities and make appropriate referrals, participate in genetic counseling, and consider ethical and legal implications of the new genetics." For nonmajors only."	GR		Lecture

Fall 2005	BIO603	603	DEVELOPMENTAL BIOLOGY	BIO	BIOLOGY	5	(Also listed as BMS 839.) Describes underlying processes that initiate, in plants and animals, the development of tissue and whole organisms.	GR		Lecture
Fall 2005	BIO603	603	DEVELOPMENTAL BIOLOGY LAB	BIO	BIOLOGY	0	Describes underlying processes that initiate, in plants and animals, the development of tissue and whole organisms.	GR	L	Lab
Fall 2005	BIO606	606	EVOLUTIONARY BIOLOGY	BIO	BIOLOGY	3	Historical development and current understanding of the principles of evolution.	GR		Lecture
Fall 2005	BIO607	607	WETLANDS BIOLOGY	BIO	BIOLOGY	5	Ecological investigation of wetlands of the U.S. with emphasis on the Midwest. Primarily field oriented with some lecture. Covers soils, vegetation, hydrology, conservation, and restoration. Requires two weekend trips and written report.	GR		Lecture
Fall 2005	BIO608	608	WRITING IN THE BIO SCI	BIO	BIOLOGY	3	Surveys grammatical and stylistic aspects of scientific writing and teaches how to organize, write, and submit a manuscript for publication in a biological journal. Grant writing is also discussed.	GR		Lecture

Fall 2005	BIO611	611	THE AQUATIC ENVIRON LAB	BIO	BIOLOGY	0	Field and laboratory course concerned with the physical, chemical, and biological factors that determine biological productivity in natural waters. 3 hours lecture, 6 hours lab.	GR	L	Lab
Fall 2005	BIO611	611	THE AQUATIC ENVIRONMEN T	BIO	BIOLOGY	6	Field and laboratory course concerned with the physical, chemical, and biological factors that determine biological productivity in natural waters. 3 hours lecture, 6 hours lab.	GR		Lecture
Fall 2005	BIO612	612	AQUATIC COMMUNITIES LAB	BIO	BIOLOGY	0	An analysis of the functional relationships of organisms with the aquatic environment with special emphasis on species interactions.	GR	L	Lab
Fall 2005	BIO612	612	AQUATIC COMMUNITIES	BIO	BIOLOGY	6	An analysis of the functional relationships of organisms with the aquatic environment with special emphasis on species interactions.	GR		Lecture
Fall 2005	BIO613	613	BIO PROB-WATER POL LAB	BIO	BIOLOGY	0	Introduction to the biological aspects of water pollution. Lectures, discussions, laboratories, and field trips cover the various types of pollutants and their impact on aquatic life. 3 hours lecture, 4 hours lab, required field trips.	GR	L	Lab

Fall 2005	BIO613	613	BIO PROB-WATER POLLUTION	BIO	BIOLOGY	5	Introduction to the biological aspects of water pollution. Lectures, discussions, laboratories, and field trips cover the various types of pollutants and their impact on aquatic life. 3 hours lecture, 4 hours lab, required field trips.	GR		Lecture
Fall 2005	BIO615	615	ENVIRONMENTAL TOXICOLOGY	BIO	BIOLOGY	4	Covers toxicological problems encountered in the field of environmental health. Emphasis on monitoring, control, and regulation of toxic substances in air and water, and in industrial environments. 3 hours lecture, 1 hour recitation.	GR		Lecture
Fall 2005	BIO616	616	ECOTOXICOLOGY	BIO	BIOLOGY	4	Study of the effects of environmental contaminants on aquatic and terrestrial organisms. Effects on the biochemical and physiological levels are related to impacts on individuals, populations, and ecosystems. Current approaches for assessing ecotoxicity are presented	GR		Lecture
Fall 2005	BIO620	620	DESIGNIG BIO EXPERIMENTS	BIO	BIOLOGY	3	Principles of effective sampling design for biological experiments. Reconciling the peculiarities of biological data with the assumptions of statistical methods. Lectures and problem sets.	GR		Lecture

Fall 2005	BIO625	625	MICROBIAL ECOLOGY LAB	BIO	BIOLOGY	0	Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and symbiosis. Natural communities of microbes and microbes of special human environments. Includes field studies.	GR	L	Lab
Fall 2005	BIO625	625	MICROBIAL ECOLOGY	BIO	BIOLOGY	5	(Also listed as BMS 793.) Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and symbiosis. Natural communities of microbes and microbes of special human environments. Includes field studies.	GR		Lecture
Fall 2005	BIO626	626	HUMAN GENETICS	BIO	BIOLOGY	4	(Also listed as BMS 780.) Nature of human genetic traits; methods of analysis of inheritance.	GR		Lecture
Fall 2005	BIO629	629	PLANT ANATOMY	BIO	BIOLOGY	5	This course will examine the internal structure of vascular plants. Special emphasis will be place on structure-function relationships and their adaptive significance.	GR		Lecture

Fall 2005	BIO631	631	RISK ASSESSMENT	BIO	BIOLOGY	3	Studies the determination of quantitative risk to humans and the environment. Approaches currently used in regulatory activities are described, showing method of hazard identification, sampling, data evaluation, exposure assessment, toxicity assessment, and risk characterization.	GR		Lecture
Fall 2005	BIO632	632	RISK ASSESSMENT II	BIO	BIOLOGY	3	Follow-up course to BIO 631. Includes key components of risk assessments, such as pharmacokinetic modeling, environmental fate and transport modeling, low dose extrapolation, and risk communication.	GR		Lecture
Fall 2005	BIO642	642	ADV MOLECULAR BIO	BIO	BIOLOGY	3	Emphasizes gene organization and genome organization focusing on the molecular anatomy, expression, and regulation of eukaryotic genes. Includes a thorough discussion of recombinant DNA technology.	GR		Lecture
Fall 2005	BIO651	651	ENV MANAG & RISK COMM	BIO	BIOLOGY	3	Enlarges students' environmental perspective by focusing on management issues as they relate to air, water, and land resources including ethics, policy, and economics, as well as questions relating to specific resources. Titles vary.	GR		Lecture

Fall 2005	BIO652	652	ENV PROT:LAW, REGUL&ENFOR	BIO	BIOLOGY	3	Reviews the American legal system, emphasizing regulatory agencies and the courts; environmental and toxic tort case law; and the complex way that the myriad environmental laws and regulations are structured and enforced. Titles vary.	GR		Lecture
Fall 2005	BIO653	653	NATURAL RESOURCE MANAGMT	BIO	BIOLOGY	3	Lecture/seminar course covering principles of wildlife, fisheries, and forestry management. Major topics include basic ecological principles, population dynamics and analysis, habitat assessment, and ecosystem and people management.	GR		Lecture
Fall 2005	BIO655	655	PLANT SYSTEMATICS	BIO	BIOLOGY	3	A survey of topics and techniques encountered in studies of the relationship and evolution of the higher plants, emphasizing the flowering plants.	GR		Lecture
Fall 2005	BIO660	660	POPULATION GENETICS	BIO	BIOLOGY	3	Examination of the causes of genetic differences within and among species and how molecular biology techniques can be used to identify these differences. Emphasized human genetics, anthropology, ecology and conservation implications.	GR		Lecture

Fall 2005	BIO661	661	MOLECULAR EVOLUTION	BIO	BIOLOGY	3	Studies the evolutionary history of organisms by interpreting their genomes as historical documents. Focuses on the origins of human traits and diseases, phylogenetic reconstruction and systematics.	GR		Lecture
Fall 2005	BIO664	664	MICROBIOLOGY OF FOOD	BIO	BIOLOGY	3	Principles of food microbiology, preservation, and handling. Major organisms of food poisoning and means of control are considered.	GR		Lecture
Fall 2005	BIO666	666	FUND OCCUP HLTH & SAFETY	BIO	BIOLOGY	3	Introduction to accident recognition, evaluation, and control in the work environment, with emphasis on methods of hazard recognition and control management.	GR		Lecture
Fall 2005	BIO667	667	OCCUP HEALTH & SAFETY LAB	BIO	BIOLOGY	3	Introduction to accident recognition, evaluation, and control in the work environment by hands-on type of equipment usage. Methods of inspection, accident investigation, and evaluation of accident programs are stressed.	GR	L	Lab
Fall 2005	BIO668	668	ADV OCCUP HEALTH & SAFETY	BIO	BIOLOGY	3	Introduction to industrial hygiene. Emphasis is on routes of entry into the human body and physiological effects of industrial pollutants.	GR		Lecture

Fall 2005	BIO669	669	INDUSTRIAL HYGIENE I LAB	BIO	BIOLOGY	2	Introduction to industrial hygiene. Methods of measuring toxic effects and providing adequate protection are discussed and demonstrated.	GR	L	Lab
Fall 2005	BIO670	670	HANDS-ON SCI WORKSHOP	BIO	BIOLOGY	1	Workshops to enhance science skills for Trotwood-Madison Elementary School teachers.	GR		Lecture
Fall 2005	BIO673	673	BIO OF SELECTED MARINE EN	BIO	BIOLOGY	5	Biological aspects of marine environments. Sampling and observation of living marine specimens during week-long trip to a marine laboratory.	GR		Lecture
Fall 2005	BIO675	675	MICROBIOLOGY OF FOOD LAB	BIO	BIOLOGY	2	Methods for evaluating microbial quality of food. Includes investigation of major pathogens, techniques, and principles of processing food. Field trips required. Completion of a laboratory course in general microbiology required.	GR	L	Lab

Fall 2005	BIO676	676	HUMAN PARASITOLOGY	BIO	BIOLOGY	2	(Also listed as BMS 799.) Study of the medical aspects of parasitology, such as pathology, symptomatology, diagnosis, and identification of parasites. Course content is divided into three major categories: human protozoology, human helminthology, and human arthropodology. Designed primarily for medical technologists, biology teachers, and environmental health students.	GR		Lecture
Fall 2005	BIO677	677	HUMAN PARASITOLOGY LAB	BIO	BIOLOGY	3	Laboratory course designed to examine and identify protozoan, helminthic, and arthropod parasites of humans.	GR	L	Lab
Fall 2005	BIO680	680	BIOLOGY OF FISHES	BIO	BIOLOGY	5	Introduction to the evolution, ecology, and distribution of fresh water and marine fish. 3 hours lecture, 4 hours lab, and field trips.	GR		Lecture
Fall 2005	BIO684	684	BIOGEOGRAPHY	BIO	BIOLOGY	3	Introduction to the factors affecting the distribution of plants and animals.	GR		Lecture

Fall 2005	BIO692	692	ENVIRON SCI SEMINAR	BIO	BIOLOGY	2	Seminar provides students with a more in-depth understanding of a number of environmental topics and enhances library research, writing, presentation, and advocacy skills. In addition, students will learn that there are at least two sides to any of the issues discussed.	GR		Lecture
Fall 2005	BIO699	699	SPECIAL PROB IN BIOLOGY	BIO	BIOLOGY	1	A maximum of 4 credits is applicable toward degree requirements.	GR	I	Independent Study
Fall 2005	BIO700	700	PRIN INSTRUCTION BIOLOGY	BIO	BIOLOGY	1	Survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction.	GR		Lecture
Fall 2005	BIO701	701	SELECTED TOPICS IN BIO	BIO	BIOLOGY	1	Topics vary.	GR	I	Independent Study
Fall 2005	BIO702	702	INTRO TO RESEARCH BIOLOGY	BIO	BIOLOGY	2	Different research problems under investigation by the faculty are described with respect to objectives, methodology, and progress as examples of scientific methods applied to biology.	GR		Lecture
Fall 2005	BIO703	703	ADVANCED DEVELOPMENT BIO	BIO	BIOLOGY	4	Molecular mechanism of development including topics such as cell signaling, pattern formation, terminal differentiation.	GR		Lecture

Fall 2005	BIO720	720	MAMMALIAN CELL BIOLOGY	BIO	BIOLOGY	4	(Also listed as BMS 835.) A comprehensive course addressing both the known and theoretical aspects of cellular organization and function. Suitable as an introductory course for graduate study.	GR		Lecture
Fall 2005	BIO728	728	PHOTOBIOLOGY	BIO	BIOLOGY	3	Selected topics in photobiology.	GR		Lecture
Fall 2005	BIO730	730	CELL BIOLOGY	BIO	BIOLOGY	4	(Also listed as BMS 778.) Provides a survey of basic concepts that are most important for understanding how cells function.	GR		Lecture
Fall 2005	BIO734	734	MOLECULAR GENETICS	BIO	BIOLOGY	3	(Also listed as BMS 779.) Study of the replication, organization, and function of nucleic acids with emphasis on the role of nucleic acids in protein synthesis.	GR		Lecture
Fall 2005	BIO737	737	RECOMBINANT DNA METHODS	BIO	BIOLOGY	6	(Also listed as BMS 790 and M&I 737.) Microbial and molecular techniques for producing, cloning, and characterizing recombinant DNA molecules; laboratory exercises in gene manipulation to give an understanding of the principles of genetic engineering. Graded pass/unsatisfactory.	GR		Lecture

Fall 2005	BIO740	740	ELECTRON MICROSCOPY LS	BIO	BIOLOGY	6	(Also listed as BMS 834.) Introduction to theoretical and practical aspects of transmission electron microscopy. Emphasizes interpretation and evaluation of electron micrographs. 3 hours lecture, 6 hours lab; additional lab time is required. Completion of course in histology or cell biology is required.	GR		Lecture
Fall 2005	BIO743	743	SAFE USE RADIONUC LAB	BIO	BIOLOGY	0		GR	L	Lab
Fall 2005	BIO745	745	MICROINSTRU MENTATION LAB	BIO	BIOLOGY	0		GR	L	Lab
Fall 2005	BIO789	789	CONTINUING REGISTRATION	BIO	BIOLOGY	1		GR	I	Independe nt Study
Fall 2005	BIO799	799	LITERATURE CRITIQUE	BIO	BIOLOGY	1	Independent project to write a critical review of literature on a specific topic. Graded pass/unsatisfactory.	GR	I	Independe nt Study
Fall 2005	BIO800	800	GRADUATE SEMINAR	BIO	BIOLOGY	1	Topics vary.	GR		Lecture
Fall 2005	BIO899	899	GRAD RESEARCH	BIO	BIOLOGY	2	Supervised thesis research.	GR	I	Independe nt Study
Fall 2005	BIO900	900	GRAD SEMINAR	BIO	BIOLOGY	1	Weekly discussions of current topics and problems in biology.	GR		Lecture

Fall 2005	BMB510	510	INTRODUCTORY BIOCHEMISTRY	BMB	BIOCHEM & MOLECULAR BIOLOGY	5.5	Introduction to general principles of biochemistry, especially for students interested in the allied health sciences. Topics include the chemistry of biological molecules, cellular metabolism, and the mode of action of selected chemicals at the biochemical level. Not open to graduate students in the College of Science and Mathematics.	GR		Lecture
Fall 2005	BMB627	627	HUMAN BIOCHEMISTRY	BMB	BIOCHEM & MOLECULAR BIOLOGY	4.5	Metabolism of hormones and amino acids. Integration of metabolism. Aspects of human biochemistry including some metabolic disorders and nutrition.	GR		Lecture
Fall 2005	BMB651	651	RECENT DEVELOP IN BIOCHM	BMB	BIOCHEM & MOLECULAR BIOLOGY	3	Detailed consideration of major research developments in biochemistry within the past several months. Discussion will deal not only with the appropriate research papers but also with the background information such articles leave out.	GR		Lecture
Fall 2005	BMB699	699	SPEC PROBLEMS IN BIOCHEM	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	BMB701	701	SELECTED TOPICS-BIOCHEM:	BMB	BIOCHEM & MOLECULAR BIOLOGY	1		GR	I	Independent Study

Fall 2005	BMB702	702	RESEARCH PERSPECTIVES	BMB	BIOCHEM & MOLECULAR BIOLOGY	2	Designed to acquaint new graduate students with the research being carried out by the faculty in the biochemistry program.	GR		Lecture
Fall 2005	BMB703	703	RESEARCH ETHICS	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	(Also listed as BMS 703.) Research ethics emphasizes the evaluation of hypothetical ethical scenarios. Class discussion is based on integrating ethical policy and practices as they relate to research at Wright State. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	BMB726	726	BIOENERGETICS	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	Structure of energy transducing membranes of mitochondria, chloroplasts and bacteria. Particular emphasis placed on mechanisms of energy transduction, thermodynamics of oxidation-reduction reactions, biophysical spectroscopic methods, structure and surface topography of membrane proteins.	GR		Lecture
Fall 2005	BMB727	727	ENZYMES	BMB	BIOCHEM & MOLECULAR BIOLOGY	4	(Also listed as BMS 767.) Current concepts of the mechanism of enzyme catalysis including such topics as structure, kinetics, energetics, allosterism, coenzymes, and control of enzymes and multienzyme systems.	GR		Lecture

Fall 2005	BMB729	729	PEPTIDE HORMONES	BMB	BIOCHEM & MOLECULAR BIOLOGY	3	The synthesis, secretion, degradation, structure, essay, mechanism of action and function of peptide hormones are presented. Emphasis is on insulin and other hormones (e.g., glucagon, somatotropin, somatostatin) involved in diabetes mellitus.	GR		Lecture
Fall 2005	BMB731	731	BIOCHEMISTRY OF MEMBRANES	BMB	BIOCHEM & MOLECULAR BIOLOGY	4	(Also listed as BMS 769.) Examines the biochemistry of membranes and provides basic information on membrane composition and processes.	GR		Lecture
Fall 2005	BMB736	736	RECOMBINANT DNA METHODS	BMB	BIOCHEM & MOLECULAR BIOLOGY	6	Microbial and molecular techniques for producing, cloning and characterizing recombinant DNA molecules; laboratory exercises in gene manipulation to give an understanding of principles of genetic engineering.	GR		Lecture
Fall 2005	BMB736	736	RECOMBINANT DNA METH LAB	BMB	BIOCHEM & MOLECULAR BIOLOGY	0	Microbial and molecular techniques for producing, cloning and characterizing recombinant DNA molecules; laboratory exercises in gene manipulation to give an understanding of principles of genetic engineering.	GR	L	Lab

Fall 2005	BMB740	740	PHYSICAL BIOCHEMISTRY	BMB	BIOCHEM & MOLECULAR BIOLOGY	4	(Also listed as BMS 770.) Structure-function analysis of biological macromolecules (particularly proteins and polynucleotides) based on chemical and physical properties.	GR		Lecture
Fall 2005	BMB750	750	MOLECULAR BIOCHEMISTRY I	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	(Also listed as BMS 750.) Survey course emphasizing an experimental and problem-solving approach to buffers, protein structure, enzymes, and carbohydrate and lipid metabolism. Completion of organic chemistry course or permission of instructor required.	GR		Lecture
Fall 2005	BMB752	752	MOLECULAR BIOCHEMISTRY II	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	(Also listed as BMS 752.) Survey course emphasizing an experimental and problem-solving approach to amino acid metabolism, nucleic-acid function, and hormones.	GR		Lecture
Fall 2005	BMB753	753	MOLECULAR SIGNALLING	BMB	BIOCHEM & MOLECULAR BIOLOGY	3	(Also listed as BMS 753.) A molecular analysis of information transfer into and within cells. Topics include visual transduction, hormones, hormone receptors, second messengers, regulation of transcription, and oncogenes. Readings from current scientific literature.	GR		Lecture

Fall 2005	BMB755	755	CANCER: MOLECULAR ASPECTS	BMB	BIOCHEM & MOLECULAR BIOLOGY	3	A profile of the general properties of transformed cells and an in-depth examination of the mechanisms of oncogenesis at the level of molecular genetics.	GR		Lecture
Fall 2005	BMB760	760	MOLEC BIO OF THE NUCLEUS	BMB	BIOCHEM & MOLECULAR BIOLOGY	4	(Also listed as BMS 760.) A literature based course covering molecular events in the nucleus including DNA replication, repair and recombination and transcription.	GR		Lecture
Fall 2005	BMB762	762	FUND PRINCIPLES OF NMR	BMB	BIOCHEM & MOLECULAR BIOLOGY	3	(Also listed as BMS 762/PHY 760.) Covers the fundamental theory of nuclear magnetic resonance spectroscopy with emphasis on pulse Fourier transform methods.	GR		Lecture
Fall 2005	BMB763	763	NMR SPECTRO & IMAGING	BMB	BIOCHEM & MOLECULAR BIOLOGY	3	(Also listed as BMS 763.) Discusses the applications of NMR spectroscopy to the study of tissue metabolism in vivo. The fundamental theory of magnetic resonance imaging, with a survey of clinical applications, is also presented.	GR		Lecture
Fall 2005	BMB764	764	BIOMOLECULAR NMR	BMB	BIOCHEM & MOLECULAR BIOLOGY	3	(Also listed as BMS 764.) Describes the NMR methods used for the determination of biomolecular structure and dynamics. Emphasis on two-dimensional Fourier transform techniques.	GR		Lecture

Fall 2005	BMB777	777	GENE THERAPY	BMB	BIOCHEM & MOLECULAR BIOLOGY	4		GR		Lecture
Fall 2005	BMB789	789	CONTINUING REGISTRATION	BMB	BIOCHEM & MOLECULAR BIOLOGY	1		GR	I	Independent Study
Fall 2005	BMB800	800	BIOCHEMISTRY SEMINAR	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	Topics vary. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	BMB899	899	BIOCHEMISTRY RESEARCH	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	Supervised thesis research.	GR	I	Independent Study
Fall 2005	BMB900	900	BIOCHEMISTRY SEMINAR	BMB	BIOCHEM & MOLECULAR BIOLOGY	1	Topics vary. Graded pass/unsatisfactory.	GR	R	Recitation
Fall 2005	BME619	619	BIOFLUID MECHANICS	BME	BIOMEDICAL ENGINEERING	3	Derivation and use of the basic conservation laws underlying the fluid mechanical behavior of the cardiopulmonary system. Includes applications to the flows of blood, pulmonary air, and extracorporeal fluids.	GR		Lecture

Fall 2005	BME620	620	BME HEAT & MASS TRANSFER	BME	BIOMEDICAL ENGINEERING	3	Introduces transport phenomena in biomedical engineering and physiological systems. Energy and mass balances together with constitutive and empirical relationships are used in quantifying such topics as body heat loss by various modes, diffusion mass transport and heat/mass transport in applicable technological systems.	GR		Lecture
Fall 2005	BME622	622	ENGINEERING BIOPHYSICS	BME	BIOMEDICAL ENGINEERING	3	Application of mathematical and engineering techniques toward describing biophysical systems. Topics include cellular transport, electrical properties of membranes, and biophysics of muscle contraction.	GR		Lecture
Fall 2005	BME628	628	BIOMECH & BIOTHERMODYN	BME	BIOMEDICAL ENGINEERING	3	Application of solid mechanics (statics/dynamics) toward the description and analysis of physiological systems. Topics include mechanics of the musculo-skeletal system, human motion, collision impact, introductory material mechanics, and elementary mechanics of biological tissues.	GR		Lecture

Fall 2005	BME639	639	BIOTRANSP & ARTIF ORGAN	BME	BIOMEDICAL ENGINEERING	4	Introduction to transport processes vital to the design of medical devices for artificial intervention into living systems. Topics include circulatory system dynamics, mathematical modeling of physiological systems, membrane transport and biological/artificial organ design.	GR		Lecture
Fall 2005	BME639	639	BIOTRANS ART ORG LAB	BME	BIOMEDICAL ENGINEERING	0	Introduction to transport processes vital to the design of medical devices for artificial intervention into living systems. Topics include circulatory system dynamics, mathematical modeling of physiological systems, membrane transport and biological/artificial organ design.	GR	L	Lab
Fall 2005	BME640	640	BIOMATERIALS	BME	BIOMEDICAL ENGINEERING	4	Application of properties of materials and solid mechanics to problems and design of medical implants, external prostheses, and living tissues. Topics include mechanical properties of biologic and synthetic materials, stress-strain analysis, viscoelasticity, tissue response to implants and vice versa, and implant materials for interfacing with hard and soft tissues and blood.	GR		Lecture

Fall 2005	BME640	640	BIOMATERIALS LAB	BME	BIOMEDICAL ENGINEERING	0	Application of properties of materials and solid mechanics to problems and design of medical implants, external prostheses, and living tissues. Topics include mechanical properties of biologic and synthetic materials, stress-strain analysis, viscoelasticity, tissue response to implants and vice versa, and implant materials for interfacing with hard and soft tissues and blood.	GR	L	Lab
Fall 2005	BME661	661	BIOINSTRUMENTATION I	BME	BIOMEDICAL ENGINEERING	4	Principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement and electrical stimulation, biological signal acquisition and processing, various medical imaging modalities/systems, and electrical safety. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	BME661	661	BIOINSTRUMENTATION I LAB	BME	BIOMEDICAL ENGINEERING	0	Principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement and electrical stimulation, biological signal acquisition and processing, various medical imaging modalities/systems, and electrical safety. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	BME662	662	BIOINSTRUMENTATION II	BME	BIOMEDICAL ENGINEERING	4	Continuation of principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement and electrical stimulation, biological signal acquisition and processing, various medical imaging modalities/systems, and electrical safety. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	BME662	662	BIOINSTRUMENTATION II LAB	BME	BIOMEDICAL ENGINEERING	0	Continuation of principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement and electrical stimulation, biological signal acquisition and processing, various medical imaging modalities/systems, and electrical safety. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	BME663	663	BIOMED COMPUTERS I LAB	BME	BIOMEDICAL ENGINEERING	0	Digital computer applications in biomedical related fields. Use of software to solve biomedical problems and display results.	GR	L	Lab
Fall 2005	BME663	663	BIOMEDICAL COMPUTERS I	BME	BIOMEDICAL ENGINEERING	2	Digital computer applications in biomedical related fields. Use of software to solve biomedical problems and display results.	GR		Lecture
Fall 2005	BME664	664	MICROPROCESSORS FOR BME	BME	BIOMEDICAL ENGINEERING	4	Examines principles, hardware structure, and programming techniques of microprocessors, applications of microprocessor-based systems in hospitals, rehabilitation engineering and medical research.	GR		Lecture
Fall 2005	BME664	664	BIOMED COMPUTERS II LAB	BME	BIOMEDICAL ENGINEERING	0	Examines principles, hardware structure, and programming techniques of microprocessors, applications of microprocessor-based systems in hospitals, rehabilitation engineering and medical research.	GR	L	Lab

Fall 2005	BME670	670	PHOTON RADIATION	BME	BIOMEDICAL ENGINEERING	3	Introduces generation, effects, and detection of ionizing radiation and its application to medicine. Completion of this course fulfills the educational requirement to be a user of radioactive materials and radiation-producing devices.	GR		Lecture
Fall 2005	BME671	671	MEDICAL IMAGING	BME	BIOMEDICAL ENGINEERING	3	An overview is given over the various methods used in generating images in medicine. The basic principles of the image forming process are discussed as well as the physical properties of the resultant image.	GR		Lecture
Fall 2005	BME699	699	SPECIAL PROBLEMS IN BME	BME	BIOMEDICAL ENGINEERING	1	Special problems in advanced engineering topics. Titles vary.	GR	I	Independent Study
Fall 2005	BME711	711	ADVANCED BIOMECHANICS	BME	BIOMEDICAL ENGINEERING	3	Covers a variety of mathematical models that have been developed to describe muscle performance in health and disease.	GR		Lecture
Fall 2005	BME712	712	CARDIOPULMONARY MODELING	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 951.) Acquaints students with the analytical, numerical, and experimental methods used in modeling the quantitative behavior of physiological and artificial organ systems, particularly the circulation and the lungs.	GR		Lecture

Fall 2005	BME713	713	BIOCOMPTBLY OF MATERIALS	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 952.) Acquaints students with the concept of biocompatibility of materials, including effects on biological systems. Also deals with the general problem of selection, qualification, and specification of materials.	GR		Lecture
Fall 2005	BME731	731	MEDICAL ULTRASONICS	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 956.) Fundamentals of medical ultrasonics: ultrasound generation, propagation, scattering, and attenuation in biological tissue. A-mode, B-mode, M-mode, and Doppler imaging techniques. Ultrasound tissue characterization and quantitative imaging techniques.	GR		Lecture
Fall 2005	BME732	732	COMPUTED TOMOGRAPHY	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 957.) Principles of generating images from projections. Discussion of the various scanner geometries, mathematical reconstruction, correction procedures, and qualitative and quantitative evaluation of images. Focuses on the medical application of computed tomography.	GR		Lecture

Fall 2005	BME733	733	MED NUCL MAGNETIC RES	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 958.) Principles of imaging and spectroscopy of nuclear magnetic resonance in their applications to medicine. Topics include magnetization models, material encoding, spin interactions, localized spectroscopy, and relaxation.	GR		Lecture
Fall 2005	BME734	734	MEDICAL IMAGE PROCESSING	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 959.) Digital image processing in its application to medical images. Topics include image display, filtering, two-dimensional Fourier transform, restoration, enhancement, and edge detection. Some simple tools from the field of mathematical morphology are also introduced.	GR		Lecture
Fall 2005	BME735	735	PHOTON EMISSION IMAGING	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 960.) Principles of imaging procedures based on radioactive isotopes. Topics include radioactive isotopes, single-photon emission-tomography, and positron emission-tomography. Each topic covers instrumentation, image production, and major applications.	GR		Lecture

Fall 2005	BME736	736	BIOMED SIGNAL & PRSCNG	BME	BIOMEDICAL ENGINEERING	4	Characteristics and measurement of various biomedical signals; time-domain and frequency-domain, continuous and discrete signal representations; application of digital and random signal processing methods to analysis of biomedical signals.	GR		Lecture
Fall 2005	BME740	740	REHAB EGR DESIGN I	BME	BIOMEDICAL ENGINEERING	1	Presented as a three-quarter sequence to provide knowledge and experience in the rehabilitation engineering design process, research and development process, and funding issues. Limited to students enrolled in the graduate rehabilitation engineering training program.	GR		Lecture
Fall 2005	BME741	741	NEUROMUSCULAR ENGINEERING	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 961.) Teaches the design and application of neuromuscular assistive devices. Emphasizes biomathematics modeling and control theory.	GR		Lecture
Fall 2005	BME742	742	REHAB ASSISTIVE SYSTEMS	BME	BIOMEDICAL ENGINEERING	3	(Also listed as BMS 962.) Design and application of devices used in rehabilitation. Provides an understanding of the problems of disabled people and the variety of possible solutions to these problems.	GR		Lecture

Fall 2005	BME743	743	INTRO REHAB EGR	BME	BIOMEDICAL ENGINEERING	3	Introduces the complex structure of the rehabilitation engineering service delivery systems practiced in the United States. Covers basic disability areas, current laws, resources, and rehabilitation technology.	GR		Lecture
Fall 2005	BME745	745	REHAB EGR SERVICE DELIVER	BME	BIOMEDICAL ENGINEERING	3	Introduces rehabilitation engineering design principles. Includes practical design experiences in worksite modification, ergonomics, and accessibility evaluations. Provides experience in technical report writing and presentation.	GR		Lecture
Fall 2005	BME746	746	REHAB EGR COMPUTERS I	BME	BIOMEDICAL ENGINEERING	3	Introduces object oriented programming structured around the HyperCard, HyperText Macintosh, and ToolBook PC environments. Covers basic principles of programming using objects, cards, windows, projects, and graphics with application to rehabilitation engineering. Introduces PC hardware in detail. Concurrent enrollment in lecture and lab is required.	GR		Lecture
Fall 2005	BME746	746	REHAB EGR COMPTR I LAB	BME	BIOMEDICAL ENGINEERING	1	Practical laboratory which accompanies BME 746 lecture.	GR	L	Lab

Fall 2005	BME747	747	REHAB EGR DESIGN II	BME	BIOMEDICAL ENGINEERING	3	Continuation of BME 745 and BME 746. Focuses on development of computer application programs and devices to aid the disabled.	GR		Lecture
Fall 2005	BME748	748	INTRO TO CLINICAL PRAC	BME	BIOMEDICAL ENGINEERING	4	Introduces clinical practices and services provided to disabled patients in a rehabilitation center involving various services, testing, and evaluation. Focus is on spinal cord injury and traumatic brain injury.	GR		Lecture
Fall 2005	BME750	750	REHABILITATIO N ENGR	BME	BIOMEDICAL ENGINEERING	1	Engineering analysis and design are applied on rehabilitation tasks within a clinical setting. Provides training in rehabilitation engineering management of various disabilities. Enrollment in multiple sections is required.	GR		Lecture
Fall 2005	BME751	751	HUMAN CONTROL ENGINEERING	BME	BIOMEDICAL ENGINEERING	4	Modeling, design and analysis of the physiological and cognitive performance of the human operator. Human-environmental interactions are characterized as biothermal control systems. Human-technological interactions are characterized as informative control systems.	GR		Lecture
Fall 2005	BME789	789	CONTINUING REGISTRATION	BME	BIOMEDICAL ENGINEERING	1		GR	I	Independe nt Study

Fall 2005	BME880	880	SELECT TOPICS SYS EGR	BME	BIOMEDICAL ENGINEERING	1	Selected topics in current research and recent developments in systems theory and engineering.	GR		Lecture
Fall 2005	BME890	890	SPECIAL PROBLEMS IN BME	BME	BIOMEDICAL ENGINEERING	1	Special problems in advanced biomedical engineering topics. Topics vary.	GR	I	Independent Study
Fall 2005	BME898	898	PHD DISSERTATION RESEARCH	BME	BIOMEDICAL ENGINEERING	1	Research on the Ph.D. dissertation topic. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	BME899	899	THESIS	BME	BIOMEDICAL ENGINEERING	1	Pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	BMS655	655	MATRIX ALGEBRA	BMS	BIOMEDICAL SCIENCES	5	(Also listed as MTH 655.) Matrices, systems of equations, vector spaces, inner products, linear transformations, determinants, eigenvalues, eigenvectors, quadratic forms, and symmetric matrices.	GR		Lecture
Fall 2005	BMS664	664	BIOSTATISTICS	BMS	BIOMEDICAL SCIENCES	4	(Also listed as STT 664.) Review of the principles underlying statistical methodology and techniques available for analyzing biomedical data. Emphasizes the necessity for careful design of experiments and the structure of data.	GR		Lecture
Fall 2005	BMS668	668	INTRODUCTION TO SAS	BMS	BIOMEDICAL SCIENCES	2	Introduces the use of the statistical analysis system (SAS), a statistical computing package widely used in industry, government, and academia.	GR		Lecture

Fall 2005	BMS698	698	BMS COMPUTER SCIENCE	BMS	BIOMEDICAL SCIENCES	4	Introduces programs such as SYMVU, CSMP, and ORTEP, which create plotted output. FORTRAN is also introduced. Problems and data used are from the life sciences. Graded pass/unsatisfactory. Enrollment in Biomedical Sciences Ph.D. program required.	GR		Lecture
Fall 2005	BMS698	698	BMS COMPUTER SCIENCE LAB	BMS	BIOMEDICAL SCIENCES	0	Introduces programs such as SYMVU, CSMP, and ORTEP, which create plotted output. FORTRAN is also introduced. Problems and data used are from the life sciences. Graded pass/unsatisfactory. Enrollment in Biomedical Sciences Ph.D. program required.	GR	L	Lab
Fall 2005	BMS703	703	RESEARCH ETHICS	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BMB 703.) Research ethics emphasizes the evaluation of hypothetical ethical scenarios. Class discussion is based on integrating ethical policy and practices as they relate to research at Wright State. Graded pass/unsatisfactory.	GR		Lecture

Fall 2005	BMS705	705	LINEAR SYSTEMS I	BMS	BIOMEDICAL SCIENCES	4	(Also listed as EE 701 and EGR 701.) Signal representation, orthonormal bases, and generalized Fourier series. Description of linear, discrete, and continuous systems. Systems analysis via classical equations, convolution, and transform methods.	GR		Lecture
Fall 2005	BMS706	706	LINEAR SYSTEMS II	BMS	BIOMEDICAL SCIENCES	3	(Also listed as EE 702.) State variable representations of continuous and discrete systems. Linear vector spaces and similarity transformations; eigen-analysis, time and transform domain solutions of linear state equations; controllability, observability, and stability of linear systems.	GR		Lecture
Fall 2005	BMS708	708	DIGITAL SIGNAL PROCESSING	BMS	BIOMEDICAL SCIENCES	4	Data Acquisition and Quantization, Unitary Transforms, Circular Convolution, Hilber Transform, FIR/IIR Filter Design and Realization, Analysis of Finite=Precision Numerical Effects, Spectral Estimation Cepstrum Analysis.	GR		Lecture

Fall 2005	BMS710	710	CONTROL SYSTEMS I	BMS	BIOMEDICAL SCIENCES	3	(Also listed as EE 613.) Provides students with a general control background. Major topics include block diagrams and signal-flow graphs, electromechanical modeling including state variable representation, time response, root locus, and introduction to design.	GR		Lecture
Fall 2005	BMS711	711	CONTROL SYSTEMS I LAB	BMS	BIOMEDICAL SCIENCES	1	(Also listed as EE 614.) Applications and testing of control systems theory with electromechanical systems.	GR	L	Lab
Fall 2005	BMS712	712	CONTROL SYSTEMS II	BMS	BIOMEDICAL SCIENCES	3	(Also listed as EE 615.) Using Control Systems I background, course concentrates on controller design, in both the time and frequency domains, using NYquist, Bode, root locus and state variable techniques. Digital control concepts are introduced.	GR		Lecture
Fall 2005	BMS713	713	CONTROL SYSTEMS II LAB	BMS	BIOMEDICAL SCIENCES	1	(Also listed as EE 616.) Application and testing of control systems theory with electromagnetic systems.	GR	L	Lab
Fall 2005	BMS725	725	PHYSICAL POLYMER CHEM	BMS	BIOMEDICAL SCIENCES	3	(Also listed as CHM 665.) Introduction to the structural and physical aspects of macromolecules; emphasis on the relationship of polymer structure to physical and mechanical properties.	GR		Lecture

Fall 2005	BMS726	726	SYNTHETIC POLYMER CHEM	BMS	BIOMEDICAL SCIENCES	3	(Also listed as CHM 661.) Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers.	GR		Lecture
Fall 2005	BMS727	727	PHYSICAL POLY CHEM LAB	BMS	BIOMEDICAL SCIENCES	1	(Also listed as CHM 667.) Laboratory illustrations of BMS 725 lecture material and techniques of polymer science.	GR		Lecture
Fall 2005	BMS728	728	POLYMER SYNTHESIS LAB	BMS	BIOMEDICAL SCIENCES	1	Laboratory illustrations of BMS 726 lecture material and techniques of polymer science.	GR		Lecture
Fall 2005	BMS733	733	ADV INORGANIC CHEMISTRY I	BMS	BIOMEDICAL SCIENCES	3	(Also listed as CHM 720.) Study of atomic structure, modern theories of chemical bonding, and structural concepts of inorganic chemistry and their relationships to reactivity, acids and bases in aqueous and nonaqueous systems, and energetics of reactions.	GR		Lecture
Fall 2005	BMS734	734	ADV INORGANIC CHEM II	BMS	BIOMEDICAL SCIENCES	3	(Also listed as CHM 721.) Thorough examination of coordination chemistry of the metals stressing transition elements, crystal and ligand field approaches and molecular orbital theory as applied to organometallic systems, mechanisms of inorganic reactions, and the role of metal ions in biological systems.	GR		Lecture

Fall 2005	BMS735	735	ADV INORGANIC CHEM III	BMS	BIOMEDICAL SCIENCES	3	(Also listed as CHM 722.) Survey of the applications of physical methods in the examination and characterization of inorganic compounds. Emphasis is on methods applied to transition metal complexes.	GR		Lecture
Fall 2005	BMS736	736	CHEMICAL KINETICS	BMS	BIOMEDICAL SCIENCES	3	(Also listed as CHM 751.) Characterization of simple kinetic systems, experimental methods, energy distributions in molecules, the transition state method, and chain reactions in solution.	GR		Lecture
Fall 2005	BMS737	737	CHEMICAL THERMODYNAMICS	BMS	BIOMEDICAL SCIENCES	3	Fundamentals; first, second, and third laws; and application to solutions.	GR		Lecture
Fall 2005	BMS738	738	SEL TOPICS PHYSICAL CHEM	BMS	BIOMEDICAL SCIENCES	3	(Also listed as CHM 855.) Selected topics in the field of physical chemistry such as molecular spectroscopy, advanced molecular structure, magnetic resonance, X-rays and crystal structure, statistical mechanics, or precise physical-chemical measurements.	GR		Lecture
Fall 2005	BMS740	740	ADV BIOANALYTICAL CHEMIST	BMS	BIOMEDICAL SCIENCES	3	An introduction to control systems using state variables and classical analysis. Closed loop system representation, block diagrams, time response, and frequency response are treated.	GR		Lecture

Fall 2005	BMS750	750	BIOCHM & MOLECULAR BIO I	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BMB 750.) Survey course emphasizing an experimental and problem-solving approach to buffers, protein structure, enzymes, and carbohydrate and lipid metabolism.	GR		Lecture
Fall 2005	BMS752	752	BIOCHM & MOLECULAR BIO II	BMS	BIOMEDICAL SCIENCES	3	(Also listed as BMB 752.) Survey course emphasizing an experimental and problem-solving approach to amino acid metabolism, nucleic acid function, and hormones.	GR		Lecture
Fall 2005	BMS753	753	MOLECULAR SIGNALLING	BMS	BIOMEDICAL SCIENCES	3	(Also listed as BMB 753.) A molecular analysis of information transfer into and within cells. Topics include visual transduction, hormones, hormone receptors, second messengers, regulation of transcription, and oncogenes. Readings from current scientific literature.	GR		Lecture
Fall 2005	BMS755	755	CANCER: MOLECULAR ASPECTS	BMS	BIOMEDICAL SCIENCES	2	A profile of the general properties of transformed cells and an in-depth examination of the mechanisms of oncogenesis at the level of molecular genetics.	GR		Lecture

Fall 2005	BMS760	760	MOL BIOLOGY OF THE NUCLE	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BMB 760.) A literature-based course covering molecular events in the nucleus including DNA replication, repair, recombination, and transcription.	GR		Lecture
Fall 2005	BMS762	762	FUND PRINCIPLES OF NMR	BMS	BIOMEDICAL SCIENCES	3	(Also listed as BMB 762/PHY 760.) Covers the fundamental theory of nuclear magnetic resonance spectroscopy with emphasis on pulse Fourier transform methods.	GR		Lecture
Fall 2005	BMS763	763	NMR SPECTRO & IMAGING	BMS	BIOMEDICAL SCIENCES	3	(Also listed as BMB 763.) Discusses the applications of NMR spectroscopy to the study of tissue metabolism in vivo. The fundamental theory of magnetic resonance imaging, with a survey of clinical applications, are also presented.	GR		Lecture
Fall 2005	BMS764	764	BIOMOLECULAR NMR	BMS	BIOMEDICAL SCIENCES	3	(Also listed as BMB 764.) Describes the NMR methods used for the determination of biomolecular structure and dynamics. Emphasis on two-dimensional Fourier transform techniques.	GR		Lecture

Fall 2005	BMS767	767	ENZYMES	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BMB 727.) Mechanism of enzyme catalysis, including such topics as structure, kinetics, energetics, allosterism, co-enzymes, and control of enzymes and multienzyme systems.	GR		Lecture
Fall 2005	BMS768	768	BIOCHEM PEPTIDE HORMONES	BMS	BIOMEDICAL SCIENCES	3	Synthesis, secretion, degradation, structure assay, mechanism of action, and function of peptide hormones are presented. Emphasis is on insulin and other hormones involved in diabetes mellitus.	GR		Lecture
Fall 2005	BMS769	769	BIOCHEMISTRY OF MEMBRANES	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BMB 731.) Examines the biochemistry of membranes and provides basic information on membrane composition and processes.	GR		Lecture
Fall 2005	BMS770	770	PHYSICAL BIOCHEMISTRY	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BMB 740.) Structure-function analysis of biological macromolecules (particularly proteins and polynucleotides) based on chemical and physical properties.	GR		Lecture
Fall 2005	BMS771	771	SAFE USE OF RADIONUCLID ES	BMS	BIOMEDICAL SCIENCES	2	Principles of a, b, and g radiation and methodology of counting with application to physical and biological problems.	GR		Lecture

Fall 2005	BMS775	775	PATHOGENIC MECHANISMS	BMS	BIOMEDICAL SCIENCES	5	(Also listed as M&I 675.) Expands knowledge of basic microbiology by focusing on human-microbial pathogen interactions. The molecular basis of the pathogenic mechanisms will be emphasized. In addition, the student will gain a better appreciation and understanding of the complexities of interactions between microbes and their human hosts.	GR		Lecture
Fall 2005	BMS776	776	BIOENERGETICS	BMS	BIOMEDICAL SCIENCES	1	Structure of energy-transducing membranes of mitochondria, chloroplasts, and bacteria. Emphasis on mechanisms of energy transduction, thermodynamics of oxidation-reduction reactions, biophysical spectroscopic methods, and structure and surface topography of membrane proteins.	GR		Lecture
Fall 2005	BMS777	777	GENE THERAPY	BMS	BIOMEDICAL SCIENCES	4	(Also listed as M&I 777.) Study of the molecular basis of gene therapy and the use of viral gene delivery systems for the treatment of human disease. Gene therapy strategies are contrasted with various diseases, including cancer and AIDS.	GR		Lecture

Fall 2005	BMS778	778	CELL BIOLOGY	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BIO 730.) Provides a survey of basic concepts that are most important for understanding how cells function.	GR		Lecture
Fall 2005	BMS779	779	MOLECULAR GENETICS	BMS	BIOMEDICAL SCIENCES	3	(Also listed as BIO 734.) Study of the replication, organization, and function of nucleic acids with emphasis on the role of nucleic acids in protein synthesis.	GR		Lecture
Fall 2005	BMS780	780	HUMAN GENETICS	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BIO 626.) Nature of human genetic traits, methods of analysis of inheritance, principles of counseling, and therapy.	GR		Lecture
Fall 2005	BMS785	785	ADV SEMINAR IN GENETICS	BMS	BIOMEDICAL SCIENCES	2	Review of current literature in molecular or human genetics subjects. Presentation of reviews to other students.	GR		Lecture
Fall 2005	BMS786	786	BEHAVIOR GENETICS	BMS	BIOMEDICAL SCIENCES	3	Behavior is considered as a population phenomenon and as an adaptive process. Evolutionary theory is used to integrate the disparate aspects of behavioral phenomena.	GR		Lecture

Fall 2005	BMS790	790	RECOMBINANT DNA METHODS	BMS	BIOMEDICAL SCIENCES	6	(Also listed as BIO 737 and M&I 737.) Microbial and molecular techniques for producing, cloning, and characterizing recombinant DNA molecules; laboratory exercises in gene manipulation to give an understanding of principles of genetic engineering. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	BMS791	791	MICROBIAL GENETICS	BMS	BIOMEDICAL SCIENCES	3	Basic concepts of production of microbial mutations and their detection and analysis. The use of microbial genetics in elucidating cellular functions; the construction of plasmids and their use in genetic engineering.	GR		Lecture
Fall 2005	BMS793	793	MICROBIAL ECOLOGY LAB	BMS	BIOMEDICAL SCIENCES	0	Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and symbiosis. Natural communities of microbes and microbes of special human environments. Includes field studies.	GR	L	Lab
Fall 2005	BMS793	793	MICROBIAL ECOLOGY	BMS	BIOMEDICAL SCIENCES	5	(Also listed as BIO 625.) Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and symbiosis. Natural communities of microbes and microbes of special human environments. Includes field studies.	GR		Lecture

Fall 2005	BMS799	799	HUMAN PARASITOLOGY	BMS	BIOMEDICAL SCIENCES	2	(Also listed as BIO 676.) Study of the medical aspects of parasitology such as pathology, symptomatology, diagnosis, and identification of parasites. Course content is divided into three major categories: human protozoology, helminthology, and arthropodology.	GR		Lecture
Fall 2005	BMS802	802	IMMUNOL & BASIC VIROLOGY	BMS	BIOMEDICAL SCIENCES	5	(Also listed as M&I 726.) Fundamentals of immunobiology and basic virology. Emphasis on regulatory and cellular levels of host immune responses against microbial pathogens as well as mechanisms of immunopathology. Characteristics and molecular biology of virus pathogens.	GR		Lecture
Fall 2005	BMS803	803	PATHOGENIC MICROBIOLOGY	BMS	BIOMEDICAL SCIENCES	5	(Also listed as M&I 727.) Study of microorganisms that are pathogenic for humans and animals using the organ system approach. Emphasis on mechanisms of pathogenesis and host resistance. Includes a project segment devoted to the independent study of the mechanisms of pathogenesis in the host-parasite interactions of the infectious agents used.	GR		Lecture

Fall 2005	BMS805	805	INTERCELLULAR COMMUNICA	BMS	BIOMEDICAL SCIENCES	4	(Also listed as M&I 770, PHA 740, P&B 776.) Introduces concepts of intercellular communication through an interdisciplinary presentation of immune and neuroendocrine system functions. Emphasizes the similarities between the systems and the multidisciplinary approaches used to study each.	GR		Lecture
Fall 2005	BMS807	807	BASIC VIROLOGY	BMS	BIOMEDICAL SCIENCES	3	(Also listed as M&I 731.) Introduction to the field of virology with emphasis on animal viruses. Studies the intrinsic properties of viruses and their interaction with cells; multiplication, disease production, genetics, and tumor induction.	GR		Lecture
Fall 2005	BMS808	808	MOLECULAR VIROLOGY SEM	BMS	BIOMEDICAL SCIENCES	3	(Also listed as M&I 831.) Structure, infectious process, replication, maturation, release, and genetics at the molecular level of the major groups of animal viruses.	GR		Lecture
Fall 2005	BMS809	809	VIRAL ONCOLOGY SEMINAR	BMS	BIOMEDICAL SCIENCES	3	(Also listed as M&I 833.) Provides an understanding of the process involved in cell transformation by oncogenic viruses.	GR		Lecture

Fall 2005	BMS812	812	IMMUNOBIOLOGY	BMS	BIOMEDICAL SCIENCES	5	(Also listed as M&I 745.) Study of the biology of the immune system, as well as its function in health and disease. Specific diseases are used as models for immunologically mediated conditions.	GR		Lecture
Fall 2005	BMS813	813	SPEC TOPICS IN IMMUNOLOGY	BMS	BIOMEDICAL SCIENCES	2	(Also listed as M&I 840.) Students select, present, and analyze information from the current literature in immunobiology.	GR		Lecture
Fall 2005	BMS818	818	INFECTION & IMMUNITY SEM	BMS	BIOMEDICAL SCIENCES	3	(Also listed as M&I 846.) Deals with the effects of microbial and metazoan parasites on both host resistance and immunologically mediated disease processes.	GR		Lecture
Fall 2005	BMS834	834	ELECTRON MICROSCOPY	BMS	BIOMEDICAL SCIENCES	6	(Also listed as BIO 740.) Introduction to theoretical and practical aspects of transmission electron microscopy. Emphasis on interpretation and evaluation of electron micrographs. 3 hours lecture, 6 hours lab; additional lab time is required.	GR		Lecture

Fall 2005	BMS835	835	MAMMALIAN CELL BIOLOGY	BMS	BIOMEDICAL SCIENCES	4	(Also listed as BIO 720.) Interdisciplinary survey of cellular functions, including location of molecular events and functional compartmentation within the cell, recognition of structural and functional elements of the cell, and interaction of cells in specialized tissues.	GR		Lecture
Fall 2005	BMS837	837	HUMAN GROSS ANATOMY	BMS	BIOMEDICAL SCIENCES	9	(Also listed as ANT 711.) Lectures and dissection of human cadaver.	GR		Lecture
Fall 2005	BMS838	838	MICROANATOMY	BMS	BIOMEDICAL SCIENCES	8	Introduction to basic cell structure, including membranes, nucleus, and cytoplasmic organelles. Emphasis on the detailed histological anatomy of the four basic tissues, and major organs and systems of the body.	GR		Lecture
Fall 2005	BMS839	839	DEVELOPMENTAL BIOLOGY	BMS	BIOMEDICAL SCIENCES	3	(Also listed as BIO 603.) Describes underlying processes that initiate the development of tissue and whole organisms in plants and animals.	GR		Lecture
Fall 2005	BMS840	840	REPRO ANATOMY/PHYSIOLOGY	BMS	BIOMEDICAL SCIENCES	3	Reproductive cycles and gametogenesis; intercourse and conception; events of pregnancy and parturition; contraception, sterility, and dysfunction.	GR		Lecture

Fall 2005	BMS850	850	BASIC HUMAN PHYSIOLOGY I	BMS	BIOMEDICAL SCIENCES	4	Basic course in structure, function, and interactions of human organ systems. Subject areas include musculoskeletal, neurological, cardiovascular, and respiratory systems.	GR		Lecture
Fall 2005	BMS850	850	BASIC HUMAN PHYSIO I LAB	BMS	BIOMEDICAL SCIENCES	0	Basic course in structure, function, and interactions of human organ systems. Subject areas include musculoskeletal, neurological, cardiovascular, and respiratory systems.	GR	L	Lab
Fall 2005	BMS851	851	BASIC HUMAN PHYSIOLOGY II	BMS	BIOMEDICAL SCIENCES	4	Basic course in structure, function, and interactions of human organ systems. Subject areas include endocrine, gastrointestinal, urinary, and reproductive systems.	GR		Lecture
Fall 2005	BMS851	851	BASIC HUMAN PHYSIO II LAB	BMS	BIOMEDICAL SCIENCES	0	Basic course in structure, function, and interactions of human organ systems. Subject areas include endocrine, gastrointestinal, urinary, and reproductive systems.	GR	L	Lab
Fall 2005	BMS852	852	CELL PHYSIOLOGY & BIOPHY	BMS	BIOMEDICAL SCIENCES	4	(Also listed as P&B 601.) Fundamentals of cellular homeostasis and the role of specialized cells in organismal homeostasis.	GR		Lecture

Fall 2005	BMS853	853	ION CHANNELS	BMS	BIOMEDICAL SCIENCES	4	(Also listed as P&B 722.) Explores the role of ion channels in a variety of cell types with an emphasis on both electrophysiological and biochemical methods for evaluation of channel function.	GR		Lecture
Fall 2005	BMS854	854	MEDICAL NEUROSCIENCE	BMS	BIOMEDICAL SCIENCES	7	(Also listed as ANT 777 and P&B 777.) Interdisciplinary/interdepartmental course for medical and graduate students that integrates basic and clinical neurosciences. Structural and functional topics are combined with clinical information to address major neurological and psychiatric disorders.	GR		Lecture
Fall 2005	BMS856	856	GLIAL CELL PHYSIOLOGY	BMS	BIOMEDICAL SCIENCES	3	(Also listed as P&B 650.) Concepts of glial cell physiology based on the analysis of current primary literature. Topics include interaction between glia and other cell types and the role of glia in pathophysiology.	GR		Lecture
Fall 2005	BMS859	859	GASTROINTESTINAL P&B	BMS	BIOMEDICAL SCIENCES	3	(Also listed as P&B 761.) Principles of gastrointestinal physiology and biophysics emphasizing cellular mechanisms of secretions, absorption, and motility.	GR		Lecture

Fall 2005	BMS860	860	GENERAL ENDOCRINOLOGY	BMS	BIOMEDICAL SCIENCES	3	(Also listed as P&B 771.) Survey of endocrinological mechanisms and their role in integration of body function.	GR		Lecture
Fall 2005	BMS862	862	HUMAN PHYSIOLOGY	BMS	BIOMEDICAL SCIENCES	5	(Also listed as P&B 610.) An overview of human/mammalian organ system physiology. Fundamental mechanisms and the experimental basis for current understanding are emphasized.	GR		Lecture
Fall 2005	BMS864	864	PHS ASPECTS OF EXERCISE	BMS	BIOMEDICAL SCIENCES	5	(Also listed as P&B 783.) Integration of physiological mechanisms involved in exercise. Cellular, neuromuscular, cardiovascular, and respiratory changes are discussed with relationship to exercise performance.	GR		Lecture
Fall 2005	BMS865	865	INTRO NEUROPHYSIOLOGY	BMS	BIOMEDICAL SCIENCES	4	(Also listed as P&B 642.) Physiological mechanisms that subserve the functions of the nervous system. Topics include the biophysics of neuronal information, intercellular communications, motor control, sensory systems, and development neurobiology.	GR		Lecture

Fall 2005	BMS866	866	CARDIOVASCULAR PHYSIOLOGY	BMS	BIOMEDICAL SCIENCES	3	(Also listed as P&B 733.) Survey of the physiology of the human cardiovascular system; components and control, cell, organ, and system level. Both newborn and adult are included, as well as adjustments to exercise and non-exercise stress.	GR		Lecture
Fall 2005	BMS867	867	FLUORESCENCE	BMS	BIOMEDICAL SCIENCES	1	(Also listed as P&B 704.) Covers the theoretical basis for fluorescence and instrument design in this methods-oriented course. Applications of interest to the physiological and biochemical sciences are discussed.	GR		Lecture
Fall 2005	BMS868	868	SECRETION	BMS	BIOMEDICAL SCIENCES	1	(Also listed as P&B 751.) Explores current hypothesis for the formation, sorting, and release of secretory vesicles at a molecular level of integrating ideas from cell biology, neuroscience, and membrane biophysics. Methodology is emphasized.	GR		Lecture

Fall 2005	BMS869	869	MEMBRANE TRANSPORT	BMS	BIOMEDICAL SCIENCES	3	(Also listed as P&B 669.) Employs a quantitative approach to the properties of solutes, water, bio-electrical phenomena, transport systems that move solutes across biological membranes, and the interactions of these solutes with membranes. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	BMS870	870	VASCULAR CELLS	BMS	BIOMEDICAL SCIENCES	3	(Also listed as PHA 870 and P&B 870.) Study of physiological steady state and pharmacological properties of vascular cells-circulating erythrocytes, endothelial cells, and smooth muscle cells in particular-as a basis of pathologic aberrations and clinical disorders.	GR		Lecture
Fall 2005	BMS876	876	PRIN OF PHARMOCOLOGY I	BMS	BIOMEDICAL SCIENCES	2	Abbreviated course describing passage of drugs across membranes, their mechanisms of action, distribution, biotransformation, and elimination. Discusses dose-response relationships, receptor-binding kinetics, and topics of interest and importance to enrolled students.	GR		Lecture

Fall 2005	BMS879	879	GENERAL PHARMACOLOGY I	BMS	BIOMEDICAL SCIENCES	2	Introduces students to drug-receptor interactions, dose-response relationships, physiochemical principles of drug action and distribution, pharmacokinetics, mechanisms of action, and uses of drugs affecting both autonomic and central nervous system functions.	GR		Lecture
Fall 2005	BMS880	880	GENERAL PHARMACOLOGY II	BMS	BIOMEDICAL SCIENCES	4	(Also listed as PHA 880.) Extends the principles and theoretical considerations learned in BMS 879 and applies them to the action of drugs on the cardiovascular, respiratory, endocrine, gastrointestinal, and genito-urinary systems. Emphasis on antibiotics, chemotherapy of infectious diseases, antineoplasia, and immuno-suppressants. An introduction to toxicology is provided.	GR		Lecture

Fall 2005	BMS886	886	GENERAL PATHOLOGY	BMS	BIOMEDICAL SCIENCES	7	Introduces basic principles of abnormal biological processes in the human and subhuman vertebrate organisms. Deals with tissue injury and degeneration, abnormal growth, infection and host defense, selected metabolic and congenital disorders, and forensic problems. Complies with the Toxicology Society's recommended requirements for the professional toxicologist.	GR		Lecture
Fall 2005	BMS887	887	GENERAL TOXICOLOGY I	BMS	BIOMEDICAL SCIENCES	4	Introduction to general toxicology covering the principles of intoxication and detoxication, classification of poisons, exposure characteristics, biotransformation and biokinetics of poisons, systemic toxicology including central nervous system, splanchnic organs, cardiovascular, hematopoietic, respiratory, reproductive, and skeletal systems.	GR		Lecture

Fall 2005	BMS888	888	GENERAL TOXICOLOGY II	BMS	BIOMEDICAL SCIENCES	4	(Also listed as PHA 752.) Introduction to general toxicology. Particular toxic agents are studied, including teratogens, mutagens, oncogens, heavy metals, and other environmental contaminants and toxins. Clinical, forensic, industrial, and agricultural toxicology are addressed along with regulations that apply to the field.	GR		Lecture
Fall 2005	BMS889	889	TOXICOLOGIC PATHOLOGY	BMS	BIOMEDICAL SCIENCES	3	The pathobiology of toxic chemicals and materials is presented with emphasis placed on anatomic and physiologic changes produced in common laboratory animal species. Research methods enhancing the pathologic evaluation of biomedical specemens will be stressed.	GR		Lecture
Fall 2005	BMS890	890	PRIN PHARMACOLOGY II	BMS	BIOMEDICAL SCIENCES	3	Covers the general basis of toxicology and therapeutics: pharmacokinetics, xenobiotic metabolism, and their effects on determination of the dose-response-time relationship.	GR		Lecture
Fall 2005	BMS898	898	NEUROPHARMACOLOGY	BMS	BIOMEDICAL SCIENCES	3	(Also listed as PHA 898.) In-depth treatment of the anatomy, biochemistry, physiology, and function of neurotransmitter systems and the effects of drugs on the nervous system.	GR		Lecture

Fall 2005	BMS899	899	CONTINUING REGISTRATION	BMS	BIOMEDICAL SCIENCES	1		GR		Lecture
Fall 2005	BMS902	902	NEUROPHYSIOLOGY	BMS	BIOMEDICAL SCIENCES	3	(Also listed as P&B 720.) Survey of neurophysiology with emphasis on somatic and autonomic control of body function.	GR		Lecture
Fall 2005	BMS903	903	HUMAN NEUROANATOMY	BMS	BIOMEDICAL SCIENCES	7	(Also listed as ANT 731.) Detailed survey of the anatomy and physiology of the major fiber tracts and cell groups of the human central nervous system.	GR		Lecture
Fall 2005	BMS905	905	INFORMATION PROCESSING	BMS	BIOMEDICAL SCIENCES	4	(Also listed as PSY 665.) Survey of experimental findings in animal and human memory with emphasis on their implications for current theories of memory.	GR		Lecture
Fall 2005	BMS910	910	PSYCHOBIOLOGY OF STRESS	BMS	BIOMEDICAL SCIENCES	4	(Also listed as PSY 619.) Detailed examination of selected areas in cognition and learning.	GR		Lecture
Fall 2005	BMS913	913	FUND HUMAN NEUROBIOLOGY	BMS	BIOMEDICAL SCIENCES	4	(Also listed as ANT 691.) Development, structure, and function of the human nervous system as it relates to neuropathology, clinical neurology, and behavioral science.	GR		Lecture
Fall 2005	BMS914	914	BEHAVIORAL NEUROSCIENCE	BMS	BIOMEDICAL SCIENCES	4	(Also listed as PSY 891.) Covers neurobiological bases of behavior. Focuses on motor function, ingestion, mating, learning, memory, rhythmical influences, and emotion.	GR		Lecture

Fall 2005	BMS950	950	CARDIAC MECHANICS	BMS	BIOMEDICAL SCIENCES	1	This course teaches BMS Ph.D students a variety of mathematical models which have been developed to describe cardiac performance in health and disease.	GR		Lecture
Fall 2005	BMS951	951	CARDIOPULMONARY MODELING	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 712.) Acquaints students with the analytical, numerical, and experimental methods used in modeling the quantitative behavior of physiological and artificial organ systems, particularly the circulation and the lungs.	GR		Lecture
Fall 2005	BMS952	952	BIOCOMPTBLY OF MATERIALS	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 713.) Acquaints students with the concept of biocompatibility of materials, including effects on biological systems. Deals with the general problem of selection, qualification, and specification of materials.	GR		Lecture
Fall 2005	BMS953	953	ADV AEROSPACE SYS DESIGN	BMS	BIOMEDICAL SCIENCES	1	(Also listed as HFE 724.) Qualifies students to make significant human factors contributions to the design of state-of-the-art aerodynamic and space systems. Design of control-display integration, cockpit configuration, maintainability, and reliability emphasized.	GR		Lecture

Fall 2005	BMS954	954	HFE WORKLOAD ANALYSIS	BMS	BIOMEDICAL SCIENCES	1	(Also listed as HFE 725.) Provides students with tools required to accomplish a workload analysis as a requisite to a systems design or a redesign of an existing system.	GR		Lecture
Fall 2005	BMS955	955	HFE CREW STATION DESIGN	BMS	BIOMEDICAL SCIENCES	1	(Also listed as HFE 726.) In-depth treatment of human factors engineering principles applicable to design of crew command centers for aerodynamics, space, and maritime systems.	GR		Lecture
Fall 2005	BMS956	956	MEDICAL ULTRASONICS	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 731.) Fundamentals of medical ultrasonics: ultrasound generation, propagation, scattering, and attenuation in biological tissue. A-mode, B-mode, M-mode, and Doppler imaging techniques. Ultrasound tissue characterization and quantitative imaging techniques.	GR		Lecture
Fall 2005	BMS957	957	COMPUTED TOMOGRAPHY	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 732.) Principles of generating images from projections. Discussion of the various scanner geometries, mathematical reconstruction, correction procedures, and qualitative and quantitative evaluation of images. A major focus is the medical application of computed tomography.	GR		Lecture

Fall 2005	BMS958	958	MED NUCL MAGNETIC RES	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 733.) Principles of imaging and spectroscopy of nuclear magnetic resonance in their application to medicine. Topics include magnetization models, material encoding, spin interactions, localized spectroscopy, and relaxation.	GR		Lecture
Fall 2005	BMS959	959	MEDICAL IMAGE PROCESSING	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 734.) Digital image processing in its application to medical images. Topics include image display, filtering, two-dimensional Fourier transform, restoration, enhancement, and edge detection. Some simple tools from the field of mathematical morphology are also introduced.	GR		Lecture
Fall 2005	BMS960	960	PHOTON EMISSION IMAGING	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 735.) Principles of imaging procedures based on radioactive isotopes. Topics include radioactive isotopes, single-photon emission tomography, and positron-emission tomography. Instrumentation, image production, and major applications are covered.	GR		Lecture

Fall 2005	BMS961	961	NEUROMUSCULAR REHAB ENG	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 741.) Teaches the design and application of neuromuscular assistive devices. Biomathematics modeling and control theory are emphasized.	GR		Lecture
Fall 2005	BMS962	962	REHAB ASSISTIVE SYSTEMS	BMS	BIOMEDICAL SCIENCES	1	(Also listed as BME 742.) Design and application of devices used in rehabilitation. Provides an understanding of the problems of disabled people and the variety of possible solutions to these problems.	GR		Lecture
Fall 2005	BMS963	963	HUMAN FACTORS REHAB ENGR	BMS	BIOMEDICAL SCIENCES	1	(Also listed as HFE 743.) Teaches students application of human factors design concepts to the design of aids for the physically handicapped. In addition to aids for manipulation of locomotion, barrier-free designs are emphasized.	GR		Lecture
Fall 2005	BMS964	964	AERO MED HUMAN FACTORS	BMS	BIOMEDICAL SCIENCES	3	Designed for BMS students who are residents of the Aerospace Medicine Program. Seminar focuses on recent developments in human factors engineering. Addresses design principles, crew compartment technology and resource management, crew members performance and reliability.	GR		Lecture

Fall 2005	BMS965	965	HFE ADV IN VISUAL DISPLAY	BMS	BIOMEDICAL SCIENCES	3	Application of human factors engineering principles to the design of visual display systems. Discusses current display technologies, human vision, design of display parameters, and image quality metrics.	GR		Lecture
Fall 2005	BMS966	966	HFE HUMAN-COMPUTER INTER	BMS	BIOMEDICAL SCIENCES	3	This graduate-level seminar exposes students to theoretical and research issues associated with human-computer interaction (HCI) and cognitive-oriented work from a human factors engineering standpoint.	GR		Lecture
Fall 2005	BMS967	967	ADVANCED DEVELOP BIOLOGY	BMS	BIOMEDICAL SCIENCES	4	Molecular mechanism of development, including topics such as; cell signalling, pattern formation, terminal differentiation.	GR		Lecture
Fall 2005	BMS990	990	BIOMEDICAL SCIENCES SEM	BMS	BIOMEDICAL SCIENCES	1	(Also listed as P&B 808.) Convention of student body and faculty in biomedical sciences to learn, discuss, and critique the basic and clinical biomedical literature as presented by an active and reputable scientific investigator. Student presentations required.	GR		Lecture
Fall 2005	BMS991	991	SPECIAL TOPICS	BMS	BIOMEDICAL SCIENCES	1	Selected topics in biomedical sciences.	GR		Lecture

Fall 2005	BMS994	994	INTRODUCTION TO RESEARCH	BMS	BIOMEDICAL SCIENCES	1	Introduces BMS students to the ongoing research activities within the five program tracks; involves presentations by BMS faculty. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	BMS995	995	NON-DISSERTATION RESEARCH	BMS	BIOMEDICAL SCIENCES	1	Supervised research other than laboratory rotations or dissertation research. May be taken for letter grade or pass/unsatisfactory.	GR	L	Lab
Fall 2005	BMS996	996	LABORATORY ROTATION I	BMS	BIOMEDICAL SCIENCES	1	Independent study designed to develop proficiency in technology, instrumentation, research design, and data analysis in an area of concentration (advanced curriculum) different from a student's area of specialization.	GR	L	Lab
Fall 2005	BMS997	997	LABORATORY ROTATION II	BMS	BIOMEDICAL SCIENCES	1	Independent study designed to develop proficiency in technology, instrumentation, research design, and data analysis in an area of concentration (advanced curriculum) different from a student's area of specialization.	GR	L	Lab

Fall 2005	BMS998	998	LABORATORY ROTATION III	BMS	BIOMEDICAL SCIENCES	1	Independent study designed to develop proficiency in technology, instrumentation, research design, and data analysis in an area of concentration (advanced curriculum) different from a student's area of specialization.	GR	L	Lab
Fall 2005	BMS999	999	DISSERTATION RESEARCH	BMS	BIOMEDICAL SCIENCES	1	Planning and execution of scholarly original research of a quality that is publishable in a referred, scientific journal. Research must be communicated to the supervisory committee in written form and defended by public, oral examination.	GR	L	Lab
Fall 2005	CEG505	505	FUNDAMENTAL OF EXPERT SYS	CEG	COMPUTER ENGINEERING	4	Covers definitions of AI, discusses the different technologies that comprise the field, introduces the fundamental concepts and methodologies of expert systems, and provides hands-on experience developing small expert system applications.	GR		Lecture

Fall 2005	CEG520	520	COMP ORG & ASY LANG PROG	CEG	COMPUTER ENGINEERING	4	Terminology and understanding of functional organizations and sequential operation of a digital computer. Program structure, and machine and assembly language topics including addressing, stacks, argument passing, arithmetic operations, traps, and input/output. Macros, modularization, linkers, and debuggers are used. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG520	520	COMP ORG&ASY LANG PROG LB	CEG	COMPUTER ENGINEERING	0	Terminology and understanding of functional organizations and sequential operation of a digital computer. Program structure, and machine and assembly language topics including addressing, stacks, argument passing, arithmetic operations, traps, and input/output. Macros, modularization, linkers, and debuggers are used. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CEG530	530	OO PROGRAMMING IN C++	CEG	COMPUTER ENGINEERING	4	Introduces object-oriented programming and the C++ language. Topics include functions, pointers, structures, classes, function/operator overloading, inheritance and virtual functions, template, exceptions, and file input and output.	GR		Lecture
Fall 2005	CEG560	560	DIGITAL SYSTEM DESIGN	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 651.) Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Students must show competency in the design of digital systems. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG560	560	DIGITAL SYSTEM DESIGN LAB	CEG	COMPUTER ENGINEERING	0	Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Students must show competency in the design of digital systems. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CEG602	602	COMPUTER COMMUN DESIGN	CEG	COMPUTER ENGINEERING	4	Survey of modern digital communications techniques. Specific focus is on serial transmission over public communication channels. Topics include information content and coding, asynchronous and synchronous formats, concentrating and multiplexing, channel properties, modulation techniques, common carrier services, error sources and control, regulatory policies, networks, and their analyses. Students design both hardware and software components of computer communications systems. 3 hours lecture, 2 hours lab. Knowledge of a higher-order language required.	GR		Lecture

Fall 2005	CEG602	602	COMPUTER COMMUN DES LAB	CEG	COMPUTER ENGINEERING	0	Survey of modern digital communications techniques. Specific focus is on serial transmission over public communication channels. Topics include information content and coding, asynchronous and synchronous formats, concentrating and multiplexing, channel properties, modulation techniques, common carrier services, error sources and control, regulatory policies, networks, and their analyses. Students design both hardware and software components ?of computer communications systems. 3 hours lecture, 2 hours lab. Knowledge of a higher-order language required.	GR	L	Lab
Fall 2005	CEG611	611	MICROPROC SYSTEM DESIGN	CEG	COMPUTER ENGINEERING	4	Introduces the design and development of software and computer interfacing hardware for effective use of microprocessors in process control, data collecting, and other special purpose computing systems. Software topics include assembly language programming, input/output, interrupts, direct memory access, and timing problems. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CEG611	611	MICROPROC SYS DESGN LAB	CEG	COMPUTER ENGINEERING	0	Introduces the design and development of software and computer interfacing hardware for effective use of microprocessors in process control, data collecting, and other special purpose computing systems. Software topics include assembly language programming, input/output, interrupts, direct memory access, and timing problems. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG616	616	MATRIX COMPUTATIO NS	CEG	COMPUTER ENGINEERING	4	(Also listed as MTH 616.) Survey of numerical methods in linear algebra emphasizing practice with high-level computer tools. Topics include Gaussian elimination, LU decomposition, numerical eigenvalue problems, QR factorization, least squares, singular value decompositions, and iterative methods.	GR		Lecture
Fall 2005	CEG619	619	INT FUZZY LOGIC CNTL LB	CEG	COMPUTER ENGINEERING	0	Foundations and philosophy of fuzzy logic and applications to control theory. Relationship between classical PID control and fuzzy rule-based control. Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of applications.	GR	L	Lab

Fall 2005	CEG619	619	INTRO FUZZY LOGIC CNTRL	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 619.) Foundations and philosophy of fuzzy logic and applications to control theory. Relationship between classical PID control and fuzzy rule-based control. Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of applications.	GR		Lecture
Fall 2005	CEG620	620	COMPUTER ARCHITECTURE	CEG	COMPUTER ENGINEERING	4	Introduction to Computer Architecture, computer system analysis and design, performance and cost, instruction set architecture, processor implementation techniques, pipelining, memory-hierarchy design, input/output and contemporary architectures.	GR		Lecture
Fall 2005	CEG621	621	MICROCOMPUTER DESIGN PROJ	CEG	COMPUTER ENGINEERING	4	In-depth study of the design and use of microcomputer systems. The computer organization and interface facilities are examined. Hardware/software projects are required to develop techniques for hardware and software design of open-ended projects. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CEG621	621	MICRO COMPUTER PROJ LAB	CEG	COMPUTER ENGINEERING	0	In-depth study of the design and use of microcomputer systems. The computer organization and interface facilities are examined. Hardware/software projects are required to develop techniques for hardware and software design of open-ended projects. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG625	625	VHDL HDWE DESC LANG	CEG	COMPUTER ENGINEERING	4	Rapidly being embraced as the universal communication medium of design, VHDL is an industry standard language used to describe hardware from the abstract to the concrete level.	GR		Lecture
Fall 2005	CEG628	628	LINEAR OPTICAL SYSTEMS	CEG	COMPUTER ENGINEERING	4	Introduction to linear optical systems, transformation properties of optical systems, correlation, convolution, diffraction, applications related to optical computers, such as beam steering for optical interconnection and parallel optical algorithm for pattern search, neural network.	GR		Lecture

Fall 2005	CEG629	629	INTERNET SECURITY	CEG	COMPUTER ENGINEERING	4	Authentication, address spoofing, hijacking, SYN floods, smurfing, sniffing, routing tricks, and privacy of data en-route. Buffer overruns and other exploitations of software development errors. Hardening of operating systems. Intrusion detection. Firewalls. Ethics.	GR		Lecture
Fall 2005	CEG633	633	OPERATING SYSTEMS	CEG	COMPUTER ENGINEERING	4	Management of resources in multi-user computer systems. Emphasis is on problems of file-system design, process scheduling, memory allocation, protection, and tools needed for solutions. Course projects use the C/C++ language and include the design of portions of an operating system. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG633	633	OPERATING SYSTEMS LAB	CEG	COMPUTER ENGINEERING	0	Management of resources in multi-user computer systems. Emphasis is on problems of file-system design, process scheduling, memory allocation, protection, and tools needed for solutions. Course projects use the C/C++ language and include the design of portions of an operating system. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CEG634	634	CONCURRENT SOFTWARE DES	CEG	COMPUTER ENGINEERING	4	Classical problems of synchronization and concurrency and their solutions are examined through course projects and through readings on operating system design. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG634	634	CONCUR SOFTWARE DES LAB	CEG	COMPUTER ENGINEERING	0	Classical problems of synchronization and concurrency and their solutions are examined through course projects and through readings on operating system design. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG635	635	DISTRIB COMPUTING & SYS	CEG	COMPUTER ENGINEERING	4	Covers issues such as process coordination, client-server computing, network and distributed operating systems, network and distributed file systems, concurrency control and recovery of distributed transactions, and fault-tolerant computing.	GR		Lecture
Fall 2005	CEG653	653	DESIGN COMPUTING SYSTEMS	CEG	COMPUTER ENGINEERING	4	Projects in the laboratory that combine engineering hardware and computer science software concepts in the design and implementation of small special-purpose computer systems. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CEG653	653	DESIGN COMPUT SYS LAB	CEG	COMPUTER ENGINEERING	0	Projects in the laboratory that combine engineering hardware and computer science software concepts in the design and implementation of small special-purpose computer systems. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG654	654	VLSI DESIGN	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 654.) Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.	GR		Lecture
Fall 2005	CEG654	654	VLSI DESIGN LAB	CEG	COMPUTER ENGINEERING	0	Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.	GR	L	Lab

Fall 2005	CEG656	656	INTRO TO ROBOTICS	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 656 and ME 656.) Introduction to the mathematics, programming, and control of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control.	GR		Lecture
Fall 2005	CEG656	656	INTRO TO ROBOTICS LAB	CEG	COMPUTER ENGINEERING	0	Introduction to the mathematics, programming, and control of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control.	GR	L	Lab
Fall 2005	CEG658	658	CKT DES/PLDS & FPGAS LAB	CEG	COMPUTER ENGINEERING	0	Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) will be used in the lab portion of the course.	GR	L	Lab

Fall 2005	CEG658	658	CKT DSGN W PLDS & FPGAS	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 658.) Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) will be used in the lab portion of the course.	GR		Lecture
Fall 2005	CEG659	659	CKT DESGN WITH VHDL LAB	CEG	COMPUTER ENGINEERING	0	Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation, and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) will be used in the lab portion of the course	GR	L	Lab
Fall 2005	CEG659	659	CIRCUIT DESGN WITH VHDL	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 659.) Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation, and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) will be used in the lab portion of the course.	GR		Lecture

Fall 2005	CEG660	660	INTRO SOFTWARE EGR LAB	CEG	COMPUTER ENGINEERING	0	Concepts of software engineering including analysis, design, and implementation of software engineering concepts that comprise structured programming and design. Case studies serve as examples illustrating the software life-cycle model.	GR	L	Lab
Fall 2005	CEG660	660	INTRO TO SOFTWARE ENGR	CEG	COMPUTER ENGINEERING	4	Concepts of software engineering including analysis, design, and implementation of software engineering concepts that comprise structured programming and design. Case studies serve as examples illustrating the software life-cycle model.	GR		Lecture
Fall 2005	CEG661	661	OBJ-ORIENTED PROG & DESIG	CEG	COMPUTER ENGINEERING	4	Topics emphasize the core concepts of encapsulation, inheritance, polymorphism, and dynamic binding. Additional topics include class organization, software maintenance, and design of reusable components.	GR		Lecture

Fall 2005	CEG663	663	PERS SOFTW/DEV PROCESS	CEG	COMPUTER ENGINEERING	4	Discusses software development as it relates to the individual, software process measurement, design and code reviews, software quality measurement, design and design verification. Each student will participate in the development of a software project. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG665	665	INTERACTIVE SYS MODELING	CEG	COMPUTER ENGINEERING	4	(Also listed as HFE 665.) Provides experience in interactive real-time simulation and design, implementation and evaluation of interfaces to simulations. The relevant topics are explored through application in supervisory control of complex, dynamic systems.	GR		Lecture
Fall 2005	CEG668	668	MANAGING SOFTW/DEV PROCES	CEG	COMPUTER ENGINEERING	4	Discusses software development processes, models, and techniques necessary to successfully develop large-scale software and presents the Capability Maturity Model (CMM). Students will participate in the development of a software project. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CEG676	676	COMPUTER GRAPHICS	CEG	COMPUTER ENGINEERING	4	Covers raster graphics algorithms, geometric primitives and their attributes, clipping, antialiasing, geometric transformations, structures and hierarchical models, input devices, and interactive techniques. Students develop interrelated programs to design a 3-D hierarchical model, manipulate, and view it.	GR		Lecture
Fall 2005	CEG676	676	COMPUTER GRAPHICS LAB	CEG	COMPUTER ENGINEERING	0	Covers raster graphics algorithms, geometric primitives and their attributes, clipping, antialiasing, geometric transformations, structures and hierarchical models, input devices, and interactive techniques. Students develop interrelated programs to design a 3-D hierarchical model, manipulate, and view it.	GR	L	Lab
Fall 2005	CEG677	677	COMPUTER GRAPHICS II	CEG	COMPUTER ENGINEERING	4	Continuation of CEG 676. Covers surface rendering, hidden line and surface removal, illumination models, texture mapping, color models, advanced modeling, and interface design. Students develop programs and a final project.	GR		Lecture

Fall 2005	CEG677	677	COMPUTER GRAPHICS II LAB	CEG	COMPUTER ENGINEERING	0	Continuation of CEG 676. Covers surface rendering, hidden line and surface removal, illumination models, texture mapping, color models, advanced modeling, and interface design. Students develop programs and a final project.	GR	L	Lab
Fall 2005	CEG678	678	CODING THEORY	CEG	COMPUTER ENGINEERING	3	(Also listed as MTH 656/EE 678.) Introduction to the essentials of error-correcting codes, the study of methods for efficient and accurate transfer of information. Topics include basic concepts, perfect and related codes, cyclic codes, and BCH codes. ?	GR		Lecture
Fall 2005	CEG699	699	SELECTED TOPICS	CEG	COMPUTER ENGINEERING	1	Selected topics in computer engineering. Topics vary. May be taken for letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CEG700	700	PRIN OF INSTRUCT IN CEG	CEG	COMPUTER ENGINEERING	3	Survey of available instructional materials and discussions of educational theory and techniques leading to more effective instruction. For graduate teaching assistants only.	GR		Lecture

Fall 2005	CEG702	702	ADVANCE COMPUTER NETWORKS	CEG	COMPUTER ENGINEERING	4	This course provides an in-depth examination of the fundamental concepts and principles in communications and computer networks. Topics include: queuing analysis, ATM, frame relay, performance analysis of routings, and flow and congestion controls.	GR		Lecture
Fall 2005	CEG720	720	COMPUTER ARCHITECTURE	CEG	COMPUTER ENGINEERING	4	Review of sequential computer architecture and study of parallel computers. Topics include memory hierarchy, reduced instruction set computer, pipeline processing, multiprocessing, various parallel computers, interconnection networks, and fault-tolerant computing. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG720	720	COMPUTER ARCHITECTURE LAB	CEG	COMPUTER ENGINEERING	0	Review of sequential computer architecture and study of parallel computers. Topics include memory hierarchy, reduced instruction set computer, pipeline processing, multiprocessing, various parallel computers, interconnection networks, and fault-tolerant computing. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CEG721	721	COMPUTER ARCHITEC II LAB	CEG	COMPUTER ENGINEERING	0	Continuation of CEG 720 with a more detailed study of lecture and research papers. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG724	724	COMPUTER VISION I	CEG	COMPUTER ENGINEERING	4	Study of the image formation process, binary images, edge detection and image segmentation, representation of 2-D and 3-D shapes, image features, image matching, object recognition, texture analysis, line-drawing interpretation, and model-based vision.	GR		Lecture
Fall 2005	CEG725	725	COMPUTER VISION II	CEG	COMPUTER ENGINEERING	4	Study of: stereo vision; shape from shading and photometric stereo; shape from texture; motion analysis and optical flow; camera calibration; projective geometry; geometric invariance; dynamic vision; analysis of multispectral images; analysis of volumetric images.	GR		Lecture
Fall 2005	CEG728	728	INTRO OPTICAL COMPUTING	CEG	COMPUTER ENGINEERING	4	Introduction to optical computing algorithms and architecture, optical logic, optical computing modules, optical CPUs, memory, interconnection, and optical devices.	GR		Lecture

Fall 2005	CEG729	729	OPTICAL COMPUTER ARCH	CEG	COMPUTER ENGINEERING	4	Optics provides for new high-performance architectures including hardware and software methodologies. Optical architectures considered include: sequential, dataflow, cellular automatic, and neural networks.	GR		Lecture
Fall 2005	CEG730	730	DISTR COMP PRINCIPLES	CEG	COMPUTER ENGINEERING	4	Communicating sequential processes, clients and servers, remote procedure calls, stub generation, weak and strong semaphones, split-binary semaphores, and distributed termination. Example languages: SR, Linda. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG750	750	MICROPROCESSORS	CEG	COMPUTER ENGINEERING	4	Study of microprocessors and the use of microprocessors in digital systems. Fundamentals of microprocessor software, assembly-level programming for micro-processor applications, memory and interface considerations, and systems employing microprocessors. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CEG750	750	MICROPROCESSORS LAB	CEG	COMPUTER ENGINEERING	0	Study of microprocessors and the use of microprocessors in digital systems. Fundamentals of microprocessor software, assembly-level programming for micro-processor applications, memory and interface considerations, and systems employing microprocessors. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG751	751	MICROPROCESSORS II	CEG	COMPUTER ENGINEERING	4	Interaction of microprocessors and the outside world. Data acquisition and real-time control. Bus interfacing and direct memory access. Multiple processor environment and distributed processing. Small real-time operating systems. Project management. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG751	751	MICROPROCESSORS II LAB	CEG	COMPUTER ENGINEERING	0	Interaction of microprocessors and the outside world. Data acquisition and real-time control. Bus interfacing and direct memory access. Multiple processor environment and distributed processing. Small real-time operating systems. Project management. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CEG752	752	VLSI SUBSYSTEM DESIGN	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 752.) CMOS VLSI subsystems including data path operators, counters, multipliers, memory elements, and programmable logic arrays. VLSI circuits for FIR and IIR filters. VLSI circuits for digital data exchange systems. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG752	752	VLSI LAB	CEG	COMPUTER ENGINEERING	0	CMOS VLSI subsystems including data path operators, counters, multipliers, memory elements, and programmable logic arrays. VLSI circuits for FIR and IIR filters. VLSI circuits for digital data exchange systems. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG753	753	VLSI SYNTHESIS/OPTIMIZ	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 753.) VLSI architectural-level synthesis and optimization including data-path synthesis, control-units synthesis, scheduling, and resource sharing. Logic-level synthesis and optimization including two-level and multi-level combinational logic optimization, and sequential logic optimization. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CEG753	753	VLSI II LAB	CEG	COMPUTER ENGINEERING	0	VLSI architectural-level synthesis and optimization including data-path synthesis, control-units synthesis, scheduling, and resource sharing. Logic-level synthesis and optimization including two-level and multi-level combinational logic optimization, and sequential logic optimization. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CEG754	754	VLSI TESTING/TEST ABILITY	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 754.) Design for testability of VLSI circuits. Topics include importance of testing, conventional test methods, built-in test, CAD tools for evaluation testability, test pattern generators, and compressors.	GR		Lecture
Fall 2005	CEG754	754	VLSI TEST/TESTABIL ITY LAB	CEG	COMPUTER ENGINEERING	0	Design for testability of VLSI circuits. Topics include importance of testing, conventional test methods, built-in test, CAD tools for evaluation testability, test pattern generators, and compressors.	GR	L	Lab

Fall 2005	CEG756	756	ROBOTICS I	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 756 and ME 756.) Detailed study of the dynamics and control of robotic systems and robot programming languages and systems. Material covered includes rigid-body dynamics; linear, nonlinear, adaptive, and force control of manipulators; and robot programming languages.	GR		Lecture
Fall 2005	CEG756	756	ROBOTICS LAB	CEG	COMPUTER ENGINEERING	0	Detailed study of the dynamics and control of robotic systems and robot programming languages and systems. Material covered includes rigid-body dynamics; linear, nonlinear, adaptive, and force control of manipulators; and robot programming languages.	GR	L	Lab
Fall 2005	CEG757	757	ROBOTICS II	CEG	COMPUTER ENGINEERING	4	An introduction to sensing, vision, and robot intelligence and task planning. Material covered includes sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.	GR		Lecture

Fall 2005	CEG757	757	ROBOTICS II LAB	CEG	COMPUTER ENGINEERING	0	An introduction to sensing, vision, and robot intelligence and task planning. Material covered includes sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.	GR	L	Lab
Fall 2005	CEG758	758	CMOS ANALOG IC DESIGN	CEG	COMPUTER ENGINEERING	4	(Also listed as EE 758.) Introduction to techniques, limitations, and problems in the design of CMOS analog integrated circuits. Topics include CMOS analog circuit modeling and device characterization, analog CMOS subcircuits, CMOS amplifiers, comparators, CMOS Op Amps. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CEG758	758	CMOS ANALOG IC DESGN LAB	CEG	COMPUTER ENGINEERING	0	Introduction to techniques, limitations, and problems in the design of CMOS analog integrated circuits. Topics include CMOS analog circuit modeling and device characterization, analog CMOS subcircuits, CMOS amplifiers, comparators, CMOS Op Amps. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CEG759	759	AI IN ROBOTICS	CEG	COMPUTER ENGINEERING	4	Introduction to robot intelligence and task planning. Material includes obstacle avoidance, robot planning, robotics computations, neural network computing, robot learning, and expert systems.	GR		Lecture
Fall 2005	CEG760	760	ADV SOFTWARE ENGINEERING	CEG	COMPUTER ENGINEERING	4	Introduction to software engineering. Fundamentals of problem specification, program design, verification, and evaluation are explored. Students participate in team projects to apply the methods introduced.	GR		Lecture
Fall 2005	CEG763	763	FORMAL METH IN SOFT ENGR	CEG	COMPUTER ENGINEERING	4	Introduction to formal methods in the specification, design, construction, and verification of software systems. Discrete mathematics and logic for software engineering. Formal specification and design methods; design specification languages.	GR		Lecture
Fall 2005	CEG770	770	COMPUTER ENGINEERING MATH	CEG	COMPUTER ENGINEERING	4	Introduction to computer arithmetic algorithms, systems theory, linear and nonlinear programming, and optimization theory for computer engineering applications. In addition to mathematical theory, appropriate engineering applications are presented.	GR		Lecture

Fall 2005	CEG776	776	ADVANCE COMPUTER GRAPHICS	CEG	COMPUTER ENGINEERING	4		GR		Lecture
Fall 2005	CEG789	789	CONTINUING REGISTRATION	CEG	COMPUTER ENGINEERING	1	A student must be registered at the graduate level in the quarter in which the degree is granted, or in any quarter in which the program is affording some service, such as giving an examination, reading a thesis, or giving advise on the thesis after completion of all other requirements of coursework and research.	GR	I	Independent Study
Fall 2005	CEG790	790	SELECTED TOPICS COMP EGR	CEG	COMPUTER ENGINEERING	4	Lectures on and study of selected topics in current research and recent developments in computer engineering. May be taken for letter grade or pass/unsatisfactory. Titles vary.	GR		Lecture
Fall 2005	CEG795	795	INDEPENDENT STUDY	CEG	COMPUTER ENGINEERING	1	Special problems in advanced computer engineering topics. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CEG799	799	THESIS	CEG	COMPUTER ENGINEERING	1	Grade pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CEG820	820	COMPUTER ARCHITECTURE II	CEG	COMPUTER ENGINEERING	4	Study of parallel architectures and parallel processing. Topics include multiprocessors, cache coherence, synchronization mechanisms, scalable architectures, and vectorization and parallelization.	GR		Lecture

Fall 2005	CEG830	830	DISTR COMP SYSTEMS	CEG	COMPUTER ENGINEERING	4	Example languages and packages: SR and PVM, file servers, semantics of file sharing, caches and replication, log-structured file systems, remote evaluation, process migration, mobile projects, checkpointing and rollback-recovery.	GR		Lecture
Fall 2005	CEG860	860	OBJECT-ORIENTED PROG	CEG	COMPUTER ENGINEERING	4	Course covers data abstraction, overloading, polymorphism, inheritance binding, delegation and prototypes, and languages such as C++, Ada 95, Eiffel, and Self from a software engineering point of view.	GR		Lecture
Fall 2005	CEG890	890	SELECTED TOPICS	CEG	COMPUTER ENGINEERING	1	Selected topics in computer science and engineering.	GR	I	Independent Study
Fall 2005	CEG891	891	PHD SEMINAR	CEG	COMPUTER ENGINEERING	1	Registration in the Ph.D. seminar is required of all students seeking the Ph.D. in computer science and engineering. Graded pass/unsatisfactory.	GR	S	Seminar
Fall 2005	CEG892	892	PHD QUALIFYING EXAM	CEG	COMPUTER ENGINEERING	1	Examination that tests understanding of the fundamentals necessary to begin concentrated study in a chosen Ph.D. research area. Composed of written tests and an oral exam. Must be passed within two attempts. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	CEG894	894	CANDIDACY EXAM	CEG	COMPUTER ENGINEERING	1	Examination that tests for depth and understanding in a chosen computer science and computer engineering research area. Includes a written proposal for a Ph.D. topic and an oral examination that is open to the public. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CEG895	895	INDEPENDENT STUDY	CEG	COMPUTER ENGINEERING	1	Independent study in a chosen area for Ph.D. research. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CEG896	896	DISSERTATION DEFENSE	CEG	COMPUTER ENGINEERING	1	Examination on the Ph.D. dissertation. The written dissertation is submitted and must be successfully defended in the oral exam conducted by the dissertation committee. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CEG897	897	RESIDENCY RESEARCH	CEG	COMPUTER ENGINEERING	1	Research on the Ph.D. dissertation topic taken in residence. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CEG898	898	DISSERTATION RESEARCH	CEG	COMPUTER ENGINEERING	1	Research on the Ph.D. dissertation topic not taken in residence. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	CHM502	502	ENVIRONMENTAL CHEM	CHM	CHEMISTRY	4	Students study water, air, and soil chemistry, including pollutants added to these environments and how they interact to create environmental problems. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	CHM512	512	QUANTITATIVE ANALYSIS	CHM	CHEMISTRY	3	Introduction to chemical methods of analysis covering traditional as well as modern techniques and equipment; emphasis on calculations and interpretation of analytical data.	GR		Lecture
Fall 2005	CHM514	514	QUANTITATIVE ANALYSIS LAB	CHM	CHEMISTRY	4.5	Experimental methods of analysis. Practical applications of the lecture material presented in CHM 512.	GR	L	Lab
Fall 2005	CHM520	520	ADV INORGANIC CHEMISTRY I	CHM	CHEMISTRY	3	Principles and concepts of inorganic chemistry, including the periodic table, atomic structure, bonding, coordination compounds, and an introduction to group theory.	GR		Lecture
Fall 2005	CHM521	521	INORGANIC CHEMISTRY	CHM	CHEMISTRY	3	A thorough examination of the chemistry of the metals stressing the transition elements, ligand field theory and mechanisms of inorganic reactions.	GR		Lecture

Fall 2005	CHM525	525	ADV INORG SYN & CHARACT	CHM	CHEMISTRY	3	Advanced synthesis and characterization of representative inorganic compounds. 1 hour lecture, 4 hour lab.	GR		Lecture
Fall 2005	CHM525	525	ADV INORG SYN&CHAR LAB	CHM	CHEMISTRY	0	Advanced synthesis and characterization of representative inorganic compounds. 1 hour lecture, 4 hour lab.	GR	L	Lab
Fall 2005	CHM535	535	INSTRUMENTAL ANALYSIS	CHM	CHEMISTRY	3	Introduction to the theory and practice of modern chemical instrumentation. Topics include elementary electronics, spectrophotometry, atomic absorption, electrochemical techniques, chromatography, and other instrumental techniques.	GR		Lecture
Fall 2005	CHM536	536	INSTRUMENTAL ANALYSIS LAB	CHM	CHEMISTRY	4.5	Introduction to experimental instrumental analysis. Practical experience in the operation of chemical instrumentation; emphasizes applications of the material presented in CHM 535.	GR	L	Lab
Fall 2005	CHM545	545	ADV ORG SYN & CHARACT	CHM	CHEMISTRY	3	Advanced synthesis and identification of organic compounds. 1 hour lecture, 4 hours lab.	GR		Lecture
Fall 2005	CHM545	545	ADV ORG SYN & CHAR LAB	CHM	CHEMISTRY	0	Advanced synthesis and identification of organic compounds. 1 hour lecture, 4 hours lab.	GR	L	Lab

Fall 2005	CHM551	551	PHYSICAL CHEMISTRY	CHM	CHEMISTRY	3	Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.	GR		Lecture
Fall 2005	CHM552	552	PHYSICAL CHEMISTRY	CHM	CHEMISTRY	3	Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.	GR		Lecture
Fall 2005	CHM553	553	PHYSICAL CHEMISTRY	CHM	CHEMISTRY	3	Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.	GR		Lecture
Fall 2005	CHM556	556	PHYSICAL CHEMISTRY	CHM	CHEMISTRY	4	An introduction for nonchemistry majors to the ideas of physical chemistry, including thermodynamics, properties of liquids and solids, solution properties, and kinetics. Intended for biologists, geologists, physicists, premedical students and others with an interest in physical chemistry.	GR		Lecture
Fall 2005	CHM557	557	PHYSICAL CHEMISTRY LAB I	CHM	CHEMISTRY	3	Experimental methods of physical chemistry.	GR	L	Lab
Fall 2005	CHM558	558	PHYSICAL CHEMISTRY LAB II	CHM	CHEMISTRY	3	Experimental methods of physical chemistry.	GR	L	Lab

Fall 2005	CHM561	561	ORG CHEM OF EGR MAT	CHM	CHEMISTRY	4	Molecular structure, stereochemistry, properties, and reactivities of selected organic substances of industrial importance including fuels, lubricants, solvents, coatings, plastics, dyes, and naturally occurring engineering materials.	GR		Lecture
Fall 2005	CHM588	588	INDEPENDENT READING	CHM	CHEMISTRY	1		GR	I	Independent Study
Fall 2005	CHM599	599	SPECIAL PROBLEMS IN CHEM	CHM	CHEMISTRY	1		GR	I	Independent Study
Fall 2005	CHM602	602	ADV ENVIRON CHM & ANALY	CHM	CHEMISTRY	4	Environmental sampling and analysis using instrumental techniques. Chemical fate prediction by measurement and examination of physical and chemical properties. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	CHM610	610	ENVIRONMENTAL CHEM I: AIR	CHM	CHEMISTRY	3.5	A study of the earth's atmosphere including its normal composition and atmospheric reactions with emphasis on the nature, causes, effects, detection, and abatement of various types of air pollution. 2 lectures and lab or field project.	GR		Lecture

Fall 2005	CHM610	610	ENVIRON CHEM I: AIR LAB	CHM	CHEMISTRY	0	A study of the earth's atmosphere including its normal composition and atmospheric reactions with emphasis on the nature, causes, effects, detection, and abatement of various types of air pollution. 2 lectures and lab or field project.	GR	L	Lab
Fall 2005	CHM611	611	ENVIRONMENT CHM II: WATER	CHM	CHEMISTRY	3.5	A study of the earth's fresh and saline water including its normal composition and aquatic reactions with emphasis on the nature, causes, effects, detection, and abatement of various types of water pollution. 2 lectures and lab or field project.	GR		Lecture
Fall 2005	CHM611	611	ENVIRON CHM II: WATER LAB	CHM	CHEMISTRY	0	A study of the earth's fresh and saline water including its normal composition and aquatic reactions with emphasis on the nature, causes, effects, detection, and abatement of various types of water pollution. 2 lectures and lab or field project.	GR	L	Lab
Fall 2005	CHM612	612	ENVIRON CHM III: SOLIDS	CHM	CHEMISTRY	3.5	Study of the problems of solid wastes, pesticides, food additives, and radioactive materials, including their chemical composition, effects, detection, disposal, and natural breakdown. 2 hours lecture, 3 hours lab or field project.	GR		Lecture

Fall 2005	CHM612	612	ENV CHEM III: SOLIDS LAB	CHM	CHEMISTRY	0	Study of the problems of solid wastes, pesticides, food additives, and radioactive materials, including their chemical composition, effects, detection, disposal, and natural breakdown. 2 hours lecture, 3 hours lab or field project.	GR	L	Lab
Fall 2005	CHM617	617	APPLIED CHEMICAL SPECTRO	CHM	CHEMISTRY	3	Practical applications of various spectrophotometral techniques (mass spectroscopy, infrared spectroscopy, ultraviolet spectroscopy, and nuclear magnetic resonance) are integrated for the explanation of the structure of organic molecules. A problem-solving approach is used.	GR		Lecture
Fall 2005	CHM625	625	INORGANIC PREPARATIONS	CHM	CHEMISTRY	3	A quarter course on a selected topic in the field of inorganic chemistry, such as the reactions of substances in non-aqueous solvents, metal chelate compounds, inorganic reaction mechanisms, ligand field theory, or the chemistry of the lanthanides and actinides.	GR	L	Lab

Fall 2005	CHM640	640	SYN MEDICINAL CHEM I	CHM	CHEMISTRY	3	Various chemical aspects of drugs including the synthetic design, mode of action, and uses of various pharmaceuticals. Topics include cardiovascular agents, antibiotics, antitumor agents, and central nervous system drugs.	GR		Lecture
Fall 2005	CHM641	641	SYN MEDICINAL CHEM II	CHM	CHEMISTRY	3	The detailed description of conformers, geometrical and optical isomers and their effects on molecular stability and reation mechanisms.	GR		Lecture
Fall 2005	CHM643	643	CHEM TOXICOLOGY : DRUGS	CHM	CHEMISTRY	3	Study of the basic principles of chemical toxicology. Chemicals that have the greatest incidence of abuse are discussed in more detail with regard to their chemical-biological interactions, symptomatology of toxicity, clinical chemistry tests, and treatment.	GR		Lecture
Fall 2005	CHM644	644	CHEM TOXICOLOGY II: ENVIR	CHM	CHEMISTRY	3	A study of the basic principles of chemical toxicology. Chemicals which have the greatest incidence of abuse are discussed in more detail with regard to their chemical-biological interactions, symptomatology of toxicity, clinical chemistry tests and treatment.	GR		Lecture

Fall 2005	CHM661	661	SYNTHETIC POLYMER CHM	CHM	CHEMISTRY	3	(Also listed as BMS 726.) Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers.	GR		Lecture
Fall 2005	CHM665	665	PHYSICAL POLYMER CHM	CHM	CHEMISTRY	3	(Also listed as BMS 725.) Introduction to the structural and physical aspects of macromolecules; emphasis on the relationship of polymer structure to physical and mechanical properties.	GR		Lecture
Fall 2005	CHM667	667	PHYSICAL POLYMER CHEM LAB	CHM	CHEMISTRY	1	(Also listed as BMS 727.) Laboratory illustrations of CHM 665 lecture material and techniques of polymer science. Corequisite: CHM 665.	GR	I	Independent Study
Fall 2005	CHM668	668	POLYMER SYNTHESIS LAB	CHM	CHEMISTRY	1	Laboratory illustrations of CHM 661 lecture material and techniques of polymer science.	GR	I	Independent Study
Fall 2005	CHM668	668	POLYMER SYNTHESIS LAB	CHM	CHEMISTRY	1	Laboratory illustrations of CHM 661 lecture material and techniques of polymer science.	GR	L	Lab
Fall 2005	CHM669	669	EGR PLAS: MAT & DES	CHM	CHEMISTRY	4	(Also listed as ME 689.) Properties and manufacturing processes of engineering plastics and the effect of these factors on plastics design. Illustrative laboratory projects are included. 2 hours lecture, 4 hours lab.	GR		Lecture

Fall 2005	CHM669	669	EGR PLAS:MAT PROC & DES L	CHM	CHEMISTRY	0	Properties and manufacturing processes of engineering plastics and the effect of these factors on plastics design. Illustrative laboratory projects are included. 2 hours lecture, 4 hours lab.	GR	L	Lab
Fall 2005	CHM679	679	MATERIALS CORROSION	CHM	CHEMISTRY	4	A survey of principles of corrosion processes with application to metallic and non-metallic materials. Principles of electrochemistry are included.	GR		Lecture
Fall 2005	CHM700	700	PRIN INSTRUCTION CHEM	CHM	CHEMISTRY	3	Survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction. For chemistry majors only.	GR		Lecture
Fall 2005	CHM720	720	ADV INORGANIC CHEMISTRY I	CHM	CHEMISTRY	3	(Also listed as BMS 733.) Study of the modern theories of valence, structural inorganic chemistry, and the chemistry of nonmetals.	GR		Lecture
Fall 2005	CHM721	721	ADV INORGANIC CHEM II	CHM	CHEMISTRY	3	(Also listed as BMS 734.) Thorough examination of the chemistry of metals stressing the transition elements, ligand field theory, and mechanisms of inorganic reactions.	GR		Lecture
Fall 2005	CHM722	722	ADV INORGANIC CHEM III	CHM	CHEMISTRY	3	(Also listed as BMS 735.) Survey of the applications of physical methods in the examination of inorganic compounds.	GR		Lecture

Fall 2005	CHM730	730	INSTRUMENTATION	CHM	CHEMISTRY	3	Introduction to the theory and practice of modern chemical instrumentation; elementary electronics, spectrophotometry, atomic absorption, electrochemical techniques, chromatography, and other instrumental techniques.	GR		Lecture
Fall 2005	CHM735	735	ANALYTICAL CHEMISTRY	CHM	CHEMISTRY	3	A selected topic in the field of analytical chemistry such as chromatography, electroanalytical chemistry such as trace analysis, bioanalytical chemistry, advanced instrumental analysis, analytical spectroscopy, or separation methodology.	GR		Lecture
Fall 2005	CHM740	740	ELEMENTS ORGANIC REACTION	CHM	CHEMISTRY	3		GR		Lecture
Fall 2005	CHM741	741	SYNTHETIC ORGAN REACTIONS	CHM	CHEMISTRY	3		GR		Lecture
Fall 2005	CHM742	742	STRUCT CONCEPT ORGAN CHEM	CHM	CHEMISTRY	3		GR		Lecture
Fall 2005	CHM750	750	INTRO-QUANTUM CHEMISTRY	CHM	CHEMISTRY	3	Introduction to the ideas and mathematical techniques of quantum theory, including applications to some simple chemical systems.	GR		Lecture

Fall 2005	CHM751	751	CHEMICAL KINETICS	CHM	CHEMISTRY	3	(Also listed as BMS 736.) Characterization of simple kinetic systems, experimental methods, energy distributions in molecules, the transition state method, and chain reactions in solution.	GR		Lecture
Fall 2005	CHM752	752	THERMODYNAMICS	CHM	CHEMISTRY	3	Fundamentals of chemical thermodynamics; first, second, and third laws; applications to solutions.	GR		Lecture
Fall 2005	CHM760	760	CHEMICAL EQUILIBRIUM	CHM	CHEMISTRY	3	An in depth treatment of ionic equilibria. Topics include pertinent mathematical operations used in equilibrium calculations. Chemical systems discussed will include strong and weak acids and bases, polyprotic as well as monoprotic acids and bases, precipitation complex formation and oxidation-reduction equilibria.	GR		Lecture
Fall 2005	CHM761	761	ADVANCED ANALYTICAL CHEM	CHM	CHEMISTRY	3	Survey of the more popular and useful modern analytical methods. Topics include separation techniques, selective ion electrodes, spectroscopy, electrochemistry, mathematical techniques of data optimization, methods of sample preparation, precipitate formation, and organic analytical reagents.	GR		Lecture

Fall 2005	CHM789	789	CONTINUING REGISTRATION	CHM	CHEMISTRY	1		GR	I	Independent Study
Fall 2005	CHM800	800	SEMINAR	CHM	CHEMISTRY	0		GR		Lecture
Fall 2005	CHM825	825	SELECT TOPIC INORGAN CHEM	CHM	CHEMISTRY	3	A quarter course on a selected topic in the field of inorganic chemistry, such as the reactions of substances in nonaqueous solvents, metal chelate compounds, inorganic reaction mechanisms, ligand field theory, or the chemistry of the lanthanides and actinides.	GR		Lecture
Fall 2005	CHM830	830	NUCL & ELECT MAG RES SPEC	CHM	CHEMISTRY	3	An examination of the theores and practices of N.M.R. and E.P.R. including examples of their applications to structural and kinetic studies of both organic and inorganic molecules.	GR		Lecture
Fall 2005	CHM842	842	ORGANIC CHEM HIGH POLYMER	CHM	CHEMISTRY	3	The chemistry and properties of high polymers including the organic chemistry of their preparation and the kinetics of polymerization.	GR		Lecture
Fall 2005	CHM845	845	SELECT TOPIC ORGANIC CHEM	CHM	CHEMISTRY	3	A selected topic in the field of organic chemistry, such as organic spectroscopy, heterocyclic chemistry, organometallic chemistry, and the chemistry of natural products.	GR		Lecture

Fall 2005	CHM850	850	QUANTUM CHEM	CHM	CHEMISTRY	3	Principles and applications of quantum theory to chemical problems. Electronic structure of molecules and its correlation with the chemical and physical properties of substances.	GR		Lecture
Fall 2005	CHM851	851	STAT THERMODYNAMICS	CHM	CHEMISTRY	3	Definition of partition function; translational, rotational, vibrational, and electronic partition functions and their calculation and application to thermodynamic problems. Calculation of thermodynamic functions from spectroscopic information.	GR		Lecture
Fall 2005	CHM853	853	GROUP THEORY	CHM	CHEMISTRY	3	Introduction to group theory stressing its application in the areas of hybridization schemes, molecular orbitals, ligand field theory, and spectroscopy.	GR		Lecture
Fall 2005	CHM855	855	SELECT TOPIC PHYS CHEM	CHM	CHEMISTRY	3	(Also listed as BMS 738.) A selected topic in the field of physical chemistry such as molecular spectroscopy, advanced molecular structure, magnetic resonance, X-rays, crystal structure, statistical mechanics, and precision physical-chemical measurements.	GR		Lecture
Fall 2005	CHM899	899	RESEARCH	CHM	CHEMISTRY	1	Research for the thesis.	GR	I	Independent Study

Fall 2005	CLS530	530	STUDIES IN ANCIENT LIT	CLS	CLASSICS	4	Course offers a variety of topics including drama, epic, and lyric poetry; prose; selected themes in ancient literature; and literary criticism.	GR		Lecture
Fall 2005	CLS540	540	ANCIENT ART & ARCHEOLOGY	CLS	CLASSICS	4	(Also listed as ART 611.) Greece in the Bronze Age; classical Greece and Rome; and selected areas of Greek and Roman art and archaeology.	GR		Lecture
Fall 2005	CLS550	550	ANCIENT CULTURE & SOCIETY	CLS	CLASSICS	4	Greek and Roman civilization with evidence from art, literature, archaeology, law, and other sources.	GR		Lecture
Fall 2005	CLS560	560	STUDIES:ANCIENT MYTHOLOGY	CLS	CLASSICS	4	Greek and Roman mythology; aspects and approaches to the study of myth; archaeological and nonliterary sources.	GR		Lecture
Fall 2005	CLS570	570	STUDIES:ANCNT:LAW/GOV/POL	CLS	CLASSICS	4	Political problems of the ancient world; law and legal systems; and government and administration.	GR		Lecture
Fall 2005	CLS600	600	SPEC PROJECTS IN CLASSICS	CLS	CLASSICS	1	An intensive, short-term study of a particular aspect of Classical Antiquity, which may include matters of methodology or pedagogy. Titles vary.	GR	S	Seminar

Fall 2005	CMH601	601	BIOSTATISTICS I	CMH	COMMUNITY HEALTH	3	Presents basic statistical measures with emphasis on biomedical problems. Includes sampling techniques, making valid inferences and estimations, and testing hypotheses. Practice in use of calculations and preparation of data for machine analysis.	GR		Lecture
Fall 2005	CMH602	602	BIOSTATISTICS II	CMH	COMMUNITY HEALTH	3	Studies advanced statistical methods for analysis of variance, multiple regression, survey methods, design of experimental investigations, vital statistics, bioassays, and sequential analysis.	GR		Lecture
Fall 2005	CMH621	621	EPIDEMIOLOGY I	CMH	COMMUNITY HEALTH	3	Nature of epidemiological studies; descriptive epidemiology; experimental and observational investigations; cross-sections; prospective and retrospective studies; mortality and morbidity measurements and factors affecting comparison; life tables; and introduction to demographic measurements.	GR		Lecture

Fall 2005	CMH622	622	EPIDEMIOLOGY II	CMH	COMMUNITY HEALTH	3	Advanced techniques of epidemiological investigation. Epidemiology of specific chronic diseases such as cancer, diabetes, and cardiovascular and mental disorders. Introduction to environmental and occupational epidemiology. Students prepare research protocol on a given specific problem.	GR		Lecture
Fall 2005	CMH641	641	ENVIRONMENTAL MEDICINE I	CMH	COMMUNITY HEALTH	3	Interaction of humans with special environments. Section one is an intensive study of respiration, the cardiovascular system, and the physics and physiology of gaseous environments.	GR		Lecture
Fall 2005	CMH642	642	ENVIRONMENTAL MEDICINE II	CMH	COMMUNITY HEALTH	3	Interaction of humans with special environments. Section two covers mineral, chemical, and drug metabolism; function of sensory systems; and the physics and physiological stresses of heat and cold, sound, and electromagnetic and ionizing radiation.	GR		Lecture

Fall 2005	CMH643	643	ENVIRON MEDICINE III	CMH	COMMUNITY HEALTH	3	Interaction of humans with special environments. Section three studies effects of dynamic forces, biomechanics of the body, physiology of physical exercises, and engineering machines to improve human performance.	GR		Lecture
Fall 2005	CMH651	651	AEROSPACE MEDICINE I	CMH	COMMUNITY HEALTH	2	General review, discussions of research projects, guest presentations, and selected advanced topics dealing with aerospace medicine, occupational medicine, and public health. Presentation and discussion of problem clinical cases related to aerospace medicine.	GR		Lecture
Fall 2005	CMH652	652	AEROSPACE MEDICINE II	CMH	COMMUNITY HEALTH	2	Covers civil pilot medical case histories including presentation of the medical condition that the pilot experienced, the implications by medical certification, and the proper steps in denying or certifying the pilot. M.D. degree required. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	CMH654	654	INTRO TO COMM MED	CMH	COMMUNITY HEALTH	2	Familiarization with activities and services encompassed by community medicine, including public health, preventive medicine, prospective medicine, occupational medicine, geriatric health, handicapped services, and health promotion. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	CMH655	655	HYPERBARIC MEDICINE	CMH	COMMUNITY HEALTH	3	Mechanisms of hyperbaric oxygen therapy, equipment, safety considerations, and limitations. Conditions particularly amenable to this therapy are explored: decompression sickness, air embolism, gas gangrene, CO poisoning, and elective indications. May be taken for letter grade of pass/unsatisfactory.	GR		Lecture

Fall 2005	CMH656	656	CLINICAL AEROSPACE MED	CMH	COMMUNITY HEALTH	4	Introduction to and familiarization with clinical activities and operational experiences in Aeromedical Services (Flight Medicine, Occupational Medicine, Environmental Health, Bioenvironmental Surveillance, and Physiological Training). Enrollment in Aerospace Medicine Residency program or department approval required.	GR		Lecture
Fall 2005	CMH671	671	PRIN: OCCUPATIONAL HEALTH	CMH	COMMUNITY HEALTH	3	Presents the medical department in industry: its role, functions, administration, physical facilities, personnel, equipment, records, costs, benefits, intramural relationships and extramural relationships with professional societies, official agencies, organized labor, and paramedical occupations.	GR		Lecture
Fall 2005	CMH672	672	CLINICAL OCCUPATION HLTH	CMH	COMMUNITY HEALTH	3	Principles of physical examination and diagnosis are applied to selection, placement, and return to work of industrial employees. Surveys of a variety of work environments are conducted with emphasis on potential health hazards. Course includes field experience.	GR		Lecture

Fall 2005	CMH700	700	AEROSPACE ACCIDENTS	CMH	COMMUNITY HEALTH	4	Overview of aerospace accident investigation procedures, concerned regulations, and interdisciplinary management from an aeromedical perspective. Selected advance topics include the analyses of relevant aerospace accident reports, post-crash survivability, and future directions.	GR		Lecture
Fall 2005	CMH701	701	SPEC TOPICS:COMM MED AERO	CMH	COMMUNITY HEALTH	3	Provides the philosophy underlying each major aerospace medicine standard. It also explores the aerospace medical factors that convert safe flight into hazardous flight. M.D. degree and departmental approval required. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	CMH711	711	SPECIAL SEMINAR IN ASM	CMH	COMMUNITY HEALTH	3	Participants discuss the influence and value of aerospace medicine on an international basis in light of new and proposed aeromedical technological developments.	GR	S	Seminar

Fall 2005	CMH721	721	AEROMED CON&OP FLT ENVIR	CMH	COMMUNITY HEALTH	3	Builds on the basics of the aeromedical concerns to advance the understanding of the relevant aeromedical aspects related to the operational flight environment. Practical experiences in the hypobaric chamber, acceleration, and life support facilities supplement course work.	GR		Lecture
Fall 2005	CMH731	731	HEALTH SERVICES ADMIN	CMH	COMMUNITY HEALTH	3	(Also listed as MGT 755.) Overview of total health care system including public and private institutions and agencies, federal and state regulations, and methods of financing. Directed study of major contemporary forces affecting the health care delivery system. Class includes seminars and on-site experiences.	GR		Lecture
Fall 2005	CMH789	789	CONTINUING REGISTRATION	CMH	COMMUNITY HEALTH	1		GR	I	Independent Study
Fall 2005	CMH899	899	AEROSPACE MED RESEARCH	CMH	COMMUNITY HEALTH	3	Under supervision of an advisor, students choose research problems, prepare bibliographical searches, plan experimental protocol, and conduct experimentation. A full report, constituting a thesis, is written and defended before a graduate committee.	GR		Lecture

Fall 2005	CNL661	661	PRINCIPLES OF COUNSELING	CNL	COUNSELING	4	Overview of major counseling theories and techniques and review of historical foundations of the mental health movement. Social, psychological, and philosophical influences are considered.	GR		Lecture
Fall 2005	CNL662	662	PROB STU PERSONALITY &DEV	CNL	COUNSELING	4	Considers physical, psychological, and personality development of students in terms of the interrelationship of these factors and their effects on student functioning. Family, school, and other social-psychological environments are studied in terms of their effect on behavior.	GR		Lecture
Fall 2005	CNL663	663	MENTAL HEALTH I	CNL	COUNSELING	4	Factors influencing the behavior of individuals; methods a counselor may use in observing, analyzing, and improving attitudes and behavior.	GR		Lecture
Fall 2005	CNL664	664	CRISIS INTERVENTION CNL	CNL	COUNSELING	1	Introduces students to the background, theory, practice, and needs of crisis intervention within the helping professions. A variety of crisis intervention models are explored, as are the various community resources available to the crisis intervention worker. Graduate standing required.	GR		Lecture

Fall 2005	CNL667	667	GROUP BACKGROUND &THEORY	CNL	COUNSELING	4	Surveys the background, theory, patterns of function, techniques of facilitating, and the uses of small groups in counseling.	GR		Lecture
Fall 2005	CNL670	670	COUNSELING WORKSHOP	CNL	COUNSELING	1	Selected topics in the human services area on a workshop or a one-time class basis are considered. Topics and titles vary.	GR	I	Independent Study
Fall 2005	CNL700	700	STU AFFRS HIGHER ED	CNL	COUNSELING	4		GR		Lecture
Fall 2005	CNL751	751	CNL SKILLS FOR EDUCATORS	CNL	COUNSELING	3	Assists teachers in developing an understanding of the counseling needs of children. Teachers develop counseling skills needed to assist students in the classroom. Appropriate referrals to other school professionals are discussed.	GR		Lecture
Fall 2005	CNL755	755	CAMPUS ECOLOGY	CNL	COUNSELING	4		GR		Lecture
Fall 2005	CNL761	761	PSYCHOMETRICS	CNL	COUNSELING	4	Surveys psychological tests and measurements with emphasis on attitude, interest, and personality tests. Understanding of basic principles and their applications to counseling are stressed.	GR		Lecture

Fall 2005	CNL762	762	CAREER DEVEL & INF SERV	CNL	COUNSELING	4	Presents career development as a series of vocational/avocational choices in the process of self-realization and considers the effect of rapid social and technological change on this process.	GR		Lecture
Fall 2005	CNL763	763	THEORIES OF COUNSELING	CNL	COUNSELING	4	Investigation of the theoretical models that are basic to counseling function and practice as applied to the therapeutic situation.	GR		Lecture
Fall 2005	CNL765	765	PUPIL PERS SERV SCH&COMM	CNL	COUNSELING	4	Presents theoretical aspects concerning the organization and administration of guidance services; practical application of principles to schools and other organizations. Surveys social agencies, both public and private, that counselors should be familiar with. An analysis of the referral process and the methods of interagency cooperation.	GR		Lecture

Fall 2005	CNL766	766	OCCUPAT & ED INFO	CNL	COUNSELING	3	Considers the development of an educational/occupational library for students; the classification of the world of work and its implications for vocational counselors; the evaluation of vocational and scholarship materials; and the use of occupational data in career counseling.	GR		Lecture
Fall 2005	CNL767	767	GROUP PROC COUNSEL&GUID	CNL	COUNSELING	4	Serves as an introduction to group counseling practice. Considers interaction patterns and dynamics within small groups, and focuses on understanding of individual and group behavior as they relate to the individuals taking the course. Evaluation and research of group processes are also considered. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	CNL768	768	COMMUN RES COUNSEL&GUID	CNL	COUNSELING	3	Surveys social agencies, both public and private, that counselors should be familiar with. An analysis of the referral process and the methods of interagency cooperation and actual on-the-site visitation. Voids in services and areas of unmet human needs are outlined, and the methods of social action essential to changing old agencies are developed.	GR		Lecture
Fall 2005	CNL769	769	TECH OF CHILD COUNSELING	CNL	COUNSELING	4	Stresses the theories and techniques of counseling children. Discusses the differences between counseling with adults and counseling with children. Specific aspects considered are role and function of a child counselor, group and individual counseling with children, vocational information for children, scholastic and personality testing of children, and treatment methodology (including play therapy, family counseling, and teacher collaboration).	GR		Lecture

Fall 2005	CNL770	770	INDEP STUDY MINOR PROB	CNL	COUNSELING	1	Planned reading and/or project under the guidance of a counselor education program faculty member. May be taken for a letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CNL773	773	MENTAL HEALTH II	CNL	COUNSELING	4	Acquaints students with preventive mental health, advocacy roles, legal and ethical issues, and interdisciplinary approaches to community mental health.	GR		Lecture
Fall 2005	CNL778	778	TECHNIQUES PLAY THERAPY	CNL	COUNSELING	4	Investigation of the techniques of play therapy for children ages 3 to 12. An advanced seminar for students interested in individual and group play and its therapeutic implications for schools and agencies.	GR		Lecture
Fall 2005	CNL778	778	TECHNIQ-PLAY THERAPY LAB	CNL	COUNSELING	0	Investigation of the techniques of play therapy for children ages 3 to 12. An advanced seminar for students interested in individual and group play and its therapeutic implications for schools and agencies.	GR	L	Lab
Fall 2005	CNL779	779	MARRIAGE&FAMILY COUNSEL	CNL	COUNSELING	4	Considers principles and techniques of marriage and family counseling from a variety of theoretical orientations. Laboratory and/or field experience may be required.	GR		Lecture

Fall 2005	CNL779	779	MARRIAGE&FAMILY CNSL LAB	CNL	COUNSELING	0	Considers principles and techniques of marriage and family counseling from a variety of theoretical orientations. Laboratory and/or field experience may be required.	GR	L	Lab
Fall 2005	CNL780	780	SYS THEORY & FAMILY CNL	CNL	COUNSELING	4	Introduces family systems counseling. Covers three interacting components: systems theory, Buckley's sociocultural analysis of systems theory, and the application of a systems analysis to the major views of family counseling.	GR		Lecture
Fall 2005	CNL781	781	ADV TECHN OF FAMILY CNL	CNL	COUNSELING	4	Advanced technique and intervention course that focuses on family systems interventions. Emphasis on applications of family counseling, providing in-depth treatment of the major approaches to family counseling.	GR		Lecture
Fall 2005	CNL782	782	TECHNIQUES MARITAL CNL	CNL	COUNSELING	4	In-depth overview of marital counseling. Focuses on techniques and interventions that emphasize the application of the major schools of marital counseling. Course is experientially and performance focused; student participation is encouraged and expected in a variety of role-playing situations.	GR		Lecture
Fall 2005	CNL829	829	INTERNSHIP IN SCHOOL PSY	CNL	COUNSELING	0		GR	I	Independent Study

Fall 2005	CNL854	854	INTELLECTUAL ASSESSMENT	CNL	COUNSELING	4	Introduction to theoretical aspects of individual intelligence testing. Supervised clinical practice in the administration of the Stanford-Binet-R and the Wechsler intelligence scales. For school psychology majors only.	GR		Lecture
Fall 2005	CNL855	855	ASSESSMT OF EXCEPT CHILD	CNL	COUNSELING	4	Supervised clinical practice in the administration of standardized and criterion-referenced tests used in the assessment of various exceptional populations, birth to adulthood. For school psychology majors only.	GR		Lecture
Fall 2005	CNL856	856	INDIVIDUAL ASSESSMENT	CNL	COUNSELING	4	Introduction to the characteristics of children with behavior and personality disorders. Supervised clinical practice in the application of behavioral management techniques and selected projective tests. For school psychology majors only.	GR		Lecture
Fall 2005	CNL857	857	PRACTICUM IN SCH PSY	CNL	COUNSELING	4	Application of assessment, consultation, and team planning skills in a school setting under the supervision of a certified school psychologist.	GR		Lecture

Fall 2005	CNL860	860	ADV SEMINAR IN COUNSELING	CNL	COUNSELING	1	Provides an opportunity for students to further develop skills in counseling, appraisal, research, or other related areas under faculty direction.	GR		Lecture
Fall 2005	CNL861	861	INDIVIDUAL INTELL TEST I	CNL	COUNSELING	3	Focuses upon theories and techniques of individual intellectual appraisal. The student learns to administer, score, and interpret the Stanford-Binet Intelligence Scale. Form L-M for individuals of varying age levels.	GR		Lecture
Fall 2005	CNL862	862	INDIVIDUAL INTELL TEST II	CNL	COUNSELING	3	Focuses upon the Wechsler Intelligence Scale for Children and the Wechsler Adult Intelligence Scale. The student studies the background and learns to administer, score, and interpret the Wechsler tests for individuals of varying ages.	GR		Lecture
Fall 2005	CNL863	863	TECHNIQUES OF COUNSELING	CNL	COUNSELING	4	Laboratory practice in individual counseling techniques; focuses on the development of basic skills and procedures.	GR	L	Lab
Fall 2005	CNL864	864	PRACTICUM I: INDIVIDUAL	CNL	COUNSELING	1	Provides an experience in counseling and guidance in which students, under supervision, actually counsel individuals in educational, vocational, and personal areas. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	CNL865	865	INDIVID & GRP PRACTICUM	CNL	COUNSELING	4	Provides an experience in counseling and guidance in which students, under supervision, actually counsel individuals in educational, vocational, and personal areas. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CNL866	866	ADV INDIV/GROUP PRACTICUM	CNL	COUNSELING	4	Provides an experience in counseling and guidance in which students, under supervision, actually counsel individuals and groups in educational, vocational, and personal areas. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	CNL867	867	INTERNSHIP:	CNL	COUNSELING	1	This field-based experience provides human services master's degree students with advanced clinical practice and supervision in their major specialty areas. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	CNL868	868	ROLE & FUNCTION SCH PSY	CNL	COUNSELING	1	Overview of the school psychologist's role and function. Considers the history and ethical and legal issues of the profession. Emphasizes the consultation, teaming, assessment, in-service, and counseling aspects of the role. Course is taken concurrently with the assessment sequence and internship in the school psychology program.	GR		Lecture
Fall 2005	CNL869	869	STU AFFRS ADM HIGHER ED	CNL	COUNSELING	4		GR		Lecture
Fall 2005	CNL870	870	PRAC STU PERS SER HI ED	CNL	COUNSELING	4	Provides opportunity to work in an area of student personnel services under supervision. Includes weekly seminar. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CNL871	871	INTERN STU PERS SER H ED	CNL	COUNSELING	1		GR	I	Independent Study
Fall 2005	CNL880	880	PROC CONSLT STU AFF HE	CNL	COUNSELING	4		GR		Lecture
Fall 2005	CNL950	950	PERS THEORY & PSYCHPATHY	CNL	COUNSELING	4	Focuses on the development of personality throughout the life span and associated difficulties that can occur for individuals. Additional emphasis will be given to adaptation and the coping process.	GR		Lecture

Fall 2005	CNL951	951	CLIN ASSESS IN CNL PRAC	CNL	COUNSELING	4	Supervised clinical practice in the administration of mental health assessment instruments. Emphasizes advanced methods of administering and interpreting standardized tests. Includes use of assessment procedures in diagnosis and treatment planning.	GR		Lecture
Fall 2005	CNL952	952	DIAGNOSIS & CLIN CNL PRAC	CNL	COUNSELING	4	Clinical course designed to introduce students to comprehensive diagnostic evaluation. Students gain familiarity with the Current Diagnostic and Statistical Manual and International Classification of Disease via lecture as well as case formulations.	GR		Lecture
Fall 2005	CNL953	953	CASE FORM & CLIN INTERVEN	CNL	COUNSELING	4	Focuses on treatment planning for clients. A variety of different treatment approaches will be discussed for DSM III-R disorders, syndromes, and other client problems.	GR		Lecture
Fall 2005	CNL954	954	INTERN: ADV CLINICAL CNL	CNL	COUNSELING	1	This field-based experience provides practicing master's level counselors with the opportunity for supervised advanced clinical counseling practice.	GR	I	Independent Study

Fall 2005	CNL960	960	ADV INSTIT HUMAN SER PERS	CNL	COUNSELING	1	Individual and group study of current problems and issues for counselors. Also provides a focus on the development of new skills related to counseling interventions. Topics might include professional ethics and responsibilities, crisis intervention and human sexuality. Topics vary.	GR		Lecture
Fall 2005	CNL961	961	COUNSELING THE GIFTED	CNL	COUNSELING	3	Overviews the special social/emotional needs of gifted children and youth. Focuses on techniques to help gifted children experience their emotions, and to develop awareness and understanding of themselves.	GR		Lecture
Fall 2005	CNL971	971	COUNSEL FOR LIFE DEVELOP	CNL	COUNSELING	4	Developmental factors influencing the behavior of individuals across the life-span and the unique counseling strategies that are employed with clients in the human services at different points on the life-span continuum.	GR		Lecture
Fall 2005	CNL972	972	LEGAL PROF ETHIC ISSUES H	CNL	COUNSELING	4	Surveys the various legal, professional, and ethical concerns most often encountered by human service providers.	GR		Lecture

Fall 2005	CNL973	973	SOC CULTURAL FOUND COUNSE	CNL	COUNSELING	4	Focuses on studies of change, ethnic groups, subcultures, changing roles of women, sexism, urban and rural populations, and differing life patterns. Involves experiential and didactic material and looks at individual attitudes and beliefs.	GR		Lecture
Fall 2005	COM611	611	PERFORMANC E FOR MEDIA	COM	COMMUNICATION	4	Development of skills necessary for effective television and radio presentations. Study of criteria for selecting appropriate talent, and frequent practice in a wide range of media settings.	GR		Lecture
Fall 2005	COM621	621	LANGUAGE DEVELOPMEN T	COM	COMMUNICATION	4	The development of speech and language in the preschool years.	GR		Lecture
Fall 2005	COM629	629	URBAN COMM THEORY	COM	COMMUNICATION	4	Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communication system developed by interdisciplinary systems approach.	GR		Lecture

Fall 2005	COM632	632	GENDER & COMMUNICATION	COM	COMMUNICATION	4	Theoretical and pragmatic consideration of how and why men's and women's communication behaviors are similar to one another in some instances, yet different in others, and how men and women can communicate more effectively.	GR		Lecture
Fall 2005	COM639	639	FREEDOM OF SPEECH	COM	COMMUNICATION	4	Study of the growth and development of free speech in the United States. Emphasis on the development of definitions of free speech and various communication strategies in different settings.	GR		Lecture
Fall 2005	COM641	641	ADV INTERPERSONAL COMM	COM	COMMUNICATION	4	In-depth view of interpersonal communication skills: presenting, receiving, and challenging. A group context is used to promote self-directed changes in interpersonal style.	GR		Lecture
Fall 2005	COM643	643	INTERVIEWING	COM	COMMUNICATION	4	Through a matrix organizational structure, students experience theory in selection, survey, journalistic, performance appraisal, persuasion, and counseling interviewing situations.	GR		Lecture

Fall 2005	COM645	645	CONFERENCE LEADERSHIP	COM	COMMUNICATION	4	Simulation that focuses on the creation, development, and execution of a professional conference through assessment of participants' needs. Experiences include completing group tasks through assigned roles developed from current leadership theories.	GR		Lecture
Fall 2005	COM647	647	ORGANIZATIO N COMMUNICA	COM	COMMUNICATION	4	Application of organizational communication theories and major theoretical perspectives to problems in public and private-sector organizations. Includes a simulation which focuses on conflict management, leadership, and decision making in a business context.	GR		Lecture
Fall 2005	COM648	648	CASE STUDIES IN ORG COM	COM	COMMUNICATION	4	A critical analysis of communication issues and problems in organizations through an examination of various cases.	GR		Lecture
Fall 2005	COM649	649	SURVEY OF COM RESEARCH	COM	COMMUNICATION	4	Provides a basic knowledge of the behavioral approach and of the current theories and experiments being conducted in communication research.	GR		Lecture

Fall 2005	COM651	651	COMM CONSULTING & TRAIN	COM	COMMUNICATION	4	By means of a matrix structure, consulting and training theories are experienced in communication programs and processes as a methodology for human resource development.	GR		Lecture
Fall 2005	COM653	653	COMMUNICATION & CONFLICT	COM	COMMUNICATION	4	In-depth study of the function of communication in conflict/crisis situations. Emphasis on the role that communication performs in conflict resolution in intrapersonal, interpersonal, group, and international situations.	GR		Lecture
Fall 2005	COM654	654	FEATURE STORY WRITING	COM	COMMUNICATION	4	(Also listed as ENG 654.) Includes finding, writing, polishing, and marketing feature material.	GR		Lecture
Fall 2005	COM655	655	NONVERBAL COMMUNICATION	COM	COMMUNICATION	4	Theory, survey of research, and experimental learning in nonverbal communication. Exploration of types and forms and of methods of sending and receiving nonverbal communication.	GR		Lecture
Fall 2005	COM657	657	INTERCULTURAL COMMUNICAT	COM	COMMUNICATION	4	Study of communication in intercultural environments. Emphasis on research and theory to better understand the complexity of intercultural communication interactions.	GR		Lecture

Fall 2005	COM658	658	EDITING FOR THE MEDIA	COM	COMMUNICATION	4	(Also listed as ENG 658.) Editing of copy for mass media with emphasis on newspaper format, headline writing, rewriting, and general copy desk.	GR		Lecture
Fall 2005	COM662	662	MASS MEDIA LAW & REGULATI	COM	COMMUNICATION	4	Includes the study of laws and regulations affecting mass media.	GR		Lecture
Fall 2005	COM664	664	BROADCAST CRITICISM	COM	COMMUNICATION	4	Analysis of contemporary programming and production practices including the development of critical standards for evaluation.	GR		Lecture
Fall 2005	COM671	671	TOPICS IN COMMUNICATION	COM	COMMUNICATION	4	Examination of special topics in the various areas of speech communication. Titles vary.	GR		Lecture
Fall 2005	COM689	689	COM WITH THE ELDERLY	COM	COMMUNICATION	4	Analysis of the unique communication behaviors of the elderly and the physical, social, and emotional changes that cause these behaviors. Development of interpersonal, interviewing, and reporting skills by direct interaction with this age group. 3 hours lecture, 1 hour off-campus interviewing.	GR		Lecture

Fall 2005	COM741	741	PRINS & APPLI COM THEORY	COM	COMMUNICATION	4	Examines communication theory relevant to the role of the communication specialist. Special consideration given to the changing pattern of communication roles and the application of communication theory to the problems of the utilization specialist. Also focuses on the possible consequences of the diffusion of communication innovations within the business, educational, and governmental institutions of American society.	GR		Lecture
Fall 2005	COM781	781	INDEPENDENT RESEARCH	COM	COMMUNICATION	1	Supervised independent research on a specific subject.	GR	I	Independent Study
Fall 2005	COM789	789	CONTINUING REGISTRATION	COM	COMMUNICATION	1		GR	I	Independent Study
Fall 2005	CS 516	516	NUM METH DIGITAL COMPUTER	CS	COMPUTER SCIENCE	4	(Also listed as MTH 516, 517.) Introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CS 516	516	NUM METH DIGIT COMPUT LAB	CS	COMPUTER SCIENCE	0	Introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 517	517	NUM METH DIGITAL COMPUTER	CS	COMPUTER SCIENCE	4	(Also listed as MTH 516, 517.) Introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 517	517	NUM METH DIGIT COMPUT LAB	CS	COMPUTER SCIENCE	0	Introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CS 600	600	DATA STRUC & SOFTWARE DES	CS	COMPUTER SCIENCE	4	Study of the implementation of data structures and control structures in professional computer programs. Introduction to the fundamentals of complexity and analysis. Study of common standard problems and solutions (e.g., transitive closure and critical paths). Emphasis is on high-level language software design. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 600	600	DATA STRUCTURES LAB	CS	COMPUTER SCIENCE	0	Study of the implementation of data structures and control structures in professional computer programs. Introduction to the fundamentals of complexity and analysis. Study of common standard problems and solutions (e.g., transitive closure and critical paths). Emphasis is on high-level language software design. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CS 605	605	INTRO TO DATA MGT SYSTEMS	CS	COMPUTER SCIENCE	4	Survey of logical and physical aspects of database management systems, including entity-relationship and relational data models; physical implementation methods; query languages; SQL, relational algebra, relational calculus, and QBE: experience in creating and manipulating databases.	GR		Lecture
Fall 2005	CS 605	605	CASE STUDIES INFO SYS LAB	CS	COMPUTER SCIENCE	0	Survey of logical and physical aspects of database management systems, including entity-relationship and relational data models; physical implementation methods; query languages; SQL, relational algebra, relational calculus, and QBE: experience in creating and manipulating databases.	GR	L	Lab
Fall 2005	CS 607	607	OPTIMIZATION TECHNIQUES	CS	COMPUTER SCIENCE	3	(Also listed as MTH 607.) Concepts of minima and maxima; linear programming; simplex method; densitivity, and duality; transportation and assignment problems, dynamic programming.	GR		Lecture

Fall 2005	CS 609	609	PRINCIPLES OF AI	CS	COMPUTER SCIENCE	4	Problem-solving methods in artificial intelligence (AI) with emphasis on heuristic approaches. Topics include knowledge representation, search, intelligent agents, planning, learning, natural language processing, logic, inference, robotics, and case-based reasoning. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 610	610	THEORY OF COMPUTING	CS	COMPUTER SCIENCE	4	(Also listed as MTH 610.) Turing machines; m-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 610	610	THEORY OF COMPUTING LAB	CS	COMPUTER SCIENCE	0	Turing machines; m-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 619	619	CRYPTOG & DATA SECURITY	CS	COMPUTER SCIENCE	3	(Also listed as MTH 619.) Introduction to the mathematical principles of data security. Various developments in cryptography are discussed, including public-key encryption, digital signatures, the data encryption standard (DES), key safeguarding schemes.	GR		Lecture

Fall 2005	CS 658	658	APPLIED GRAPH THEORY	CS	COMPUTER SCIENCE	3	(Also listed as MTH 658.) Introduction to methods, results, and algorithms from graph theory. Emphasis on graphs as mathematical models applicable to organizational and industrial situations.	GR		Lecture
Fall 2005	CS 659	659	COMBINATORIAL TOOLS	CS	COMPUTER SCIENCE	3	(Also listed as MTH 659.) Introduction to some of the mathematical tools needed for understanding computer programming. Topics include summations, elementary number theory, combinatorial identities, generating functions, and asymptotics.	GR		Lecture
Fall 2005	CS 666	666	INTRO FORMAL LANGUAGES	CS	COMPUTER SCIENCE	4	Introduction to the theory of formal languages and automata. Emphasis is on those classes of languages commonly encountered by computer scientists, such as regular and context-free languages. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 666	666	INTRO FORMAL LANG LAB	CS	COMPUTER SCIENCE	0	Introduction to the theory of formal languages and automata. Emphasis is on those classes of languages commonly encountered by computer scientists, such as regular and context-free languages. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CS 670	670	SYSTEMS SIMULATION	CS	COMPUTER SCIENCE	4	Introduction to simulation and comparison with other techniques; discrete simulation models; introduction to queuing theory and stochastic processes; comparison of simulation languages; simulation methodology; selected applications of simulation. Students must show ability to solve problems using simulation techniques. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 670	670	SYSTEMS SIMULATION LAB	CS	COMPUTER SCIENCE	0	Introduction to simulation and comparison with other techniques; discrete simulation models; introduction to queuing theory and stochastic processes; comparison of simulation languages; simulation methodology; selected applications of simulation. Students must show ability to solve problems using simulation techniques. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CS 680	680	COMPARATIVE LANGUAGES	CS	COMPUTER SCIENCE	4	Basic concepts and special purpose facilities in programming languages, examined through several representative languages. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 680	680	COMPARATIVE LANGUAGES LAB	CS	COMPUTER SCIENCE	0	Basic concepts and special purpose facilities in programming languages, examined through several representative languages. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 682	682	SCAN, PARS, SEMNTIC ANALY	CS	COMPUTER SCIENCE	4	Study and use of tools for performing lexical, syntactic, and semantic analysis of computer-oriented languages.	GR		Lecture
Fall 2005	CS 699	699	SELECTED TOPICS	CS	COMPUTER SCIENCE	1	Study of selected topics in computer science. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CS 700	700	PRIN INSTR COMPUTER SCI	CS	COMPUTER SCIENCE	3	A survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction. For graduate teaching assistants in the Department of Computer Science only.	GR	I	Independent Study

Fall 2005	CS 701	701	DATABASE SYS & DESIGN	CS	COMPUTER SCIENCE	4	Introduction to basic goals and techniques in the design and implementation of information retrieval systems. Input, file organization, search strategies, output, language design, and evaluation techniques are covered. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 701	701	DATABASE SYS & DESGN LAB	CS	COMPUTER SCIENCE	0	Introduction to basic goals and techniques in the design and implementation of information retrieval systems. Input, file organization, search strategies, output, language design, and evaluation techniques are covered. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 711	711	KNOWLEDGE-BASED SYSTEMS	CS	COMPUTER SCIENCE	4	Continuation of CS 609. Topics covered include techniques for handling judgmental knowledge, semantic networks, and frame-based systems. Useful constructs and architectures for AI systems are discussed. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CS 711	711	ARTIFICIAL INTELLI II LAB	CS	COMPUTER SCIENCE	0	Continuation of CS 609. Topics covered include techniques for handling judgmental knowledge, semantic networks, and frame-based systems. Useful constructs and architectures for AI systems are discussed. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 712	712	ADV TOPICS IN AI	CS	COMPUTER SCIENCE	4	Covers advanced topics in artificial intelligence theory and applications. These are taken from such areas as natural language processing, machine learning, advanced AI programming techniques, and search and planning.	GR		Lecture
Fall 2005	CS 712	712	ARTIFICIAL INTEL III LAB	CS	COMPUTER SCIENCE	0	Covers advanced topics in artificial intelligence theory and applications. These are taken from such areas as natural language processing, machine learning, advanced AI programming techniques, and search and planning.	GR	L	Lab
Fall 2005	CS 714	714	MACHINE LEARNING I	CS	COMPUTER SCIENCE	4	Reviews the development of machine learning paradigms. Introductory topics include parameter adjustment methods, signature tables, and the application of genetic algorithms to artificial intelligence problem domains.	GR		Lecture

Fall 2005	CS 716	716	NUMERICAL ANALYSIS I	CS	COMPUTER SCIENCE	4	(Also listed as MTH 716.) Topics chosen with emphasis on computational linear algebra. Systems of linear equations and Gaussian elimination; computation of eigenvalues and eigenvectors; matrix exponential; norm and condition number; and iterative methods.	GR		Lecture
Fall 2005	CS 717	717	NUMERICAL ANALYSIS II	CS	COMPUTER SCIENCE	4	(Also listed as MTH 717.) Finite difference methods for partial differential equations; analysis of stability and convergence.	GR		Lecture
Fall 2005	CS 718	718	NUMERICAL ANALYSIS III	CS	COMPUTER SCIENCE	4	(Also listed as MTH 718.) Finite element methods for elliptic boundary value problems; analysis of errors; approximation by finite element spaces; effects of curved boundaries, numerical integration; finite element methods for parabolic problems.	GR		Lecture
Fall 2005	CS 730	730	SYS PROGRAMMING I LAB	CS	COMPUTER SCIENCE	0	A study of multiprocess computer systems. Issues such as inter-process communication, synchronization, resource management, and reliability are studied. Emphasis on current literature on models of distributed computation. 3 hours lecture, 2hours lab.	GR	L	Lab

Fall 2005	CS 731	731	SYS PROGRAMMING II LAB	CS	COMPUTER SCIENCE	0	A continuation of CS 730. Current research in distributed computing. Implementations of distributed operating systems are studied through readings and course projects. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 735	735	EVAL & PRED SYS PERFORM	CS	COMPUTER SCIENCE	4	Introduction to the modeling and analysis of computer system performance as a function of the hardware and software components of the system. 3 hours lecture, 2 hours lab. Completion of a statistics course required.	GR		Lecture
Fall 2005	CS 735	735	EVAL & PREDICT SYS LAB	CS	COMPUTER SCIENCE	0	Introduction to the modeling and analysis of computer system performance as a function of the hardware and software components of the system. 3 hours lecture, 2 hours lab. Completion of a statistics course required.	GR	L	Lab
Fall 2005	CS 740	740	THEORY OF ALGORITHMS LAB	CS	COMPUTER SCIENCE	0	Time complexity analysis of algorithms; computational complexity; NP completeness. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 740	740	COMP COMPLEX & ALGORITHM	CS	COMPUTER SCIENCE	4	Time complexity analysis of algorithms; computational complexity; NP completeness. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	CS 765	765	FOUNDATIONS OF NEUROCOMP	CS	COMPUTER SCIENCE	4	Information processing in neural networks as a mode of computation complementary to symbolic artificial intelligence, emphasizing common ideas across different network architectures. Current applications in machine learning and spatiotemporal pattern recognition will be evaluated.	GR		Lecture
Fall 2005	CS 766	766	EVOLUTIONARY COMPUTING	CS	COMPUTER SCIENCE	4	Explores evolutionary computation from a historical, theoretical, and an application viewpoint. Evolutionary search techniques including genetic algorithms, evolutionary programming, and genetic programming applied to problems in control, optimization, and classification are presented.	GR		Lecture
Fall 2005	CS 767	767	FUZZY SET THEORY	CS	COMPUTER SCIENCE	4	Provides an introduction to fuzzy set theory that serves as a basis for the study of fuzzy rule-based systems, pattern classification, function approximation, modeling, and information processing.	GR		Lecture

Fall 2005	CS 771	771	NATURAL LANG TECHNIQUES	CS	COMPUTER SCIENCE	4	Survey of issues that arise in computer understanding of natural languages like English. Topics include significance of language structure in extracting meaning, ambiguities, parsing techniques and case studies.	GR		Lecture
Fall 2005	CS 772	772	ADV NATURAL LANG CONCPTS	CS	COMPUTER SCIENCE	4	Continuation of CS 771. Computational methods for dealing with natural language semantics are introduced. Topics include semantic networks, conceptual dependency graphs, and formal logic as a semantic model.	GR		Lecture
Fall 2005	CS 774	774	LOGIC PROGRAMMIN G	CS	COMPUTER SCIENCE	4	Theory and practice of logic programming. Application of Prolog to artificial intelligence, language analysis, and symbolic programming. Some attention to implementation issues, constraint logic programming, and concurrent logic languages. An acquaintance with Prolog is assumed.	GR		Lecture
Fall 2005	CS 776	776	FUNCTIONAL PROGRAMMIN G	CS	COMPUTER SCIENCE	4	In-depth look at functional programming techniques, and functional languages and their implementation.	GR		Lecture

Fall 2005	CS 780	780	COMP DESIGN & CONST LAB	CS	COMPUTER SCIENCE	0	Complete compiler for a small programming language is discussed. Topics covered are scanning, syntax analysis, and code generation. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 780	780	COMPILER DESIGN & CONST	CS	COMPUTER SCIENCE	4	Complete compiler for a small programming language is discussed. Topics covered are scanning, syntax analysis, and code generation. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 781	781	COMPILER DESIGN&CONST II	CS	COMPUTER SCIENCE	4	Continuation of CS 780. Topics are covered in more depth. Project is required. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 781	781	COMP DESIGN&CONST II LAB	CS	COMPUTER SCIENCE	0	Continuation of CS 780. Topics are covered in more depth. Project is required. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 782	782	COMPILER DESIGN&CONST III	CS	COMPUTER SCIENCE	4	Continuation of CS 781. Concentration on major design project. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 782	782	COMP DESIGN&CONST III LAB	CS	COMPUTER SCIENCE	0	Continuation of CS 781. Concentration on major design project. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	CS 784	784	PROGRAMMING LANGUAGES	CS	COMPUTER SCIENCE	4	Programming paradigms and concepts for high level programming languages. Techniques for formal specification.	GR		Lecture
Fall 2005	CS 789	789	CONTINUING REGISTRATION	CS	COMPUTER SCIENCE	1		GR	I	Independent Study
Fall 2005	CS 790	790	SELECT TOPICS COMP SCI:	CS	COMPUTER SCIENCE	4	Lectures on and study of selected topics in current research and recent developments in computer science. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 790	790	SELECT TOP COMP SCI LAB	CS	COMPUTER SCIENCE	0	Lectures on and study of selected topics in current research and recent developments in computer science. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	CS 795	795	INDEPENDENT STUDY	CS	COMPUTER SCIENCE	1	Special problems in advanced computer science topics. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CS 799	799	THESIS	CS	COMPUTER SCIENCE	1	Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CS 801	801	ADV TOPIC IN DATABASE SYS	CS	COMPUTER SCIENCE	4	Continuation of CS 701 with emphasis on relational databases and distributed systems. Current literature will be reviewed. At least one programming project bridging the gap from theory to practice.	GR		Lecture

Fall 2005	CS 840	840	ADV TOPIC-THEORY OF COMPU	CS	COMPUTER SCIENCE	4	Continuation of CS 610, 666, and 740. Covers advanced topics taken from formal language theory, predicate calculus, algorithm analysis, and complexity theory. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	CS 865	865	ADV TOPICS IN SOFT COMP	CS	COMPUTER SCIENCE	4	Covers advanced topics in soft computing. Soft computing paradigms include fuzzy set theory, neural networks, evolutionary computing, and probabilistic and statistical techniques. Particularly, relationships and interactions between these disciplines will be explored.	GR		Lecture
Fall 2005	CS 884	884	ADV TOPICS IN PROG LANGU	CS	COMPUTER SCIENCE	4	Continuation of CS 784. Emphasis on formal methods for specifying and defining both the syntax and the semantics of programming languages.	GR		Lecture
Fall 2005	CS 890	890	SELECTED TOPICS	CS	COMPUTER SCIENCE	1	Selected topics in computer science and engineering.	GR	I	Independent Study
Fall 2005	CS 891	891	PHD SEMINAR	CS	COMPUTER SCIENCE	1	Registration in the Ph.D. seminar is required of all students seeking the Ph.D. in computer science and engineering. Graded pass/unsatisfactory.	GR	S	Seminar

Fall 2005	CS 892	892	PHD QUALIFYING EXAM	CS	COMPUTER SCIENCE	1	Examination that tests understanding of the fundamentals necessary to begin concentrated study in chosen Ph.D. research area. Composed of written tests and an oral exam. Must be passed within two attempts. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CS 894	894	CANDIDACY EXAM	CS	COMPUTER SCIENCE	1	Examination that tests for depth of understanding in a chosen computer science and computer engineering research area. Includes a written proposal for a Ph.D. topic and an oral examination, that is open to the public. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CS 895	895	INDEPENDENT STUDY	CS	COMPUTER SCIENCE	1	Independent study in a chosen area for Ph.D. research. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CS 896	896	DISSERTATION DEFENSE	CS	COMPUTER SCIENCE	1	Examination on the Ph.D. dissertation. The written dissertation is submitted and must be successfully defended in the oral exam conducted by the dissertation committee. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	CS 897	897	RESIDENCY RESEARCH	CS	COMPUTER SCIENCE	1	Research on the Ph.D. dissertation topic taken in residence. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	CS 898	898	DISSERTATION RESEARCH	CS	COMPUTER SCIENCE	1	Research on the Ph.D. dissertation topic not taken in residence. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	DAG500	500	INTRO NUMERCI MTHDS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG501	501	APPLIED NUMERICAL METHODS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG502	502	OPTCAL RADIATION & MATTER	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG503	503	CONTEMP DIGITAL SYSTEMS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG504	504	INTRO CONTINUUM MECHANICS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG505	505	MGT OF ENGR SYSTEMS I	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG506	506	SOLID STATE DEVICES	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG507	507	ELECTROMAGNETIC FIELDS I	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG508	508	PRIN-MATERIALS SELECTION	DAG	DAGSI	4.5		GR		Lecture

Fall 2005	DAG509	509	ANALYSIS OF LINEAR SYSTMS	DAG	DAGSI	3		GR		Lecture
Fall 2005	DAG510	510	TECHNOLOGICAL FORECASTING	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG511	511	MTHDS/APPLIED MTHMATICS I	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG513	513	PROPULSION	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG518	518	THE SPACE ENVIRONMENT	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG519	519	OPERATIONS RESEARCH II	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG520	520	POWDER METALLURGY	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG521	521	OPERATIONS RESEARCH I	DAG	DAGSI	1		GR		Lecture
Fall 2005	DAG522	522	HUMAN INFO PROCESSING	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG523	523	OPTIMIZATION I	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG524	524	COMPUTER NETWORK	DAG	DAGSI	1		GR		Lecture
Fall 2005	DAG527	527	INTRO TO PROBABILITY	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG529	529	DYNA & CNTRL OF FLT VHL	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG530	530	PERCEPTION	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG531	531	HUMAN FACTORS-SYS DEVELOP	DAG	DAGSI	4.5		GR		Lecture

Fall 2005	DAG533	533	COMPUTER DESIGN	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG534	534	GLOBAL POSITIONING SYSTEM	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG535	535	PARTIAL DIFF EQUATION	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG536	536	HIGH TEMP MATL	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG538	538	INTRO-AEROELASTICITY	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG539	539	THEORY OF PLASTICITY	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG540	540	ROBOTIC FUNDAMENTALS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG541	541	PRODUCTION ENGINEERING	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG542	542	ADVANCED COMPOSITES	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG543	543	LINEAR MODELS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG544	544	DATA SECURITY	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG545	545	DB METH & PDGMS/MDL& SIM	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG546	546	FINITE ELEMENT ANALY I	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG547	547	STAT FOR EXPRINMTRS	DAG	DAGSI	4.5		GR		Lecture

Fall 2005	DAG548	548	THEORY - ELASTIC STABLTY	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG549	549	EXP MECH - COMP MATLS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG550	550	FINITE ELEMENT ANALY II	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG552	552	ELEC MACH & CONTROL	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG555	555	SYSTEM DYNAMICS I	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG556	556	NUMERICAL ANALYSIS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG560	560	COMPUTER GRAPHICS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG561	561	DIGITAL SIGNAL PROC I	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG562	562	QUALITY ASSURANCE	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG563	563	IMAGE PROCESSING	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG565	565	LINEAR ALGEBRA	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG568	568	INTERNAL COMBUST ENGINES	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG569	569	HEATING AND AIR CONDITION	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG571	571	SATELLITE COMM	DAG	DAGSI	4		GR		Lecture

Fall 2005	DAG572	572	COMPUTER NETWORKING	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG574	574	INTRO TO AI	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG575	575	FATG & FRAC-MTLS & ALLOY	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG576	576	FRACTURE&FATIGUE II	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG577	577	INTRO-EXPERT SYSTEMS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG578	578	LIGHT STRUCTURAL METALS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG580	580	INTRO TO SGNAL PROCESSING	DAG	DAGSI	1		GR		Lecture
Fall 2005	DAG582	582	INTERACTIVE COMP GRAPHICS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG583	583	FOURIER ANALYSIS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG584	584	INTEGRATED MANFACT SYSTMS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG585	585	INTRO TO ALGORITHUMS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG586	586	PROBLTY THRY/COMM CONTROL	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG588	588	MECH MFG PROCESS	DAG	DAGSI	4.5		GR		Lecture

Fall 2005	DAG589	589	NOISE & VIBRATION CNTRL	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG590	590	SELECTED READING	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG591	591	PROBABILITY & STATISTICS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG592	592	OO ANALYSIS & DESIGN	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG593	593	PROGRAMMIN G STRUCTURES	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG595	595	SPECIAL PROBLEMS	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG596	596	INTEGRATED CIRCUIT TECH	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG599	599	THEORY OF PROBABILITY	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG600	600	ELASITICITY	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG601	601	COMPLEX ANALYSIS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG602	602	MODERN APPLIED MATH I	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG604	604	MODERN APPLIED MATH II	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG607	607	CALCULUS OF VARIATIONS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG611	611	INTRO PARTIAL DIFF EQUA	DAG	DAGSI	4		GR		Lecture

Fall 2005	DAG617	617	MTH MOD/CENTRAL NERV SYS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG619	619	ADV TOP/MTH MOD CNT NV SY	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG620	620	PATTERN RECOGNITION I	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG621	621	THEORY/APP OF PATTERN REC	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG622	622	INTRODTRY HYPERSONICS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG625	625	ANTENNAS I	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG631	631	ADVANCED ANTENNAS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG633	633	GLOBAL POSITION SYSTEM II	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG636	636	MICROSENSORS & ACTUATORS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG637	637	MICROELECTROMECH DEVICES	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG642	642	OPTIMIZATION CONTROL	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG645	645	DECISION ANALYSIS	DAG	DAGSI	3		GR		Lecture

Fall 2005	DAG646	646	DB DESIGN AND IMPLEMENTAT	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG653	653	VSLI	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG654	654	COMPUTER COMMUN NETWORK	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG656	656	PARALLEL PROCESSING	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG657	657	SCIENTIFIC VISUALIZATIO N	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG661	661	STATIST SIGNAL PROCESSING	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG662	662	INTRO MECH/COMPO SITE STRU	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG663	663	STAT PATTERN RECOGNITION	DAG	DAGSI	4.5		GR		Lecture
Fall 2005	DAG669	669	DIGITAL COMMUNICAT ION I	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG670	670	DIGITAL COMMUNICAT ION II	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG675	675	SEMICONDUCT OR DEVICE TECH	DAG	DAGSI	4		GR		Lecture

Fall 2005	DAG680	680	MULTI DIM SIG & IMAG PROC	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG681	681	DIGITAL IMAGE PROCESSING	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG685	685	GROUND WATER CHEMISTRY	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG687	687	MTH/RELIABILI TY THEORY I	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG689	689	DISTRIBUTED SOFTWARE SYST	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG692	692	DESIGN PRIN OF COMP ARCH	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG694	694	DESIGN OF EXPERIMENTS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG695	695	ADV SOFTWARE ENGINEERING	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG698	698	IND STUDY-SYSTEM DYNAMICS	DAG	DAGSI	2		GR		Lecture
Fall 2005	DAG699	699	SYN APERTURE RADAR THEORY	DAG	DAGSI	2		GR		Lecture
Fall 2005	DAG700	700	SEM IN REMTE SENS-COM SYS	DAG	DAGSI	1		GR		Lecture
Fall 2005	DAG717	717	ELECTRONIC DEVICE TECH	DAG	DAGSI	4		GR		Lecture

Fall 2005	DAG721	721	INELASTICITY	DAG	DAGSI	3		GR		Lecture
Fall 2005	DAG723	723	ADVANCED ROBOTICS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG725	725	MAN-IN-THE-LOOP CONTROL	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG726	726	TELE-ROBOTICS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG751	751	FIN DIF METH FLUID MECH	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG753	753	ADV COMPUTAT AERODYNAMICS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG754	754	ADV TOPICS COMP NETWORKS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG765	765	STOCHASTIC EST&CNTRL I	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG766	766	STOCHASTIC EST&CONTROL II	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG768	768	STOCHASTIC EST&CONTRL III	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG783	783	ADV TOPICS/COMP GRAPHICS	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG790	790	PARALLEL PROCESSING II	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG886	886	EVOLUTIONARY ALGORITHMS	DAG	DAGSI	4		GR		Lecture

Fall 2005	DAG896	896	DYNAMICS OF MUSCLE ACTION	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG897	897	DYNAMICS OF MUSCLE ACTION	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG898	898	SPECIAL STUDY/EE	DAG	DAGSI	4		GR		Lecture
Fall 2005	DAG899	899	SPECIAL TOPICS/CSCE	DAG	DAGSI	4		GR		Lecture
Fall 2005	DMV500	500	DMV REGISTRATION	DMV	DMV CONSORTIUM	1		GR		Lecture
Fall 2005	DMV620	620	PATTERN RECOGNITION I	DMV	DMV CONSORTIUM	4		GR		Lecture
Fall 2005	DMV625	625	ENVIRONMENTAL MICROBIO	DMV	DMV CONSORTIUM	3		GR		Lecture
Fall 2005	DMV699	699	MOD CARBONATE ENVIR	DMV	DMV CONSORTIUM	1		GR		Lecture
Fall 2005	EC 521	521	GRAD SURV PRIN OF ECON	EC	ECONOMICS	3	Economics of the individual firm in competitive and monopolistic markets. How prices ration goods and services and the principles on which the total product is divided among the owners of the factors of production.	GR		Lecture

Fall 2005	EC 522	522	GRAD SURV PRIN OF ECON	EC	ECONOMICS	3	The aggregate economy and how it influences business decisions. The forces that determine the behavior of national income and output, unemployment and the price level. Money, monetary and fiscal policy and growth.	GR		Lecture
Fall 2005	EC 523	523	SURVEY OF MICROECON	EC	ECONOMICS	2		GR		Lecture
Fall 2005	EC 524	524	SURVEY OF MACROECON	EC	ECONOMICS	2		GR		Lecture
Fall 2005	EC 602	602	MONETARY ECONOMICS	EC	ECONOMICS	3	Analysis of monetary policy development and the theory of money market behavior. Emphasizes the relationship between money and national economic conditions.	GR		Lecture
Fall 2005	EC 610	610	INTRO TO MATH ECONOMICS	EC	ECONOMICS	3	Application of mathematical tools in the formulation of economic theory. Methods used in model construction.	GR		Lecture
Fall 2005	EC 625	625	DEVELMNT OF EC THOUGHT	EC	ECONOMICS	3		GR		Lecture
Fall 2005	EC 631	631	FED FIN AND THE ECONOMY	EC	ECONOMICS	3		GR		Lecture
Fall 2005	EC 632	632	STATE & LOCAL FIN & ECON	EC	ECONOMICS	3		GR		Lecture

Fall 2005	EC 635	635	COMPARATIVE ECON SYSTEMS	EC	ECONOMICS	3	Compares economic institutions of industrialized countries including the newly industrialized countries (NIC's). Addresses such issues as industrial relations, roles of state, methods of corporate finance, and social safety nets.	GR		Lecture
Fall 2005	EC 641	641	INTL TRADE & THE ECONOMY	EC	ECONOMICS	3		GR		Lecture
Fall 2005	EC 642	642	INTL MONETARY THEORY&PROB	EC	ECONOMICS	3		GR		Lecture
Fall 2005	EC 644	644	EC DEVEL & WORLD POVERTY	EC	ECONOMICS	3	This course explores the problems of economic development in the third world and in economies in transition from socialism. Topics include hunger, unemployment, environmental degradation, privatization, gender, and ethnicity.	GR		Lecture
Fall 2005	EC 645	645	POLITICAL ECON OF WOMEN	EC	ECONOMICS	3	Examines the combined historical and cultural effects of race, class, ethnicity, gender ideology, technology, education, unionism, wartime mobilization, legislation, etc. on women's evolving economic status and gender roles from colonial times to the present.	GR		Lecture

Fall 2005	EC 709	709	APPLIED ECONOMETRICS	EC	ECONOMICS	3	Application of economic theory, mathematical modeling, and statistics to the measurement and forecasting of economic relationships. Emphasis is on specification, estimation, and hypothesis testing.	GR		Lecture
Fall 2005	EC 712	712	FORECAST ECON ACTIVITIES	EC	ECONOMICS	3	Techniques and theories used in forecasting. Practical methods and problems are stressed.	GR		Lecture
Fall 2005	EC 715	715	APPLIED MICROECONOMICS	EC	ECONOMICS	3	Emphasis on advanced microeconomics applications in consumption/work decisions of households, production/pricing strategies of firms, and public policy toward businesses. Special attention paid to the roles of labor unions/not-for-profit firms.	GR		Lecture
Fall 2005	EC 717	717	APPLIED MACROECONOMICS	EC	ECONOMICS	3	Emphasis is on modern views on fiscal and monetary policy in an open economy. Interrelationships between interest rates, unemployment, economic growth, inflation, and balance of payments are highlighted.	GR		Lecture
Fall 2005	EC 721	721	CONTEMP POLITICAL ECON	EC	ECONOMICS	3		GR		Lecture

Fall 2005	EC 722	722	ECONOMICS FOR MANAGERS	EC	ECONOMICS	3	Applies economic theory and methods to business and administrative decision making. Prescribes rules for improving managerial decisions. Tells managers how things should be done to achieve organizational objectives efficiently. Also helps managers recognize how macroeconomic forces affect organizations, and describes the economic consequences of managerial behavior. Special attention is paid to the operation of the firm in a global economy.	GR		Lecture
Fall 2005	EC 723	723	INTERN'L BUS & GLOB EC	EC	ECONOMICS	3		GR		Lecture
Fall 2005	EC 725	725	ECON & SOCIAL SYSTEMS	EC	ECONOMICS	3	Economies as subsystems of social systems and ecosystems. Karl Polanyi's and Douglass North's analyses of institutions and feedbacks between economy and culture. Human ecology and ecological economics perspectives on feedbacks between economy and ecology.	GR		Lecture

Fall 2005	EC 730	730	REGIONAL & URBAN ECON	EC	ECONOMICS	3	Analysis of the basic forces that shape the economic, social, and physical environments of urban and nonurban regions. Emphasis on regional income determination and developmental models, location of economic activity, the structure of urban centers, intra-urban economic relationships, and economic policy.	GR		Lecture
Fall 2005	EC 740	740	COST-BENEFIT ANALYSIS	EC	ECONOMICS	3	Measurement of benefits and costs of both public and private projects with significant public implications. Includes conceptual issues and focuses on practical application, including specific cost-benefit studies.	GR		Lecture
Fall 2005	EC 755	755	EC OF HEALTH & HEALTH POL	EC	ECONOMICS	3	Teaches students how alternative incentive systems and resource allocations affect the health services sector. Emphasis on current institutional arrangements, empirical studies, and policy alternatives.	GR		Lecture
Fall 2005	EC 765	765	LABOR MKT THEORY & POLICY	EC	ECONOMICS	3	Blends theoretical analyses of the forces affecting labor market processes with empirical investigation of labor market conditions and analyses of existing and proposed labor market programs and policies.	GR		Lecture

Fall 2005	EC 777	777	ECONOMIC STUDIES	EC	ECONOMICS	3	An examination of special issues.	GR		Lecture
Fall 2005	EC 780	780	EC PROBLEMS SEMINAR	EC	ECONOMICS	3	Titles vary. Six hours of seminar must be selected from the following topics: economics of the workforce; regional and urban problems; environmental issues; technological change; economic development; economics of poverty; and income maintenance. Completion of introductory statistics course or equivalent 600-level survey course required.	GR		Lecture
Fall 2005	EC 781	781	RESEARCH IN ECONOMICS	EC	ECONOMICS	2	Titles vary. Intensive reading or research in selected fields of advanced economics.	GR	I	Independent Study
Fall 2005	EC 782	782	RESEARCH IN ECONOMICS	EC	ECONOMICS	2	Intensive reading or research in selected fields of economics.	GR	I	Independent Study
Fall 2005	EC 783	783	RESEARCH IN ECONOMICS	EC	ECONOMICS	2	Intensive reading or research in selected fields of economics.	GR	I	Independent Study
Fall 2005	EC 785	785	INTERNSHIP	EC	ECONOMICS	6	Titles vary. One-quarter internship working in a selected private, social, or governmental organization under the direction of a faculty advisor and work supervisor. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	EC 789	789	CONTINUING REGISTRATION	EC	ECONOMICS	1		GR	I	Independent Study

Fall 2005	ECO500	500	CONSUMER ECO:K-12 TEACHER	ECO	CENTER FOR ECONOMIC EDUC.	3	An examination of consumers as they participate in the economy. Emphasis on those householder roles (consumer/producer/citizen) that are teachable in the K-12 classroom. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO511	511	PRIN OF ECON FOR TCHRS I	ECO	CENTER FOR ECONOMIC EDUC.	3	Basic microeconomic principles for K-12 teachers. Participants study the tools of analysis and operations of the parts of the economy. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO512	512	PRIN OF ECON FOR TCHRS II	ECO	CENTER FOR ECONOMIC EDUC.	3	Survey of basic macroeconomic principles for K-12 teachers. Participants study the tools of analysis and operations of the whole economy. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO513	513	PRIN OF ECON FOR TCHRS II	ECO	CENTER FOR ECONOMIC EDUC.	3	Survey of advanced micro and macroeconomic principles for K-12 teachers. Participants will study the tools of analysis and operations of the parts and the whole of the economy.	GR		Lecture

Fall 2005	ECO514	514	ECONOMICS IN ACTION	ECO	CENTER FOR ECONOMIC EDUC.	1	Selected economic issues and topics for teachers, presented in dialogue with visiting resource persons. Titles vary. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO515	515	TEACH MATERIALS & METHODS	ECO	CENTER FOR ECONOMIC EDUC.	3	Economic education materials and methods for the K-12 classroom. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO516	516	ECON STUDIES FOR TEACHERS	ECO	CENTER FOR ECONOMIC EDUC.	1	Selected economic issues and topics and techniques for teaching them in the K-12 classroom. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO517	517	ECO APPLICA INTERNET I	ECO	CENTER FOR ECONOMIC EDUC.	2	Course teaches basic economic skills and application of these skills to K-12 teachers. Work is assigned via the Internet. Covers standards one through nine of the voluntary national content standards in economics. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	ECO518	518	ECO APPLICA INTERNET II	ECO	CENTER FOR ECONOMIC EDUC.	2	Course teaches basic economic skills and application of these skills to K-12 teachers. Work is assigned via the Internet. Covers standards ten through twenty of the voluntary national content standards in economics. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO523	523	FAMILY FINANCIAL SECURITY	ECO	CENTER FOR ECONOMIC EDUC.	3	Financial planning and the family, with emphasis on aspects teachable in the K-12 classroom. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ECO728	728	CURR & MAT IN ECON ED	ECO	CENTER FOR ECONOMIC EDUC.	3	Analysis of teaching materials available in economics education, with emphasis on curriculum and teaching unit development.	GR		Lecture
Fall 2005	ED 600	600	CLASSROOM MANAGEMEN T:	ED	EDUCATION	3	An application of a variety of discipline models for use in diverse settings and discussion of recent research, practice, and innovation in the field of classroom management, addressing adolescence concerns.	GR		Lecture

Fall 2005	ED 602	602	ED IN A PLURAL SOC:	ED	EDUCATION	4	Introduces students to foundational analysis of the relationship between public education in a democracy and the critical social issues and forces impacting renewal efforts. Course focuses upon curricula, materials, strategies, and techniques for instructing learners with cultural, social, economic and intellectual differences. Topics include cultural pluralism, culture, ethnicity, race, sexism, WASP ethic, U.S. Mosaic.	GR		Lecture
Fall 2005	ED 603	603	CHILD DEVELOPMENT	ED	EDUCATION	3	Factors that influence growth and development.	GR		Lecture
Fall 2005	ED 604	604	ADOLESCENT DEVELOPMENT	ED	EDUCATION	3	An examination of the period in the sequence of human development known as adolescence, with particular attention to psychological, social, and physical development.	GR		Lecture
Fall 2005	ED 605	605	CURRENT TENDENCIES IN ED	ED	EDUCATION	1	Current trends and theories in education, and the development of criteria and procedures for their evaluation and implementation.	GR		Lecture

Fall 2005	ED 606	606	READING AND LITERACY I	ED	EDUCATION	4.5	Assessment of current literacy levels, instructional procedures, and an overview of instructional materials. Students are expected to carry out assessment and instructional procedures within their internship classrooms and to be associate instructors to the teachers in the areas of oral language, children's literature, reading, and writing.	GR		Lecture
Fall 2005	ED 607	607	READING AND LITERACY II	ED	EDUCATION	4.5	Course extends student knowledge of literacy instruction and addresses more advanced levels of literacy including textbook study and research. Students are expected to carry out instructional procedures within their internship classrooms and to be associate instructors to the teachers in the areas of oral language, children's literature, reading, and writing.	GR		Lecture
Fall 2005	ED 608	608	SOC STUDIES EDUCATION	ED	EDUCATION	3	Objectives, principles, and trends in elementary social studies education. Students are familiarized with a variety of technological resources including the WWW, web pages, e-mail, laser disks, and several social studies computer applications.	GR		Lecture

Fall 2005	ED 610	610	MC MATH: PHIL & CURR	ED	EDUCATION	3	A study of curriculum, materials, and methodology for teaching mathematics in the middle school, grades 4 through 9.	GR		Lecture
Fall 2005	ED 611	611	EARLY/MIDDLE SCHOOL MATH	ED	EDUCATION	4	The purpose of this course is to broaden the perspectives related to issues of mathematics education of elementary and middle school teachers. Problem solving, use of manipulatives, and classroom technologies will be studied.	GR		Lecture
Fall 2005	ED 612	612	PRACTICUM I:	ED	EDUCATION	1	The first PEP field practicum provides an opportunity to work in a K-12 school and human service agency in order to initiate the task of applying theory to practice. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	ED 614	614	PRACTICUM II:	ED	EDUCATION	1	The second PEP field practicum provides involvement in a K-12 school and/or a human service agency setting as a laboratory. Introduction to family collaboration occurs. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	ED 615	615	IMPROV ELEM READ INSTR	ED	EDUCATION	3	Curriculum, methods, materials, and evaluation in reading designed to improve the teacher's instructional skills.	GR		Lecture

Fall 2005	ED 616	616	PRACTICUM III	ED	EDUCATION	1	The third field practicum provided in the PEP promotes understanding of the total ecology of schooling collaboration with families. A human service agency setting is highlighted. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	ED 617	617	EL SCH SOC STUDY CUR&MAT	ED	EDUCATION	3	Objectives, principles, and trends in elementary social studies education.	GR		Lecture
Fall 2005	ED 618	618	PROB SOLVING IN SCH MATH	ED	EDUCATION	3	Prepares teachers of mathematics in grades K-8 to teach problem solving as a basic mathematical skill. Emphasis on the teaching/learning of a variety of problem solving heuristics, applying problem solving strategies, and the use of both routine and nonroutine in school mathematics.	GR		Lecture
Fall 2005	ED 620	620	STUDIES IN ENGLISH EDUC	ED	EDUCATION	2	(Also listed as ENG 685.) Focuses on theoretical issues and practical problems of teaching English at all levels, including the teaching of writing and the teaching of English to speakers of other languages (TESOL). May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	ED 621	621	HUMAN DEVELOP & LEARNING	ED	EDUCATION	4	Apply basic research techniques and method to the study of human development, learning growth, and achievement. Engage in observational analysis of children in the classroom setting, putting theory into practice.	GR		Lecture
Fall 2005	ED 622	622	TECH INSTR/INTEGRATED:	ED	EDUCATION	3	Involves students in a spectrum of instructional technologies, techniques, and approaches appropriate for today's complex classroom. Students will utilize and integrate curriculum content with multi-media applications.	GR		Lecture
Fall 2005	ED 623	623	ADOLESCENCE ENGLISH:	ED	EDUCATION	5	Provides developing professional educators with an introduction to the teaching/learning of middle childhood/adolescence language arts.	GR		Lecture
Fall 2005	ED 624	624	MC LIT., SPEECH & DRAMA	ED	EDUCATION	3	Emphasize the integration of speech, drama, and age-appropriate children's literature to plan activities in the language arts.	GR		Lecture
Fall 2005	ED 625	625	MOD FOREIGN LANG CUR&MAT	ED	EDUCATION	3	Presents foreign language curriculum with emphasis on standards. Focus on Pre K-5 first and second language acquisition. Emphasis on technology and assessment.	GR		Lecture

Fall 2005	ED 627	627	EUR LANG:CHLD LIT,MUS,ART	ED	EDUCATION	3	Integration of children's literature, music, and art with emphasis on selection and use of books and related activities in grades K-12. Emphasis will be on technology and assessment. Note: Literature may be read in translation with the instructor approval.	GR		Lecture
Fall 2005	ED 629	629	MIDDLE SCHOOL SOC STUDIES	ED	EDUCATION	3	Course focuses on principles, trends, resources, technology, critical thinking skills, historiography, and social science research for middle school social studies. This course will also focus on teaching in the multicultural classroom.	GR		Lecture
Fall 2005	ED 631	631	LIT SKILL THRU ADOLESCEN	ED	EDUCATION	3	Course provides the content area for secondary teachers with reading and writing strategies to help solve the problems encountered in grades 7-12. Reading comprehension is a key element in solving the many problems of classrooms that stress content. Writing skills and strategies are taught to help students communicate more effectively in all content areas.	GR		Lecture

Fall 2005	ED 632	632	IMPROV READ SEC SCHOOLS	ED	EDUCATION	3	Surveys the teaching of reading in American secondary schools including the skills necessary to teach reading in the content subjects. Not open to reading majors.	GR		Lecture
Fall 2005	ED 635	635	SEC ISSUES & LEADERSHIP	ED	EDUCATION	3	An examination of major trends and issues facing those who work with adolescents in the education system. Such elements as school organization, curriculum, assessment, funding, and instruction are included.	GR		Lecture
Fall 2005	ED 636	636	MID CHILD LEVEL SCI MTHDS	ED	EDUCATION	3	Curriculum and materials for teaching middle level science with emphasis on using an integrated constructivist approach to science teaching. Includes development of appropriate objectives, planning, resources and facilities, evaluation, and curricular trends in science education. Field/clinical experiences required.	GR		Lecture
Fall 2005	ED 637	637	ELEM SCH MTH CUR & MAT	ED	EDUCATION	3	Curriculum, methods and materials in the mathematics of grades 7 through 12, part I.	GR		Lecture
Fall 2005	ED 638	638	ADOLESCENCE MATH	ED	EDUCATION	3	Curriculum, methods and materials in the mathematics of grades 7 through 12, Part II.	GR		Lecture

Fall 2005	ED 639	639	ADOLESCENCE SOC STUDIES	ED	EDUCATION	5	Provides developing professional educators instruction in objectives, principles, and trends in middle childhood/adolescence social studies.	GR		Lecture
Fall 2005	ED 641	641	INTERNSP/SEM:MIDDLE CHILD	ED	EDUCATION	6	Interns are assigned to a middle childhood public school full-time for lead teaching under the direct supervision of an experienced classroom teacher. Includes weekly seminar.	GR	I	Independent Study
Fall 2005	ED 645	645	INQUIRY AND ASSESSMENT	ED	EDUCATION	3	This course provides developing professional educators an overview of authentic assessment of the student and by the student. Students will complete a professional electronic portfolio. The portfolio will be aligned with the PRAXIS domains.	GR		Lecture
Fall 2005	ED 646	646	INQUIRY AND PROSPECTUS	ED	EDUCATION	3	Each student will complete data analysis and write a formal 5-chapter report of a completed action research project.	GR		Lecture
Fall 2005	ED 647	647	TCHG IN THE PUBLIC SCHOOL	ED	EDUCATION	4	Study, observation, and evaluation of practices. Offered only to students who have completed the pertinent curriculum and materials course and are seeking a waiver of all or part of student teaching on the basis of full-time teaching experience.	GR		Lecture

Fall 2005	ED 648	648	IMPROVE SOC STUDIES INSTR	ED	EDUCATION	3	In-depth analysis of new social studies resource materials and curriculum modes with emphasis on improving instruction. Completion of a social studies methods course required.	GR		Lecture
Fall 2005	ED 650	650	COMPUTER SCIENCE: C&M	ED	EDUCATION	3	Prepares teachers to teach computer science in a precollege setting. Curriculum, teaching methodology, and the computing teacher's role in computer science, grades K-12.	GR		Lecture
Fall 2005	ED 651	651	INTERNSHIP/SEMINAR:ADOLES	ED	EDUCATION	6	Interns are assigned to a secondary public school full-time for solo teaching under the direct supervision of an experienced classroom teacher. Includes weekly seminar. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	ED 658	658	PRACTICUM IN EDUCATION	ED	EDUCATION	1	Supervised teaching experience for students who have completed student teaching or its equivalent and are seeking certification in another field. Titles vary.	GR	I	Independent Study
Fall 2005	ED 660	660	PRACTICUM IN ENGLISH ED	ED	EDUCATION	1	Students are assigned to an instructional class that focuses on the teaching of English to speakers of other languages (TESOL) for supervised practicum experience. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	ED 661	661	INTERN/SEM: MULTI-AGE	ED	EDUCATION	6	Students are assigned to a public school full-time for solo teaching under the direct supervision of an experienced classroom teacher. Various placements will be provided in this multi-age practicum. Includes weekly seminar. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	ED 662	662	PSY FOUND/MANAGEMENT	ED	EDUCATION	1	Psychological theories, principles, and processes that affect teaching and learning. Focuses on learning theory, teaching behavior, student needs, and the skills necessary to maintain an optimum learning environment.	GR		Lecture
Fall 2005	ED 663	663	TEACH SKILLS & STRATEGIES	ED	EDUCATION	3	Explores the use of basic skills in planning, motivation, and questioning, as well as the use of audiovisual equipment and production, alternative instructional strategies, and management techniques that help facilitate instruction.	GR		Lecture
Fall 2005	ED 664	664	EVALUATION	ED	EDUCATION	3	Evaluation of learning, including selected forms of measurement and interpretation of data: sociometric techniques, anecdotal records, and testing.	GR		Lecture

Fall 2005	ED 665	665	SUPERVISED TEACHING ELEM	ED	EDUCATION	6	Students are assigned to a public school full time for teaching under the direct supervision of an experienced classroom teacher. Includes weekly seminar. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	ED 666	666	INTRO TO SCHOOLING	ED	EDUCATION	3	The organization and function of schools, legal and financial aspects of schooling, and the rights and responsibilities of those involved in the educational process.	GR		Lecture
Fall 2005	ED 667	667	SUPERVISED TEACHING SEC	ED	EDUCATION	6	Students are assigned to a public school full time for teaching under the direct supervision of an experienced classroom teacher. Includes weekly seminar. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	ED 670	670	CURRIC & INSTRUCT WRKSHP	ED	EDUCATION	1	Intensive study of a selected area of the school curriculum designed to meet the particular needs of the participating preservice and in-service teachers, administrators, and curriculum supervisors. Titles vary.	GR		Lecture

Fall 2005	ED 700	700	GRAD ASSISTANT SEMINAR	ED	EDUCATION	3	Orientation of graduate assistants to the organization and responsibility of the College of Education and Human Services. Selected topics related to specific programs, services, and procedures in the college are considered. For first-year graduate assistants only.	GR	I	Independent Study
Fall 2005	ED 701	701	ADVANCED EDUC PSYCHOLOGY	ED	EDUCATION	3	Selected theories of learning and the relationship between the theories and instructional practice. Completion of graduate core courses required.	GR		Lecture
Fall 2005	ED 702	702	SOCIAL FOUNDATIONS OF ED	ED	EDUCATION	3	Relationship between public education in a democracy and the critical social issues and social forces.	GR		Lecture
Fall 2005	ED 703	703	PHILOSOPHY OF EDUCATION	ED	EDUCATION	3	In-depth analysis of the major philosophy of education and emphasis on its implications to the teaching/learning process and the development of a personal philosophy of education.	GR		Lecture
Fall 2005	ED 704	704	INQRY INTO FNDTNS OF ED	ED	EDUCATION	4	The past and present social, philosophical, and psychological trends and issues in education in a democratic society.	GR		Lecture

Fall 2005	ED 705	705	AFFECTIVE ED PRIN & APP	ED	EDUCATION	3	Designed to enable teachers to analyze affective aspects of classroom instruction and interaction, and to facilitate utilization of affective strategies within the classroom setting.	GR		Lecture
Fall 2005	ED 706	706	SOC FOUND WORKSHOP IN ED	ED	EDUCATION	1	This course, through a workshop format, will enable the educator to receive immediate information and techniques to aid students in relation to specific social, legal, and philosophical aspects which directly effect the total educational offering.	GR	I	Independent Study
Fall 2005	ED 707	707	HISTORY OF EDUCATION	ED	EDUCATION	3	Origin and development of educational institutions in the Unites States. Emphasis on development of early childhood, elementary, secondary, and higher education.	GR		Lecture
Fall 2005	ED 708	708	COMPARATIVE EDUCATION	ED	EDUCATION	3	Analysis of educational systems as related to the values and cultures of selected countries.	GR		Lecture
Fall 2005	ED 709	709	DIAG/ASSEMNT READ PERFORM	ED	EDUCATION	4	This course will prepare teachers to recognize variations of reading and writing performance in a classroom and clinical setting. Teachers will learn a range of assessment instruments with which to assess their students.	GR		Lecture

Fall 2005	ED 710	710	TCH STRAT CULT DIVRS SET	ED	EDUCATION	4	Focuses on curricula, materials, strategies, and techniques for instructing learners with cultural, social, economic, and intellectual differences.	GR		Lecture
Fall 2005	ED 711	711	FOUNDATN INTERNAT'L ED	ED	EDUCATION	3	Factors influencing educational systems and practices throughout the world.	GR		Lecture
Fall 2005	ED 712	712	IMPR SCI INSTRUCT ELEM SC	ED	EDUCATION	3	Consideration of selected scientific principles that have application in the elementary school. Inquiry through a laboratory approach is emphasized.	GR		Lecture
Fall 2005	ED 716	716	FOUNDTN OF READING INSTR	ED	EDUCATION	3	Development of effective reading instruction based on children's language acquisition and development.	GR		Lecture
Fall 2005	ED 717	717	WORD STUDY: PHONICS	ED	EDUCATION	5	In-depth analysis of how people learn printed words related to instructional procedures in schools. Students will apply knowledge in a tutoring situation.	GR		Lecture
Fall 2005	ED 718	718	CURR&INSTR IN EL SCH MATH	ED	EDUCATION	3	Analysis of the current curriculum, techniques of instructional improvement, and classroom management strategies.	GR		Lecture

Fall 2005	ED 719	719	SUPERV STU TEACHERS	ED	EDUCATION	3	Principles and methods of supervision, including observation, analysis, and guidance. For in-service elementary and secondary teachers who wish to prepare themselves for the responsibilities of cooperating teachers in the university student-teaching program.	GR		Lecture
Fall 2005	ED 721	721	LIT FOR ELEM CHILDREN	ED	EDUCATION	3	Extension and enrichment of knowledge of children's books. Introduction to research and scholarly and critical writing about children's literature in relation to classroom practices. Application of research and criticism ideas; exploration of internationalism in children's literature.	GR		Lecture
Fall 2005	ED 731	731	ADOL/YOUNG ADULT SCIENCE	ED	EDUCATION	5	Methods, curriculum, and materials for teaching middle childhood and adolescent school science: emphasis on philosophy, planning and implementation, evaluation, resources and facilities, and historical and contemporary curricular trends in science education. Field/clinical experiences required.	GR		Lecture

Fall 2005	ED 732	732	PRIN AND PRACT OF MID SCH	ED	EDUCATION	3	The historical and underlying philosophy of the middle school concept based on the nature of the students. Current and future instructional and curricular practices are viewed in relation to this philosophy.	GR		Lecture
Fall 2005	ED 733	733	IMPROVEMEN T OF TEACHING	ED	EDUCATION	3	A course in principles and practices for improving instruction. Emphasis is on alternative instructional techniques, goal oriented teaching, instructional self-analysis and improvement and research findings related to teaching affectiveness.	GR		Lecture
Fall 2005	ED 735	735	OUTDOOR SCIENCE EDUC	ED	EDUCATION	2	Provides teachers and leaders seeking skills in the use of the out-of-doors as a resource for program or curriculum enrichment; laboratory experiences and field work in a variety of biotic communities emphasizing ecological relationships.	GR		Lecture
Fall 2005	ED 736	736	HST OF BOOKS FOR CHILD	ED	EDUCATION	3	International children's literature, primarily from the eighteenth century to the twentieth century.	GR		Lecture

Fall 2005	ED 737	737	SURVEY WORLD LIT CH	ED	EDUCATION	3	Students will apply the knowledge of international literature and the skills of teaching to the curriculum of schools and libraries.	GR		Lecture
Fall 2005	ED 738	738	SUPERV SEC SCH MATH	ED	EDUCATION	3	Analysis of curriculum, materials, techniques of instruction, and classroom management strategies to improve mathematics programs of secondary schools.	GR		Lecture
Fall 2005	ED 739	739	CULTURAL STUDIES CH LIT	ED	EDUCATION	3	Students investigate the literature for children and young people of a particular culture, and study its effect within the broad context of world literature. Titles vary.	GR		Lecture
Fall 2005	ED 745	745	GENRE STUDIES CHILD LIT	ED	EDUCATION	3	Students will do an in-depth study of a single genre of literature for children and young people focusing on literature of international significance.	GR		Lecture
Fall 2005	ED 748	748	TEACHING LIT TO CHILD	ED	EDUCATION	3	Students apply the knowledge of international literature and the skills of teaching to the curricula of schools and libraries.	GR		Lecture
Fall 2005	ED 755	755	RESEARCH PROJECTS	ED	EDUCATION	1	For those students who wish to conduct individual, action-oriented research for the completion of their degree program. The student will work with a committee in the completion of the project.	GR	I	Independent Study

Fall 2005	ED 762	762	FOUND OF TEACHING MODELS	ED	EDUCATION	4	Focuses on five different models of teaching: concept; attainment; synectics; social inquiry; contingency management; and one model in terms of the model outcomes, assessment of students, and teaching/learning activities.	GR		Lecture
Fall 2005	ED 769	769	CONTENT READING INSTR	ED	EDUCATION	3	Identifies differences between fiction and non-fiction reading. Provides a general model for content reading lessons and a wide range of activities for involving students in content learning. Includes attention to vocabulary/concept development and critical reading.	GR		Lecture
Fall 2005	ED 770	770	IND READING & MINOR PROB	ED	EDUCATION	1	Planned reading and/or project under the guidance of a College of Education and Human Services faculty member.	GR	I	Independent Study
Fall 2005	ED 771	771	INQUIRY PROJECT COMPLET	ED	EDUCATION	1	Individual research to satisfy requirements of inquiry project for the Master of Education Degree.	GR		Lecture

Fall 2005	ED 783	783	SCH LAW & FIN FOR ED LEAD	ED	EDUCATION	4	Procedures related to the management of school funds by the principal with special emphasis upon budgeting and accounting procedures. Statutes and judicial decisions related to legal authority of school principals. (This course does not meet state requirements for the superintendent's certificat.)	GR		Lecture
Fall 2005	ED 785	785	INTRO TO COMMUNITY EDUCA	ED	EDUCATION	3	An introduction to the history, implementation, progress, publications, role of personnel and current status of Community Education.	GR		Lecture
Fall 2005	ED 786	786	COMMUNITY SCHOOL	ED	EDUCATION	3	An introduction and exploration of the Community School concept.	GR		Lecture
Fall 2005	ED 787	787	SCHOOL AND COMMUNITY	ED	EDUCATION	3	To develop an understanding of home and community factors and their relationship to the educational process.	GR		Lecture
Fall 2005	ED 789	789	CONTINUING REGISTRATION	ED	EDUCATION	1		GR	I	Independe nt Study
Fall 2005	ED 801	801	CURRENT ISSUES & PROB	ED	EDUCATION	3	Issues and problems in elementary and secondary education with special emphasis on changing needs, instructional patterns, and curricular organization.	GR		Lecture
Fall 2005	ED 810	810	SEMINAR ELEM ED	ED	EDUCATION	3	Special areas or problems in elementary education. Topics vary.	GR		Lecture

Fall 2005	ED 815	815	TEACH CHILDREN TO WRITE	ED	EDUCATION	3	Advanced study in current research theories and process of teaching writing in the elementary schools.	GR		Lecture
Fall 2005	ED 816	816	WHOLE LANG:THRY CLSRM STR	ED	EDUCATION	3	Focuses on theory and experiences of whole language and language in use in classrooms.	GR	I	Independent Study
Fall 2005	ED 817	817	ORGAN & SUPER READ PROG	ED	EDUCATION	3	Principles, methods, and techniques of giving leadership in improving the reading program. Emphasis on problems involved in initiating and sustaining change.	GR		Lecture
Fall 2005	ED 818	818	DIAG-REM IN EL SCH MATH	ED	EDUCATION	3		GR		Lecture
Fall 2005	ED 820	820	SEMINAR IN SECONDARY ED	ED	EDUCATION	3	Individual and group study of problems related to the several teaching areas in secondary school instruction.	GR	I	Independent Study
Fall 2005	ED 831	831	READ INSTR JR HI & MIDDLE	ED	EDUCATION	3	Strategies for assessing students and materials as a basis for planning reading instruction in content areas in the middle schools.	GR		Lecture
Fall 2005	ED 835	835	SUPRVSD FIELD EXPERIENCE	ED	EDUCATION	3	A supervised field experience in which students apply knowledge and skills gained through the program. This course does not meet state requirements for certification in supervision.	GR		Lecture

Fall 2005	ED 835	835	SUPRVSD FIELD EXP LAB	ED	EDUCATION	0	A supervised field experience in which students apply knowledge and skills gained through the program. This course does not meet state requirements for certification in supervision.	GR	L	Lab
Fall 2005	ED 867	867	VISIT TEACHER INTERNSHIP	ED	EDUCATION	1	Supervised field practice for visiting teacher certification as required by the State of Ohio. Repeated two consecutive quarters.	GR	I	Independent Study
Fall 2005	ED 899	899	THESIS	ED	EDUCATION	1	Work with an advisor to complete a thesis.	GR	I	Independent Study
Fall 2005	ED 930	930	ADV SEM FOR CLSRM TEACHRS	ED	EDUCATION	1	A study of the problems related to instruction and to the teacher as a professional. Topics will vary from term to term. May be repeated twice.	GR		Lecture
Fall 2005	ED 960	960	ADV SEMINAR SCHOOL PSY	ED	EDUCATION	3	Intensive study of current issues in school psychology. Repeatable. No more than 12 hrs. can be applied to an advanced degree.	GR		Lecture
Fall 2005	EDE670	670	WORKSHOP EARLY ED	EDE	EDUCATION-EARLY CHILDHOOD	1	(Also listed as EDT 670.) Intensive practical study in a selected area of early education. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	EDE702	702	MANAGE YNG CHLD BEHAVIOR	EDE	EDUCATION-EARLY CHILDHOOD	3	The study of classroom behavior management within the framework of child development, developmentally appropriate practices, and constructivist education including pro-active planning and organization and appropriate expectations for young children.	GR		Lecture
Fall 2005	EDE703	703	SOC DEV & PLAY IN ECE	EDE	EDUCATION-EARLY CHILDHOOD	3	Social and emotional development and play as a purposeful behavior in young children; Curriculum, materials and assistive technology to facilitate communication and social interaction in early childhood settings.	GR		Lecture
Fall 2005	EDE707	707	LANG DEV & COM DISORD:ECE	EDE	EDUCATION-EARLY CHILDHOOD	3	Speech and language development, causes and effects of communication disorder, formal/informal evaluation, intervention strategies for the classroom teacher. Assistive technologies for children with speech and language disabilities.	GR		Lecture
Fall 2005	EDE712	712	ADV ST OF CH DEV:TYP&ATYP	EDE	EDUCATION-EARLY CHILDHOOD	3	Focuses on the development of the child birth to age 8, with emphasis on the genetic and environmental factors which underlie physical, cognitive, linguistic and social/emotional development.	GR		Lecture

Fall 2005	EDE715	715	YNG CHLD WITH SPEC NEEDS	EDE	EDUCATION-EARLY CHILDHOOD	3	Study of the causes and effects of various developmental disabilities, theories, and legalities of early intervention services 0-8, service delivery models, family, and agency involvement.	GR		Lecture
Fall 2005	EDE717	717	MTG IND NEED OF YNG CHILD	EDE	EDUCATION-EARLY CHILDHOOD	3	Covers the practices and procedures in developing activities for young children with developmental disabilities. Included will be modification and adaptations, as applied to development and implementation of the IFSP and IEP.	GR		Lecture
Fall 2005	EDE720	720	ADV CUR PLN I:INT LIT&ART	EDE	EDUCATION-EARLY CHILDHOOD	3	Detailed definition of the concept of developmentally appropriate practice applied to educational settings for children ages three through eight. Focuses on applying the concept of planning for literacy using an integrated curriculum with expressive arts┤visual art, poetry, music, and creative movement. Field experience required.	GR		Lecture

Fall 2005	EDE721	721	AD PRO PLN II:INT MTH&SCI	EDE	EDUCATION-EARLY CHILDHOOD	3	Continued examination of developmentally appropriate curriculum for young children. Integrated planning for cognitive concepts including number, representation, visual/spatial skills, classification, logical thinking, and problem solving. Field experience required.	GR		Lecture
Fall 2005	EDE730	730	DEV APP ASSESSMENT IN ECE	EDE	EDUCATION-EARLY CHILDHOOD	3	The various uses of appropriate assessment and evaluation in infancy through early childhood, including formal and informal, formative and summative, play-based, observation authentic and portfolio.	GR		Lecture
Fall 2005	EDE731	731	RROG ERLY CH:INFANT/TODDL	EDE	EDUCATION-EARLY CHILDHOOD	3	A further investigation of the appropriate environment, enrichment activities, scheduling, evaluation, and interactional strategies in the Early Childhood setting with infants and toddlers (0-5 yrs).	GR		Lecture
Fall 2005	EDE735	735	ANTI-BIAS CURRICUL IN ECE	EDE	EDUCATION-EARLY CHILDHOOD	3	Examination of the sources of individual differences within the early childhood classroom including culture/ethnicity, race, language, learning style, and brain dominance. Field experience required.	GR		Lecture

Fall 2005	EDE744	744	CONDUCTING RESEARCH/ECE	EDE	EDUCATION-EARLY CHILDHOOD	3	Examination of current issues and trends in Early Childhood Education using traditional and contemporary electronic research technology. Develops proficiency needed to support students↕ advocacy for programs that positively affect children.	GR		Lecture
Fall 2005	EDE745	745	COMPARITIVE THEORIES/ECE	EDE	EDUCATION-EARLY CHILDHOOD	3	Study of the history, theory, goals, programs, approaches and related research underlying early childhood education, including early intervention, and early childhood special education as well as other program models and philosophies such as Reggio Emillia, High Scope, Montessori, etc.	GR		Lecture
Fall 2005	EDE750	750	DES & ADM FAM CEN EC PROG	EDE	EDUCATION-EARLY CHILDHOOD	3	Examines roles of the administrator, including hiring, training, evaluation, accreditation regulation, program planning, marketing, and budgeting. Emphasizes sensitivity to the needs of families and communities.	GR		Lecture

Fall 2005	EDE760	760	PRACTICUM ECE/ECE SPEC ED	EDE	EDUCATION-EARLY CHILDHOOD	2	Supervised teaching experience for students who have completed student teaching or its equivalent and are seeking certification in pre-kindergarten or kindergarten. Number of years experience with children ages 3┬8 in educational settings determines credit hours required.	GR	I	Independent Study
Fall 2005	EDE770	770	IND READ & MINOR PROBLEMS	EDE	EDUCATION-EARLY CHILDHOOD	1	Planned reading and/or project under guidance of an EDE faculty member. Titles vary.	GR	I	Independent Study
Fall 2005	EDE800	800	ECE: MASTERS SEMINAR	EDE	EDUCATION-EARLY CHILDHOOD	3	Individual projects in Early Childhood Education required for M.Ed. Planning, professor and peer review, research, completion and presentation of completed chosen research paper or action research project.	GR		Lecture
Fall 2005	EDE809	809	ECE MASTERS SEMINAR	EDE	EDUCATION-EARLY CHILDHOOD	2	Educators will mentor the selection of independent study projects in Early Childhood Special Education required for the master↕s degree and guide students through initial planning, research, completion and presentation of chosen research paper or action research project. Peer and group interaction at all stages of Master project included.	GR	S	Seminar

Fall 2005	EDE810	810	ECE:MASTERS SEMINAR	EDE	EDUCATION-EARLY CHILDHOOD	2	Instructors will Mentor the selection of independent study projects in Early Childhood Special Education required for the master↕s degree, guide students through initial planning, research, completion, and presentation of completed chosen research paper or action research project. Peer review and group interaction at all stages of master↕s project included.	GR	S	Seminar
Fall 2005	EDL660	660	PROG IN RESIDENTAL LIFE	EDL	EDUCATIONAL LEADERSHIP	1	Provides an orientation to the university for new residence services paraprofessionals to prepare them to be effective in their roles. Participants will be exposed to the various student services available on campus as well as aspects of student development, the mission of the university, residence services, and new student orientation. Topics vary. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	EDL661	661	STU DEV RES LIFE PROGRAM	EDL	EDUCATIONAL LEADERSHIP	1	Provides overview of various student development concepts and functions within a campus setting. Topics may include: community development and leadership; multiculturalism; peer counseling; interpersonal communication; conflict mediation and resolution; developmental programming and developmental discipline.	GR		Lecture
Fall 2005	EDL662	662	SPEC TOPICS STU AFFAIRS	EDL	EDUCATIONAL LEADERSHIP	1	Special topics in selected areas in Student Affairs in Higher Education designed to focus on management trends, theoretical frameworks, critical issues, specific professional areas within Student Affairs. Past topics have included Student Housing/Residential life and Management Issues in Student Affairs.	GR		Lecture
Fall 2005	EDL670	670	ED LEADERSHIP WKSHP	EDL	EDUCATIONAL LEADERSHIP	1	Intensive study of a selected area of the school curriculum and educational administration to meet the needs of inservice teachers, administrators, and curriculum supervisors. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	EDL710	710	PROFESS GROWTH & DEVEL	EDL	EDUCATIONAL LEADERSHIP	1	Provides students with a foundation for professional development. Emphasis on examination of belief systems, teaching styles, and teachers as-learners; intra- and interpersonal communication skills needed in leadership roles; and functioning in a multicultural/pluralistic society.	GR		Lecture
Fall 2005	EDL711	711	SCHL LEADERSHIP SEMINAR	EDL	EDUCATIONAL LEADERSHIP	1	The development of leadership skills and abilities and the dynamics of team functioning, including decision-making models and processes, problem-solving techniques, communication skills, conflict management, and self-improvement.	GR		Lecture
Fall 2005	EDL712	712	PHILOS & CURR FOUNDATNS	EDL	EDUCATIONAL LEADERSHIP	4	Overview of past, present, and emerging curriculum trends. Examination of educational and curricular philosophy and how philosophy impacts school programs.	GR		Lecture
Fall 2005	EDL713	713	APP PSYCH LEARNING THERY	EDL	EDUCATIONAL LEADERSHIP	4	Selected theories of learning and their value to instructional practices. Emphasis on the relationships among learning theories, learner characteristics, motivational theories, and instructional practices.	GR		Lecture

Fall 2005	EDL714	714	CONTEXT OF EDUCATION	EDL	EDUCATIONAL LEADERSHIP	1	Emphasizes the evolution of theories and the laws that underlie the free compulsory educational system as well as the organization, control, and support by the public of the educational system. Titles vary.	GR		Lecture
Fall 2005	EDL720	720	ANALYSIS OF TEACHING	EDL	EDUCATIONAL LEADERSHIP	4	Focuses on teaching methods and skills, and on classroom climate, including microteaching, interaction analysis, and collection of feedback from students.	GR		Lecture
Fall 2005	EDL721	721	CURR DESIGN FOR TCHR	EDL	EDUCATIONAL LEADERSHIP	1	Management and leadership skills as related to the development and organization of curriculum and materials; implementation of the learning program with students.	GR		Lecture
Fall 2005	EDL722	722	INSTRUCT MANAGE & EVAL	EDL	EDUCATIONAL LEADERSHIP	4	Study of the management and evaluation of instruction. Emphasizes uses of systematic management and evaluation models by classroom teachers, and the impact of nonclassroom components of school/society on the teacher↕s management and evaluation of instruction.	GR		Lecture
Fall 2005	EDL730	730	RESEARCH ON TEACHING	EDL	EDUCATIONAL LEADERSHIP	4	Research on teaching effectiveness; culminates in the writing of a research proposal to be completed during the second year of the Teacher Leader Program.	GR		Lecture

Fall 2005	EDL731	731	STAT & APPRAISAL IN ED	EDL	EDUCATIONAL LEADERSHIP	4	Introduction to educational statistics and appraisal techniques. Emphasis on how to understand and use research data. Methods for appraising student development and progress. Enrollment limited to participants in the Teacher Leader Program.	GR		Lecture
Fall 2005	EDL732	732	DIRECTED INQUIRY: TCHING	EDL	EDUCATIONAL LEADERSHIP	1	Individual research to satisfy requirements of a research project for Teacher Leader majors. Group and/or individual conferences with the research advisor.	GR	I	Independent Study
Fall 2005	EDL733	733	SEMINAR: PROF DEV TCHR	EDL	EDUCATIONAL LEADERSHIP	1	Issues in research related to classroom teachers. Critical and current issues relevant to the development of classroom teachers as leaders within the context of their roles. May be repeated up to four hours. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	EDL740	740	LEGAL & PROF ISSUES	EDL	EDUCATIONAL LEADERSHIP	1	The legal framework of compulsion in education, the civil liberties of teachers, curriculum content, and academic freedom. Teachers↕ rights, duties, and responsibilities to the education profession.	GR		Lecture

Fall 2005	EDL741	741	INSTRUCTIONAL DESIGN	EDL	EDUCATIONAL LEADERSHIP	1	Management and leadership skills as related to organizational patterns, staffing, utilization of space, time, and facilities at the building level.	GR		Lecture
Fall 2005	EDL751	751	STATISTICS AND RESEARCH	EDL	EDUCATIONAL LEADERSHIP	4	Introduction to descriptive and inferential statistics and their application to assessment procedures.	GR		Lecture
Fall 2005	EDL755	755	RESEARCH PROJECTS	EDL	EDUCATIONAL LEADERSHIP	1	Conference course; individual research to satisfy requirements of research study for the Master of Education degree.	GR	I	Independent Study
Fall 2005	EDL757	757	STUDENT APPRAISAL METH	EDL	EDUCATIONAL LEADERSHIP	1	Intensive study of formative and summative methods used by teachers to assess student performance and modify or differentiate instruction to meet student needs.	GR		Lecture
Fall 2005	EDL760	760	STU AFF HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	4	An overview of the history, philosophy, organization, and structure of student personnel services. Various student affairs functions and professional competencies are presented. Current and future trends and issues in student affairs are considered.	GR		Lecture
Fall 2005	EDL761	761	THEORIES OF STUDENT DEV	EDL	EDUCATIONAL LEADERSHIP	4	Studies theories of student development and their use in research and practice in student affairs, focusing specifically on college students.	GR		Lecture

Fall 2005	EDL762	762	STU PER ADMIN HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	4	Surveys student personnel services in colleges and universities. Consideration is given to the organization, administration, and rationale of these services.	GR		Lecture
Fall 2005	EDL763	763	CAMPUS ECOLOGY	EDL	EDUCATIONAL LEADERSHIP	4	Studies of campus ecology and the changing demographic and developmental issues facing college students. Studies the impact of the college environment on student development and the interaction between students and the environment. A combination of theory and research regarding college students and the environment are studied and applied.	GR		Lecture
Fall 2005	EDL764	764	PROC CONS STU AF HI ED	EDL	EDUCATIONAL LEADERSHIP	4	Studies theories, models, and techniques for evaluation of SAHE programs, and student organizations. Focus on a systematic approach to designing, integrating and appraising the success of SAHE programs.	GR		Lecture
Fall 2005	EDL765	765	PRAC STU AF HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	4	Provides an opportunity to work under supervision in an area of student affairs. This field work experience is accompanied by weekly on-campus seminars.	GR	I	Independe nt Study
Fall 2005	EDL766	766	ADV SEM IN STU AFFAIRS	EDL	EDUCATIONAL LEADERSHIP	4	Graded pass/unsatisfactory.	GR	S	Seminar

Fall 2005	EDL767	767	INTERN STU AF HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	1	This field-based experience provides students with advanced practice and supervision in their major specialty area. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	EDL771	771	ED LEADERSHIP BEHAVIOR	EDL	EDUCATIONAL LEADERSHIP	3	Focuses on the development of a strong base of understanding in organizational structure for skill building in leadership, communication, decision-making, and problem-solving. Educational renewal, political considerations, ethical behavior, professional development, and change processes are also included.	GR		Lecture
Fall 2005	EDL772	772	ED ADMINISTRATIVE BEHAV	EDL	EDUCATIONAL LEADERSHIP	4	Develops an understanding of the principles of educational administrative processes, formal school structures and organization, and an introduction to school administrative task areas. School culture, principles of democratic school administration, ethical behavior, and other educational renewal oriented processes are also studied. The inclusion of a field experience emphasizes the course focus of actively blending theory and practice.	GR		Lecture

Fall 2005	EDL773	773	CURR DEVELOP SCH LDRS	EDL	EDUCATIONAL LEADERSHIP	3	Designed to improve the school leader/administrator↕s ability to manage and lead the development and organization of curriculum and materials. This course presents the concepts and skills of curriculum development and shows how to apply these to actual course planning.	GR		Lecture
Fall 2005	EDL774	774	ANALYSIS OF TEACHING	EDL	EDUCATIONAL LEADERSHIP	1	Provides school leaders/administrators the opportunity for analysis of teaching through an understanding of the PRAXIS III performance model and the exploration of instructional methodologies, critical theory related to teaching, and strategies for continual improvement.	GR		Lecture
Fall 2005	EDL775	775	INSTRUCTIONAL MGT & EVAL	EDL	EDUCATIONAL LEADERSHIP	1	Understanding teaching from research and methodological viewpoints. Emphasis on examining various bases of teaching and improving instruction techniques.	GR		Lecture

Fall 2005	EDL776	776	SUPV OF INSTR & PERSONNEL	EDL	EDUCATIONAL LEADERSHIP	1	Focus is on the supervision of curriculum and instruction. A systems approach to formative and summative assessment of instruction. The evaluation of curriculum and program effectiveness will be emphasized.	GR		Lecture
Fall 2005	EDL777	777	PREPRAC: ROLE & FUNCTION	EDL	EDUCATIONAL LEADERSHIP	1	Focus will be on the roles performed by practicing educational leaders. Students will observe, interact and draw conclusions from field experience. Class sessions will integrate the field experience with knowledges and skills studied in prerequisite courses.	GR	I	Independent Study
Fall 2005	EDL780	780	ETHICS & POLITICS IN EDU	EDL	EDUCATIONAL LEADERSHIP	4	Developing an understanding of potential structures and effective principles of school/community relations. Concepts of power, pressure groups, lobbying, potential networks, and public ethics are examined. Characteristics of effective communication, advisory bodies, and public relations programs are covered.	GR		Lecture
Fall 2005	EDL781	781	SCHL FINANCE & ECON	EDL	EDUCATIONAL LEADERSHIP	1	The financing of public education and the economics of education. Guiding principles for developing financial programs and management procedures are covered.	GR		Lecture

Fall 2005	EDL782	782	SCHOOL LAW	EDL	EDUCATIONAL LEADERSHIP	3	Provides an examination of the legal framework that all school personnel must function in. Emphasis on both legal precedents and statutory provisions.	GR		Lecture
Fall 2005	EDL790	790	PRACTICUM IN INST LDSHP	EDL	EDUCATIONAL LEADERSHIP	1	Provides educational leadership degree candidates an opportunity to apply concepts and skills to educational practice and to evaluate their own leadership effectiveness.	GR	I	Independe nt Study
Fall 2005	EDL791	791	CURR DESIGN & EVALUATION	EDL	EDUCATIONAL LEADERSHIP	1	Provides curriculum and supervision students with knowledge and skills necessary to perform curriculum and instruction design and evaluation functions.	GR		Lecture
Fall 2005	EDL792	792	PROFESS DEVELOP & CHANGE	EDL	EDUCATIONAL LEADERSHIP	1	Focuses on understanding needs and the motivation to change in self and others within the context of the school organization. Contemporary models of professional development and change theory are emphasized.	GR		Lecture
Fall 2005	EDL793	793	COMPUTER APL FOR ED LDRS	EDL	EDUCATIONAL LEADERSHIP	1	Introduction to computers and their applications for educational leaders. Investigation of potential uses of the computer for student learning and school management and administration. Review and evaluation of specific hardware.	GR		Lecture

Fall 2005	EDL796	796	ORGANIZ & ADM PUB SCH	EDL	EDUCATIONAL LEADERSHIP	1	Principles of democratic school administration; management of teaching and nonteaching personnel; role of administration in facilitating teaching and learning; and school/community relations.	GR		Lecture
Fall 2005	EDL851	851	ADV RCH DESIGN ANLY	EDL	EDUCATIONAL LEADERSHIP	3	Individual and group study of ongoing applied educational research.	GR		Lecture
Fall 2005	EDL852	852	STAT ANALYSIS & RES DESIG	EDL	EDUCATIONAL LEADERSHIP	4	Study of computation and interpretation of inferential statistics as they relate to the design of educational research. Critical study of research techniques and reporting methods. Computer applications will be stressed. (Previously listed as EDL 752.)	GR		Lecture
Fall 2005	EDL853	853	ADVANCED ED STATISTICS	EDL	EDUCATIONAL LEADERSHIP	4	Multivariate analysis including analysis of variance-factorial designs, repeated measures, analysis of covariance, multiple analysis of variance, multiple regression, and nonparametric techniques for 1 to k samples. Computer applications will be stressed. (Previously listed as EDL 753.)	GR		Lecture

Fall 2005	EDL858	858	ADVANCED ED MEASUREMENT	EDL	EDUCATIONAL LEADERSHIP	4	Test construction, evaluation, standardization, validation, reliability, item analysis, norm setting, criterion referencing, selection, and interpretation of standardized tests.	GR		Lecture
Fall 2005	EDL871	871	MANAGEMENT OF THE SCHOOL	EDL	EDUCATIONAL LEADERSHIP	4	Focuses on the day-to-day operation of a school building and a school system. State requirements are emphasized in relation to operational procedures in all aspects of managing a school and a school system.	GR		Lecture
Fall 2005	EDL872	872	STAFF PERSONNEL ADMIN	EDL	EDUCATIONAL LEADERSHIP	4	The development of understanding and procedures of administering staff personnel aspects of school operation. Areas of recruitment, selection, induction, appraisal, development, compensation, and motivation are covered. Emphasis is on the entry year performance based assessment and subsequent licensure renewal.	GR		Lecture

Fall 2005	EDL873	873	PUPIL PERS SERVICES ADMIN	EDL	EDUCATIONAL LEADERSHIP	4	The development of understanding and the procedures of administering the pupil personnel service aspects of school operation. Ethical considerations and special education requirements are included in addressing student attendance and accounting, guidance and counseling functions, disciplinary issues, and extracurricular/co-curricular activities.	GR		Lecture
Fall 2005	EDL874	874	SCH BUS MGT & FACIL	EDL	EDUCATIONAL LEADERSHIP	4	Guiding principles for developing adequate financial programs; detailed studies of sources of local, state, and federal revenue; and procedures for management of school funds with reference to budgeting, accounting, and auditing. Operation and management of effective school plant receives equal emphasis.	GR		Lecture
Fall 2005	EDL890	890	INTERNSHIP:SCHOOL ADMIN	EDL	EDUCATIONAL LEADERSHIP	1	Provides an experience in school administration in which students perform administrative tasks under supervision. Field experience is planned jointly by students and practicum supervisors, and includes activities in all administrative task areas.	GR	I	Independent Study

Fall 2005	EDL920	920	HST & PHIL HIGH ED U.S.	EDL	EDUCATIONAL LEADERSHIP	4	Reviews history and development of higher and continuing education in the United States with special attention to forces that have shaped its development. Examines history of critical philosophical debates, and issues about the nature and role of higher education.	GR		Lecture
Fall 2005	EDL921	921	CURRICULUM IN HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	4	Introduction to patterns of curricular organization in the four-year college and university with attention to historical development and current models. Study of the issues governing curriculum planning, including the social, economic, political, historical, and philosophical contexts of which curriculum is formed and developed. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	EDL922	922	LAW OF HIGHER EDUCATION	EDL	EDUCATIONAL LEADERSHIP	4	Examination of statute and case law that governs the operation of institutions of higher education. Issues of employment, evaluation, contracts, copyright, and student and faculty rights will form the basis of the course. Can be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	EDL923	923	INSTRUCTION IN HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	4	Designed to facilitate the application of theory to practice in teaching in colleges and universities. Students will explore diverse pedagogical approaches and develop an understanding of the professional role of the faculty member. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	EDL924	924	ADMIN IN HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	4	Introduction to administrative, organizational, and leadership theory and practice in the two-year and four-year college and university. Participants explore historical, current, and future plans for administration in higher education. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	EDL926	926	THE COMMUNITY COLLEGE	EDL	EDUCATIONAL LEADERSHIP	4	Explores the historical roots of the most exciting, important innovation in American higher education since the Second World War, the community college. How and why did they come into being, how do they really work, and how can we make them more effective?	GR		Lecture

Fall 2005	EDL928	928	INTERNSHIP IN HIGHER ED	EDL	EDUCATIONAL LEADERSHIP	4	Provides opportunity for an in-depth field experience in higher education with administrative professionals. Designed to provide breadth to the students' prior experiences and be consistent with individual career goals.	GR	I	Independent Study
Fall 2005	EDL929	929	INTERCOLLEGATHL HIGH ED	EDL	EDUCATIONAL LEADERSHIP	4	Explores the role and impact of athletic programs at the intercollegiate level. Students study administrative and organizational structure, specialized functions, and professional career opportunities within the field of intercollegiate athletics. Planning, financing, programming, and management are studied, as well as the role of athletics within the educational experience.	GR		Lecture
Fall 2005	EDL933	933	INSTRUCTIONAL LEADERSHIP	EDL	EDUCATIONAL LEADERSHIP	3	Provides the specialist an opportunity to explore the topic of instruction in depth and to apply knowledge and strategies to the process of instructional improvement.	GR		Lecture

Fall 2005	EDL941	941	PLANNING ED FUTURES	EDL	EDUCATIONAL LEADERSHIP	4	Focuses on adaptation to social, political, and educational change in the future of education. Analysis and planning procedures address the probable social, political, economic, ethical, and intellectual factors that may appear on the horizon. Strategic planning, systems theory, change theory and processes are explored in connection to forecasting potential economic, enrollment, and demographic futures.	GR		Lecture
Fall 2005	EDL945	945	ADV CURRICULUM THEORY	EDL	EDUCATIONAL LEADERSHIP	3	This course is designed to provide advanced degree students an opportunity to study curriculum theories from original sources and to relate those theories to philosophical presuppositions and social-cultural foundations. The course will also focus on the critical evaluation of curriculum theories and models.	GR		Lecture

Fall 2005	EDL971	971	SUPT/STAFF/BD RELATSHPS	EDL	EDUCATIONAL LEADERSHIP	4	Emphasizes the strategic roles of the superintendent, staff, school board, unions, and community in light of local, state, and federal regulations and political pressure. Reviews the limits and role responsibilities of school district personnel and constituents from organizational and cultural perspectives. Addresses organizational policy formation, politics, negotiations, mediation, and problem solving.	GR		Lecture
Fall 2005	EDL972	972	IDEAS IN EDUCATION	EDL	EDUCATIONAL LEADERSHIP	3	Draws on original sources and examines the impact of both professional and non-professional educational thinkers on American education. The impact of social trends on education will also be examined.	GR		Lecture
Fall 2005	EDL974	974	SEMINAR IN ED LEADERSHP	EDL	EDUCATIONAL LEADERSHIP	3	Emphasis will be on issues in educational leadership and curriculum leadership. Program development and administrative practice will serve as a basis for emerging study issues.	GR		Lecture

Fall 2005	EDL975	975	DIRECTED STUDY	EDL	EDUCATIONAL LEADERSHIP	1	Designed for students enrolled in the Educational Specialist degree program and/or those students admitted to a cooperative doctoral program. Course requirements are determined by students and their assigned program advisors. Minimum requirements involve an individualized set of objectives, learning strategies, and evaluation design. Titles vary.	GR	I	Independent Study
Fall 2005	EDL985	985	ORGANIZ DYN:INDIV/ORGANIZ	EDL	EDUCATIONAL LEADERSHIP	4	Focuses on the individual and the organization. The respective needs and expectations of each are investigated as they apply to educational institutions. Emphasis is on interpersonal and organizational communication, group processes, conflict resolution, and collaboration for school improvement. These concepts are explored to help participants conceptualize the interpersonal nature of organizations.	GR		Lecture

Fall 2005	EDL986	986	ORG BEHAV IN ED& HUM SERV	EDL	EDUCATIONAL LEADERSHIP	4	Emphasizes the analysis of organizations and educational institutions in particular through a social systems orientation. Historical, current, and possible future organizational structures and processes are analyzed. Role theory, leadership theory, and styles, ethical behavior, and decision-making theory and practice are addressed from an organizational persepctive.	GR		Lecture
Fall 2005	EDL987	987	ADMIN LEADERSHIP IN COMM	EDL	EDUCATIONAL LEADERSHIP	4	Focuses on the development of leadership skills in relationship to individual and organizational communicationsto internal and external audiences. Varied communication venues and simulations are employed in ethical administrator skill development. Additionally, the course addresses the leader's role as facilitator in group processes, conflict management, interpersonal and contract negotiations, multicultural mediation methodology, decision-making, and problem-solving.	GR		Lecture

Fall 2005	EDL988	988	RESEARCH & EDUC LEADER	EDL	EDUCATIONAL LEADERSHIP	3	Focuses on the practical applications and issues in research as it relates to educational leadership. Participants focus on research design and methodology, sampling techniques, instrument development, proposal writing, and the application of these skills through a research project to be implemented within a public school setting.	GR		Lecture
Fall 2005	EDL991	991	ADV SEM ED LEADERSHIP	EDL	EDUCATIONAL LEADERSHIP	1	Three basic topics are addressed: (1) Teacher Evaluation and Staff Development offered fall quarter, (2) Issues in Leadership and Management offered winter quarter, and (3) Innovations in Education offered spring quarter.	GR	I	Independent Study
Fall 2005	EDL993	993	SCH DIST BUSINESS MGT	EDL	EDUCATIONAL LEADERSHIP	4	Guiding principles for developing adequate district fiscal programs; study of sources of revenue - local, state, and federal; procedures in management of district funds with reference to budgeting, accounting, auditing, public and governmental reporting; district cost-benefit analysis; district financial needs forecasting; and levy/income tax campaigns.	GR		Lecture

Fall 2005	EDL994	994	ADV SEM FOR ED LEADERS	EDL	EDUCATIONAL LEADERSHIP	3	A synthesizing course which reviews the concepts, skills, and information of the total Educational Specialist's Program. Reporting of each candidate's research project will be a part of this course. An integration of the basic purposes of the program with the concentration, cognate, and common curriculum.	GR		Lecture
Fall 2005	EDL995	995	ADV INST ED LEADERS:	EDL	EDUCATIONAL LEADERSHIP	1	Individual and group study of current problems and new skill development for educational leaders. Topics require multifaceted approaches and investigations. Topics might include personnel management related to negotiations, human rights, or decision making. Topics vary.	GR		Lecture
Fall 2005	EDL999	999	THESIS	EDL	EDUCATIONAL LEADERSHIP	1	Research for thesis in Educational Specialist Program.	GR	I	Independent Study
Fall 2005	EDS624	624	ADDRESSING LRNG DIFF	EDS	EDUCATION-SPECIAL EDUCATION	4	An advanced course in addressing learning differences that stresses the need to integrate issues of educational assessment, instructional adaptations, behavior management, and collaboration. Purpose is to orient and better prepare developing professional educators to function effectively in inclusive instructional settings for adolescents.	GR		Lecture

Fall 2005	EDS641	641	MENTAL RETARD & DEVEL DIS	EDS	EDUCATION-SPECIAL EDUCATION	3	An overview of the causes and effects of mental retardation and related developmental disabilities in home, school, and community settings.	GR		Lecture
Fall 2005	EDS642	642	CURRIC METHODS & MAT M/M	EDS	EDUCATION-SPECIAL EDUCATION	4	Practices and procedures used in developing elementary and secondary curricula for students with mild/moderate educational needs. Included will be academic adaptations and development and implementation of the (IEP). Field/clinical experiences required.	GR		Lecture
Fall 2005	EDS643	643	INTRO AUGMENTATIVE COMM	EDS	EDUCATION-SPECIAL EDUCATION	3	Course introduces etiology, problems, and needs of individuals who are nonspeaking. Hands-on experiences are required using augmentative aids and devices with individuals with multiple impairments.	GR		Lecture
Fall 2005	EDS644	644	INSTR BEHAV MANAGEMENT	EDS	EDUCATION-SPECIAL EDUCATION	3	Prepares special educators, Intervention Specialists and other professionals to meet the instructional and behavioral management demands particular to working with exceptional individuals, including those with severe emotional disturbance.	GR		Lecture

Fall 2005	EDS645	645	CAREER & OCCUPATIONAL TR	EDS	EDUCATION-SPECIAL EDUCATION	3	Examines role of intervention specialists in shaping transition experiences for students with special needs. Emphasis on school to adult, but transitions at early childhood, elementary and middle school, also addressed; direct work with clients required.	GR		Lecture
Fall 2005	EDS651	651	NATURE & NEEDS STU M/I	EDS	EDUCATION-SPECIAL EDUCATION	3	Introduces prospective intervention specialists to the etiological aspects: historical, educational, and training programs; culture, concerns and issues related to students with moderate to intensive educational needs.	GR		Lecture
Fall 2005	EDS652	652	PHYS SENSORY MOTOR DISOR	EDS	EDUCATION-SPECIAL EDUCATION	3	Overview of the etiology and educational implications of physical disabilities, sensory deficits, and communication disorders. Emphasis on psycho-educational and physical needs of children and youth, including adaptation of methods and materials. Direct work with clients required.	GR		Lecture

Fall 2005	EDS653	653	CURRICULA M/I EDU NEEDS	EDS	EDUCATION-SPECIAL EDUCATION	3	Review of organizations, methods and techniques for educating and training individuals with moderate to intense educational needs. Surveys opportunities available for recreation, leisure time, and work habitation. Participation with individuals with moderate to intense educational needs.	GR		Lecture
Fall 2005	EDS654	654	ASSESSMENT INT SPEC ROLE	EDS	EDUCATION-SPECIAL EDUCATION	3	Administering and interpreting formal and informal educational assessment instruments and communicating assessment data to parents and colleagues.	GR		Lecture
Fall 2005	EDS655	655	NATURE & NEEDS STU M/M	EDS	EDUCATION-SPECIAL EDUCATION	2	Introduces prospective intervention specialists to the causes and effects of mild to moderate learning disorders. Covers cultural, social, and emotional needs of students and teaching strategies.	GR		Lecture
Fall 2005	EDS656	656	CLIN PRAC IN REMEDIATION	EDS	EDUCATION-SPECIAL EDUCATION	4	Supervised clinical practice in the diagnostic teaching of exceptional individuals. Emphasis on assessment, reading, and math curriculum and materials.	GR	I	Independent Study

Fall 2005	EDS659	659	COMM & CONSUL SKILLS EDU	EDS	EDUCATION-SPECIAL EDUCATION	3	Techniques of collaborative consultation needed to enhance communication with exceptional individuals, parents, and educational team members. Direct work in the field is required.	GR		Lecture
Fall 2005	EDS661	661	INTERNSHIP:SPECIAL EDUC	EDS	EDUCATION-SPECIAL EDUCATION	10	Graduate student teaching assignment for graduate students seeking licensure to teach students with mild/moderate, moderate to intensive educational needs. Required for students without previous student teaching experience. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	EDS670	670	WORKSHOP SPECIAL ED	EDS	EDUCATION-SPECIAL EDUCATION	1	Intensive practical study in a selected area of special education. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	EDS700	700	SPEC ED ENTER SEMINAR	EDS	EDUCATION-SPECIAL EDUCATION	1	Required of beginning master's degree and license students to become familiar with research tools, resources, and writing styles, to design a plan for organizing and maintaining scholarly activities required for completing the comprehension examination.	GR	S	Seminar

Fall 2005	EDS720	720	CREATIVE PROBLEM SOLVING	EDS	EDUCATION-SPECIAL EDUCATION	4	Introduction to creative problem-solving models and approaches that can be used by classroom teachers to involve students in the solutions of problems.	GR		Lecture
Fall 2005	EDS722	722	EDU STUDENTS WITH GIFTS	EDS	EDUCATION-SPECIAL EDUCATION	4	Overview of the characteristics of gifted children and youth. The historical and current aspects of education of the gifted, and family problems and vocational concerns.	GR		Lecture
Fall 2005	EDS723	723	CURRICULA FOR THE GIFTED	EDS	EDUCATION-SPECIAL EDUCATION	4	(Also listed as AED 741.) Study of curriculum, materials, and methods appropriate for teaching gifted individuals. Local program models are presented and observed in class.	GR		Lecture
Fall 2005	EDS740	740	CLINIC PRACT SBH	EDS	EDUCATION-SPECIAL EDUCATION	3	Furthers students' knowledge of the daily operations of various SBH programs. Provides students an opportunity to apply knowledge acquired in previous course work and to assist students in the acquisition of skills needed to handle the physically aggressive client. Field/clinical work required.	GR		Lecture
Fall 2005	EDS771	771	FIELD EXPERIENCE	EDS	EDUCATION-SPECIAL EDUCATION	3	A supervised observation experience for students who are completing the pre-licensure sequence to teach students with mild/moderate, moderate/intensive, or gifted educational needs.	GR		Lecture

Fall 2005	EDS799	799	SPEC ED EXIT SEMINAR	EDS	EDUCATION-SPECIAL EDUCATION	1	Seminar for completing the comprehensive examination required for attaining a Master of Education in Special Education. Graded pass/unsatisfactory.	GR	S	Seminar
Fall 2005	EDT607	607	COORDINATIO N TECHNIQUES	EDT	EDUCATIONAL TECHNOLOGY	4	Procedures in organizing and implementing a vocational program, including recruitment, selection, and evaluation of students and training stations: concurrent classroom instruction; and in-depth study of the duties, problems, and techniques involved in coordination.	GR		Lecture
Fall 2005	EDT608	608	INTENSIVE OFFICE ED	EDT	EDUCATIONAL TECHNOLOGY	3	Qualifying course for intensive office education programs. Comprehensive study in developing procedures and principles in program construction, selection, improvement, implementation, and development of program guidelines.	GR		Lecture
Fall 2005	EDT633	633	BUSINESS EDUCATION	EDT	EDUCATIONAL TECHNOLOGY	4	Business education philosophy, objectives, and curricula on the secondary level of instruction. Curriculum and materials in basic business subjects, bookkeeping, data processing, and sales communication.	GR		Lecture

Fall 2005	EDT634	634	CURRICULUM: OFFIC PRO/TECH	EDT	EDUCATIONAL TECHNOLOGY	5	Curriculum, methods, and materials in typewriting, keyboarding, word processing, and office procedures in the secondary school; current trends in teaching typewriting, keyboarding, word processing, and office procedures.	GR		Lecture
Fall 2005	EDT635	635	SHRTHND/TRANS/SEC PRO	EDT	EDUCATIONAL TECHNOLOGY	3	Curriculum, methods, and materials in teaching shorthand, transcription, and secretarial procedures.	GR		Lecture
Fall 2005	EDT670	670	WKSP ED TECH	EDT	EDUCATIONAL TECHNOLOGY	1	(Also listed as EDE 670.) Intensive, practical study in a selected area of educational or applied technology. Titles vary.	GR	I	Independent Study
Fall 2005	EDT700	700	ENTRY SEMINAR ED TECH	EDT	EDUCATIONAL TECHNOLOGY	2	Introductory seminar into educational technology programs. Students should take this class before or concurrently with their educational technology coursework.	GR		Lecture
Fall 2005	EDT711	711	SM LIB MEDIA COLLECT DEV	EDT	EDUCATIONAL TECHNOLOGY	4	Focuses on the process for developing school library media center collections. Includes policy development, selection, acquisition, weeding, evaluation, development and use of collections, and copyright/intellectual freedom issues.	GR		Lecture

Fall 2005	EDT714	714	ONLINE COMMUNICATION	EDT	EDUCATIONAL TECHNOLOGY	1	Introductory and extended instruction in telecommunications topics including hardware and software requirements, online etiquette, e-mail, copyright issues, file transfers, maintenance and troubleshooting. The class meets only electronically.	GR		Lecture
Fall 2005	EDT715	715	INFO RETRIEVAL THRU TECH	EDT	EDUCATIONAL TECHNOLOGY	4	Search strategies are developed and information retrieval technology is used to access sources. Instructs how to implement skills in an educational setting.	GR		Lecture
Fall 2005	EDT716	716	BLDG ONLINE APPLICATIONS	EDT	EDUCATIONAL TECHNOLOGY	2	Examination of online educational resources by teaching level, subject, and specialized areas. Consideration of issues of intellectual property rights, ethics, student safety, and professional responsibilities.	GR		Lecture
Fall 2005	EDT721	721	CATALOG & CLASSIFICATION	EDT	EDUCATIONAL TECHNOLOGY	4	Focuses on the process of developing library media center retrieval systems for print/nonprint resources. Students learn to establish standard bibliographic description, access points, classification, subject description, and MARC format for automated systems.	GR		Lecture

Fall 2005	EDT724	724	FOUNDATIONS BUS ED	EDT	EDUCATIONAL TECHNOLOGY	3	Philosophy and objectives of the business education and vocational business and office education curricula on the secondary and postsecondary levels of instruction. Guidance, selection, and placement of students and contemporary influences on business education and vocational business and office education are included.	GR		Lecture
Fall 2005	EDT727	727	CURR TRENDS NON-SKILL BUS	EDT	EDUCATIONAL TECHNOLOGY	3	Study of recent developments in the teaching of basic business subjects including vocational programs and the development of appropriate teaching strategies.	GR		Lecture
Fall 2005	EDT728	728	CURR & MAT IN ECON ED	EDT	EDUCATIONAL TECHNOLOGY	3	Analysis of materials available, the development of appropriate teaching units, and the application of special methods for teaching economics on the elementary, secondary, and postsecondary levels.	GR		Lecture
Fall 2005	EDT729	729	CURR TRENDS ACCTG & DP	EDT	EDUCATIONAL TECHNOLOGY	3	Analysis of the curriculum of business education and vocational business and office education in accounting and data processing, and the development of teaching strategies.	GR		Lecture

Fall 2005	EDT730	730	CURR TRENDS SKILLED BUS	EDT	EDUCATIONAL TECHNOLOGY	3	Analysis of the trends, application of new teaching media, and the development of teaching strategies in typewriting, shorthand, transcription, word processing, office procedures, and office machines.	GR		Lecture
Fall 2005	EDT735	735	ADV PRODUCTION INSTR MAT	EDT	EDUCATIONAL TECHNOLOGY	4	Examines philosophy and methodology of producing instructional materials. Includes basic and advanced techniques, tools, materials, and mechanics.	GR		Lecture
Fall 2005	EDT745	745	ART & TECH STORYTELLING	EDT	EDUCATIONAL TECHNOLOGY	4	Students learn principles of the art of storytelling, as this reflects a listening/language experience. Includes a broad foundation in literature, story cycles, storytelling techniques, and program planning.	GR		Lecture
Fall 2005	EDT746	746	TEACH INFO & RESEARCH SKL	EDT	EDUCATIONAL TECHNOLOGY	4	Major concepts covered include the application of a nonlinear information skills model across curricula: interdisciplinary and authentic curriculum design; and electronic information searching skills.	GR		Lecture

Fall 2005	EDT749	749	INTRO INSTRUCTIONAL MEDIA	EDT	EDUCATIONAL TECHNOLOGY	4	Survey course in instructional media including the interpretation of visuals (projected and nonprojected), film, instructional television, gaming, audio technology, multimedia systems, computers, operation of audiovisual equipment, and media facilities. Focuses on the appropriate use of media for specific instructional outcomes.	GR		Lecture
Fall 2005	EDT751	751	ED USE VIDEO TECH	EDT	EDUCATIONAL TECHNOLOGY	4	Studies the potential, limitations, and techniques for effectively using ITV, radio, distance learning, telecommunications, and interactive video.	GR		Lecture
Fall 2005	EDT756	756	ADV TELEVISION PRODUCTION	EDT	EDUCATIONAL TECHNOLOGY	4	Designed to improve the skills, knowledge, and creativity used in television production. Planning, writing, producing, and editing for educational and informational productions are emphasized.	GR		Lecture
Fall 2005	EDT763	763	YOUNG ADULT LITERATURE	EDT	EDUCATIONAL TECHNOLOGY	4	Students demonstrate applications of young adult literature for ages 12┬21 using booktalks, response-centered approach techniques, literary projects, voices in young adult literature discussions, response journals, and media and young adult literature discussions.	GR		Lecture

Fall 2005	EDT770	770	INDEPENDENT STUDY	EDT	EDUCATIONAL TECHNOLOGY	1	Individualized course of study under the supervision of the faculty. May include, but not limited to, extensive readings, the performance of a research project, a paper, or a production.	GR	I	Independent Study
Fall 2005	EDT782	782	DEVEL MULTIMEDIA PROD	EDT	EDUCATIONAL TECHNOLOGY	4	Students use elements of instructional design and storyboarding techniques to translate instruction into various types of multimedia presentations.	GR		Lecture
Fall 2005	EDT786	786	APPL OF COMPUTERS IN ED	EDT	EDUCATIONAL TECHNOLOGY	4	Types of educational software and applications, software evaluation, curriculum development, and lesson planning integrating computer courseware.	GR		Lecture
Fall 2005	EDT789	789	CONTINUING REGISTRATION	EDT	EDUCATIONAL TECHNOLOGY	1		GR	I	Independent Study
Fall 2005	EDT791	791	ORG&ADM SCHOOL MEDIA CTR	EDT	EDUCATIONAL TECHNOLOGY	4	Administrative practices and services that relate to the school library media center. Considers problems pertaining to standards, legislation, personnel, planning facilities, materials, instruction, and management procedures.	GR		Lecture

Fall 2005	EDT799	799	EXIT SEMINAR IN ED TECH	EDT	EDUCATIONAL TECHNOLOGY	2	Individual and group study of problems related to educational technology. Enrollment is limited to department majors. Should be taken near or at the completion of master degree program.	GR		Lecture
Fall 2005	EDT817	817	ISSUES IN TELECOM IN ED	EDT	EDUCATIONAL TECHNOLOGY	3	Students will meet in seminar-fashion in traditional and virtual classrooms. Students will participate in an interactive online discussion group. Students will create and manage an online learning community.	GR		Lecture
Fall 2005	EDT839	839	INST DESIGN & DEVELOPMENT	EDT	EDUCATIONAL TECHNOLOGY	4	Advanced course in the development of a wide range of techniques and materials to improve instruction. Includes factors that facilitate learning, patterns for teaching and learning, the contributions of audiovisual material to improve learning, procedures for designing instruction, and the instructional design plan.	GR		Lecture
Fall 2005	EDT890	890	INTERNSHIP	EDT	EDUCATIONAL TECHNOLOGY	1	Students are assigned for a maximum of 100 hours to a library, learning center, computer facility, or video operation to gain practical experience under supervised conditions. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	EDT895	895	ADM & SUPERV OF ED TECH	EDT	EDUCATIONAL TECHNOLOGY	4	Covers leadership theory and networking; qualifications and duties of the director; planning and administering the program; preparing the budget; buying equipment and handling materials; in-service training and evaluation of the program.	GR		Lecture
Fall 2005	EDT899	899	MASTER'S THESIS	EDT	EDUCATIONAL TECHNOLOGY	1	The project may be a thesis or creative production and is prepared under the guidance of the student's advisory committee.	GR	I	Independent Study
Fall 2005	EDT975	975	DIRECTED STUDY	EDT	EDUCATIONAL TECHNOLOGY	4	Designed for students enrolled in the Educational Specialist degree program with a focus on technology. Involves library research, analysis, evaluation, problem solving, and critical thinking.	GR	I	Independent Study
Fall 2005	EE 501	501	CIRCUIT ANALYSIS I	EE	ELECTRICAL ENGINEERING	4	Basic elements and laws, circuit analysis techniques and concepts, energy storage elements, first and second order circuits, sinusoidal steady state analysis.	GR		Lecture
Fall 2005	EE 502	502	CIRCUIT ANALYSIS I LAB	EE	ELECTRICAL ENGINEERING	1	Computer-assisted analysis, RLC circuits, operational amplifiers and circuits, Thevenin and Norton equivalents, maximum power transfer, AC networks.	GR	L	Lab

Fall 2005	EE 503	503	CIRCUIT ANALYSIS II	EE	ELECTRICAL ENGINEERING	3	Circuit review, alternating current concepts, computer-aided circuit analysis, two-port networks, power.	GR		Lecture
Fall 2005	EE 504	504	CIRCUIT ANALYSIS II LAB	EE	ELECTRICAL ENGINEERING	1	Application of AC concepts, computer-aided circuit analysis, two-port networks, and power theory.	GR	L	Lab
Fall 2005	EE 521	521	LINEAR SYSTEMS I	EE	ELECTRICAL ENGINEERING	4	Considers systems in a broad context including linear, nonlinear; variant, invariant; and analog and discrete. Approaches to system and signal modeling are discussed with emphasis on the Fourier transform technique.	GR		Lecture
Fall 2005	EE 522	522	LINEAR SYSTEMS II	EE	ELECTRICAL ENGINEERING	4	Covers discrete time signals and systems, the z-Transform, input/output theory and discrete Fourier transform, IIR and FIR filter design, relationships, and sampling.	GR		Lecture
Fall 2005	EE 526	526	RANDOM SIGNALS AND NOISE	EE	ELECTRICAL ENGINEERING	4	Provides a practical introduction to the concepts of random events, characterization of stochastic signals, first and second order moment descriptions of random processes, and input/output descriptions of random signals and noise in linear systems. Prerequisite: EE 321.	GR		Lecture

Fall 2005	EE 531	531	ELECTRONIC DEVICES	EE	ELECTRICAL ENGINEERING	3	Introduction to basic solid-state electron devices. Fundamentals necessary for comprehension and further study of modern engineering electronics. Major topics include carrier flow in semiconductors, p-n junction theory, semiconductor diodes, bipolar junction transistors, field-effect transistors, biasing, and introduction to amplifiers.	GR		Lecture
Fall 2005	EE 532	532	ELECTRONIC DEVICES LAB	EE	ELECTRICAL ENGINEERING	1	Applications of diodes and transistors in analog circuits, design of bias circuits transistors.	GR	L	Lab
Fall 2005	EE 545	545	ELECTROMAGNETICS	EE	ELECTRICAL ENGINEERING	4	Developments in the basic concepts of vector calculus and their application to electromagnetics, electrostatics, and magnetics; induced electromotive force; and Maxwell↕s equations and their physical interpretation and application.	GR		Lecture
Fall 2005	EE 546	546	TRAN LINES WAVEGUIDES ANT	EE	ELECTRICAL ENGINEERING	4	Plane waves in free space and matter. Transmission line equations and application of Smith chart. Wave propagation in rectangular waveguides. Introduces radiating systems including the dipole and loop antennas. Rudimentary design of typical systems containing transmission lines, waveguides, and antennas.	GR		Lecture

Fall 2005	EE 613	613	CONTROL SYSTEMS I	EE	ELECTRICAL ENGINEERING	3	(Also listed as BMS 710.) Provides students with a general control background. Major topics include block diagrams and signal-flow graphs, electromechanical modeling including state variable representation, time response, root locus, and introduction to design.	GR		Lecture
Fall 2005	EE 614	614	CONTROL SYSTEMS I LAB	EE	ELECTRICAL ENGINEERING	1	(Also listed as BMS 711.) Application and testing of control systems theory with electromechanical systems.	GR	L	Lab
Fall 2005	EE 615	615	CONTROL SYSTEMS II	EE	ELECTRICAL ENGINEERING	3	(Also listed as BMS 712.) Utilizing Control Systems I background, this course concentrates on controller design in both the time and frequency domains, using Nyquist, Bode, and root locus techniques.	GR		Lecture
Fall 2005	EE 616	616	CONTROL SYSTEMS II LAB	EE	ELECTRICAL ENGINEERING	1	(Also listed as BMS 713.) Application and testing of control systems theory with electromechanical systems.	GR	L	Lab

Fall 2005	EE 617	617	DIGITAL CONTROL SYSTEMS	EE	ELECTRICAL ENGINEERING	3	Covers sampled spectra and aliasing, analysis and design of digital control systems using root locus and transform techniques; discrete equivalents of continuous controller and quantization effects, introduction to programmable logic controllers. 3 hours lecture, 4 hours lab.	GR		Lecture
Fall 2005	EE 618	618	CONTRL SYS DESGN PROJ	EE	ELECTRICAL ENGINEERING	4	A project-oriented design course, integrating design methodology with the principles of controller design developed in previous courses. Topics include project planning, system specs, documentation, design reviews, written and oral reports, and system test. 2 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	EE 618	618	CONTRL SYS DES PROJ LAB	EE	ELECTRICAL ENGINEERING	0	A project-oriented design course, integrating design methodology with the principles of controller design developed in previous courses. Topics include project planning, system specs, documentation, design reviews, written and oral reports, and system test. 2 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	EE 619	619	FUZZY LOGIC CONTROL	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 619.) Foundations and philosophy of fuzzy logic and applications to control theory. Relationship between classical PID control and fuzzy rule-based control. Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of fuzzy logic control applications. (3 hours lecture and 2 hours lab.)	GR		Lecture
Fall 2005	EE 619	619	FUZZY LOGIC CNTRL LAB	EE	ELECTRICAL ENGINEERING	0	Foundations and philosophy of fuzzy logic and applications to control theory. Relationship between classical PID control and fuzzy rule-based control. Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of fuzzy logic control applications. (3 hours lecture and 2 hours lab.)	GR	L	Lab
Fall 2005	EE 620	620	DIGITL CONTRL SYS LAB	EE	ELECTRICAL ENGINEERING	1	Sampling, temperature control on a microprocessor-based system, PLC implementation, quantization error computational delay, frequency response.	GR	L	Lab

Fall 2005	EE 621	621	COMMUNICATION THEORY	EE	ELECTRICAL ENGINEERING	4	Analysis of communication systems using the Fourier transform and the convolution integral. Discussion of Nyquist's sampling theorem and an introduction to binary pulse code modulation (PCM). Various analog (AM, SSB, WBFM) and digital (BPSK, AK, FSK) modulation techniques are also discussed and analyzed.	GR		Lecture
Fall 2005	EE 625	625	NUMERICAL METHDS FOR EGRS	EE	ELECTRICAL ENGINEERING	4		GR		Lecture
Fall 2005	EE 631	631	ELECTRONIC CIRCUITS	EE	ELECTRICAL ENGINEERING	3	Theory and application of basic engineering electronics developed for discrete and integrated circuits. Topics include bipolar and field effect transistor amplifier analysis and design, frequency response, multistage and feedback amplifiers.	GR		Lecture
Fall 2005	EE 632	632	ELECTRONIC CIRCUITS LAB	EE	ELECTRICAL ENGINEERING	1	Design of single and multiple stage amplifier circuits, feedback amplifiers, circuits to meet frequency response specifications and output stages.	GR	L	Lab
Fall 2005	EE 635	635	ANALOG & DIGITAL FILTERS	EE	ELECTRICAL ENGINEERING	4	Filter theory and approximation. Synthesis of active-RC and switched capacitor filters. Sensitivity analysis and design-centering concepts.	GR		Lecture

Fall 2005	EE 636	636	DIGITAL SIGNAL PRCSNG	EE	ELECTRICAL ENGINEERING	4	Introduces principles and applications of digital signal processing (DSP) from the design and implementation perspective. Topics include analog to-digital/digital-to-analog converters and digital filters, Fourier analysis algorithms, and real-time applications┤ all implemented on a TMS 320C30 floating Point DSP Chip.	GR		Lecture
Fall 2005	EE 636	636	DIGITAL SIG PROC LAB	EE	ELECTRICAL ENGINEERING	0	Introduces principles and applications of digital signal processing (DSP) from the design and implementation perspective. Topics include analog to-digital/digital-to-analog converters and digital filters, Fourier analysis algorithms, and real-time applications┤ all implemented on a TMS 320C30 floating Point DSP Chip.	GR	L	Lab
Fall 2005	EE 644	644	LINEAR INTEGRATED CIRCUIT	EE	ELECTRICAL ENGINEERING	4	Theory and applications of linear integrated circuits. Topics include ideal and real operational amplifiers, frequency response and compensation, active filters, comparators, and waveform generators. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	EE 644	644	LINEAR INTEG CIRCUITS LAB	EE	ELECTRICAL ENGINEERING	0	Theory and applications of linear integrated circuits. Topics include ideal and real operational amplifiers, frequency response and compensation, active filters, comparators, and waveform generators. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	EE 645	645	EM COMPATIBILITY	EE	ELECTRICAL ENGINEERING	4	Identification of possible sources of electromagnetic interference (EMI) in an electronic device or system. Fundamental EMC design principles concerning conducted and radiated emissions, reduction of susceptibility to EMI and EMI shielding.	GR		Lecture
Fall 2005	EE 646	646	MICROWAVE CIRCUIT DESIGN	EE	ELECTRICAL ENGINEERING	4	Review of Smith chart, introduction to microstrip lines, impedance matching, power-gain equations, stability considerations, and design methods for amplifiers and oscillators. CAD (Touchstone software by EESOF) is used.	GR		Lecture

Fall 2005	EE 647	647	ANTENNA THEORY & DESGN	EE	ELECTRICAL ENGINEERING	4	Computer-aided design and analysis of wire antennas, feed networks, and antenna arrays using antenna CAD software. Covers linear dipole antennas, antenna arrays, thin-wire antennas, moment method analysis (vee dipole, folded dipole, etc.), broadband and frequency-independent antennas.	GR		Lecture
Fall 2005	EE 648	648	RF/MICROWAVE SYS DESIGN	EE	ELECTRICAL ENGINEERING	4	A project-oriented design course, integrating design methodology with the principles of microwave circuit analysis and electromagnetic wave propagation, developed in previous courses. Formal documentation, design reviews, and reporting are required.	GR		Lecture
Fall 2005	EE 649	649	PULSE AND DIGITAL CIRCUIT	EE	ELECTRICAL ENGINEERING	4	Design, analysis, and application of pulse and switching circuits using both Field Effect Transistors (FETS) and Bipolar Junction Transistors (BJTS). Transistor level design of digital integrated circuits including NMOS, CMOS, TTL, and ECL logic families. Design of digital interface and buffer circuits. Transmission line effects in digital applications. 3 hours lecture, 3 hours lab.	GR		Lecture

Fall 2005	EE 649	649	PULSE & DIGITAL CIR LAB	EE	ELECTRICAL ENGINEERING	0	Design, analysis, and application of pulse and switching circuits using both Field Effect Transistors (FETS) and Bipolar Junction Transistors (BJTS). Transistor level design of digital integrated circuits including NMOS, CMOS, TTL, and ECL logic families. Design of digital interface and buffer circuits. Transmission line effects in digital applications. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	EE 651	651	DIGITAL SYSTEMS DESIGN	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 560.) Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Student must show competency in the design of digital systems. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	EE 651	651	DIGITAL SYSTEMS DESGN LAB	EE	ELECTRICAL ENGINEERING	0	Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Student must show competency in the design of digital systems. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	EE 654	654	VLSI DESIGN	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 654.) Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.	GR		Lecture
Fall 2005	EE 654	654	VLSI DESIGN LAB	EE	ELECTRICAL ENGINEERING	0	Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.	GR	L	Lab
Fall 2005	EE 655	655	ELECT CIR DESGN PROJ	EE	ELECTRICAL ENGINEERING	4	A project-oriented design course, integrating design methodology with principles of integrated circuit design developed in previous courses. Focus is an integrated circuit design project including the topics of project selection, planning and management, system specification, documentation, design reviews, written and oral reports, and testing. 2 hours lecture, 4 hours lab.	GR		Lecture

Fall 2005	EE 655	655	ELEC CIR DESGN PROJ LAB	EE	ELECTRICAL ENGINEERING	0	A project-oriented design course, integrating design methodology with principles of integrated circuit design developed in previous courses. Focus is an integrated circuit design project including the topics of project selection, planning and management, system specification, documentation, design reviews, written and oral reports, and testing. 2 hours lecture, 4 hours lab.	GR	L	Lab
Fall 2005	EE 656	656	INTRO TO ROBOTICS	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 656 and ME 656.) Introduction to the mathematics, programming, and control of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control. Prerequisite: MTH 253; proficiency in Pascal, C, or FORTRAN programming.	GR		Lecture

Fall 2005	EE 656	656	INTRO TO ROBOTICS LAB	EE	ELECTRICAL ENGINEERING	0	Introduction to the mathematics, programming, and control of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control. Prerequisite: MTH 253; proficiency in Pascal, C, or FORTRAN programming.	GR	L	Lab
Fall 2005	EE 658	658	CKT DSGN W PLDS & FPGAS	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 658.) Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) are used in the lab portion of the course.	GR		Lecture
Fall 2005	EE 658	658	CKT DES/PLDS & FPGAS LAB	EE	ELECTRICAL ENGINEERING	0	Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) are used in the lab portion of the course.	GR	L	Lab

Fall 2005	EE 659	659	CIRCUIT DESGN WITH VHDL	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 659.) Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation, and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) are used in the lab portion of the course.	GR		Lecture
Fall 2005	EE 659	659	CKT DESGN WITH VHDL LAB	EE	ELECTRICAL ENGINEERING	0	Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation, and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) are used in the lab portion of the course.	GR	L	Lab
Fall 2005	EE 673	673	COMMUNICAT SYSTEMS DESIGN	EE	ELECTRICAL ENGINEERING	4	Probability concepts are reviewed and extended to treat random process theory. Probability techniques are then used to introduce the essential ideas of information theory. The baseband digital PCM technique is covered in detail and the most important digital RF modems are also considered. Brief introduction to communication networks provided. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	EE 673	673	COMMUN SYS DESGN I LAB	EE	ELECTRICAL ENGINEERING	0	Probability concepts are reviewed and extended to treat random process theory. Probability techniques are then used to introduce the essential ideas of information theory. The baseband digital PCM technique is covered in detail and the most important digital RF modems are also considered. Brief introduction to communication networks provided. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	EE 675	675	INTRO TO RADAR SYSTEMS	EE	ELECTRICAL ENGINEERING	3	Introductory study of the radar equation, antenna patterns, target cross sections and system losses, radar measurements, pulse doppler and coherent techniques, detection probability and signal-to-noise ratio, sidelobe clutter, synthetic arrays, and pulse compression techniques.	GR		Lecture

Fall 2005	EE 676	676	COM/SIG PROCES DSGN PROJ	EE	ELECTRICAL ENGINEERING	4	A project-oriented communication and signal processing design course involving a problem definition stage, an analysis and design stage, and a final implementation stage. Specific topics include project selection, planning and management, system specification, design reviews, written and oral reports, and final system testing. 2 hours lecture, 4 hours lab.	GR		Lecture
Fall 2005	EE 676	676	COM/SIG PROC DES PRJ LAB	EE	ELECTRICAL ENGINEERING	0	A project-oriented communication and signal processing design course involving a problem definition stage, an analysis and design stage, and a final implementation stage. Specific topics include project selection, planning and management, system specification, design reviews, written and oral reports, and final system testing. 2 hours lecture, 4 hours lab.	GR	L	Lab

Fall 2005	EE 678	678	CODING THEORY	EE	ELECTRICAL ENGINEERING	3	(Also listed as MTH 656 and CEG 678.) Introduction to the essentials of error-correcting codes, the study of methods for efficient and accurate transfer of information. Topics covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes.	GR		Lecture
Fall 2005	EE 680	680	SELECTED TOPICS IN EE	EE	ELECTRICAL ENGINEERING	1	Topics and prerequisites vary.	GR		Lecture
Fall 2005	EE 699	699	SPECIAL PROBLEMS IN EE	EE	ELECTRICAL ENGINEERING	1	Special problems in advanced engineering topics. Titles vary. May be taken for a letter grade of pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	EE 700	700	PRIN OF INSTRUCT IN EGR	EE	ELECTRICAL ENGINEERING	3	Survey of available instructional materials and discussion of educational theories and techniques leading to more effective instruction. For first-year graduate teaching assistants only. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	EE 701	701	LINEAR SYSTEMS	EE	ELECTRICAL ENGINEERING	4	(Also listed as EGR 701 and BMS 705.) Signal representation, orthonormal bases, and generalized Fourier series. Description of linear, discrete, and continuous systems. Systems analysis via classical equations, convolution, and transform methods.	GR		Lecture

Fall 2005	EE 702	702	LINEAR SYSTEMS II	EE	ELECTRICAL ENGINEERING	3	(Also listed as BMS 706.) State variable representations of continuous and discrete systems. Linear vector spaces and similarity transformations; eigen-analysis, time and transform domain solutions of linear state equations; controllability, observability, and stability of linear systems.	GR		Lecture
Fall 2005	EE 710	710	DIGITAL SIGNAL PROCESSING	EE	ELECTRICAL ENGINEERING	4	Data acquisition and quantization, unitary transforms, circular convolution, Hilbert transform, FIR/IIR filter design and realization, analysis of finite-precision numerical effects, spectral estimation, and Cepstrum analysis.	GR		Lecture
Fall 2005	EE 711	711	MULTIDIM DIG SIG PROCESS	EE	ELECTRICAL ENGINEERING	3	Topics of EE 710 extended to multidimensional systems and signals. Provides the theoretical and applied basis for analysis and synthesis of discrete systems and operations used in digital images, transducer arrays, and other multidimensional signals.	GR		Lecture

Fall 2005	EE 715	715	DIGITAL IMAGE PROCESSING	EE	ELECTRICAL ENGINEERING	4	Image representation, sampling/quantization, spatial/frequency concepts, image enhancement, color image theory, unitary image transforms, image data compression, image models, image coding, image restoration, feature extraction and description, and computer implementation of concepts and algorithms introduced.	GR		Lecture
Fall 2005	EE 716	716	KALMAN FILTERS & ESTMTN	EE	ELECTRICAL ENGINEERING	4	Least square estimation, minimum mean square error estimation, maximum likelihood estimation, maximum a posteriori estimation, consistency testing, Kalman filters, extended Kalman filters, iterated extended Kalman filters, a-b-r filters, adaptive estimation, Monte Carlo simulations and case studies.	GR		Lecture

Fall 2005	EE 717	717	MULTISENSOR /DATA FUSION	EE	ELECTRICAL ENGINEERING	4	Multisensor/data integration. Sensor characteristics, management, modeling, and coordination. Statistical, Bayesian and Fisher, weighted least-square, dynamic distributed and centralized, rule-based and adaptive sensor fusion. Demptster-Shafer technique. Fusion by Markov random fields. Neural network and fuzzy logic applications.	GR		Lecture
Fall 2005	EE 718	718	MULTITARGET TRACKING	EE	ELECTRICAL ENGINEERING	4	Multitarget tracking and data association. Linear and nonlinear state estimation. Maneuvering targets. Single target and multitarget tracking in clutter. Joint probabilistic data association filter. Multiple hypothesis and distributed multitarget tracking. Track-to-track fusion.	GR		Lecture
Fall 2005	EE 720	720	ADVANCED DIGITAL CONTROL	EE	ELECTRICAL ENGINEERING	3	Analysis and design of digital control systems using the state approach, multirate digital control systems, and digital state observer and microprocessor control.	GR		Lecture

Fall 2005	EE 725	725	PRINC MOD CONTROL THEORY	EE	ELECTRICAL ENGINEERING	3	Calculus of variations for continuous processes. Euler-Lagrange equations and the use of Lagranger multipliers; Pontryagin's maximum principle, Hamilton-Jacobi theory; and application to control examples.	GR		Lecture
Fall 2005	EE 733	733	MODERN RADAR THEORY	EE	ELECTRICAL ENGINEERING	4	Application of probability and random process to the performance characterization of range/doppler radar. Development of the concepts of resolution, S/N, ambiguity function, and pulse compression, and their applications to radar systems design. Consideration is also given to coherent imaging radar.	GR		Lecture
Fall 2005	EE 738	738	COMMUNICATION NETWORKS	EE	ELECTRICAL ENGINEERING	4	Analysis and simulation of networks, including both LANs and WANs. Dependence of network throughput, latency, average delay, robustness on network protocol, routing, flow control, and traffic dynamics as modeled by queuing theory. Required design project based on COMNETIII software.	GR		Lecture

Fall 2005	EE 740	740	INFORMATION THEORY	EE	ELECTRICAL ENGINEERING	4	Development of communication channel model and use of information theory as means of quantifying that model. Investigation of various error correcting and detecting codes. The popular Viterbi coding algorithm is also considered.	GR		Lecture
Fall 2005	EE 741	741	POWER SEMICONDUCTOR DEV	EE	ELECTRICAL ENGINEERING	4	General-purpose, fast-recovery, and Schottky diodes; performance parameters: power BJTs, MOSFETs, and MOSIFTs; static and dynamic characteristics, drivers, pulse transformers, and optocouples; thyristor characteristics, SGR, and GTO parameters; cooling, snubbers, voltage and current protection, and varistors.	GR		Lecture
Fall 2005	EE 742	742	POWER ELECTRONICS II	EE	ELECTRICAL ENGINEERING	4	AC-to-DC converters, natural and forced thyristor commutations, controlled rectifiers, power factor improvements, static AC and DC switches, AC voltage controllers, output harmonic reduction, DC choppers, characteristics of DC-to-AC inverters, PWM and FM control.	GR		Lecture

Fall 2005	EE 743	743	POWER ELECT III LAB	EE	ELECTRICAL ENGINEERING	0	Power factor correction under nonlinear load conditions, harmonic reduction, utility line disturbances, uninterruptible power supplies, international standards on electromagnetic pollution, low-frequency inverters, residential and industrial applications of power electronics, and characteristics of electric energy storage components. Course includes an independent project.	GR	L	Lab
Fall 2005	EE 743	743	POWER ELECTRONICS III	EE	ELECTRICAL ENGINEERING	4	Power factor correction under nonlinear load conditions, harmonic reduction, utility line disturbances, uninterruptible power supplies, international standards on electromagnetic pollution, low-frequency inverters, residential and industrial applications of power electronics, and characteristics of electric energy storage components. Course includes an independent project.	GR		Lecture
Fall 2005	EE 745	745	SYNCHRONOUS COMMUN THEORY	EE	ELECTRICAL ENGINEERING	4		GR		Lecture

Fall 2005	EE 746	746	EM SIMUL METH I: FDTD	EE	ELECTRICAL ENGINEERING	4	Direct solution of Maxwell's differential equations in the time domain using the finite-difference time-domain (FTDT) method. Absorbing boundary conditions and waveguide or plane wave excitation methods. Application to the solution of problems relevant to radiation, radar cross section (or scattering) and microwave circuit design.	GR		Lecture
Fall 2005	EE 747	747	EM SIMUL METHODS II: MOM	EE	ELECTRICAL ENGINEERING	4	Wave equation and integral formulations for electromagnetic (EM) problems. Methods of moments (MoM) and its implementation. Application of one-and two-dimensional EM problems. Comparison with the finite element method.	GR		Lecture
Fall 2005	EE 752	752	VLSI I LAB	EE	ELECTRICAL ENGINEERING	0	CMOS VLSI subsystems including data path operators, counters, multipliers, memory elements, and programmable logic arrays. VLSI circuits for FIR and IIR filters. VLSI circuits for digital data exchange systems. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	EE 752	752	VLSI SUBSYSTEM DESIGN	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 752.) CMOS VLSI subsystems including data path operators, counters, multipliers, memory elements, and programmable logic arrays. VLSI circuits for FIR and IIR filters. VLSI circuits for digital data exchange systems. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	EE 753	753	VLSI SYNTHES/OPTIMIZ LAB	EE	ELECTRICAL ENGINEERING	0	VLSI architectural-level synthesis and optimization including data path synthesis, control-units synthesis, scheduling, and resource sharing. Logic-level synthesis and optimization including two-level and multi-level combinational logic optimization, and sequential logic optimization. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	EE 753	753	VLSI SYNTHESIS/OPTIMIZ	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 753.) VLSI architectural-level synthesis and optimization including data path synthesis, control-units synthesis, scheduling, and resource sharing. Logic-level synthesis and optimization including two-level and multi-level combinational logic optimization, and sequential logic optimization. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	EE 754	754	VLSI TESTING/TESTABILITY	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 754.) Design for testability of VLSI circuits. Topics include importance of testing, conventional test methods, built-in test, CAD tools for evaluating testability, test pattern generators and compressors.	GR		Lecture
Fall 2005	EE 754	754	VLSI TEST/TESTABILITY LAB	EE	ELECTRICAL ENGINEERING	0	Design for testability of VLSI circuits. Topics include importance of testing, conventional test methods, built-in test, CAD tools for evaluating testability, test pattern generators and compressors.	GR	L	Lab
Fall 2005	EE 756	756	ROBOTICS LAB	EE	ELECTRICAL ENGINEERING	0	Detailed study of the dynamics and control of robotic systems and robot programming languages and systems. Material covered includes rigid-body dynamics; linear, nonlinear, adaptive, and force control of manipulators; and robot programming languages.	GR	L	Lab
Fall 2005	EE 756	756	ROBOTICS I	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 756 and ME 756.) Detailed study of the dynamics and control of robotic systems and robot programming languages and systems. Material covered includes rigid-body dynamics; linear, nonlinear, adaptive, and force control of manipulators; and robot programming languages.	GR		Lecture

Fall 2005	EE 757	757	ROBOTICS II LAB	EE	ELECTRICAL ENGINEERING	0	An introduction to sensing, vision, and robot intelligence and task planning. Material covered includes sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.	GR	L	Lab
Fall 2005	EE 757	757	ROBOTICS II	EE	ELECTRICAL ENGINEERING	4	An introduction to sensing, vision, and robot intelligence and task planning. Material covered includes sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.	GR		Lecture
Fall 2005	EE 758	758	CMOS ANALOG IC DES LAB	EE	ELECTRICAL ENGINEERING	0	Introduction to the techniques, limitations, and problems in the design of CMOS analog integrated circuits. Topics include CMOS analog circuit modeling and device characterization, analog CMOS subcircuits, CMOS amplifiers, comparators, and CMOS Op Amps. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	EE 758	758	CMOS ANALOG IC DESIGN	EE	ELECTRICAL ENGINEERING	4	(Also listed as CEG 758.) Introduction to the techniques, limitations, and problems in the design of CMOS analog integrated circuits. Topics include CMOS analog circuit modeling and device characterization, analog CMOS subcircuits, CMOS amplifiers, comparators, and CMOS Op Amps. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	EE 761	761	STOCHASTIC ANALYSIS	EE	ELECTRICAL ENGINEERING	4	Probability and random variable, distributions and density functions, random processes, strict-sense and wide-sense stationarity, auto-correlation and power spectral density, ergodicity, response of linear systems with stochastic inputs, discrete linear models, and Gaussian processes.	GR		Lecture
Fall 2005	EE 762	762	DETEC,EST & OPT FILT THRY	EE	ELECTRICAL ENGINEERING	3	Binary detection with single/multiple observations, linear minimum mean-square error filtering: Wiener and Kalman filters, MLE and MAP estimators, histogram, tests of hypotheses, regression analysis, model-free and model-based parameter estimation of random processes.	GR		Lecture

Fall 2005	EE 763	763	CLS & MOD SPECTRAL ANALY	EE	ELECTRICAL ENGINEERING	3	Linear and matrix algebra, periodgram and Blackman-Tukey estimators, moving average, auto regressive and auto-regressive moving-average methods, fast techniques, statistics of estimators, model order selection, and minimum variance and high-resolution techniques.	GR		Lecture
Fall 2005	EE 789	789	CONTINUING REGISTRATION	EE	ELECTRICAL ENGINEERING	1		GR	I	Independent Study
Fall 2005	EE 830	830	NONLINEAR SYSTEMS	EE	ELECTRICAL ENGINEERING	3	Nonlinear elements and their effects in physical systems, phase plane, linearization techniques, describing functions, Liapunov stability, absolute stability and Popov's theorem.	GR		Lecture
Fall 2005	EE 831	831	ROBUST CONTROLS	EE	ELECTRICAL ENGINEERING	3	Study of several important topics from recent research in robust-control design. Topics include review of LQR and state feedback designs; Kharitonovfs theorem; Barmishfs theorem; Wei-Yedavallifs theorem; edge theorem; and elements of H control.	GR		Lecture

Fall 2005	EE 861	861	ADAPTIVE FILTERS	EE	ELECTRICAL ENGINEERING	4	Introduction to adaptive systems, adaptation with stationary signals, and to adaptive algorithms and structures. Applications to systems identification, deconvolution, equalization, control systems, interference canceling, adaptive arrays, and beam forming are considered.	GR		Lecture
Fall 2005	EE 880	880	SELECT TOPICS IN SYS EGR	EE	ELECTRICAL ENGINEERING	1	Selected topics in current research and recent developments in systems theory and engineering. Titles vary.	GR		Lecture
Fall 2005	EE 890	890	SPECIAL PROBLEMS IN EE	EE	ELECTRICAL ENGINEERING	1	Special problems in advanced engineering topics. Titles vary.	GR	I	Independent Study
Fall 2005	EE 898	898	PHD DISSERTATION RESEARCH	EE	ELECTRICAL ENGINEERING	1	Research on the Ph.D. dissertation topic. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	EE 899	899	THESIS	EE	ELECTRICAL ENGINEERING	1	Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	EGR535	535	TECH COMM FOR EGR & CS	EGR	ENGINEERING	3	A modular approach to oral and written communication of complex technical information to an expert audience. Course includes describing technical mechanisms, processes designing, and using tables, graphs, charts, and figures; producing technical proposals, progress reports, feasibility reports, and formal reports; and doing technical briefings.	GR		Lecture

Fall 2005	EGR699	699	SPECIAL PROBLEMS IN EGR	EGR	ENGINEERING	1	Special problems in advanced engineering topics. Prerequisite: instructor approval. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	EGR700	700	PRIN OF INSTRUCTION EGR	EGR	ENGINEERING	3		GR		Lecture
Fall 2005	EGR701	701	LINEAR SYSTEMS	EGR	ENGINEERING	4	(Also listed as EE 701 and BMS 705.) Signal representation, orthonormal bases, and generalized Fourier series. Description of linear, discrete, and continuous systems. Systems analysis via classical equations, convolution, and transform methods.	GR		Lecture
Fall 2005	EGR702	702	SYSTEMS ENGRG & ANALYSIS	EGR	ENGINEERING	4	Exposes students to the design of systems and tools for the analysis of complex technological systems.	GR		Lecture
Fall 2005	EGR703	703	COMPUTATIONAL EGRG ANALY	EGR	ENGINEERING	4	Course is designed to expose students to practical and efficient computational techniques that are routinely encountered in modeling, simulation, and analysis of engineering problems.	GR		Lecture
Fall 2005	EGR704	704	DESIGN OPTIMIZATION	EGR	ENGINEERING	4	Concepts of minima and maxima; linear, dynamic, integer and nonlinear programming; variational methods. Interdisciplinary engineering applications are emphasized.	GR		Lecture

Fall 2005	EGR705	705	DES&ANAL OF EGR EXPERIMNT	EGR	ENGINEERING	4	Introduction to planning and analysis of engineering experiments. Topics include basic statistics review, linear models, regression, analysis of variance, experiment designs, response surface methods, and engineering applications.	GR		Lecture
Fall 2005	EGR789	789	CONTINUING REGISTRATION	EGR	ENGINEERING	1		GR	I	Independent Study
Fall 2005	EGR890	890	SPECIAL PROBLEMS IN EGR	EGR	ENGINEERING	1		GR	I	Independent Study
Fall 2005	EGR891	891	PH.D. SEMINAR	EGR	ENGINEERING	1	Ph.D. seminar course required of all students seeking the Ph.D. in Engineering. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	EGR899	899	THESIS	EGR	ENGINEERING	1	Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	ENG530	530	BUSINESS WRITING	ENG	ENGLISH	4	Written business and organizational communication; attention to various forms including short reports and informal oral presentations.	GR		Lecture
Fall 2005	ENG533	533	FUND OF TECHNICAL WRITING	ENG	ENGLISH	4	Survey of the fundamental principles and skills used in scientific and technical writing.	GR		Lecture
Fall 2005	ENG543	543	ADVANCED COMPOSITION	ENG	ENGLISH	4	Emphasis on sophisticated techniques of expository writing and the refinement of style.	GR		Lecture

Fall 2005	ENG544	544	RESEARCH WRITING	ENG	ENGLISH	4	Instruction in organization, documentation, and writing of research papers. Research projects based not only on primary and secondary sources but also on experiment and investigation.	GR		Lecture
Fall 2005	ENG547	547	DESKTOP PUB & TECH GRAPH	ENG	ENGLISH	4	Introduction to computer applications for a variety of both print and online publications, including page design and layout, writing and editing.	GR		Lecture
Fall 2005	ENG600	600	ADV TECHNICAL WRITING	ENG	ENGLISH	4	Courses, seminars, or workshops in specialized topics relating to writing with computers.	GR		Lecture
Fall 2005	ENG602	602	TECHNICAL EDITING	ENG	ENGLISH	4	Instruction and experience in editing technical and professional documents, including both print and online publicatons. Covers types of editing, the production process and issues in editing.	GR		Lecture
Fall 2005	ENG605	605	TOPICS IN TECH WRITING	ENG	ENGLISH	1	Courses, seminars, or workshops in specialized topics relating to business, technical, and professional writing.	GR		Lecture
Fall 2005	ENG610	610	STUDIES IN BRITISH LIT	ENG	ENGLISH	4	Intensive study of British literary history and/or the work of individual British writers. Intended to develop an understanding of literature within the contexts of the author↕s life, literary production, or historical background.	GR		Lecture

Fall 2005	ENG620	620	STUDIES IN AMERICAN LIT	ENG	ENGLISH	4	Intensive study of American literary history and/or the work of individual American writers. Intended to develop an understanding of literature within the contexts of the author↕s life, literary production, or historical background.	GR		Lecture
Fall 2005	ENG630	630	LIT, GENDER & SEXUALITY	ENG	ENGLISH	4	Intensive study of literature from the perspectives of gender theory. Intended to develop an understanding of gender and sexuality as important both to literature and to its critical appreciation.	GR		Lecture
Fall 2005	ENG640	640	ETHNIC & REGIONAL LIT	ENG	ENGLISH	4	Intensive study of literature from different regions of America or reflecting the experiences of different ethnic groups. Intended to develop an understanding of race, region, and ethnicity as important both to literature and to its critical appreciation.	GR		Lecture
Fall 2005	ENG650	650	STUDIES IN LIT THEORY	ENG	ENGLISH	4	Intensive study of literary theory in order to develop an understanding of critical questions and approaches.	GR		Lecture
Fall 2005	ENG654	654	FEATURE STORY WRITING	ENG	ENGLISH	4	(Also listed as COM 654.) Includes finding, writing, polishing, and marketing feature material.	GR		Lecture

Fall 2005	ENG658	658	EDITING FOR THE MEDIA	ENG	ENGLISH	4	(Also listed as COM 658.) Editing copy for mass media with emphasis on newspaper format, headline writing, rewriting, and general copy desk.	GR		Lecture
Fall 2005	ENG660	660	LITERARY GENRES & THEMES	ENG	ENGLISH	4	Intensive study of literary genres (e.g. poetry, the novel, satire) or of literary themes. Intended to develop an understanding of formal and structural aspects of literature.	GR		Lecture
Fall 2005	ENG670	670	STUDIES IN WORLD LIT	ENG	ENGLISH	4	Intensive study, in English, of non-European literature, focused nationally, regionally, cross-culturally, thematically, or generically.	GR		Lecture
Fall 2005	ENG677	677	WORKSHOP	ENG	ENGLISH	1	Intensive study of selected special topics or problems designed to meet the needs of participating students. Titles vary.	GR		Lecture
Fall 2005	ENG678	678	INTRO TO LINGUISTICS	ENG	ENGLISH	4	Presents a survey of the scientific study of language and focuses on describing and explaining languages in their natural environment. Includes phonetics, phonology, morphology, syntax, semantics, pragmatics, and sociolinguistics.	GR		Lecture

Fall 2005	ENG679	679	HISTORY OF ENGLISH LANG	ENG	ENGLISH	4	Study of the ancestry and early growth of English, the history of English sounds and inflections, the development of the English vocabulary, and variations in pronunciation and usage in Modern British and American English.	GR		Lecture
Fall 2005	ENG680	680	LANGUAGE & LITERACY	ENG	ENGLISH	4	Intensive study of linguistic and/or rhetorical approaches to language. Intended to develop an understanding of language history, structure, theory, pedagogy, and context.	GR		Lecture
Fall 2005	ENG681	681	THEORY OF ESL	ENG	ENGLISH	4	Presents a theoretical foundation for the study of second language acquisition, including first language acquisition, interlanguage, contrastive analysis, error analysis, language universals, communicative competence, and learning theory.	GR		Lecture
Fall 2005	ENG682	682	GRAMMATICAL STRUCT OF ENG	ENG	ENGLISH	4	Develops linguistic analysis skills to help students recognize, analyze, and remediate written and spoken grammatical errors in ESL/EFL instructional contexts. Also focuses on pedagogical aspects of grammar instruction to nonnative speakers of English.	GR		Lecture

Fall 2005	ENG683	683	SOCIOLINGUISTICS	ENG	ENGLISH	4	Examines the sociology of language, the ethnography of speaking, the variation in language structures, the social varieties of English, with their political and educational implications, and the relationship of these to second language acquisition.	GR		Lecture
Fall 2005	ENG684	684	TESOL METHODS/MATERIALS	ENG	ENGLISH	4	Develops skills in designing curricula through creating and adapting appropriate materials and activities, as well as evaluation and effectively using existing methodologies and materials available to the teacher of ESL/EFL.	GR		Lecture
Fall 2005	ENG685	685	STUDIES IN ENG EDUCATION	ENG	ENGLISH	2	(Also listed as ED 620.) Focuses on theoretical issues and practical problems of teaching English at all levels, including the teaching of writing and teaching of English to speakers of other languages (TESOL). Titles vary.	GR		Lecture
Fall 2005	ENG687	687	TESOL ASSESSMENT	ENG	ENGLISH	4	Investigates key concepts and underlying theories in the field of language assessment. Looks at purposes and types of assessment with a focus on the development and use of authentic assessment for English Language learners.	GR		Lecture

Fall 2005	ENG692	692	POETRY WRITING SEMINAR	ENG	ENGLISH	4	Advanced students work closely with instructor on writing and revising, leading to the creation of professional and publishable poetry. Reading and discussion of contemporary poetry and poetics. May be repeated twice for credit.	GR	S	Seminar
Fall 2005	ENG693	693	FICTION WRITING SEM	ENG	ENGLISH	4	Advanced study and practice of the techniques and forms of fiction of any length, with emphasis on producing fiction of professional and publishable quality. May be repeated twice for credit.	GR	S	Seminar
Fall 2005	ENG700	700	RESEARCH IN LANG & WRIT	ENG	ENGLISH	4	Introduction to research in language and writing. Emphasis on finding and using library resources, surveying research designs, and understanding and reporting research in the human sciences.	GR		Lecture
Fall 2005	ENG701	701	RESEARCH IN LIT STUDIES	ENG	ENGLISH	4	Examination of the aims and approaches of scholarly study of literature and the tools and methods of literary research. Emphasis on the problems of collecting, evaluating, and reporting the findings of scholarly study.	GR		Lecture

Fall 2005	ENG702	702	LIT CRIT:THEORY/ PRACTICE	ENG	ENGLISH	4	Examines literary criticism and theories of textuality that are being applied to literature. Emphasis is placed on understanding the development and application of contemporary theories of literature and their effect on the study of literature.	GR		Lecture
Fall 2005	ENG703	703	TEACHING COLLEGE COMP I	ENG	ENGLISH	4	Introduction to the theory and pedagogy of college-level writing courses. Requires concurrent teaching or tutorial experience. Required of all first-year English teaching assistants.	GR		Lecture
Fall 2005	ENG704	704	TEACHING COLLEGE COMP II	ENG	ENGLISH	2	Introduction to the theory and pedagogy of college-level writing courses. Requires concurrent teaching or tutorial experience. Required of all first-year English teaching assistants.	GR		Lecture
Fall 2005	ENG707	707	THE NATURE OF LANGUAGE	ENG	ENGLISH	4	Consideration of the sources and processes of language and its relationship to thought, imagination, and symbolic form. Emphasis on the contributions of anthropology, linguistics, philosophy, psychology, and sociology to our understanding of language.	GR		Lecture

Fall 2005	ENG710	710	THE CREATIVE PROCESS	ENG	ENGLISH	4	Survey of the theoretical and practical aspects of literary creativity including such considerations as the creative imagination and writers' practice of their craft. Includes practice in the creation of original work.	GR		Lecture
Fall 2005	ENG711	711	RHETORIC	ENG	ENGLISH	4	Introduction to rhetoric as related to the written word. Covers the history of rhetoric, current rhetorical theory, and the application of rhetorical theory to the study of literature and composition.	GR		Lecture
Fall 2005	ENG712	712	STYLE IN WRITING	ENG	ENGLISH	4	Introduction to the theoretical and practical study of style in writing, with emphasis on the development of English prose style and practice in stylistic analysis.	GR		Lecture
Fall 2005	ENG716	716	THE STUDY OF LITERATURE	ENG	ENGLISH	4	Current approaches to the study of literature in the classroom. Topics include literary types, analysis, evaluation, and the relationship of literature to other disciplines.	GR		Lecture
Fall 2005	ENG717	717	THE STUDY OF WRITING	ENG	ENGLISH	4	Current approaches to writing and the study of composition in the classroom. Topics include whole language, invention, revision, stylistics, editing, the analysis of student writing, and effective pedagogical practice. Titles vary.	GR		Lecture

Fall 2005	ENG718	718	PROFESSIONAL WRITING	ENG	ENGLISH	4	Current approaches to the study of technical, business, and other specialized writing. Critical and historical analyses are supplemented by assignments in writing the studied forms.	GR		Lecture
Fall 2005	ENG720	720	SEM IN LIT AND GENDER	ENG	ENGLISH	4	Reading, research, reports, and discussion of topics dealing with gender and literature (e.g., literature by and about women, feminist critical theory and practice, and gender roles in literature). Titles vary.	GR	S	Seminar
Fall 2005	ENG721	721	TEACHING LIT AND GENDER	ENG	ENGLISH	4	Study of materials, topics, texts, and methodology appropriate to teaching gender studies in literature. Includes an assigned lesson and a research project.	GR		Lecture
Fall 2005	ENG730	730	SEMINAR: MAJOR WRITERS	ENG	ENGLISH	4	Reading, research, reports, and discussion on topics dealing with a single writer or two closely related ones (e.g., Chaucer, Melville, Joyce, or Wordsworth and Coleridge).	GR	S	Seminar
Fall 2005	ENG731	731	TEACHING MAJOR WRITERS	ENG	ENGLISH	4	Study of materials, topics, texts, and methodology appropriate to teaching a single writer or two closely related ones. Includes an assigned lesson and a research project.	GR		Lecture

Fall 2005	ENG740	740	SEMINAR: LITERARY GENRES	ENG	ENGLISH	4	Reading, research, reports, and discussion on topics dealing with a single literary genre (e.g., epic, novel, tragedy, lyric poetry, or historical drama).	GR	S	Seminar
Fall 2005	ENG741	741	TEACHING LITERARY GENRES	ENG	ENGLISH	4	Study of materials, topics, texts, and methodology appropriate to teaching a single literary genre. Includes an assigned lesson and a research project.	GR		Lecture
Fall 2005	ENG750	750	SEMINAR: CULTURAL PERIODS	ENG	ENGLISH	4	Reading, research, reports, and discussion of topics dealing with the literature and culture of particular historical periods or with literary movements (e.g., the Middle Ages, the age of Johnson, romanticism, or the twenties).	GR	S	Seminar
Fall 2005	ENG751	751	TEACHING CULTURAL PERIOD	ENG	ENGLISH	4	Study of materials, topics, texts, and methodology appropriate to teaching the literature and culture of particular historical periods or teaching literary movements. Includes an assigned lesson and a research project.	GR		Lecture
Fall 2005	ENG760	760	SEM: SPEC LITERARY PROBL	ENG	ENGLISH	4	Reading, research, reports, and discussion on topics dealing with special problems such as literary themes, literary conventions, literature in relation to other disciplines, literary backgrounds, critical approaches, and interdisciplinary study.	GR	S	Seminar

Fall 2005	ENG761	761	TEACHING SPEC LIT PROBS	ENG	ENGLISH	4	Study of materials, topics, texts, and methodology appropriate to teaching special problems such as literary themes, literary conventions, literature in relation to other disciplines. Includes an assigned lesson and a research project.	GR		Lecture
Fall 2005	ENG770	770	SEM IN ENGLISH LANGUAGE	ENG	ENGLISH	4	Reading, research, reports, projects, and discussion on English linguistic topics, including phonetics, phonology, morphology, syntax, semantics, pragmatics, discourse analysis, text linguistics, sociolinguistics, psycholinguistics, language acquisition, and historical linguistics.	GR	S	Seminar
Fall 2005	ENG780	780	SEMINAR IN WRITING	ENG	ENGLISH	4	Reading, research, reports, and discussion on topics dealing with the theory and pedagogy of writing (e.g., response to writing, writing across the curriculum, computers and composition).	GR	S	Seminar
Fall 2005	ENG789	789	CONTINUING REGISTRATION	ENG	ENGLISH	1		GR	I	Independent Study
Fall 2005	ENG791	791	INDEPENDENT STUDY	ENG	ENGLISH	1	Faculty-directed independent study in literature or language usually requiring reports and conferences with the instructor. A maximum of four credits may be applied to the M.A. degree.	GR	I	Independent Study

Fall 2005	ENG793	793	CLASSROOM RESEARCH ENG	ENG	ENGLISH	1	Study, discussion, and application of techniques of observational research in the English/language arts classroom. Students will design, carry out, and write a research project. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	ENG795	795	INTERN & APPRENTICESHIP	ENG	ENGLISH	4	Supervised college-level teaching, archival work, or professional writing. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	ENG799	799	THESIS	ENG	ENGLISH	4	To be arranged with the Director of Graduate Studies. Students will be allowed a maximum of eight hours thesis credit toward the degree.	GR	I	Independent Study
Fall 2005	EP 600	600	SEMICONDUCTOR MATERIALS	EP	ENGINEERING PHYSICS	3	(Also listed as PHY 600.) Study of crystal and electron band structure; selected topics in quantum theory; charge carriers in semiconductors; electrical and optical properties; and the structure and characteristics of p-n junctions. Also, the generation, recombination, and motion of charge carriers.	GR		Lecture
Fall 2005	EP 601	601	SEMICONDUCTOR DEV PHYSICS	EP	ENGINEERING PHYSICS	3	(Also listed as PHY 601.) Study of the structure and characteristics of bipolar transistors, field effect transistors, and other selected devices. Also covers design and computer modeling of devices.	GR		Lecture

Fall 2005	EP 602	602	SEMICONDUCTOR DEV PROCESS	EP	ENGINEERING PHYSICS	3	(Also listed as PHY 602.) Survey of the individual processes used in fabricating semiconductor devices. Integration of these processes to produce MOS and bipolar structures. Computer design aids.	GR		Lecture
Fall 2005	EP 622	622	APPLIED OPTICS	EP	ENGINEERING PHYSICS	4	(Also listed as PHY 622.) Study of optical instruments by means of both geometric and physical optics. Theory and applications of interferometry and light detection devices. Brief introduction to lasers and holography. 4 hours lab for five weeks, 3 hours lecture.	GR		Lecture
Fall 2005	EP 632	632	LASERS	EP	ENGINEERING PHYSICS	3	Introduction to the physics of lasers including emission and absorption processes in lasing, the factors controlling laser gain, the properties of optical resonators, and a survey of salient features for principal types of lasers.	GR		Lecture
Fall 2005	FIN702	702	MGT OF FIN INSTITUTIONS	FIN	FINANCE	3	Analysis of issues relating to the financial management of financial institutions.	GR		Lecture
Fall 2005	FIN710	710	INVESTMENT MANAGEMENT	FIN	FINANCE	3	Concepts, theories, and techniques underlying the development of investment policies and strategies.	GR		Lecture

Fall 2005	FIN711	711	SEMINAR IN INVESTMENTS	FIN	FINANCE	3	Advanced treatment of selected topics in investments including options, futures, and portfolio theory.	GR		Lecture
Fall 2005	FIN742	742	SEM IN FINANCIAL MANAGEMT	FIN	FINANCE	3	Advanced treatment of the theory and practice of long-term financial management. Topics include dividends, leasing, hybrid financing, derivatives and risk management, mergers and acquisitions, and divestitures.	GR		Lecture
Fall 2005	FIN743	743	SEM IN WKG CAPITAL MGT	FIN	FINANCE	3	Advanced treatment of the theory and practice of working capital management, including cash management, credit policy, inventory policy, and short-term financing strategies. Extensive use of outside readings.	GR		Lecture
Fall 2005	FIN750	750	FIN MGT HEALTH CARE ORGANIZ	FIN	FINANCE	3	Overview of the financial management function in health care organizations. Topics include budgeting, control, capital expenditure analysis, and rate settings.	GR		Lecture
Fall 2005	FIN760	760	SPECIAL TOPICS IN FIN	FIN	FINANCE	3	In-depth analysis of a current trend in finance. Titles vary.	GR	I	Independent Study
Fall 2005	FIN780	780	FINANCE INTERNSHIP	FIN	FINANCE	6	One-quarter internship in a selected private or governmental organization under the direction of a faculty advisor and employment supervisor.	GR		Lecture
Fall 2005	FIN781	781	SPECIAL STUDIES FIN	FIN	FINANCE	1	Intensive reading or research in a selected field of advanced finance.	GR	I	Independent Study

Fall 2005	FIN789	789	CONTINUING REGISTRATION	FIN	FINANCE	1		GR	I	Independent Study
Fall 2005	FIN790	790	SEM INTERNTL FIN MANAG	FIN	FINANCE	3	Advanced treatment of the concepts and techniques of international financial management.	GR		Lecture
Fall 2005	FIN799	799	THESIS	FIN	FINANCE	1		GR	I	Independent Study
Fall 2005	FR 590	590	FOREIGN LANG INSTITUTE	FR	FRENCH	8	For teachers of French. Intensive experience designed, through total immersion, to improve language skills (conversation and composition) and increase awareness of French civilization and contemporary culture.	GR		Lecture
Fall 2005	FR 603	603	ADV STUDIES:LANG CIVILIZA	FR	FRENCH	4	Course content will vary. Topic chosen by instructor. Conducted in French.	GR		Lecture
Fall 2005	FR 622	622	VILLON TO CHENIER	FR	FRENCH	4	Three centuries of French poetry: Villon, Sceve, Marot, Du Bellay, Ronsard, d'Aubigne, Malherbe, La Fontaine, Bioleau, Voltaire, Chenier.	GR		Lecture
Fall 2005	FR 623	623	17TH&18TH CENT NOVEL	FR	FRENCH	4	Mme de La Fayette, Scarron, Finelon, Montesquieu, Lesage, Privost, Diderot, and Ladlos. Graduate standing and instructor permission required.	GR		Lecture

Fall 2005	FR 641	641	LIBERTINES AND MORALISTS	FR	FRENCH	4	Libertines and Moralista: From Rabelais to Voltaire: Currents of skepticism and humanism in the intellectual history of France. Major authors: Rabelais, Montaigne, Cyrano de Bergerac, Saint-Evremond, La Bruyere, La Rochefoucauld, Bayle, Fontenelle, Diderot, Voltaire.	GR		Lecture
Fall 2005	FR 642	642	17TH & 18TH CENT THEATRE	FR	FRENCH	4	Works of Corneille, Moliere, Racine, Marivaux, Diderot, Voltaire, Beaumarchais.	GR		Lecture
Fall 2005	FR 643	643	THE ENLIGHTENMENT	FR	FRENCH	4	History of political and social ideas in eighteenth-century France. Based principally on works of Montesquieu, Diderot, Voltaire, and Rousseau.	GR		Lecture
Fall 2005	FR 650	650	INDEPENDENT GRAD RESEARCH	FR	FRENCH	1	Independent graduate research.	GR		Lecture
Fall 2005	FR 651	651	FRENCH ROMANTICISM	FR	FRENCH	4	From Rousseau to Hugo. Includes Bernardin de St. Pierre, Chateaubriand, Mme de Stael, Nodier, Lamartine, Vigny, Musset, Nerval.	GR		Lecture
Fall 2005	FR 652	652	NINETEENTH CENTURY NOVEL	FR	FRENCH	4	Chateaubriand, Constant, Stendhal, Balzac, Flaubert, Zola, and France.	GR		Lecture
Fall 2005	FR 653	653	POETRY: BAUDEL. TO BRETON	FR	FRENCH	4	Symbolists, Decadents, and Surrealists.	GR		Lecture

Fall 2005	FR 654	654	19TH CENTURY SHORT STORY	FR	FRENCH	4	Intensive study of such authors as Balzac, Stendhal, Nodier, Mirimie, Flaubert, Maupassant, and Huysmans.	GR		Lecture
Fall 2005	FR 662	662	TWENTIETH CENTURY LIT	FR	FRENCH	4	The novel.	GR		Lecture
Fall 2005	FR 663	663	20TH CENT LIT: DRAMA	FR	FRENCH	4	Study of modern French theatre including: Cocteau, Giraudoux, Anouilh, Beckett, Ionesco.	GR		Lecture
Fall 2005	FR 665	665	PROBLEMS IN FRENCH LIT	FR	FRENCH	4	Examination of selected topics in French literature to investigate various themes, myths, genres, literary movements, or characters. Titles vary.	GR		Lecture
Fall 2005	FR 681	681	IND READ FOR GRAD STUDENT	FR	FRENCH	4	Independent reading for graduate students.	GR		Lecture
Fall 2005	FR 682	682	IND READ FOR GRAD STUDENT	FR	FRENCH	4	Independent reading for graduate students.	GR		Lecture
Fall 2005	GEO531	531	METEROLOGY	GEO	GEOGRAPHY	4		GR		Lecture
Fall 2005	GEO534	534	CLIMATOL EARTH SCI TEACHS	GEO	GEOGRAPHY	4	Interaction of weather and climate with the various earth systems. Includes observation, measurement, and analysis of meteorological elements and controls.	GR		Lecture
Fall 2005	GEO560	560	SYSTEMATIC GEOGRAPHY	GEO	GEOGRAPHY	4	Geographic factors of various topics will be analyzed. Specific topic of field of concentration announced each time course is offered. A maximum of 15 credits is permitted.	GR		Lecture

Fall 2005	GEO570	570	REGIONAL GEOGRAPHY:	GEO	GEOGRAPHY	4	Physical and cultural analysis of major and minor world regions. Topics vary.	GR		Lecture
Fall 2005	GEO599	599	STUDIES IN SELECTED SUBJ	GEO	GEOGRAPHY	1	Examination of the influence of selected physical characteristics of the atmosphere in determining the range of vision of remote sensors and the effect of these atmospheric factors on remotely sensed imagery.	GR	I	Independent Study
Fall 2005	GEO612	612	URBAN PLAN II: PRINC	GEO	GEOGRAPHY	4	The role of planning in urban and regional structures and duties and responsibilities of planning commissions are discussed. The process of preparing comprehensive plans is pursued. Study items include population change, the economic base, and employment change. The determinants of future urban structure are evaluated.	GR		Lecture
Fall 2005	GEO613	613	URBAN PLAN III: LAND USE	GEO	GEOGRAPHY	4	Process of preparing comprehensive urban plans. Methods for assessing land-use conditions, housing patterns, and urban deterioration. Students participate in the development of a land-use plan for a selected area.	GR		Lecture

Fall 2005	GEO614	614	URBAN PLANNING SEMINAR	GEO	GEOGRAPHY	4	Examination of urban plans and planning proposals. Includes future land use plans, community facilities and public utility plans, and traffic and circulation plans. Considers modern theories of planning and the planning and design of new communities.	GR		Lecture
Fall 2005	GEO630	630	CLIMATOLOGY I	GEO	GEOGRAPHY	4	Covers observation, measurement, and analysis of climatic elements/controls, classifications, and relationship to human economic and social activities.	GR		Lecture
Fall 2005	GEO632	632	CLIMATOLOGY II	GEO	GEOGRAPHY	4	Principles of physical and dynamical climatology. Evaluation of local and regional transports and conversions of energy in the earth-atmosphere system.	GR		Lecture
Fall 2005	GEO645	645	INTERMED CARTOG&MAP INTER	GEO	GEOGRAPHY	5	Study and practice of compilation processes for the development of maps and models using remotely sensed data sources. 4 hours lecture, 1 hour lab.	GR	L	Lab
Fall 2005	GEO646	646	MAP & PHOTO INTERPRETION	GEO	GEOGRAPHY	4	Uses of map and photographic data in close and long range photogrammetry. Emphasis on the full spectrum of photo interpretation as applied to the controlled mapping of terrestrial and marine surfaces.	GR	L	Lab

Fall 2005	GEO647	647	GEOGRAPHIC INFO SYSTEMS	GEO	GEOGRAPHY	5	Principles, structures, and applications of geographic information systems and use of data from topographic, remotely sensed, and photogrammetric sources.	GR		Lecture
Fall 2005	GEO648	648	GIS APPLICATIONS	GEO	GEOGRAPHY	5	Students apply GIS techniques to solve public/private sector information and development problems. Solutions entail data analysis and forecasting, using ARC/INFO geographic information system methods.	GR		Lecture
Fall 2005	GEO655	655	GEO OF TRANSPORTATION	GEO	GEOGRAPHY	4	Analysis of spatial aspects and structural characteristics of transport networks, the movement of goods, and their relationship to regional structures.	GR		Lecture
Fall 2005	GEO658	658	HUMAN PERCEPT IN RES MGT	GEO	GEOGRAPHY	4	A study of the spatial factors influencing human response and decision making in resource use schema. Attention is given to the manner in which man perceives environmental elements and apprehends resources and natural hazards such as floods and droughts.	GR		Lecture
Fall 2005	GEO662	662	REMOTE SENSING OF ENVIR	GEO	GEOGRAPHY	4	Application of remote sensing techniques to environmental and resource problems. Emphasis on optimizing sensor selection to enhance image information content.	GR		Lecture

Fall 2005	GEO662	662	REMOTE SENSING OF ENVIRON	GEO	GEOGRAPHY	4	Application of remote sensing techniques to environmental and resource problems. Emphasis on optimizing sensor selection to enhance image information content.	GR	L	Lab
Fall 2005	GEO663	663	GEO APPL REM-SENSED DATA	GEO	GEOGRAPHY	4	Application of geographic methodology to problems employing photographic and machine-processed multispectral scanner data that are used in academic research, environmental analysis, and planning.	GR		Lecture
Fall 2005	GEO663	663	GEO APPL REM-SENSED DATA	GEO	GEOGRAPHY	4	Application of geographic methodology to problems employing photographic and machine-processed multispectral scanner data that are used in academic research, environmental analysis, and planning.	GR	L	Lab
Fall 2005	GEO665	665	CARTOGRAPHY	GEO	GEOGRAPHY	5	Principles of map projections and their construction and use in illustrating geographic relationships. Includes methods of design, compilation, and graphic representation of data. 4 hours lecture, 1 hour lab.	GR	L	Lab

Fall 2005	GEO666	666	SEM IN URBAN GEOGRAPHY	GEO	GEOGRAPHY	4	A consideration of the geographic perspective in the study of cities. Through review of the literature, recent developments in theory, method, and techniques in urban geographic research are examined, with particular emphasis on the behavioral approach.	GR		Lecture
Fall 2005	GEO681	681	SPECIAL PROBLEMS IN GEO	GEO	GEOGRAPHY	1	Research and problems designed for specific needs and talents of the students. Titles vary.	GR	I	Independent Study
Fall 2005	GEO682	682	SPECIAL PROBLEMS IN GEO	GEO	GEOGRAPHY	1	Supervised individual study of special problems or specific regions.	GR	I	Independent Study
Fall 2005	GEO684	684	BIOGEOGRAPHY	GEO	GEOGRAPHY	3	Introduction to factors affecting the geographical distribution of plants and animals. Offered jointly with the Department of Biological Sciences. Students registering for GEO 684 for three credits attend lectures only; registration for GEO 684 for four credits requires an additional laboratory section.	GR		Lecture
Fall 2005	GEO789	789	CONTINUING REGISTRATION	GEO	GEOGRAPHY	1		GR	I	Independent Study

Fall 2005	GER590	590	FOREIGN LANG INSTITUTE	GER	GERMAN	8	For teachers of German. Intensive experience designed, through total immersion, to improve language skills (conversation and composition) and awareness of German civilization and contemporary culture.	GR		Lecture
Fall 2005	GER603	603	LANGUAGE CIVILIZATION	GER	GERMAN	4	Course content varies. Topic chosen by instructor. Conducted in German.	GR		Lecture
Fall 2005	GER616	616	GERMAN LIT. 18TH CENTURY	GER	GERMAN	4	Representative works of Goethe and Schiller.	GR		Lecture
Fall 2005	GER625	625	GER LIT 19TH CENT:PROSE	GER	GERMAN	4	Representative works of Eichendorff, Hoffmann, Keller, Meyer, Storm, Fontane, and others.	GR		Lecture
Fall 2005	GER631	631	GER LIT 20TH CENT: PROSE	GER	GERMAN	4	Readings and reports in twentieth-century literature. Representative works of Hesse, Mann, Kafka, and others.	GR		Lecture
Fall 2005	GER632	632	GER LIT 20TH CENT: DRAMA	GER	GERMAN	4	Readings and reports in twentieth-century literature. Representative works of Schnitzler, Hofmannsthal, Kaiser, Toller, Brecht, and others.	GR		Lecture
Fall 2005	GER650	650	IND GRAD RESEARCH	GER	GERMAN	1	Titles vary.	GR		Lecture
Fall 2005	GER681	681	IND READ FOR GRAD STUDENTS	GER	GERMAN	4	Independent reading for graduate students. Repeatable for up to 12 hours.	GR		Lecture

Fall 2005	GER682	682	IND READ FOR GRAD STUDENTS	GER	GERMAN	4	Independent reading for graduate students.	GR		Lecture
Fall 2005	GL 599	599	SPECIAL PROBLEMS	GL	GEOLOGY	1	Research and problems designed for specific needs and talents of the students.	GR	I	Independent Study
Fall 2005	GL 601	601	ROCKS AND MINERALS	GL	GEOLOGY	4.5	Study of the structure, symmetry and composition of minerals. The composition, classification, and origin of rocks. Lab emphasizes mineral and rock identification.	GR		Lecture
Fall 2005	GL 604	604	EARTH RES & ENV QUALITY	GL	GEOLOGY	3	Study of Earth Resources as the economic base of civilization. Natural geologic processes and geochemical cycles of global change are compared with human-induced impact on the environment. Emerging trends in technology and policy matters and their influence on environmental quality are analyzed.	GR		Lecture
Fall 2005	GL 605	605	GRND-WATER MONITOR & REM	GL	GEOLOGY	4	Study of the principles of ground water monitoring and cleanup system design. Theory and field practices for monitoring well drilling/installation, lysimeter installation for natural and contaminated groundwater, etc. Field visits of sites with contaminated aquifers undergoing remediation. Graded pass/unsatisfactory.	GR		Lecture

Fall 2005	GL 606	606	EARTH SCIENCE FOR TCHRS	GL	GEOLOGY	4.5	Sources and forms of energy operating on the earth and the effects of these operations on the origin, history, and evolution of the earth. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	GL 606	606	EARTH SCI FOR TEACHR LAB	GL	GEOLOGY	0	Sources and forms of energy operating on the earth and the effects of these operations on the origin, history, and evolution of the earth. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	GL 607	607	EARTH SCI FOR TCHR LAB	GL	GEOLOGY	0	Inquiry-Based instruction of essential concepts in physical and historical geology, the atmosphere, oceans and seasons.	GR	L	Lab
Fall 2005	GL 607	607	EARTH SCI FOR TEACHERS	GL	GEOLOGY	4.5	The sources and forms of energy operating on the earth and the effects of these operations on the origin, history, and evolution of the earth. 3 hours lecture, 3 hours lab. This course cannot be applied toward the M.S. degree in Geology.	GR		Lecture
Fall 2005	GL 608	608	EARTH SCI FOR TCHR LAB	GL	GEOLOGY	0	The sources and forms of energy operating on the earth and the effects of these operations on the origin, history, and evolution of the earth. 3 hours lecture, 3 hours lab. This course cannot be applied toward the M.S. degree in Geology.	GR	L	Lab

Fall 2005	GL 608	608	EARTH SCI FOR TEACHERS	GL	GEOLOGY	4.5	The sources and forms of energy operating on the earth and the effects of these operations on the origin, history, and evolution of the earth. 3 hours lecture, 3 hours lab. This course cannot be applied toward the M.S. degree in Geology.	GR		Lecture
Fall 2005	GL 609	609	ENVIRONMENTAL GL LAB	GL	GEOLOGY	0	Hazards from geologic materials: reactive minerals, the asbestos controversy, radioactive and toxic gasses. Hazards from geologic processes: earthquakes, volcanic eruptions, slope processes, subsidence, floods, coastal hazards. Geologic hazards monitoring, mitigation, and avoidance. Risk evaluation. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	GL 609	609	GL HAZRD & ENVIRN QUAL	GL	GEOLOGY	4	Hazards from geologic materials: reactive minerals, the asbestos controversy, radioactive and toxic gasses. Hazards from geologic processes: earthquakes, volcanic eruptions, slope processes, subsidence, floods, coastal hazards. Geologic hazards monitoring, mitigation, and avoidance. Risk evaluation. 3 hours lecture, 3 hours lab.	GR		Lecture

Fall 2005	GL 611	611	STRUCTURAL GEOLOGY	GL	GEOLOGY	4.5	Geometry of the structural features of rocks, their geographic distribution, and possible causes. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	GL 611	611	STRUCTURAL GEOLOGY LAB	GL	GEOLOGY	0	Geometry of the structural features of rocks, their geographic distribution, and possible causes. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	GL 617	617	THEORETICAL HYDROLOGY	GL	GEOLOGY	3	Introduction to mathematical and physical concepts in hydrology; equations of flow of ground water; mathematical modeling of boundary value problems in hydrology; and steady state and unsteady state behavior.	GR		Lecture
Fall 2005	GL 620	620	REGIONAL TECTONICS	GL	GEOLOGY	3	Study of the structure of the Earth as revealed by solid earth geophysics and dynamics of internal geologic processes, and of the large-scale tectonic structure of the North American continent obtained through the Decade of North American Geology Project.	GR		Lecture
Fall 2005	GL 621	621	GRNDWATR LAW & REG PRIN	GL	GEOLOGY	3	A case study approach to understanding current federal, state, and local ground water laws and regulations.	GR		Lecture

Fall 2005	GL 622	622	INTR APPLIED GEOPHYSICS	GL	GEOLOGY	5	Introduction to gravity, magnetic, seismic, and electrical methods of subsurface investigation.	GR		Lecture
Fall 2005	GL 622	622	INTR APPL GEOPHYSICS LAB	GL	GEOLOGY	0	Introduction to gravity, magnetic, seismic, and electrical methods of subsurface investigation.	GR	L	Lab
Fall 2005	GL 623	623	SEISMIC EXPLORATION	GL	GEOLOGY	4	Theory, observation, and analysis of seismic phenomena as applied to geologic exploration. 2 hours lecture, 4 hours lab.	GR		Lecture
Fall 2005	GL 623	623	SEISMIC EXPLORATION LAB	GL	GEOLOGY	0	Theory, observation, and analysis of seismic phenomena as applied to geologic exploration. 2 hours lecture, 4 hours lab.	GR	L	Lab
Fall 2005	GL 624	624	GRAV & MAG EXPLORATION	GL	GEOLOGY	4	Study of the theory of the earth's gravitational and magnetic fields and the application of these principles to resource exploration. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	GL 624	624	GRAV & MAG EXPLOR LAB	GL	GEOLOGY	0	Study of the theory of the earth's gravitational and magnetic fields and the application of these principles to resource exploration. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	GL 625	625	TOPICAL CONC GEOPHYSICS	GL	GEOLOGY	4	Special topics in geophysics. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	GL 625	625	TOP CONC GEOPHYSICS LAB	GL	GEOLOGY	0	Special topics in geophysics. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	GL 626	626	GEOPHYSICS SEMINAR	GL	GEOLOGY	1	Literature survey and student presentations on selected topics in geophysics. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	GL 627	627	REGIONAL STRUCTURAL SYN	GL	GEOLOGY	4	Synthesis of diverse structural, geophysical, and remote sensing data and their application to regional tectonic interpretation and natural resource evaluation. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	GL 627	627	REGION STRUCTURAL SYN LAB	GL	GEOLOGY	0	Synthesis of diverse structural, geophysical, and remote sensing data and their application to regional tectonic interpretation and natural resource evaluation. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	GL 628	628	GEOLOGY COLLOQUIUM	GL	GEOLOGY	0.5	Selected geological topics discussed by students, guest speakers, and faculty. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	GL 629	629	ROCK FRACTURE/FRAC RESERV	GL	GEOLOGY	3	Covers controls on inception and growth of rock fractures; elements of fractography and applications; characterizations of fractures in outcrop and core; and fractures as a reservoir anisotropy. Exercises include fracture logging in actual core. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	GL 631	631	ELEC METHODS IN ENV GEOP	GL	GEOLOGY	4	The principles and practices of acquisition and interpretation of data from electrical and electromagnetic geophysical techniques.	GR		Lecture
Fall 2005	GL 632	632	SED SYST & SEQ:CARBONATES	GL	GEOLOGY	4.5	Interpretation of ancient and modern carbonate systems using sequence stratigraphic principles. Carbonate facies models as predictive tools for hydrocarbon exploration and aquifer modeling. Composition, origin, and diagenesis of carbonate rocks.	GR		Lecture
Fall 2005	GL 632	632	CARB SEDIM & PETROL LAB	GL	GEOLOGY	0	Interpretation of ancient and modern carbonate systems using sequence stratigraphic principles. Carbonate facies models as predictive tools for hydrocarbon exploration and aquifer modeling. Composition, origin, and diagenesis of carbonate rocks.	GR	L	Lab

Fall 2005	GL 633	633	GEOPHYS FIELD RESEARCH	GL	GEOLOGY	1	Geophysical research participation in a project of the department. Content and techniques will depend on the particular project, but will normally have an extensive component of field data acquisition. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	GL 634	634	FIELD GEOLOGY	GL	GEOLOGY	9	Geologic phenomena illustrated in the field. Introduction of mapping techniques and the application of many geologic disciplines to geologic analysis.	GR		Lecture
Fall 2005	GL 634	634	FIELD GEOLOGY LAB	GL	GEOLOGY	0	Geologic phenomena illustrated in the field. Introduction of mapping techniques and the application of many geologic disciplines to geologic analysis.	GR	L	Lab
Fall 2005	GL 636	636	DIAGENESIS OF SED ROCKS	GL	GEOLOGY	3	Theory and application of petrographic techniques to studies of carbonate and clastic rocks, with emphasis on diagenesis and porosity development. 2 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	GL 636	636	DIAGEN SED ROCKS LAB	GL	GEOLOGY	0	Theory and application of petrographic techniques to studies of carbonate and clastic rocks, with emphasis on diagenesis and porosity development. 2 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	GL 637	637	SUBSURF DIG IMAG & PROCES	GL	GEOLOGY	4	Digital processing and visualization of seismic reflection and ground penetrating radar data. 2 hours lecture, 4 hours lab.	GR		Lecture
Fall 2005	GL 638	638	SEISMIC INTERPRETATI ON	GL	GEOLOGY	3	Interpretation methods for seismic reflection data are studied with emphasis on structural and stratigraphic interpretation for petroleum traps.	GR		Lecture
Fall 2005	GL 638	638	SEISMIC INTERPRET LAB	GL	GEOLOGY	0	Interpretation methods for seismic reflection data are studied with emphasis on structural and stratigraphic interpretation for petroleum traps.	GR	L	Lab
Fall 2005	GL 641	641	ADVANCED FACIES ANALYSIS	GL	GEOLOGY	4	Facies models as prediction tools in oil and gas exploration, interpretation of seismic 2D and 3D data, and resolving ground water and environmental problems in non-regolith aquifers.	GR		Lecture

Fall 2005	GL 642	642	FOSSIL VERTBRT & PLANTS	GL	GEOLOGY	4.5	Morphology, geologic record, and geographic distribution of major vertebrate and plant groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	GL 642	642	FOSSIL VERTEBR&PLNT LAB	GL	GEOLOGY	0	Morphology, geologic record, and geographic distribution of major vertebrate and plant groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	GL 643	643	INTERMEDIATE STRUCT LAB	GL	GEOLOGY	0	Development of the theory of rock behavior. Finite strain and gravity tectonics are discussed. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	GL 643	643	ADVANCED STRUCTURAL GL	GL	GEOLOGY	4	Development of the theory of rock behavior. Finite strain and gravity tectonics are discussed. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	GL 643	643	INTERMED STRUCT GL REC	GL	GEOLOGY	0	Development of the theory of rock behavior. Finite strain and gravity tectonics are discussed. 3 hours lecture, 2 hours lab.	GR	R	Recitation
Fall 2005	GL 644	644	FORMATION ANALYSIS	GL	GEOLOGY	4	Theory, application, and interpretation of geophysical logs with emphasis on their use in correlation and determining porosity, permeability, and fluid content of subsurface formations. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	GL 645	645	PETROLEUM GEOLOGY	GL	GEOLOGY	4	Hydrocarbon source rocks, maturation and migration, and reservoir rocks and traps. Fluids in the reservoir: gas, oil, water, and their relationships. Exploration for and production of hydrocarbons. Review of major petroleum basins and deposits.	GR		Lecture
Fall 2005	GL 646	646	SEQUENCE STRATIGRAPHY	GL	GEOLOGY	3	Provides a firm grounding in: the mechanisms that produce sea-level change, how sediments respond to these changes, and how the architecture of basins develop over time.	GR		Lecture
Fall 2005	GL 650	650	HYDROGEOLOGY	GL	GEOLOGY	4	Provides a fundamental understanding of basic hydrological principles including ground water flow and chemistry, surface water hydrology, unsaturated flow, and meteorology.	GR		Lecture
Fall 2005	GL 654	654	GRND WATER FLW AND TRANS	GL	GEOLOGY	4	Covers the occurrence and movement of ground water, and the advection and dispersion of contaminants in ground water flow regimes. Lab introduces interpreting the hydraulic properties of ground water flow regimes from field data. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	GL 655	655	HYDROGEOCHEMISTRY	GL	GEOLOGY	4	Lectures focus on the chemical interactions between natural waters and their geologic environments. Included are chemical principles, carbonate system, silicate equilibria and weathering, and redox reactions. Isotope hydrology and hydrochemical modeling are also introduced. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	GL 656	656	ENGINEERING GEOLOGY I	GL	GEOLOGY	4	Principles of engineering geology; application of geologic principles to engineering works. The impact and interrelationship of geologic processes on construction efforts. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	GL 656	656	ENGINEERING GL I LAB	GL	GEOLOGY	0	Principles of engineering geology; application of geologic principles to engineering works. The impact and interrelationship of geologic processes on construction efforts. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	GL 658	658	GROUND WATER MANAGEMENT	GL	GEOLOGY	3	Introduces the basic principles of ground water management, including case studies.	GR		Lecture
Fall 2005	GL 660	660	SEMINAR IN HYDROGEOLOGY	GL	GEOLOGY	0.5	Explores current topics and contemporary research programs and ideas. Graded pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	GL 661	661	GEOL/ENVIRO N APP OF GIS	GL	GEOLOGY	4	Study the concepts, terminology, data models, and basic analytical functions of geographic information system and its applications to solving environmental and geologic problems. ArcGIS is used for hands-on exercises and a class project.	GR		Lecture
Fall 2005	GL 662	662	PROCESS GEOMORPHOL OGY	GL	GEOLOGY	4	Study of the processes that create and modify landforms; classification of landforms and what they reveal of past geologic processes and climates.	GR		Lecture
Fall 2005	GL 663	663	GL APPLIC OF REMOTE SENS	GL	GEOLOGY	4	The use of aerial photographs, satellite and radar images for geological mapping, exploration of mineral resources, hydrogeology, hazard monitoring, environmental problems, and land use monitoring and analysis.	GR		Lecture
Fall 2005	GL 663	663	GL APPLIC REMOTE SENS LAB	GL	GEOLOGY	0	The use of aerial photographs, satellite and radar images for geological mapping, exploration of mineral resources, hydrogeology, hazard monitoring, environmental problems, and land use monitoring and analysis.	GR	L	Lab

Fall 2005	GL 668	668	GROUNDWATER CONTAMINATION	GL	GEOLOGY	4	Study of organic and inorganic pollutants in the groundwater. Behavior of organic pollutants in vadoze zone and saturated subsurface: vapor migration, dissolution, and sorption of LNAPL and DNAPL constituents. Chemical microbiological degradation, and fate of chlorinated and other hydrocarbons.	GR		Lecture
Fall 2005	GL 669	669	SITE REMEDIATION	GL	GEOLOGY	3	Study of chemical and microbiological degradation of pollutants in the subsurface. Diagnosis and assessment of contaminated sites. Concepts and techniques for LNAPL and DNAPL remediation: pump-and-treat, soil vapor extraction, bioventing/airsparging, chemical treatment, solvent extraction, and bioremediation.	GR		Lecture
Fall 2005	GL 670	670	ENVIRONMENT GEOCHEMISTRY	GL	GEOLOGY	4	Introduction to environmental organic pollutants. Concepts in behavior of pollutants: vapor pressure, solubility, air-water and solvent-water, partitioning, and sorption to solids. Chemical and microbial degradation of organic pollutants. Modeling concepts.	GR		Lecture

Fall 2005	GL 675	675	APPLIED HYDROGEOLOGY	GL	GEOLOGY	1	Interactive Remote Instructional System (IRIS) program in groundwater hydrology.	GR		Lecture
Fall 2005	GL 681	681	MINERAL & CRYSTALLOGRAPHY	GL	GEOLOGY	6	Study of crystal properties and crystal classes including approximately 100 important minerals. Laboratory includes stereoscopic and gnomic projections to identify crystal forms; physical properties to identify minerals in hand sample. 3 hours lecture, 6 hours lab.	GR		Lecture
Fall 2005	GL 681	681	MINERALOGY LAB	GL	GEOLOGY	0	Study of crystal properties and crystal classes including approximately 100 important minerals. Laboratory includes stereoscopic and gnomic projections to identify crystal forms; physical properties to identify minerals in hand sample. 3 hours lecture, 6 hours lab.	GR	L	Lab
Fall 2005	GL 683	683	SEDIMENTARY PETROLOGY	GL	GEOLOGY	4.5	Introduction to the optical properties of common minerals. Survey of sedimentary rocks in hand specimen, thin section, and field occurrence. 3 hours lecture, 3 hours lab.	GR		Lecture

Fall 2005	GL 684	684	IGNEOUS & METAMOR PETROL	GL	GEOLOGY	4.5	Study the origin of igneous and metamorphic rocks. Thin sections and hand specimens are used in the laboratory for mineral identification, rock structures, and classification. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	GL 685	685	STRATIGRAPHY	GL	GEOLOGY	4.5	Principles, rules, and techniques of correlation. Relationships between surface and subsurface correlation. Geologic and geophysical correlation techniques are emphasized in the laboratory. 3 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	GL 685	685	STRATIGRAPHY LAB	GL	GEOLOGY	0	Principles, rules, and techniques of correlation. Relationships between surface and subsurface correlation. Geologic and geophysical correlation techniques are emphasized in the laboratory. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	GL 686	686	INVERTEBRATE PALEONTOLOG Y	GL	GEOLOGY	4.5	Morphology, geologic record, and geographic distribution of major invertebrate groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab.	GR		Lecture

Fall 2005	GL 686	686	INVERTEB PALEON LAB	GL	GEOLOGY	0	Morphology, geologic record, and geographic distribution of major invertebrate groups characterized by significant fossil representation. 3 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	GL 687	687	SEDIMENTOLOGY	GL	GEOLOGY	4	Clastic rocks, their mineralogy, texture, provenance, and classification; nonclastic carbonates and other nonclastic rocks; and depositional environments and sedimentary structures. 3 hours lecture, 2 hours lab. Completion of an undergraduate course in stratigraphy is required.	GR		Lecture
Fall 2005	GL 687	687	SEDIMENTOLOGY LAB	GL	GEOLOGY	0	Clastic rocks, their mineralogy, texture, provenance, and classification; nonclastic carbonates and other nonclastic rocks; and depositional environments and sedimentary structures. 3 hours lecture, 2 hours lab. Completion of an undergraduate course in stratigraphy is required.	GR	L	Lab
Fall 2005	GL 699	699	SPECIAL PROBLEMS	GL	GEOLOGY	0.5	Research and problems designed for specific needs and talents of the students. May be taken for a letter grade or pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	GL 700	700	PRIN INSTRUCTION GEOLOGY	GL	GEOLOGY	1	A survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction. For graduate teaching assistants only.	GR		Lecture
Fall 2005	GL 711	711	CHEMICAL GEOLOGY	GL	GEOLOGY	4	Development of atomistic models consistent with laws of thermodynamics and application of these models to the solution of geo-chemical problems. Individual research projects are pursued in the laboratory. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	GL 711	711	CHEMICAL GEOLOGY LAB	GL	GEOLOGY	0	Development of atomistic models consistent with laws of thermodynamics and application of these models to the solution of geo-chemical problems. Individual research projects are pursued in the laboratory. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	GL 712	712	ADV HYDROGEOCHEMISTRY	GL	GEOLOGY	4	Case studies of hydrogeochemistry in regional aquifer systems and current topics of interest, such as organic geochemistry of natural and contaminated waters, acidic mine water, wetland geochemistry, and hydrogeochemistry of non-point source pollutants.	GR		Lecture
Fall 2005	GL 714	714	NUCLEAR GEOCHEMISTRY	GL	GEOLOGY	3	The examination of the different types of atomic species and the reactions they undergo. The use of radioactive isotopes and of daughter isotopes produced therefrom to measure ages of geologic events and as geochemical traces. The study of the distribution and formation of the different isotopes in the earth and the solar system.	GR		Lecture
Fall 2005	GL 714	714	NUCLEAR CHEMISTRY LAB	GL	GEOLOGY	0	The examination of the different types of atomic species and the reactions they undergo. The use of radioactive isotopes and of daughter isotopes produced therefrom to measure ages of geologic events and as geochemical traces. The study of the distribution and formation of the different isotopes in the earth and the solar system.	GR	L	Lab

Fall 2005	GL 715	715	NUCLEAR GEOCHEMISTRY	GL	GEOLOGY	3	The examination of the different types of atomic species and the reactions they undergo. The use of radioactive isotopes and of daughter isotopes produced therefrom to measure ages of geologic events and as geochemical traces. The study of the distribution and formation of the different isotopes in the earth and the solar system.	GR		Lecture
Fall 2005	GL 715	715	NUCLEAR GEOCHEM LAB	GL	GEOLOGY	0	The examination of the different types of atomic species and the reactions they undergo. The use of radioactive isotopes and of daughter isotopes produced therefrom to measure ages of geologic events and as geochemical traces. The study of the distribution and formation of the different isotopes in the earth and the solar system.	GR	L	Lab
Fall 2005	GL 720	720	ISOTOPE HYDROLOGY	GL	GEOLOGY	3.5	Theories and applications of environmental isotopes to hydrologic studies. Both stable isotopes (oxygen, hydrogen, carbon, strontium, nitrogen, sulfur) and radioactive nuclides (H-3, C-14, Cl-36) will be discussed.	GR		Lecture

Fall 2005	GL 740	740	SEDIMENTARY BASIN ANALY	GL	GEOLOGY	3	Tectonic classification of sedimentary basins. Geodynamics of basin formation. Nature and geometry of sedimentary fill. Facies analysis. Tectonic subsidence analysis and backstripping. Basin response to sea level changes. Diagenesis, fluid circulation, and thermal history of basins.	GR		Lecture
Fall 2005	GL 740	740	SED BASIN ANALYSIS LAB	GL	GEOLOGY	0	Tectonic classification of sedimentary basins. Geodynamics of basin formation. Nature and geometry of sedimentary fill. Facies analysis. Tectonic subsidence analysis and backstripping. Basin response to sea level changes. Diagenesis, fluid circulation, and thermal history of basins.	GR	L	Lab
Fall 2005	GL 748	748	AQUIFER TEST ANAL LAB	GL	GEOLOGY	2	This laboratory provides hands-on experience in analyzing and interpreting data from aquifer tests. Case-study data sets are used that come from confined, unconfined, fractured, bounded, leaking, and partially penetrated formations. Constant rate, variable rate, and slug tests are covered. May be taken for letter grade or pass/unsatisfactory.	GR	L	Lab

Fall 2005	GL 749	749	ADV GRND WATER FLOW TRANS	GL	GEOLOGY	3	Second-level course in subsurface fluid flow, providing the theoretical background necessary to solve problems involving ground water flow, well hydraulics, aquifer characterization, and contaminant transport.	GR		Lecture
Fall 2005	GL 750	750	NUMERICAL ANALY GEOLOGY	GL	GEOLOGY	4.5	Use of numerical modeling methods, including finite differences and finite elements in solving problems related to ground water flow and mass transport. Emphasis is on the theory including development of well-posed boundary-value problems, development of the numerical scheme, and choice of solution algorithms. Students write explicit and implicit finite difference codes, as well as a finite element code to solve two-dimensional flow problems.	GR		Lecture
Fall 2005	GL 751	751	GROUNDWATER FLOW MODELING	GL	GEOLOGY	3	The first half of the course introduces the techniques used in constructing and applying mathematical models of ground water flow. The second half features the use of the USGS 3-D flow model. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	GL 754	754	HYDROGEOCHEMICAL MODELING	GL	GEOLOGY	4	Introduces students to several computer programs that have been developed to aid in the understanding of ground water geochemistry. Includes programs for mass balancing, speciation, and ground water simulation. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	GL 759	759	ADVANCED GROUNDWATER MGT	GL	GEOLOGY	3	Study of ground water management case histories and special topics.	GR		Lecture
Fall 2005	GL 760	760	HYDROGEOLOGY RESRCH SEM	GL	GEOLOGY	1	Advanced seminar that addresses current research and special topics in hydrogeology. May be taken for letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	GL 762	762	GROUNDWATER EXPLOR&EVAL	GL	GEOLOGY	4	Exploration and delineation of aquifers; interpretation of hydrologic tests; and case studies. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	GL 762	762	GROUNDWATER EXPLOR LAB	GL	GEOLOGY	0	Exploration and delineation of aquifers; interpretation of hydrologic tests; and case studies. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	GL 789	789	CONTINUING REGISTRATION	GL	GEOLOGY	1		GR	I	Independent Study
Fall 2005	GL 799	799	SPECIAL PROBLEMS	GL	GEOLOGY	1	Titles vary. May be taken for letter grade or pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	GL 898	898	GEOLOGIC FIELD RESEARCH	GL	GEOLOGY	3	Specific areas in a region are studied using a specific area of specialization in the geologic sciences. Data are collected under close supervision and analyzed independently. Formal report of results to be prepared. Field experience included.	GR	I	Independent Study
Fall 2005	GL 899	899	THESIS	GL	GEOLOGY	1		GR	I	Independent Study
Fall 2005	HFE501	501	STATS FOR DEV & MANUF I	HFE	HUMAN FACTORS/BIOMED ENGR	4	Presentation of statistical techniques as applied to engineering testing, development, and manufacturing. Introduces and applies probability distributions, measures of association, inferences on responses, and basic experimental design. Emphasis is on application of statistical tools.	GR		Lecture
Fall 2005	HFE502	502	STATS FOR DEV & MANUF II	HFE	HUMAN FACTORS/BIOMED ENGR	4	A continuation of HFE 501. Focuses on analysis techniques for multiple variables, including ANOVA and multiple regression, as applied to engineering testing, development, and manufacturing. Process analysis and improvement techniques presented, along with tools for reliability analysis.	GR		Lecture

Fall 2005	HFE506	506	HUM FACTRS IN EGR & DES	HFE	HUMAN FACTORS/BIOMED ENGR	4	(Also listed as PSY 502.) Introduction to the study of human factors in the design and operation of machine systems.	GR		Lecture
Fall 2005	HFE507	507	INDUSTRIAL ERGONOMICS	HFE	HUMAN FACTORS/BIOMED ENGR	4	Introduces students to the application of ergonomic principles to the industrial environment. Includes subject matter on ergonomic planning and implementation, the work environment, NIOSHA work factors, and workstation and equipment design.	GR		Lecture
Fall 2005	HFE606	606	HUMAN FACTORS ENGINEERING	HFE	HUMAN FACTORS/BIOMED ENGR	4	Fundamentals of human factors engineering tools and processes as applied to systems development. Emphasis is placed on user-centered design principles. Material is presented through lectures and application-oriented projects.	GR		Lecture
Fall 2005	HFE631	631	HFE OF VISUAL DISPLAYS	HFE	HUMAN FACTORS/BIOMED ENGR	4	Introduction to the design of visual display systems. Topics include radiometry and phometry, visual perception, linear systems analysis, color displays, colorimetry 3D displays, standards guidelines.	GR		Lecture
Fall 2005	HFE650	650	HUMAN FACT ANALYSIS LAB	HFE	HUMAN FACTORS/BIOMED ENGR	0	Covers a variety of engineering and behavioral analytic techniques critical to the study of work performance.	GR	L	Lab

Fall 2005	HFE650	650	HUMAN FACTORS ANALYSIS	HFE	HUMAN FACTORS/BIOMED ENGR	3	Covers a variety of engineering and behavioral analytic techniques critical to the study of work performance.	GR		Lecture
Fall 2005	HFE651	651	HFE IN COMPUT DSGN LAB	HFE	HUMAN FACTORS/BIOMED ENGR	0	Theoretical paradigms in human-computer interaction and their application to interface design are examined. Emphasis is placed on advanced interface technologies such as multimodel input/output, hypertext, and knowledge-based systems.	GR	L	Lab
Fall 2005	HFE651	651	HFE IN COMPUTER DSGN	HFE	HUMAN FACTORS/BIOMED ENGR	4	Theoretical paradigms in human-computer interaction and their application to interface design are examined. Emphasis is placed on advanced interface technologies such as multimodel input/output, hypertext, and knowledge-based systems.	GR		Lecture
Fall 2005	HFE665	665	INTERACTIVE SYS MODELING	HFE	HUMAN FACTORS/BIOMED ENGR	4	(Also listed as CEG 665.) Provides students with experience in interactive real-time simulation and design, implementation, and evaluation of interfaces to simulations. The relevant topics are explored through application in supervisory control of complex, dynamic systems.	GR		Lecture

Fall 2005	HFE671	671	SYS PERFORMANCE MODELING	HFE	HUMAN FACTORS/BIOMED ENGR	4	Studies quantitative techniques to analyze and predict systems performance. Topics include queuing models, system simulation, model validation, data collection, quantitative analysis of system performance, and system design evaluation.	GR		Lecture
Fall 2005	HFE676	676	AEROSPACE HUMAN FACTORS	HFE	HUMAN FACTORS/BIOMED ENGR	4	Application of human factors engineering concepts to aerospace systems design. Develops human factors engineering influence on aerospace system dynamics, structure, and control as well as impact on reliability and maintainability.	GR		Lecture
Fall 2005	HFE680	680	EGR IN OCCUP SFTY & HLTH	HFE	HUMAN FACTORS/BIOMED ENGR	4	Discusses and demonstrates the role and responsibility of engineers in occupational safety and health related issues. Focuses on the application of human factors engineering design principles as a proactive approach for controlling occupational injuries.	GR		Lecture

Fall 2005	HFE681	681	ENGINEERING ECONOMY	HFE	HUMAN FACTORS/BIOMED ENGR	4	Introduction to analytical methods and techniques for optimizing the economic outcome of technical and managerial decisions. Topics include economic decision criteria, discounted cash flow, risk, depreciation, break-even analysis and tax considerations.	GR		Lecture
Fall 2005	HFE682	682	OPER & FACILITIES DESIGN	HFE	HUMAN FACTORS/BIOMED ENGR	3	Provides a fundamental understanding of techniques for the layout and organization of operations in modern production and service facilities.	GR		Lecture
Fall 2005	HFE699	699	SPECIAL PROBLEMS IN HFE	HFE	HUMAN FACTORS/BIOMED ENGR	1	Topics vary.	GR	I	Independent Study
Fall 2005	HFE711	711	ADV HUM FAC BIOENGRG	HFE	HUMAN FACTORS/BIOMED ENGR	3	Advanced applications from a variety of bioengineering subfields are identified and defined with respect to their importance in the practice of human factors engineering.	GR		Lecture
Fall 2005	HFE723	723	AERO MED HUMAN FACTORS	HFE	HUMAN FACTORS/BIOMED ENGR	3	Focuses on recent developments in human factors engineering. Design principles, crew compartment technology and resource management, crew member performance, and reliability are discussed.	GR	S	Seminar

Fall 2005	HFE724	724	ADV AEROSPACE SYS DESIGN	HFE	HUMAN FACTORS/BIOMED ENGR	3	(Also listed as BMS 953.) Qualifies students to make significant human factors contributions to the design of state-of-the-art aerodynamic and space systems. Emphasizes the design of control-display integration, cockpit configuration, maintainability, and reliability.	GR		Lecture
Fall 2005	HFE725	725	HFE WORKLOAD ANALYSIS	HFE	HUMAN FACTORS/BIOMED ENGR	3	(Also listed as BMS 954.) Provides required tools needed to accomplish a workload analysis as a requisite to a systems design or a redesign of an existing system.	GR		Lecture
Fall 2005	HFE726	726	HFE CREW STATION DESIGN	HFE	HUMAN FACTORS/BIOMED ENGR	3	(Also listed as BMS 955.) In-depth treatment of human factors engineering principles applicable to design of crew command centers for aerodynamic, space, and maritime systems.	GR		Lecture
Fall 2005	HFE731	731	VISUAL DISPLAY DESIGN	HFE	HUMAN FACTORS/BIOMED ENGR	3	Application of human factors engineering principles to the design of visual display systems. Discusses current display technologies, human vision, design of display parameters, and image quality metrics.	GR		Lecture

Fall 2005	HFE733	733	ADVANCED TOPICS IN HCI	HFE	HUMAN FACTORS/BIOMED ENGR	3	Seminar exposing students to theoretical and research issues associated with human-computer interaction (HCI) and cognitive-oriented work from a human factors engineering standpoint. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	HFE734	734	EXP RESRCH & EVAL IN HFE	HFE	HUMAN FACTORS/BIOMED ENGR	4	Reviews issues related to designing, conducting, and analyzing experiments. Topics include experimental design, experimental ethics, evaluating statistical results, and writing research papers. Students are required to conduct and analyze an experiment.	GR		Lecture
Fall 2005	HFE735	735	ADV SYSTEMS MODELS	HFE	HUMAN FACTORS/BIOMED ENGR	3	Studies quantitative means of modeling, analyzing, and predicting the performance of human-machine systems. Topics include control theory, estimation theory, fuzzy set theory, information theory, and knowledge-based systems.	GR		Lecture

Fall 2005	HFE742	742	HUMAN DECISION MAKING	HFE	HUMAN FACTORS/BIOMED ENGR	4	Introduction to the methods, concepts, models and results of the science of decision-making and human-centered design. Prescriptive and descriptive theories of human decision making are discussed and contrasted. Approaches to aiding human decision making are considered in the context of these theoretical frameworks. Applications-oriented issues are emphasized.	GR		Lecture
Fall 2005	HFE743	743	HUMAN FACTORS REHAB EGR	HFE	HUMAN FACTORS/BIOMED ENGR	3	(Also listed as BMS 963.) Teaches the application of human factors design concepts for designing aids for the physically handicapped. In addition to manipulation and locomotion aids, barrier-free designs are emphasized.	GR		Lecture
Fall 2005	HFE745	745	ADV IND ERGONOMICS	HFE	HUMAN FACTORS/BIOMED ENGR	3	Discusses and demonstrates the use of ergonomics methods and techniques for controlling physical and physiological stress in the workplace. Specialized biomechanical models introduced. Prevalent ergonomic problems discussed. Real cases from worksites welcomed for discussion.	GR		Lecture

Fall 2005	HFE749	749	ERGONOMIC BIODYNAMICS	HFE	HUMAN FACTORS/BIOMED ENGR	3	Covers quantitative assessment of human motions. Mathematical descriptions include anthropometry, kinematics, kinetics, and dynamics. The methods of kinesiology, biomechanical modeling, and electromyography are emphasized.	GR		Lecture
Fall 2005	HFE751	751	HUMAN & TECH ASPECTS COLL	HFE	HUMAN FACTORS/BIOMED ENGR	4	Explores the global revolution in human interconnectedness. Exposes students to the theoretical and research issues in collaboration including how people collaborate in environments with a high degree of decentralized computation, communication and decision-making.	GR		Lecture
Fall 2005	HFE753	753	QUANT METH FOR COG MODEL	HFE	HUMAN FACTORS/BIOMED ENGR	4	Application of concepts and methods in adaptive learning from data. Includes: dynamical systems view of cognitive behavior and performance; adaptive learning concepts, principles; non-linear optimization strategies; regression methods; classification; support vector machines; Fuzzy Systems.	GR		Lecture

Fall 2005	HFE760	760	HFE IN VIRTUAL REALITY	HFE	HUMAN FACTORS/BIOMED ENGR	3	Introduction to engineered systems associated with virtual reality. Human factors engineering introduction to engineering details underlying the development of virtual environmental displays.	GR		Lecture
Fall 2005	HFE780	780	OCCUP CUM TRAUMA DISORD	HFE	HUMAN FACTORS/BIOMED ENGR	3	Provides and discusses background knowledge and current issues on cumulative trauma disorders, including epidemiological statistics, pathology, risk factors, analysis methods, control measures, and surveillance tools. Students welcomed to bring real worksite cases for discussion.	GR		Lecture
Fall 2005	HFE789	789	CONTINUING REGISTRATION	HFE	HUMAN FACTORS/BIOMED ENGR	1	May be taken for letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	HFE890	890	SPEC PROB IN HFE	HFE	HUMAN FACTORS/BIOMED ENGR	1	Topics vary.	GR	I	Independent Study
Fall 2005	HFE898	898	PHD DISSERTATION RESEARCH	HFE	HUMAN FACTORS/BIOMED ENGR	1	Research on Ph.D. dissertation topic. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	HFE899	899	HFE THESIS	HFE	HUMAN FACTORS/BIOMED ENGR	1	Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	HLT616	616	SPECIAL TOPICS IN HEALTH	HLT	HEALTH	1	Topics vary. Specific titles announced in quarterly class schedule.	GR		Lecture

Fall 2005	HLT617	617	SPECIAL TOPIC/SCH NURSING	HLT	HEALTH	0.5	This course will offer school nurses and other health professionals the opportunity to update their knowledge and skills related to school health.	GR		Lecture
Fall 2005	HPR630	630	COACHING THEORY: (SPORT)	HPR	HEALTH PHY EDUC + RECREATION	1	Theory, skills, strategies, and organization principles of coaching a particular sport. Sports include baseball, basketball, football, soccer, swimming, track and field, tennis, and volleyball.	GR		Lecture
Fall 2005	HPR635	635	OFFICIATING: (SPORT)	HPR	HEALTH PHY EDUC + RECREATION	1	Rules and techniques of officiating a particular sport, including baseball, basketball, football, soccer, and volleyball.	GR		Lecture
Fall 2005	HPR640	640	ROLE OF NURSE IN SCHOOLS	HPR	HEALTH PHY EDUC + RECREATION	1	The nurse as a member of the school health service team. Topics include educational foundations, administration of school health programs, school health services and environment, health counseling (including mental health), and legal and ethical issues. Instructor permission required.	GR		Lecture

Fall 2005	HPR643	643	SCHOOL NURSING PRACTICUM	HPR	HEALTH PHY EDUC + RECREATION	1	An opportunity for the student to take full responsibility for the application of principles of school health in a school setting under supervision of qualified university and school personnel. May be taken for a letter grade or pass/unsatisfactory. Instructor permission required.	GR	I	Independent Study
Fall 2005	HPR688	688	INDEPENDENT STUDY	HPR	HEALTH PHY EDUC + RECREATION	1	Independent reading, writing, and/or reporting in an area related to health, physical education, or recreation. Titles vary.	GR		Lecture
Fall 2005	HPR689	689	WORKSHOP IN HPR	HPR	HEALTH PHY EDUC + RECREATION	1	Intensive study of content, curriculum, method, or materials designed to meet the needs of pre-service and in-service professionals in health, physical education, and recreation. Titles vary.	GR	I	Independent Study
Fall 2005	HPR710	710	PE FOR CHLD W/SPEC NEEDS	HPR	HEALTH PHY EDUC + RECREATION	4	Assessing students with handicapping conditions, planning appropriate physical activities based on this assessment, and providing the activities described in the plan.	GR		Lecture
Fall 2005	HPR712	712	MOTOR DEV:LOW INCID DISAB	HPR	HEALTH PHY EDUC + RECREATION	4	Understand how disabilities impact psychomotor development, ADL, mobility, and independence of individuals with disabilities. Knowledge of activities that contribute to an active lifestyle.	GR		Lecture

Fall 2005	HPR713	713	ART MUSIC PHYSICAL EDUC	HPR	HEALTH PHY EDUC + RECREATION	3	Designed to enhance student↕s understanding and philosophies of art, music, and physical education as part of the total school curriculum. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	HPR720	720	MTR DEV & ACQ OF MTR SKL	HPR	HEALTH PHY EDUC + RECREATION	4	The relationship of motor learning and motor control processes in the development of human motor skills.	GR		Lecture
Fall 2005	HPR740	740	ADMIN OF ATHLETICS	HPR	HEALTH PHY EDUC + RECREATION	4	Ways of directing interscholastic athletic programs. Emphasis on personnel administration, program development, facility management, fiscal management, and winning community and professional support.	GR		Lecture
Fall 2005	HPR750	750	SCI FOUND FOR CONDITION	HPR	HEALTH PHY EDUC + RECREATION	4	Topics include exercise training techniques, heart rate, blood pressure, ventilation, strength, flexibility, and body composition. Includes laboratory methods.	GR		Lecture
Fall 2005	HPR753	753	ASSESSMENT OF PHYS ACTIV	HPR	HEALTH PHY EDUC + RECREATION	4	Focuses on selection of measurement materials, techniques of test administration, and essential statistical methods for scientific evaluation.	GR		Lecture
Fall 2005	HPR760	760	ADV ATHLETIC TRAINING	HPR	HEALTH PHY EDUC + RECREATION	4	Examination of trauma, contusions, hematoma, strains, sprains, fractures, open wounds, and dislocations.	GR		Lecture

Fall 2005	HPR780	780	RESEARCH IN PHYSICAL ED	HPR	HEALTH PHY EDUC + RECREATION	5	Study of successful program assessment and evaluation processes, related research methods, and grant/project development.	GR		Lecture
Fall 2005	HST515	515	HISTORY OF FRANCE	HST	HISTORY	4		GR		Lecture
Fall 2005	HST518	518	MODERN JAPAN	HST	HISTORY	4		GR		Lecture
Fall 2005	HST535	535	SPORTS IN AMERICAN LIFE	HST	HISTORY	4		GR		Lecture
Fall 2005	HST590	590	MEDIAVEL W EUROPE 285-814	HST	HISTORY	4		GR		Lecture
Fall 2005	HST591	591	MED W EUROPE 814-1100	HST	HISTORY	4		GR		Lecture
Fall 2005	HST592	592	MED W EUROPE 1100-1350	HST	HISTORY	4		GR		Lecture
Fall 2005	HST605	605	ANCIENT HISTORY	HST	HISTORY	4	Selected problems in Roman history to the death of Constantine in A.D. 337.	GR		Lecture
Fall 2005	HST610	610	THE MIDDLE AGES	HST	HISTORY	4	From the decline of the Roman Empire to ca. 1450. Topics vary and can include European, Islamic, and Byzantine civilizations.	GR		Lecture

Fall 2005	HST615	615	MEDIEVAL & EARLY MOD HST	HST	HISTORY	4	Selected problems in European history from the decline of the Roman Empire through the Renaissance and Reformation. Titles vary.	GR		Lecture
Fall 2005	HST625	625	MODERN EUROPEAN HISTORY	HST	HISTORY	4	Modern Europe from the Enlightenment to the present through a national (e.g., Germany), chronological (e.g., nineteenth century), or topical (e.g., socialism) approach. Titles vary.	GR		Lecture
Fall 2005	HST635	635	BRITISH HISTORY	HST	HISTORY	4	Examines particular periods of British history (e.g., modern Britain) or topics (e.g., British constitutional history). Titles vary.	GR		Lecture
Fall 2005	HST645	645	MIDDLE EASTERN HISTORY	HST	HISTORY	4	Coursed offered under this number examine the Balkans and the Middle East from the Middle Ages to the present. Topics may include Byzantine history, the Crusades, and the Middle East today. Several of these courses will be offered jointly with the Department of Political Science.	GR		Lecture
Fall 2005	HST655	655	LATIN AMERICAN HISTORY	HST	HISTORY	4	Selected Latin American nations (e.g., Mexico), particular topics (e.g., Authoritarianism), and colonial Latin American. Titles vary.	GR		Lecture

Fall 2005	HST655	655	LATIN AMERICAN HISTORY	HST	HISTORY	4.5	Selected Latin American nations (e.g., Mexico), particular topics (e.g., Authoritarianism), and colonial Latin American. Titles vary.	GR	I	Independent Study
Fall 2005	HST660	660	SOUTHEAST ASIAN HISTORY	HST	HISTORY	4		GR		Lecture
Fall 2005	HST665	665	EAST ASIAN HISTORY	HST	HISTORY	4	Examines various periods of Chinese, Japanese, and other Asian histories or special topics.	GR		Lecture
Fall 2005	HST670	670	EARLY AMERICAN HISTORY	HST	HISTORY	4	Examines colonial, revolutionary, and early republic periods of American history.	GR		Lecture
Fall 2005	HST675	675	19TH CENTURY US HISTORY	HST	HISTORY	4	Examines distinct periods in the nineteenth century (e.g., Civil War and Reconstruction) and major topics such as slavery. Titles vary.	GR		Lecture
Fall 2005	HST680	680	20TH CENTURY US HISTORY	HST	HISTORY	4	Particular stages of the twentieth-century American experience (e.g., the Progressive era) or selected topics (e.g., the civil rights movement, oral history)	GR		Lecture
Fall 2005	HST685	685	SPECIAL TOPICS IN US HST	HST	HISTORY	4	Intensive analysis of topics drawn from the entire range of the American experience, such as religion, diplomacy, women, material culture, immigration, and urbanization. Titles vary.	GR		Lecture

Fall 2005	HST686	686	GENDER HISTORY	HST	HISTORY	4	Courses will allow intensive analysis of subjects in gender history. Topics may include masculinity, femininity, sexuality, family and women's history. Focus may be on one nation, region or a comparative perspective.	GR		Lecture
Fall 2005	HST687	687	INTRO PUBLIC/APPLIED HST	HST	HISTORY	4	Introduces students to the origins, nature and varieties of public history and to careers in the field. Explores issues of ethics and politics in public history.	GR		Lecture
Fall 2005	HST690	690	TOPICS IN AFRICAN-AMER HISTORY	HST	HISTORY	4	Examines topics drawn from the African American experience. Topics covered may include black ideology and leadership, racial tension in urban society, and the civil rights movement. Topics vary.	GR		Lecture
Fall 2005	HST691	691	INDEPENDENT READINGS	HST	HISTORY	1	Faculty-directed readings in a field of student's choice.	GR	I	Independent Study
Fall 2005	HST695	695	COMPARATIVE HISTORY	HST	HISTORY	4	Compares developments or movements in different parts of the world and/or different times in history. May compare revolutions, slave systems, religious movements, or other human experiences that transcend a particular time or place. Titles vary.	GR		Lecture

Fall 2005	HST698	698	HISTORIOGRAPHY	HST	HISTORY	4		GR		Lecture
Fall 2005	HST700	700	HISTORICAL METHODS	HST	HISTORY	4	Intensive training in the research methods and materials of history.	GR		Lecture
Fall 2005	HST701	701	SEM IN US HST TO 1865	HST	HISTORY	4	May be repeated with content changes to a maximum of twelve credit hours.	GR		Lecture
Fall 2005	HST702	702	SEM IN US HST SINCE 1865	HST	HISTORY	4	May be repeated with content change to a maximum of twelve credit hours.	GR		Lecture
Fall 2005	HST703	703	SEM ANC MED & MOD EUR HST	HST	HISTORY	4	May be repeated with content change to a maximum of twelve credit hours.	GR		Lecture
Fall 2005	HST704	704	SEM IN MODERN EUROPE HST	HST	HISTORY	4	May be repeated with content change to a maximum of twelve credit hours.	GR		Lecture
Fall 2005	HST705	705	SEM IN LATIN AM HST	HST	HISTORY	4	May be repeated with content change to a maximum of twelve credit hours.	GR		Lecture
Fall 2005	HST706	706	SEM IN ASIAN HISTORY	HST	HISTORY	4	May be repeated with content change to a maximum of twelve credit hours.	GR		Lecture
Fall 2005	HST707	707	SEM IN AFRICAN HST	HST	HISTORY	4	May be repeated with content change to a maximum of twelve credit hours.	GR		Lecture
Fall 2005	HST708	708	SEMINAR IN HISTORY	HST	HISTORY	4	Topics vary.	GR		Lecture

Fall 2005	HST709	709	TOP IN AFRICAN-AMER HST	HST	HISTORY	4	Conducted as a reading seminar. Focuses on African diaspora in the Americas. Topics include the black experience in the United States and Latin America from the colonial period to the present. Topics vary.	GR		Lecture
Fall 2005	HST710	710	ARCHIVES & MANUSCRIPTS	HST	HISTORY	4	Fundamental problems, theoretical principles, techniques, and practical administration of archives and manuscripts; the importance of records in the modern information age and the relationship of archives administration and records management; history of archives.	GR		Lecture
Fall 2005	HST711	711	STATE AND LOCAL HISTORY	HST	HISTORY	2	Defines and discusses the origin and development of local history. Students will learn to identify, locate and use primary and secondary sources on a variety of local history topics.	GR		Lecture

Fall 2005	HST712	712	MGT INTERP HST MUSEUMS	HST	HISTORY	4	Introduction to museums and their management; the establishment, functions, rules and duties of non-profits. Introduction to collections theory and practice as well as collections policies, accessioning, deaccessioning, management, care, treatment, and conservation.	GR		Lecture
Fall 2005	HST713	713	PROB IN HISTORICAL ADM	HST	HISTORY	4	Examines interpretation theory and practice. Students will design and construct a museum exhibit including budgeting, research, design, construction, artifact selection, media relations and opening reception.	GR		Lecture
Fall 2005	HST714	714	ADV PROB ARCHIVAL WORK	HST	HISTORY	2	Students will put into practice the theories and concepts associated with appraisal and acquisition, arrangement and description, reference, and preservation of archival materials. Coursework includes practical experience in processing and preserving an archival collection.	GR		Lecture

Fall 2005	HST715	715	HST MANAGEMENT INTERNSHIP	HST	HISTORY	5	Practical training in various aspects of public history and historical administration. Students complete a 300-clock-hour internship and prepare a report on the experience. Permission of the Public History Program Director required.	GR	I	Independent Study
Fall 2005	HST716	716	AMER ARCHITECT HISTORY	HST	HISTORY	4	Overview of the history and practices of architectural preservation. Introduces students to the supervision of, or participation in, the preservation program of an historical organization.	GR		Lecture
Fall 2005	HST717	717	PRACTICA: ARCHIVES & MUSEUMS	HST	HISTORY	1	Archivists' and preservationists' techniques. Titles vary. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	HST718	718	ORAL HISTORY TECHNIQUES	HST	HISTORY	4	The study of oral history techniques and methodology.	GR		Lecture
Fall 2005	HST719	719	PRACTICE OF ORAL HISTORY	HST	HISTORY	4	Development of skill in the practice of oral history by means of intensive work in carrying out an oral history project.	GR		Lecture
Fall 2005	HST720	720	PROJECT	HST	HISTORY	1	Students complete an historical project (editing a diary, processing a manuscript collection, curating an exhibit, preparing a research report). Permission of the Public History Program Director required.	GR	I	Independent Study

Fall 2005	HST727	727	INTRO TO PUBLIC HISTORY	HST	HISTORY	4	Intensive analysis of topics related to the theory and practice of public history such as American decorative art, archictectural history, history of photography, and history of technology. A. Introduction to American Decorative Arts. The identification of artifacts which may be found in a history museum collection such as furniture, glassware, ceramics and fabrics, by date, material, use, style, and manufacture. B. American Architectural History (previously HST 716 alternate designation)	GR		Lecture
Fall 2005	HST730	730	ARCHIVAL PRESERVATIO N	HST	HISTORY	1	Introduces the uses of digital electronic records systems in an archival setting.	GR		Lecture
Fall 2005	HST740	740	ARCHIVAL AUTOMATION	HST	HISTORY	1	Examines the processes and concepts associated with records and information management in a variety of institutional settings.	GR		Lecture

Fall 2005	HST750	750	SEMINAR IN GENDER HISTORY	HST	HISTORY	4	Subjects vary, with a focus on gender as a tool of historical analysis. Topics may include masculinity, femininity, sexuality, family and women's history. Focus may be on one nation region or a comparative perspective.	GR	S	Seminar
Fall 2005	HST789	789	CONTINUING REGISTRATION	HST	HISTORY	1		GR	I	Independent Study
Fall 2005	HST799	799	THESIS	HST	HISTORY	4		GR	I	Independent Study
Fall 2005	HUM700	700	GRAD INTRO HUMANITIES I	HUM	HUMANITIES	4	A general introduction to interdisciplinary graduate study in the humanities.	GR		Lecture
Fall 2005	HUM710	710	GRAD RESEARCH METHODS HUM	HUM	HUMANITIES	4	An introduction to graduate research in the humanities with primary emphasis on research writing.	GR		Lecture
Fall 2005	HUM720	720	GRAD INTRO HUMANITIES II	HUM	HUMANITIES	4	Exploration of a single topic or problem from the perspective of a number of disciplines in the humanities.	GR		Lecture
Fall 2005	HUM730	730	HUMANITIES PROJECT	HUM	HUMANITIES	1	Individual project with an advisor. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	HUM789	789	CONTINUING REGISTRATION	HUM	HUMANITIES	1		GR	I	Independent Study
Fall 2005	HUM791	791	TOPICS IN HUMANITIES	HUM	HUMANITIES	2	Problems, approaches, experiments, and speculations in the Humanities.	GR	I	Independent Study

Fall 2005	HUM799	799	DIRECTED STUDIES	HUM	HUMANITIES	1	Individual study in the humanities under the direction of a faculty supervisor. Scope of project must be outlined in advance. Titles vary.	GR	I	Independent Study
Fall 2005	IB 780	780	INT'L BUSINESS INTERNSHIP	IB	INTERNATIONAL BUSINESS	1	Practical application in international trade. Integrates academic learning with work experiences. Students apply classroom learning in an organizational setting. Titles vary.	GR		Lecture
Fall 2005	IB 781	781	SPECIAL STUDIES INT'L BUS	IB	INTERNATIONAL BUSINESS	1	Intensive reading or research in a selected field of advanced international business. Titles vary.	GR		Lecture
Fall 2005	IE 700	700	INTERNATIONAL EDUCATION	IE	INTERNATIONAL EDUCATION	1		GR	I	Independent Study
Fall 2005	LAT600	600	SPECIAL PROJECT WKSHP	LAT	LATIN	1	Intensive study of Latin, including Latin pedagogy, designed for teachers and others who desire to improve or enhance existing ability. Topics vary.	GR	I	Independent Study
Fall 2005	LAT681	681	IND READING IN LAT	LAT	LATIN	4	Reading and discussion of selected works of Latin literature with emphasis on grammatical, rhetorical, literary, and cultural analysis and criticism. May be repeated for credit by number, but not by content. Prerequisite: three years college Latin or departmental permission. Topics vary	GR	I	Independent Study

Fall 2005	LAW620	620	LEG ASP MGT DIVRS WRK	LAW	LAW/BUSINESS	3	U.S. and state employment discrimination law, court decisions, enforcement, and workforce diversity.	GR		Lecture
Fall 2005	LAW680	680	SPEC TOPICS: BUS & GOVT	LAW	LAW/BUSINESS	3	Deals with current problems of interest and value in the area of business. Topics include government regulation of business, social responsibility of business, and legal problems in business.	GR		Lecture
Fall 2005	LAW695	695	ETHICS OF AN IND SOCIETY	LAW	LAW/BUSINESS	3		GR		Lecture
Fall 2005	LAW710	710	CORP IN AMER LEGAL ENVIR	LAW	LAW/BUSINESS	3		GR		Lecture
Fall 2005	LAW781	781	SPECIAL STUDIES IN BUS	LAW	LAW/BUSINESS	1	Topics vary.	GR	I	Independent Study
Fall 2005	M&I675	675	PATHOGENIC MECHANISMS	M&I	MICROBIOLOGY & IMMUNOLOGY	5	(Also listed as BMS 775.) This advanced level course will expand the knowledge of basic microbiology by focusing on human-microbial pathogen interactions. The molecular basis of the pathogenic mechanisms will be emphasized. In addition, the student will gain a better appreciation and understanding of the complexities of interactions between microbes and their human hosts.	GR		Lecture

Fall 2005	M&I699	699	SPEC PROBLEMS MICROBIOL	M&I	MICROBIOLOGY & IMMUNOLOGY	1	Study of the physiological and biochemical processes unique to microorganisms.	GR	I	Independent Study
Fall 2005	M&I726	726	IMMUN & BASIC VIROLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	5	(Also listed as BMS 802.) Fundamentals of immunobiology and basic virology. Emphasis on the regulatory and cellular level of host immune responses against microbial pathogens, as well as mechanisms of immunopathology, and on the characteristics and molecular biology of virus pathogens.	GR		Lecture
Fall 2005	M&I727	727	PATHOGENIC MICROBIOLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	5	(Also listed as BMS 803.) Microorganisms pathogenic for humans and animals using the organ system approach. Emphasis on mechanisms of pathogenesis and host resistance. Includes a project segment devoted to the independent study of the mechanisms of pathogenesis in the host-parasite interactions of the infectious agents used.	GR		Lecture
Fall 2005	M&I728	728	DIAGNOSTIC MEDICAL M & I	M&I	MICROBIOLOGY & IMMUNOLOGY	3	Identification of etiological agents of disease with emphasis on identification of bacteria, fungi, and viruses using culture and immunological methods.	GR	L	Lab

Fall 2005	M&I731	731	BASIC VIROLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	3	(Also listed as BMS 807.) Introduction to the field of virology with emphasis on animal viruses. Intrinsic properties of viruses and their interaction with cells; multiplication, disease production, genetics, and tumor induction. Projects assigned to each student.	GR		Lecture
Fall 2005	M&I737	737	RECOMBINANT DNA LAB	M&I	MICROBIOLOGY & IMMUNOLOGY	6	(Also listed as BMS 790 and BIO 737.) Microbial and molecular techniques for producing, cloning, and characterizing recombinant DNA molecules; laboratory exercises in gene manipulation gives an understanding of the principles of genetic engineering. Graded pass/unsatisfactory.	GR	L	Lab
Fall 2005	M&I745	745	IMMUNOBIOLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	5	(Also listed as BMS 812.) Biology of the immune system in terms of current concepts of antibody formation and function. Acquired, delayed, and immediate hypersensitivity are studied with respect to immunological deficiencies, malignancy, tolerance, graft rejection, infection, and acquired resistance.	GR		Lecture

Fall 2005	M&I770	770	INTERCELLULAR COMMUNICA	M&I	MICROBIOLOGY & IMMUNOLOGY	4	(Also listed as BMS 805, P&B 776, PHA 740.) Introduces the concepts of intercellular communication through an interdisciplinary presentation of immune neuroendocrine system functions. Emphasizes the similarities between the systems and the multidisciplinary approaches used to study each.	GR		Lecture
Fall 2005	M&I777	777	GENE THERAPY	M&I	MICROBIOLOGY & IMMUNOLOGY	4	(Also listed as BIO 777.) Study of the molecular basis of gene therapy and the use of viral gene delivery systems for the treatment of human disease. Gene therapy strategies are contrasted with various diseases, including cancer and AIDS.	GR		Lecture
Fall 2005	M&I789	789	CONTINUING REGISTRATION	M&I	MICROBIOLOGY & IMMUNOLOGY	1		GR	I	Independent Study
Fall 2005	M&I800	800	MICROBIOLOGY SEMINAR	M&I	MICROBIOLOGY & IMMUNOLOGY	1	Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	M&I801	801	SEMINAR: JOURNAL CLUB	M&I	MICROBIOLOGY & IMMUNOLOGY	1	Selected topics in microbiology.	GR	I	Independent Study
Fall 2005	M&I831	831	MOLECULAR VIROLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	3	(Also listed as BMS 808.) Structure, infectious process, replication, maturation, release, and genetics at the molecular level of the major groups of animal viruses.	GR		Lecture

Fall 2005	M&I833	833	VIRAL ONCOLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	3	(Also listed as BMS 809.) Understanding the processes involved in cell transformation by oncogenic viruses.	GR		Lecture
Fall 2005	M&I840	840	SPEC TOPICS IN IMM SEM	M&I	MICROBIOLOGY & IMMUNOLOGY	2	(Also listed as BMS 813.) Students select, present, and analyze information from current literature in immunobiology. Seminar/discussion format.	GR	S	Seminar
Fall 2005	M&I842	842	TRANSPLANTATION IMMUNOLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	3	Survey of the fundamentals of transplant immunology. Topics include mechanisms of intra- and interspecies rejection, histocompatibility genes and their products, graft-versus-host diseases, immunologically privileged sites, techniques for immuno-suppression, immune tolerance, and the immunobiology of the maternal/fetal relationship.	GR		Lecture
Fall 2005	M&I843	843	TUMOR IMMUNOLOGY	M&I	MICROBIOLOGY & IMMUNOLOGY	3	The host-tumor relationship is studied intensively. Interrelationships between tumor growth and host immune responses are examined at the molecular and cellular levels.	GR		Lecture

Fall 2005	M&I844	844	IMMUNE REGULATION	M&I	MICROBIOLOGY & IMMUNOLOGY	3	Maintenance of immune homeostasis with emphasis on the contributions of lymphocyte subpopulations. Sequelae of immune imbalance are studied.	GR		Lecture
Fall 2005	M&I846	846	INFECTION AND IMMUNITY	M&I	MICROBIOLOGY & IMMUNOLOGY	3	(Also listed as BMS 818.) Focuses on both beneficial and adverse host responses to microbial and metazoan parasites. Effects of infection on immune function are stressed.	GR		Lecture
Fall 2005	M&I851	851	SEM TOP REPRODUCTIVE IMM	M&I	MICROBIOLOGY & IMMUNOLOGY	3	Immunology as it relates to maternal/fetal interactions. Faculty lectures and student presentations on the fetus as a graft, the passive transfer of immunity to the fetus, pregnancy loss, and infertility. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	M&I852	852	SEM TOP CLINICAL IMMUN	M&I	MICROBIOLOGY & IMMUNOLOGY	3	Immunology as it relates to disease processes. Faculty lectures and student presentations on hypersensitivity diseases, immune deficiency diseases, immunologic diagnosis of disease, tumor immunology, and immunotherapy. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	M&I899	899	MICROBIAL RESEARCH	M&I	MICROBIOLOGY & IMMUNOLOGY	2	Supervised thesis research.	GR	I	Independent Study

Fall 2005	MBA511	511	SURVEY OF FINANCIAL ACC	MBA	MBA	2		GR		Lecture
Fall 2005	MBA512	512	SURVEY OF MANAGERIAL ACC	MBA	MBA	2		GR		Lecture
Fall 2005	MBA532	532	SURVEY OF FINANCE	MBA	MBA	2		GR		Lecture
Fall 2005	MBA541	541	SURVEY OF LAW	MBA	MBA	2		GR		Lecture
Fall 2005	MBA551	551	SURVEY OF MANAGEMEN T	MBA	MBA	2		GR		Lecture
Fall 2005	MBA561	561	SURVEY OF MARKETING	MBA	MBA	2		GR		Lecture
Fall 2005	MBA570	570	INTRO TO INFO TECHNOLOGY	MBA	MBA	3		GR		Lecture
Fall 2005	MBA581	581	SUR OF MATH FOR BUSINESS	MBA	MBA	2		GR		Lecture
Fall 2005	MBA582	582	SURVEY OF STATISTICS	MBA	MBA	2		GR		Lecture
Fall 2005	MBA680	680	INDEPENDENT STUDY	MBA	MBA	1		GR		Lecture
Fall 2005	MBA711	711	STRAT COST MANAGEMEN T	MBA	MBA	3		GR		Lecture
Fall 2005	MBA722	722	ECONOMICS FOR MANAGERS	MBA	MBA	3		GR		Lecture
Fall 2005	MBA723	723	INTERN'L BUS & GLOB EC	MBA	MBA	3		GR		Lecture

Fall 2005	MBA731	731	FIN ANALYSIS & DEC MAKING	MBA	MBA	3		GR		Lecture
Fall 2005	MBA741	741	LAW REG POL & SOC ENV	MBA	MBA	3		GR		Lecture
Fall 2005	MBA751	751	MANAGING PEOPLE IN ORGAN	MBA	MBA	3		GR		Lecture
Fall 2005	MBA753	753	DEV & IMPLE ORG COMP	MBA	MBA	3		GR		Lecture
Fall 2005	MBA761	761	MARKETING STRATEGY	MBA	MBA	3		GR		Lecture
Fall 2005	MBA762	762	BUS PROFESSIONAL ISM	MBA	MBA	3		GR		Lecture
Fall 2005	MBA771	771	INFO,TECH & ORGANIZTN	MBA	MBA	3		GR		Lecture
Fall 2005	MBA781	781	QUANT. METHODS FOR DEC.	MBA	MBA	3		GR		Lecture
Fall 2005	MBA782	782	MANAGING OPERATIONS	MBA	MBA	3		GR		Lecture
Fall 2005	MBA783	783	QUALITY MGT & CONT IMPR	MBA	MBA	3		GR		Lecture
Fall 2005	ME 513	513	STRENGTH OF MATERIALS	ME	MECHANICAL & MATERIALS ENGR	5	Axial and shear stresses and strains; biaxial loading; torsion of circular shafts; shear and bending moment diagrams; deflection of beams; and column theory. 4 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	ME 513	513	STRENGTH OF MATERIALS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Axial and shear stresses and strains; biaxial loading; torsion of circular shafts; shear and bending moment diagrams; deflection of beams; and column theory. 4 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	ME 515	515	THERMODYNAMICS I	ME	MECHANICAL & MATERIALS ENGR	4	Classical thermodynamics with applications of the first and second laws to engineering systems.	GR		Lecture
Fall 2005	ME 516	516	THERMODYNAMICS II	ME	MECHANICAL & MATERIALS ENGR	4	Concepts of availability and irreversibility, power and refrigeration cycles, thermodynamic relations, and mixtures and combustion. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 516	516	THERMODYNAMICS II LAB	ME	MECHANICAL & MATERIALS ENGR	0	Concepts of availability and irreversibility, power and refrigeration cycles, thermodynamic relations, and mixtures and combustion. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	ME 517	517	FLUID DYNAMICS	ME	MECHANICAL & MATERIALS ENGR	4	Fluid properties, fluid statics, one-dimensional compressible and incompressible flow, flow of real fluids, and flow measurements. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 517	517	FLUID DYNAMICS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Fluid properties, fluid statics, one-dimensional compressible and incompressible flow, flow of real fluids, and flow measurements. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	ME 518	518	HEAT TRANSFER	ME	MECHANICAL & MATERIALS ENGR	4	Principles that govern heat transfer in solids, fluids, vacuum, and at interfaces of solids and fluids are examined. Laboratory experiments to illustrate these phenomena. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 518	518	HEAT TRANSFER LAB	ME	MECHANICAL & MATERIALS ENGR	0	Principles that govern heat transfer in solids, fluids, vacuum, and at interfaces of solids and fluids are examined. Laboratory experiments to illustrate these phenomena. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	ME 570	570	MATERIALS EGR SCIENCE	ME	MECHANICAL & MATERIALS ENGR	4	Effect of atomic, molecular, and crystalline structures on the properties of materials with emphasis on electronic materials and ceramics, characterization of materials, and device fabrication.	GR		Lecture
Fall 2005	ME 571	571	ENGINEERING MATERIALS	ME	MECHANICAL & MATERIALS ENGR	3	Effect of microstructure, phase equilibrium, and processing on properties of structural materials including metallic alloys, polymers, and composites.	GR		Lecture

Fall 2005	ME 575	575	THERMODYNAMICS OF MATRLS	ME	MECHANICAL & MATERIALS ENGR	4	Application of classical thermodynamics to engineering materials. Heats of formation and reaction; behavior of solutions; free energy concepts; thermodynamic fundamentals of phase equilibria.	GR		Lecture
Fall 2005	ME 576	576	PHYSICAL METALLURGY	ME	MECHANICAL & MATERIALS ENGR	3	Fundamentals of structure property relations in metals and alloys related to transformations and kinetics. Application to recovery and recrystallization, solidification, precipitation strengthening, and displacive transformations.	GR		Lecture
Fall 2005	ME 585	585	METALLOGRAPHY LABORATORY	ME	MECHANICAL & MATERIALS ENGR	2	Preparation of metallographic specimens; use of the metallurgical microscope including the preparation of photomicrographs.	GR	L	Lab
Fall 2005	ME 586	586	MATERIALS TESTING LAB	ME	MECHANICAL & MATERIALS ENGR	2	Fundamentals of mechanical testing instrumentation and techniques, including the tensile test, hardness tests, effect of heat-treatment on strength, and correlation of microstructure, composition, and properties.	GR	L	Lab

Fall 2005	ME 605	605	KIN AND DSGNS OF MECH	ME	MECHANICAL & MATERIALS ENGR	4	Graphic, analytical, numerical, and symbolic techniques are used in the kinematic and dynamic analysis of machines. Computer-aided design of mechanisms is introduced. Emphasis on the application of these techniques to planar mechanisms.	GR		Lecture
Fall 2005	ME 608	608	DESIGN OPTIMIZATION	ME	MECHANICAL & MATERIALS ENGR	3	Concepts of minima and maxima; linear, dynamic, integer, and nonlinear programming. Variational methods. Engineering applications are emphasized.	GR		Lecture
Fall 2005	ME 608	608	DESIGN OPTIMIZATION LAB	ME	MECHANICAL & MATERIALS ENGR	0	Concepts of minima and maxima; linear, dynamic, integer, and nonlinear programming. Variational methods. Engineering applications are emphasized.	GR	L	Lab
Fall 2005	ME 609	609	AEROSPACE STRUCTURES	ME	MECHANICAL & MATERIALS ENGR	4	Analysis and design of flight structures. Stress, deformation, and stability analysis of aerospace structures. Thin-walled members bending, torsion, and shear stresses calculation in multi-cell structures. Buckling of thin plates.	GR		Lecture

Fall 2005	ME 612	612	FINITE ELEMENT ANALYSIS	ME	MECHANICAL & MATERIALS ENGR	4	Finite element formulations for line, surface, bending, torsion, and three-dimensional elements. Numerical methods and applications of FEM programs in structural design and solid mechanics.	GR		Lecture
Fall 2005	ME 612	612	FINITE ELEMENT ANALY LAB	ME	MECHANICAL & MATERIALS ENGR	0	Finite element formulations for line, surface, bending, torsion, and three-dimensional elements. Numerical methods and applications of FEM programs in structural design and solid mechanics.	GR	L	Lab
Fall 2005	ME 614	614	MECHANICAL DESIGN I	ME	MECHANICAL & MATERIALS ENGR	4	Fundamental concepts in design for static strength, fatigue, and impact loading; application to selected mechanical components and systems.	GR		Lecture
Fall 2005	ME 615	615	MECHANICAL DESIGN II	ME	MECHANICAL & MATERIALS ENGR	4	Design of mechanical elements such as springs, bearings, shafts, gears, clutches, brakes, and flywheels; students conduct an individual design project.	GR		Lecture
Fall 2005	ME 615	615	MECHANICAL DESIGN II LAB	ME	MECHANICAL & MATERIALS ENGR	0	Design of mechanical elements such as springs, bearings, shafts, gears, clutches, brakes, and flywheels; students conduct an individual design project.	GR	L	Lab

Fall 2005	ME 617	617	MECH OF VISCOUS FLUIDS	ME	MECHANICAL & MATERIALS ENGR	3	Fundamental equations of viscous flow for laminar and turbulent flows. Boundary layer analysis. Analytical and numerical solutions of the equation of motion.	GR		Lecture
Fall 2005	ME 618	618	HEAT CONDUCTION SOLIDS	ME	MECHANICAL & MATERIALS ENGR	3	Analytical and numerical techniques for heat conduction problems in one, two, and three dimensions for steady and transient cases. Phase-change problems.	GR		Lecture
Fall 2005	ME 623	623	ENERGY CONVERSION	ME	MECHANICAL & MATERIALS ENGR	4	Study of important new developments in the field of energy conversion. Thermoelectric, photoelectric, thermionic, electromechanical, and electrochemical systems are studied.	GR		Lecture
Fall 2005	ME 630	630	AERONAUTICS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Aviation history. Standard atmosphere, basic aerodynamics, theory of lift, airplane performance, principles of stability and control, astronautics, and propulsion concepts.	GR	L	Lab
Fall 2005	ME 630	630	AERONAUTICS	ME	MECHANICAL & MATERIALS ENGR	4	Aviation history. Standard atmosphere, basic aerodynamics, theory of lift, airplane performance, principles of stability and control, astronautics, and propulsion concepts.	GR		Lecture

Fall 2005	ME 631	631	AEROSPACE PROPULSION	ME	MECHANICAL & MATERIALS ENGR	4	Engine cycle analysis; combustion fundamentals; reciprocating engines and propellers; applications to turbojet, turbofan, turboprop, ramjet, SCRAM jet, and rocket engines.	GR		Lecture
Fall 2005	ME 631	631	AEROSPACE PROPULSION LAB	ME	MECHANICAL & MATERIALS ENGR	0	Engine cycle analysis; combustion fundamentals; reciprocating engines and propellers; applications to turbojet, turbofan, turboprop, ramjet, SCRAM jet, and rocket engines.	GR	L	Lab
Fall 2005	ME 632	632	FLGT DYNAM & CONTROL SYS	ME	MECHANICAL & MATERIALS ENGR	4	Covers development of the equations for general aircraft motion; Perturbed State equations; basic aerodynamic characteristics; control surface effectiveness; stability and control derivatives; dynamic stability; control of the airplane; and automatic flight control.	GR		Lecture
Fall 2005	ME 634	634	COMPUTATIO NAL FLUID DYN	ME	MECHANICAL & MATERIALS ENGR	4	Introduces CFD methods: governing equations, PDEs, finite difference numerical methods, stability analysis, incompressible and compressible flows, subsonic to supersonic flows.	GR		Lecture

Fall 2005	ME 642	642	VEHICLE ENGINEERING	ME	MECHANICAL & MATERIALS ENGR	3	Develops students' abilities to derive and solve vehicle equations, and introduce dynamic analysis in vehicle design. Various performance criteria, control concepts, and HEVs will be studied.	GR		Lecture
Fall 2005	ME 644	644	PRIN INTERNAL COMB ENGINE	ME	MECHANICAL & MATERIALS ENGR	4	Thermodynamics of I.C. engines, combustion thermodynamics, friction, heat and mass losses, and computer control of the modern fuel-injected I.C. engine.	GR		Lecture
Fall 2005	ME 656	656	INTRO TO ROBOTICS	ME	MECHANICAL & MATERIALS ENGR	4	(Also listed as CEG 656 and EE 656.) Introduction to the mathematics, programming, and control of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control.	GR		Lecture
Fall 2005	ME 656	656	INTRO TO ROBOTICS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Introduction to the mathematics, programming, and control of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control.	GR	L	Lab

Fall 2005	ME 658	658	INSTRUMENTATION/MEASURMT	ME	MECHANICAL & MATERIALS ENGR	4	Develops understanding in measurements, conveys the principles and practice for design of systems including uncertainty and signal reconstruction, and establishes the physical principles and techniques used to measure those quantities most important for applications.	GR		Lecture
Fall 2005	ME 658	658	INSTRUMENT/ MEASURMNT LAB	ME	MECHANICAL & MATERIALS ENGR	0	Develops understanding in measurements, conveys the principles and practice for design of systems including uncertainty and signal reconstruction, and establishes the physical principles and techniques used to measure those quantities most important for applications.	GR	L	Lab
Fall 2005	ME 660	660	MECHANICAL VIBRATIONS	ME	MECHANICAL & MATERIALS ENGR	4	Modeling and analysis of single and multi-degree freedom systems under free and forced vibration and impact. Lagrangian and matrix formulations, energy methods, and introduction to random vibrations.	GR		Lecture
Fall 2005	ME 660	660	MECHANICAL VIBRATIONS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Modeling and analysis of single and multi-degree freedom systems under free and forced vibration and impact. Lagrangian and matrix formulations, energy methods, and introduction to random vibrations.	GR	L	Lab

Fall 2005	ME 664	664	MECH SYS MODEL & DESIGN	ME	MECHANICAL & MATERIALS ENGR	4	Modeling of complex mechanical systems as a set of simple, linear or nonlinear components for the purpose of design. Introduces modern computational tools.	GR		Lecture
Fall 2005	ME 670	670	FAILURE ANALYSIS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Engineering aspects of failure analysis, failure mechanisms, and related environmental factors. Analysis of actual service failure.	GR	L	Lab
Fall 2005	ME 670	670	FAILURE ANALYSIS	ME	MECHANICAL & MATERIALS ENGR	3	Engineering aspects of failure analysis, failure mechanisms, and related environmental factors. Analysis of actual service failure.	GR		Lecture
Fall 2005	ME 671	671	NON-DESTRUCTIVE TESTING	ME	MECHANICAL & MATERIALS ENGR	3	Lectures will cover: Principles and applications of Eddy Current techniques, Wave Propagation in guided wave modes, Ultrasonics, Acoustic Emission, Radiography, Modeling and Analysis, Introduction to signal processing and Specifications and Standards.	GR		Lecture

Fall 2005	ME 672	672	STRUCT & PROP ENGR POLYM	ME	MECHANICAL & MATERIALS ENGR	4	Introduces polymers as engineering materials and covers fundamental concepts in polymer science and engineering. Includes polymerization processes, morphology and crystallinity, thermal transitions, viscoelasticiity, rubber elasticity, aging, and contemporary issues in polymers.	GR		Lecture
Fall 2005	ME 675	675	HIGH TEMP MATERIALS	ME	MECHANICAL & MATERIALS ENGR	3	Design and use of high-temperature superalloys, strengthening mechanisms, creep and fatigue, corrosion and oxidation, protective coatings, and alternative materials.	GR		Lecture
Fall 2005	ME 677	677	MECH BEHAVIOR MATERIALS	ME	MECHANICAL & MATERIALS ENGR	4	Crystal plasticity and single crystal behavior. Introduction to dislocation theory. Strengthening mechanisms and polycrystalline behavior. Introduction to viscoelasticity. Fracture, fatigue, and creep of materials.	GR		Lecture
Fall 2005	ME 678	678	X-RAY SPECTRAL ANALY LAB	ME	MECHANICAL & MATERIALS ENGR	0	Electron microprobe and X-ray fluorescence for analysis of alloys and other materials are explained and demonstrated with examples. 2 hours lecture, 1 hour lab.	GR	L	Lab

Fall 2005	ME 678	678	X-RAY SPECTRAL ANALYSIS	ME	MECHANICAL & MATERIALS ENGR	3	Electron microprobe and X-ray fluorescence for analysis of alloys and other materials are explained and demonstrated with examples. 2 hours lecture, 1 hour lab.	GR		Lecture
Fall 2005	ME 679	679	MATERIALS CORROSION	ME	MECHANICAL & MATERIALS ENGR	4	Survey of the principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included.	GR		Lecture
Fall 2005	ME 680	680	XRAY METHODS IN MAT SCI	ME	MECHANICAL & MATERIALS ENGR	4	Introduction to the theory and practice of diffraction methods in the study of alloys, refractory materials, and polymers. 2 hours lecture, 4 hours lab.	GR		Lecture
Fall 2005	ME 681	681	MATERIAL CHARACTERIZATION	ME	MECHANICAL & MATERIALS ENGR	4	Survey of the principal techniques used to detect and evaluate flaws in material components such as castings, weldments, and composites. Includes liquid penetrant, ultrasonic, radiographic, eddy current, and magnetic test methods.	GR		Lecture
Fall 2005	ME 682	682	INTRO/TRANSM ELECTRONMIC	ME	MECHANICAL & MATERIALS ENGR	4	Introduction to the theory and practice of diffraction methods in the study of alloys, refractory materials, and polymers. 2 hours lecture, 4 hours lab.	GR		Lecture

Fall 2005	ME 682	682	XRAY METH IN MAT SCI LAB	ME	MECHANICAL & MATERIALS ENGR	0	Principles that govern image formation and electron diffraction of crystalline materials, laboratory demonstrations, and experiments to illustrate the principles. 3 hours lecture, 1 hour lab.	GR	L	Lab
Fall 2005	ME 683	683	INTRODUCTIO N TO CERAMICS	ME	MECHANICAL & MATERIALS ENGR	3	Ceramic and refractory raw materials and products; atomic structure and bonding; structure of crystalline phases and glasses; structural imperfections; diffusion in oxides; phase equilibria; processing of ceramics.	GR		Lecture
Fall 2005	ME 684	684	PHYSICAL CERAMICS	ME	MECHANICAL & MATERIALS ENGR	4	Processing, microstructure, and properties of ceramics; defect equilibria in oxides; thermal, optical, electrical, and mechanical properties of ceramic materials. Ceramics for special applications. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 684	684	PHYSICAL CERAMICS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Processing, microstructure, and properties of ceramics; defect equilibria in oxides; thermal, optical, electrical, and mechanical properties of ceramic materials. Ceramics for special applications. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	ME 685	685	SOLIDIFICATION PROCESSING	ME	MECHANICAL & MATERIALS ENGR	4	Fundamentals of melt solidification, application to metals casting technology, and an introduction to powder metallurgy. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 685	685	SOLIDIFICATION PROC LAB	ME	MECHANICAL & MATERIALS ENGR	0	Fundamentals of melt solidification, application to metals casting technology, and an introduction to powder metallurgy. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	ME 686	686	DEFORMATION PROCESSING	ME	MECHANICAL & MATERIALS ENGR	4	Fundamentals of principal deformation processing systems including forging, extrusion, rolling, and sheet forming; material response and formability; and mechanics and analysis of selected processes. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 686	686	DEFORMATION PROCESS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Fundamentals of principal deformation processing systems including forging, extrusion, rolling, and sheet forming; material response and formability; and mechanics and analysis of selected processes. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	ME 687	687	MACHINING	ME	MECHANICAL & MATERIALS ENGR	4	Fundamentals of machining with emphasis on engineering models of machinability, chip formation, cutting forces and power, and lubrication. Introduction to numerical control machining. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 687	687	MACHINING LABORATORY	ME	MECHANICAL & MATERIALS ENGR	0	Fundamentals of machining with emphasis on engineering models of machinability, chip formation, cutting forces and power, and lubrication. Introduction to numerical control machining. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	ME 688	688	POWDER PROCESSING	ME	MECHANICAL & MATERIALS ENGR	4	Fundamental metallurgy and ceramic science of powder processing techniques. Details of current powder processing technology and methods. Hands-on laboratory experience with both metal and ceramic materials.	GR		Lecture
Fall 2005	ME 688	688	POWDER PROCESSING LAB	ME	MECHANICAL & MATERIALS ENGR	0	Fundamental metallurgy and ceramic science of powder processing techniques. Details of current powder processing technology and methods. Hands-on laboratory experience with both metal and ceramic materials.	GR	L	Lab

Fall 2005	ME 689	689	EGR PLASTICS:MAT, PROC,DES	ME	MECHANICAL & MATERIALS ENGR	4	(Also listed as CHM 669.) Properties and manufacturing processes of engineering plastics and the effect of these factors on plastics design. Illustrative laboratory projects are included. 2 hours lecture, 4 hours lab.	GR		Lecture
Fall 2005	ME 689	689	ENGINEERING PLASTICS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Properties and manufacturing processes of engineering plastics and the effect of these factors on plastics design. Illustrative laboratory projects are included. 2 hours lecture, 4 hours lab.	GR	L	Lab
Fall 2005	ME 699	699	SPECIAL PROBLEMS IN ME	ME	MECHANICAL & MATERIALS ENGR	1	Special problems in advanced engineering topics. Titles vary.	GR	I	Independent Study
Fall 2005	ME 700	700	PRIN OF INSTRUCTION EGR	ME	MECHANICAL & MATERIALS ENGR	3	Survey of available instructional materials and discussion of educational theories and techniques leading to more effective instruction.	GR		Lecture
Fall 2005	ME 708	708	MULTI STRUCT OPTIMIZATN	ME	MECHANICAL & MATERIALS ENGR	3	Structural optimization of large scale systems with constraint approximations, sensitivity analysis, and design variable linking methods. Primal, dual, and optimality criteria methods for shape and size optimization, 3 hour lecture.	GR		Lecture

Fall 2005	ME 710	710	COMP METH STRUCT DYNAMICS	ME	MECHANICAL & MATERIALS ENGR	4	Vibration of discrete and continuous systems. Computational methods for the eigenvalue problem. Large-dimensional systems. Approximate methods for continuous systems. Substructure synthesis. Response of vibrating systems. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 710	710	COMP METH STRUCT DYNA LAB	ME	MECHANICAL & MATERIALS ENGR	0	Vibration of discrete and continuous systems. Computational methods for the eigenvalue problem. Large-dimensional systems. Approximate methods for continuous systems. Substructure synthesis. Response of vibrating systems. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	ME 712	712	FEM APPLICATIONS	ME	MECHANICAL & MATERIALS ENGR	4	Concepts of dynamic analysis using the finite element method (FEM). Application of various computational techniques to dynamic structures and thermal systems including vehicle dynamics. 3 hours lecture, 2 hours lab.	GR		Lecture

Fall 2005	ME 712	712	FEM APPLICATIONS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Concepts of dynamic analysis using the finite element method (FEM). Application of various computational techniques to dynamic structures and thermal systems including vehicle dynamics. 3 hours lecture, 2 hours lab.	GR	L	Lab
Fall 2005	ME 714	714	NONLINEAR FINITE ELEMENT	ME	MECHANICAL & MATERIALS ENGR	4	Nonlinear finite element analysis of elastic, plastic, and viscoplastic deformation. Flow formulation and solid formulation. Analysis and simulation of structures and metal forming processes.	GR		Lecture
Fall 2005	ME 714	714	NONLIN FINITE ELEMENT LAB	ME	MECHANICAL & MATERIALS ENGR	0	Nonlinear finite element analysis of elastic, plastic, and viscoplastic deformation. Flow formulation and solid formulation. Analysis and simulation of structures and metal forming processes.	GR	L	Lab
Fall 2005	ME 715	715	ADVANCED DYNAMICS	ME	MECHANICAL & MATERIALS ENGR	4	Introduction to classical mechanics. Application of distributed and discretized approaches to dynamic systems with rigid and deformable members. Emphasis on the understanding of fundamental theory of mechanics and applications of different techniques to dynamics.	GR		Lecture

Fall 2005	ME 716	716	NONLINEAR DYNAM & VIB	ME	MECHANICAL & MATERIALS ENGR	4	The behavior of nonlinear mechanical systems is analyzed with numerical, symbolic, graphic, and analytical methods. Equal emphasis is placed on understanding nonlinear effects and methods of analysis.	GR		Lecture
Fall 2005	ME 718	718	RANDOM VIBRATION	ME	MECHANICAL & MATERIALS ENGR	4	Introduction of the fundamental concepts of random signal analysis for random vibration analysis. Statistical approaches to the response of mechanical vibratory systems, and the extension of this understanding to experimental modal analysis.	GR		Lecture
Fall 2005	ME 720	720	ADV MECHANICS OF SOLIDS	ME	MECHANICAL & MATERIALS ENGR	4	Introduces theory of elasticity. Topics in advanced strength of materials. Energy methods. Computational techniques in solid mechanics. Introduces plates and shells.	GR		Lecture
Fall 2005	ME 720	720	ADV MECH OF SOLIDS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Introduces theory of elasticity. Topics in advanced strength of materials. Energy methods. Computational techniques in solid mechanics. Introduces plates and shells.	GR	L	Lab

Fall 2005	ME 721	721	MECH OF COMPOSITE MATLS	ME	MECHANICAL & MATERIALS ENGR	4	Constituent properties and micromechanics of composite materials are studied. Macromechanics of fiber reinforced composites and laminates are discussed and a brief introduction to finite element analysis of composites is presented.	GR		Lecture
Fall 2005	ME 722	722	AEROELASTICITY	ME	MECHANICAL & MATERIALS ENGR	4	Static and dynamic aeroelastic response of an aeroelastic airfoil and a straight wing in the presence of steady and unsteady aerodynamic loads. Use of the K and PK to determine flutter speeds. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 723	723	VISCOELASTICITY	ME	MECHANICAL & MATERIALS ENGR	4	Extends the concepts of elasticity to include the energy dissipating effects of viscoelasticity. Linear/nonlinear viscoelastic behavior are examined in one and three dimensions. Finite element modeling of frequency dependent viscoelastic behavior is introduced.	GR		Lecture

Fall 2005	ME 724	724	CONTINUUM MECHANICS	ME	MECHANICAL & MATERIALS ENGR	4	Applying the physical laws of conservation of mass, energy, momentum, and thermo-dynamics to a continuum to formulate the mathematical equations governing the macroscopic behavior of matter. Under-standing the physical meaning of the laws and individual terms in the equations, analysis of stress and deformation at a point, and the development of constitutive equations will be emphasized.	GR		Lecture
Fall 2005	ME 726	726	STRUCTURAL RELIABILITY	ME	MECHANICAL & MATERIALS ENGR	3	Analyze the uncertainties associated with mechanical and structural design. Methods to model various uncertainties in a design using probabilistic analysis tools. Computation of safety index and structural reliability using efficient techniques for implicit functions.	GR		Lecture
Fall 2005	ME 730	730	ADV FLUID DYNAMICS	ME	MECHANICAL & MATERIALS ENGR	3	Theory and application of conservation equations for fluid mechanics. Develops boundary layer equations for laminar and turbulent flows. Topics include incompressible, viscous, supersonic, and hypersonic flows.	GR		Lecture

Fall 2005	ME 730	730	ADV FLUID DYNAMICS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Theory and application of conservation equations for fluid mechanics. Develops boundary layer equations for laminar and turbulent flows. Topics include incompressible, viscous, supersonic, and hypersonic flows.	GR	L	Lab
Fall 2005	ME 732	732	BOUNDARY LAYER THEORY	ME	MECHANICAL & MATERIALS ENGR	4	Advanced fluid dynamics including formulation of the Navier Stoke equations, boundary layers and exact and approximate solution of the boundary layer equations, and the transition to and characteristics of turbulent flows.	GR		Lecture
Fall 2005	ME 734	734	ADV COMPUT FLUID DYNAMICS	ME	MECHANICAL & MATERIALS ENGR	3	Introduction to modern computational fluid dynamic (CFD) methods. Survey of current numerical procedures to solve fluid dynamic problems from incompressible to hypersonic flows. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	ME 734	734	COMPUTAT'L FLUID DYN LAB	ME	MECHANICAL & MATERIALS ENGR	0	Introduction to modern computational fluid dynamic (CFD) methods. Survey of current numerical procedures to solve fluid dynamic problems from incompressible to hypersonic flows. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	ME 736	736	CONV HEAT MASS TRANSFER	ME	MECHANICAL & MATERIALS ENGR	3	Heat and mass transfer analysis within conductors and over submerged objects for laminar and turbulent flows. Film condensation and boiling.	GR		Lecture
Fall 2005	ME 738	738	RADIATION HEAT TRANSFER	ME	MECHANICAL & MATERIALS ENGR	3	Fundamentals and application of radiation heat transfer, radiation between gray and nongray bodies, network techniques, radiation through absorbing media, and radiation between gases and surrounding surfaces. Finite difference solution for radiation problem.	GR		Lecture
Fall 2005	ME 740	740	TWO-PHASE HEAT TRANSFER	ME	MECHANICAL & MATERIALS ENGR	4	Examination of the thermophysics of vaporization and condensation processes in heat transfer equipment. The basic physical mechanisms associated with phase-change phenomena are described, and the best empirical models are presented.	GR		Lecture
Fall 2005	ME 742	742	NUM SIM HEAT/MASS TRANSF	ME	MECHANICAL & MATERIALS ENGR	3	Computational techniques for the solution of engineering problems in multidimensional fluid flow, and heat and mass transfer including two-phase flows and chemical reactions.	GR		Lecture

Fall 2005	ME 742	742	NUM SIM HEAT/MASS TR LAB	ME	MECHANICAL & MATERIALS ENGR	0	Computational techniques for the solution of engineering problems in multidimensional fluid flow, and heat and mass transfer including two-phase flows and chemical reactions.	GR	L	Lab
Fall 2005	ME 743	743	NUMERIC HEAT TRANSFER II	ME	MECHANICAL & MATERIALS ENGR	4		GR		Lecture
Fall 2005	ME 744	744	ADV CLASSICAL THERMODYN	ME	MECHANICAL & MATERIALS ENGR	4	Thermodynamics is studied from both the classical (macroscopic) and statistical (microscopic) viewpoints with emphasis on statistical thermodynamics. Property relationships, Maxwell relations, partition functions, distribution functions, kinetic theory and the Boltzmann transport equation are discussed.	GR		Lecture
Fall 2005	ME 746	746	STATISTIC THERMODYNA MICS	ME	MECHANICAL & MATERIALS ENGR	4	Hypersonic flow is studied from the viewpoint of its unique fluid dynamic attributes with emphasis on classic inviscid theories, chemical kinetics, and state-of-the-art development.	GR		Lecture

Fall 2005	ME 748	748	FUND OF PLASMA SCIENCE	ME	MECHANICAL & MATERIALS ENGR	4	Properties, characteristics, and use of ionized gases. Fundamentals of gaseous electronics including kinetic theory, excitation, ionization, equilibrium, non-equilibrium, and local thermodynamic equilibrium. Plasma generation, glow discharge, rf-discharges, plasma torches, and free-burning arcs.	GR		Lecture
Fall 2005	ME 754	754	NONLINEAR CONTROL	ME	MECHANICAL & MATERIALS ENGR	4	Nonlinear behavior and controllers are emphasized. Gain scheduling, model following, time-delay and slide-mode techniques will be discussed. Rule-based fuzzy logic and neural network will be developed. Emphasis will be on theory, algorithms, and applications.	GR		Lecture
Fall 2005	ME 756	756	ROBOTICS I	ME	MECHANICAL & MATERIALS ENGR	4	(Also listed as CEG 756 and EE 756.) Detailed study of the dynamics and control of robotic systems and robot programming languages and systems. Material covered includes rigid-body dynamics; linear, nonlinear, adaptive, and force control of manipulators; and robot programming languages.	GR		Lecture

Fall 2005	ME 756	756	ROBOTICS LAB	ME	MECHANICAL & MATERIALS ENGR	0	Detailed study of the dynamics and control of robotic systems and robot programming languages and systems. Material covered includes rigid-body dynamics; linear, nonlinear, adaptive, and force control of manipulators; and robot programming languages.	GR	L	Lab
Fall 2005	ME 757	757	ROBOTICS II	ME	MECHANICAL & MATERIALS ENGR	4	An introduction to sensing, vision, and robot intelligence and task planning. Material covered includes sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.	GR		Lecture
Fall 2005	ME 757	757	ROBOTICS II LAB	ME	MECHANICAL & MATERIALS ENGR	0	An introduction to sensing, vision, and robot intelligence and task planning. Material covered includes sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.	GR	L	Lab

Fall 2005	ME 760	760	THERMODYNAMICS OF SOLIDS	ME	MECHANICAL & MATERIALS ENGR	4	Thermodynamics of solutions, reactions, phase transformations, surfaces and interfaces, and point defects. Quasi-chemical model for solutions. Heterogeneous phase equilibria. Phase diagrams and thermodynamic quantities. 3 hours lecture, 1 hour seminar.	GR		Lecture
Fall 2005	ME 761	761	PHASE DIAGRAMS/DIFFUSION	ME	MECHANICAL & MATERIALS ENGR	4	Study of equilibrium diagrams through ternary diagrams with an introduction to quaternaries. Advanced topics in diffusion in binary and ternary alloys, ceramics, and intermetallics, defect structures. Fourth-hour discussion of current topics in materials.	GR		Lecture
Fall 2005	ME 762	762	TRANSFORMATIONS/SOLIDS-I	ME	MECHANICAL & MATERIALS ENGR	4	This is the first course in a two course sequence. Covers the theory of homogenous and heterogeneous nucleation and diffusion and interface controlled growth.	GR		Lecture
Fall 2005	ME 763	763	TRANSFORMATIONS/SOLIDS II	ME	MECHANICAL & MATERIALS ENGR	4	This is the second course in a two course sequence. Covers recovery, recrystallization, grain coarsening, eutectoid decomposition, and spinodal decomposition.	GR		Lecture

Fall 2005	ME 768	768	QUANTITATIVE MICROSCOPY	ME	MECHANICAL & MATERIALS ENGR	4	Deals with quantifying microstructural features, such as volume fraction, grain size, shape, and orientation of phases. The course covers stereology, the science of relating 2-dimensional images to 3-dimensional structure, and image analysis.	GR		Lecture
Fall 2005	ME 772	772	PHYSICAL POLYMER SCIENCE	ME	MECHANICAL & MATERIALS ENGR	4	Polymer physics including phase diagrams, phase separation, the amorphous and crystalline states, liquid crystals, thermal transitions, viscoelasticity and rheology, as well as deformation and fracture.	GR		Lecture
Fall 2005	ME 782	782	PROCESSING EGR MATERIALS	ME	MECHANICAL & MATERIALS ENGR	3	In-depth study of processing-microstructure-property relationships for selected engineering materials.	GR		Lecture
Fall 2005	ME 783	783	CERAMICS FOR ADV APPLICAT	ME	MECHANICAL & MATERIALS ENGR	4	Science and technology of ceramics and glasses and their use in various products; atomic structure; bonding; defect-microstructure-property relations; thermal and structural ceramics; electronic, optical, and dielectric ceramics; and special applications.	GR		Lecture

Fall 2005	ME 786	786	APPL PLASTIC & METAL FORM	ME	MECHANICAL & MATERIALS ENGR	4	Yield criteria and flow rules for isotropic and anisotropic materials. Mechanics of plastic deformation including slab, upper-bound, slip-line field, and finite-element methods. Applications to metal forming.	GR		Lecture
Fall 2005	ME 789	789	CONTINUING REGISTRATION	ME	MECHANICAL & MATERIALS ENGR	1		GR	I	Independent Study
Fall 2005	ME 880	880	SELECT TOPICS SYS EGR	ME	MECHANICAL & MATERIALS ENGR	3	Selected topics in current research and recent developments in systems theory and engineering.	GR		Lecture
Fall 2005	ME 890	890	SPECIAL PROBLEMS IN ME	ME	MECHANICAL & MATERIALS ENGR	1	Special problems in advanced engineering topics. Titles vary.	GR	I	Independent Study
Fall 2005	ME 898	898	PHD DISSERTATION RESEARCH	ME	MECHANICAL & MATERIALS ENGR	1	Research on the Ph.D. dissertation topic. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	ME 899	899	THESIS	ME	MECHANICAL & MATERIALS ENGR	1	Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	MED001	1	MEDICAL REGISTRATION I	MED	MEDICINE	1		MD		Lecture
Fall 2005	MED002	2	MEDICAL REGISTRATION II	MED	MEDICINE	1		MD		Lecture
Fall 2005	MED003	3	MEDICAL REGISTRATION III	MED	MEDICINE	1		MD		Lecture

Fall 2005	MED004	4	MEDICAL REGISTRATION IV	MED	MEDICINE	1		MD		Lecture
Fall 2005	MGT675	675	SMALL BUSINESS CONSULT	MGT	MANAGEMENT	3	Students will work in teams with small businesses to develop a business plan. They will look at marketing, finances, staffing, etc. needed to start a business or grow an existing business. Provides excellent hands-on application of previous course work.	GR		Lecture
Fall 2005	MGT680	680	SPECIAL TOPICS	MGT	MANAGEMENT	1	Seminar in an area of current interest in management or human resource management. Topics vary. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	MGT695	695	ETHICS OF AN INDUST SOC	MGT	MANAGEMENT	3		GR		Lecture
Fall 2005	MGT703	703	SEM HUMAN RESOURCE MGT	MGT	MANAGEMENT	3	Analysis of the principal functions, processes, and problems involved in the management of human resources. Evaluation of personnel systems, with emphasis on implications of personnel policy and practice	GR		Lecture

Fall 2005	MGT705	705	SEM INDUSTRIAL RELATIONS	MGT	MANAGEMENT	3	Presents organization development as an ongoing change process that must be planned and managed. A variety of interventions are explained and situations are analyzed to determine effectiveness.	GR		Lecture
Fall 2005	MGT706	706	ORGAN DEV AND CHANGE	MGT	MANAGEMENT	3	Organization development is presented as an ongoing change process that must be planned and managed. A variety of interventions are explained, and situations are analyzed to determine effectiveness.	GR		Lecture
Fall 2005	MGT711	711	SEMINAR IN R&D MANAGEMENT	MGT	MANAGEMENT	3		GR		Lecture
Fall 2005	MGT721	721	INTERNATIONAL MANAGEMENT	MGT	MANAGEMENT	3		GR		Lecture
Fall 2005	MGT753	753	SELECTED TOPICS IN MGT	MGT	MANAGEMENT	3		GR		Lecture
Fall 2005	MGT755	755	HEALTH CARE MGT	MGT	MANAGEMENT	3		GR		Lecture
Fall 2005	MGT763	763	SYSTEMS MGT	MGT	MANAGEMENT	3		GR		Lecture

Fall 2005	MGT770	770	FUNDAMENTALS OF PROJ MGT	MGT	MANAGEMENT	3	Concepts and philosophies are developed by which modern management deals with one-time projects/tasks that have a set of specified time, cost, and performance objectives.	GR		Lecture
Fall 2005	MGT772	772	PROJECT CONTRACT MGT	MGT	MANAGEMENT	3	Overview of the role of contracting and contract administration in contemporary society. Analysis and synthesis of the relationship of contracting to the project management system	GR		Lecture
Fall 2005	MGT773	773	PROJ PLN EVAL&CONTRL TECH	MGT	MANAGEMENT	3	Examines project management techniques that are currently available to aid in planning, estimating, scheduling, and controlling a project from inception to completion. Current project management software is used and/or demonstrated	GR		Lecture
Fall 2005	MGT780	780	MANAGEMENT INTERNSHIP	MGT	MANAGEMENT	3	One-quarter internship in a selected private or governmental organization under the direction of a faculty advisor and employment supervisor. Details to be arranged by the department or college office. Enrollment in the M.B.A. Program, completion of at least seven out of ten core courses, and departmental approval required. Titles vary.	GR		Lecture

Fall 2005	MGT781	781	SPECIAL STUDIES	MGT	MANAGEMENT	1	Intensive reading or research in a selected field of advanced management. Titles vary	GR	I	Independent Study
Fall 2005	MGT789	789	CONTINUING REGISTRATION	MGT	MANAGEMENT	1		GR	I	Independent Study
Fall 2005	MGT799	799	THESIS	MGT	MANAGEMENT	1		GR	I	Independent Study
Fall 2005	MIS521	521	SURVEY INFO SYSTEMS TECH	MIS	DEPT INFO SYS & OPERAT MGMT	3		GR		Lecture
Fall 2005	MIS705	705	ELECTRONIC COMMERCE	MIS	DEPT INFO SYS & OPERAT MGMT	3	Introduction to electronic commerce including fundamentals, applications, benefits and limitations, security and risks, infrastructure and other issues. Primary theme is proper application of electronic commerce and its technologies to gain competitive advantage for business.	GR		Lecture
Fall 2005	MIS710	710	DATABASE MANAGEMENT	MIS	DEPT INFO SYS & OPERAT MGMT	3	Database concepts, data modeling using ER and 00 approaches, relational model, relational database design, structured query language, database system implementation, distributed database concepts, and role of commercial databases in application environments.	GR		Lecture

Fall 2005	MIS720	720	TELECOM MANAGEMENT	MIS	DEPT INFO SYS & OPERAT MGMT	3	Includes data communications hardware, software, terminology, and network topology. Discusses the impact of communications on business operations, globalization and management practices, and investigates the issues related to managing networks.	GR		Lecture
Fall 2005	MIS750	750	IS PLANNING	MIS	DEPT INFO SYS & OPERAT MGMT	3		GR		Lecture
Fall 2005	MIS760	760	SYSTEMS ANALYSIS	MIS	DEPT INFO SYS & OPERAT MGMT	3		GR		Lecture
Fall 2005	MIS761	761	SYSTEMS DESIGN METHODS	MIS	DEPT INFO SYS & OPERAT MGMT	3		GR		Lecture
Fall 2005	MIS770	770	IS IMPLEMENTATION	MIS	DEPT INFO SYS & OPERAT MGMT	3		GR		Lecture
Fall 2005	MIS781	781	SPECIAL STUDIES IN MIS	MIS	DEPT INFO SYS & OPERAT MGMT	1	Intensive research in a selected field of management information systems. Topics vary. Prerequisite: permission of instructor	GR	I	Independent Study
Fall 2005	MIS785	785	E COMMERCE IMPLEMENTATION	MIS	DEPT INFO SYS & OPERAT MGMT	3		GR		Lecture
Fall 2005	MKT635	635	STARTING NEW VENTURES	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT653	653	SPECIAL TOP IN MARKETING	MKT	MARKETING	3	Seminars in marketing - related topics.	GR		Lecture

Fall 2005	MKT675	675	ENTREPRENEURSHIP	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT704	704	PERS SELLING & SALES MGMT	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT705	705	ADVERTIS & SALES PROMO	MKT	MARKETING	3	A thorough examination of Advertising and Sales Promotion with emphasis on practical application of concepts and theory. Includes project development and role playing.	GR		Lecture
Fall 2005	MKT707	707	MARKET RESEARCH & ANALYSI	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT708	708	RESEARCH & ANALYSIS II	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT710	710	CONS & INDUS BUYER BEHAV	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT713	713	LOGISTICS SYSTEMS	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT714	714	MGT LOGISTICS SYSTEMS	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT716	716	INTERNATIONAL MKT	MKT	MARKETING	3	Introduces the concepts and language of international marketing and examines institutional, behavioral, and managerial aspects of a cross section of national marketing systems and multinational organization operations.	GR		Lecture

Fall 2005	MKT717	717	RETAILING/SERVICES MKTG	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT720	720	SERV & NONPROFIT ORG MKT	MKT	MARKETING	3	Explores fundamental marketing issues that require special attention in the marketing of services, including non-profit marketing.	GR		Lecture
Fall 2005	MKT727	727	DIRECT MARKETING	MKT	MARKETING	3	Concepts and principles of database marketing, including direct marketing strategies and tactics.	GR		Lecture
Fall 2005	MKT730	730	CONSUMERISM&SOCIAL ISSUES	MKT	MARKETING	3	Critical study of marketing concepts and practices as related to contemporary social issues in the American economy: consumerism, ecology, product safety, truth in advertising, poverty, national interest, social responsibility, and government's role in consumer protection. Emphasis on the institutional and managerial philosophy points of view, not a legal perspective.	GR		Lecture
Fall 2005	MKT737	737	INTERNATIONAL RETAILING	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT747	747	INTERNET MARKETING I	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT748	748	INTERNET MARKETING 11	MKT	MARKETING	3		GR		Lecture
Fall 2005	MKT780	780	MARKETING INTERNSHIP	MKT	MARKETING	3	Faculty-supervised internship in marketing area.	GR		Lecture

Fall 2005	MKT781	781	INDEP STUDY IN MKTG MGT	MKT	MARKETING	1	Readings or research in a selected field of marketing.	GR	I	Independent Study
Fall 2005	MKT789	789	CONTINUING REGISTRATION	MKT	MARKETING	1		GR	I	Independent Study
Fall 2005	MKT799	799	THESIS	MKT	MARKETING	1		GR	I	Independent Study
Fall 2005	MS 650	650	SYST SIMULATION FOR BUS & EC	MS	MANAGEMENT SCIENCE	3		GR		Lecture
Fall 2005	MS 753	753	INVENTORY MANAGEMENT	MS	MANAGEMENT SCIENCE	3		GR		Lecture
Fall 2005	MS 755	755	ADV QUALITY MANAGEMENT	MS	MANAGEMENT SCIENCE	3	Advanced study of quality management philosophy and techniques, including coverage of ISO 9000 quality standards.	GR		Lecture
Fall 2005	MS 757	757	PRODUCTION PLANNING	MS	MANAGEMENT SCIENCE	3		GR		Lecture
Fall 2005	MS 759	759	PURCHAS & MATERIALS MGT	MS	MANAGEMENT SCIENCE	3		GR		Lecture
Fall 2005	MS 770	770	SELECT TOPICS IN MGT SCI	MS	MANAGEMENT SCIENCE	3	Seminar on one of the areas of management science (i.e., operations research, statistical analysis, and logistics). Topics vary.	GR		Lecture

Fall 2005	MS 771	771	WORLD CLASS STRATEGIES	MS	MANAGEMENT SCIENCE	3	A strategic perspective for operations is developed, providing a linkage with marketing and other functions. Product profiling is introduced for testing the fit between market characteristics and the company's operations processes and infrastructure.	GR		Lecture
Fall 2005	MS 780	780	INTERNSHIP IN MGT SCI	MS	MANAGEMENT SCIENCE	3		GR		Lecture
Fall 2005	MS 781	781	SPEC STUDIES IN MGT SCI	MS	MANAGEMENT SCIENCE	1	Intensive reading or research in a selected field of management science. Individualized instruction with varying topics.	GR	I	Independent Study
Fall 2005	MS 789	789	CONTINUING REGISTRATION	MS	MANAGEMENT SCIENCE	1		GR	I	Independent Study
Fall 2005	MTH503	503	DIFFERENTIAL EQUATION II	MTH	MATHEMATICS	3	Examples of systems of differential equations, complex and repeated eigenvalues, solutions of systems, matrix exponential, qualitative behavior of first-order equations, planar systems and stability, almost linear systems, and energy methods.	GR		Lecture

Fall 2005	MTH516	516	NUMERICAL METH DIGITAL COMP	MTH	MATHEMATICS	4	Introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. 3 hours lecture, 2 hours lab	GR		Lecture
Fall 2005	MTH516	516	NUMER METH DIGITAL COMP LAB	MTH	MATHEMATICS	0	Introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. 3 hours lecture, 2 hours lab	GR	L	Lab
Fall 2005	MTH517	517	NUMERICAL METH DIGITAL COMP	MTH	MATHEMATICS	4	An introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations.	GR		Lecture
Fall 2005	MTH517	517	NUMER METH DIGITAL COMP LAB	MTH	MATHEMATICS	0	An introduction to numerical methods used in the sciences. Includes methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations.	GR	L	Lab

Fall 2005	MTH532	532	COMPLEX VARIABLES	MTH	MATHEMATICS	3	Topics discussed include power series expansion, the formula of Cauchy, residues, conformal mappings, and elementary functions in the complex domain.	GR		Lecture
Fall 2005	MTH533	533	PARTIAL DIFFERENTIAL EQUA	MTH	MATHEMATICS	3	Partial differential equations, boundary value problems, eigenfunctions, Fourier series, and applications	GR		Lecture
Fall 2005	MTH540	540	HISTORY OF MATHEMATICS	MTH	MATHEMATICS	3		GR		Lecture
Fall 2005	MTH543	543	ALG & FCNS-MIDDLE SCH TCH	MTH	MATHEMATICS	4		GR		Lecture
Fall 2005	MTH544	544	PROB SOLV-MIDDLE SCH TCHR	MTH	MATHEMATICS	4		GR		Lecture
Fall 2005	MTH545	545	GEOMETRY-MIDDLE SCH TCHRS	MTH	MATHEMATICS	4		GR		Lecture
Fall 2005	MTH546	546	MTH MODEL-MIDDLE SCH TCHR	MTH	MATHEMATICS	4		GR		Lecture
Fall 2005	MTH548	548	CALCULUS-MIDDLE SCH TCHRS	MTH	MATHEMATICS	4		GR		Lecture

Fall 2005	MTH581	581	ELEMENTARY NUMBER THEORY	MTH	MATHEMATICS	3	Divisibility properties of integers, prime numbers, congruences, the Chinese remainder theorem, quadratic reciprocity law, Mobius inversion formula, Euler f-function, other number-theoretic functions.	GR		Lecture
Fall 2005	MTH599	599	SELECTED TOPICS	MTH	MATHEMATICS	1	Selected topics in mathematics. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	MTH606	606	MATHEMATIC AL MODELING	MTH	MATHEMATICS	3	Structure and properties of mathematical models. Size effects, dimensional analysis, graphical methods, comparative statics, stability, optimization techniques, probabilistic models, and Monte Carlo simulation.	GR		Lecture
Fall 2005	MTH607	607	OPTIMIZATION TECHNIQUES	MTH	MATHEMATICS	3	Concepts of minima and maxima; linear programming; simplex method, sensitivity, and duality; transportation and assignment problems; and dynamic programming.	GR		Lecture
Fall 2005	MTH610	610	FOUND OF COMPUTING LAB	MTH	MATHEMATICS	0	Turing machines; m-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability. 3 hours lecture, 2 hours lab.	GR	L	Lab

Fall 2005	MTH610	610	FOUNDATIONS OF COMPUTING	MTH	MATHEMATICS	4	Turing machines; m-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability. 3 hours lecture, 2 hours lab.	GR		Lecture
Fall 2005	MTH616	616	MATRIX COMPUTATIONS	MTH	MATHEMATICS	4	Survey of numerical methods in linear algebra emphasizing practice with high-level computer tools. Topics include Gaussian elimination, LU decomposition, numerical eigenvalue problems, QR factorization, least squares, singular value decompositions, and iterative methods.	GR		Lecture
Fall 2005	MTH619	619	CRYPTOG & DATA SECURITY	MTH	MATHEMATICS	3	Introduces the mathematical principles of data security. Various developments in cryptography discussed, including public-key encryption, digital signatures, data encryption standard (DES), and key safeguarding schemes.	GR		Lecture
Fall 2005	MTH623	623	ADVANCED LOGIC	MTH	MATHEMATICS	3	(Offered jointly with the Department of Philosophy.) This course treats logic as an object rather than a subject. Although it contains extensions to higher order logic, its main concern will be with the use of logic and with the limitations of logical systems.	GR		Lecture

Fall 2005	MTH631	631	REAL VARIABLES I	MTH	MATHEMATICS	3	Functions, sequences, limits, continuity, differentiability, integration, and mean-value theorems.	GR		Lecture
Fall 2005	MTH632	632	REAL VARIABLES II	MTH	MATHEMATICS	3	Infinite series, uniform convergence, Taylor series, improper integrals, special functions, and Fourier series.	GR		Lecture
Fall 2005	MTH633	633	REAL VARIABLES III	MTH	MATHEMATICS	3	Theory of functions of several variables and vector-valued functions.	GR		Lecture
Fall 2005	MTH634	634	INTRO TO COMPLEX ANALYSIS	MTH	MATHEMATICS	5	Complex arithmetic, differentiation (analytic functions, the Cauchy-Riemann equations), elementary functions and their mapping properties, integration (Cauchy's theorem, Cauchy integral Formula), Taylor and Laurent series, poles, residues, the residue theorem.	GR		Lecture
Fall 2005	MTH650	650	DISCRETE ALG STRUCTURES	MTH	MATHEMATICS	3	Introduces several abstract algebraic structures and their models that are used in computer science. Examples include semigroups, finite-state machines, and groups and cod.	GR		Lecture
Fall 2005	MTH651	651	INTR MOD ALGEBRA I	MTH	MATHEMATICS	3	Introduction to abstract algebraic structures including groups, rings, integral domains, and fields.	GR		Lecture

Fall 2005	MTH652	652	INTR MOD ALGEBRA II	MTH	MATHEMATICS	3	Introduction to abstract algebraic structures including groups, rings, integral domains, and fields.	GR		Lecture
Fall 2005	MTH655	655	ADVANCED LINEAR ALGEBRA	MTH	MATHEMATICS	3	Vector spaces and subspaces, basis and dimension, linear transformations and matrices, eigenvalues and eigenvectors, inner product spaces.	GR		Lecture
Fall 2005	MTH656	656	CODING THEORY	MTH	MATHEMATICS	3	Introduction to the essentials of error-correcting codes, the study of methods for efficient and accurate transfer of information. Topics covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes.	GR		Lecture
Fall 2005	MTH657	657	COMBINATORICS	MTH	MATHEMATICS	3	Topics from permutations, combinatorics, generating functions, recurrence relations, and Polya↕s theory of counting	GR		Lecture
Fall 2005	MTH658	658	APPLIED GRAPH THEORY	MTH	MATHEMATICS	3	Introduction to methods, results, and algorithms from graph theory. Emphasis on graphs as mathematical models applicable to organizational and industrial situations.	GR		Lecture

Fall 2005	MTH659	659	COMBINATORIAL TOOLS	MTH	MATHEMATICS	3	Introduction to some of the mathematical tools needed for an understanding of computer programming. Topics covered are summations, elementary number theory, combinatorial identities, generating functions, and asymptotics.	GR		Lecture
Fall 2005	MTH671	671	GEOMETRY	MTH	MATHEMATICS	3	Topics in the foundation of Euclidean geometry, introduction to non-Euclidean and other geometries.	GR		Lecture
Fall 2005	MTH672	672	PROJECTIVE GEOMETRY	MTH	MATHEMATICS	3	Projective and affine planes and spaces. Change of coordinates. Projective transformations. Conics.	GR		Lecture
Fall 2005	MTH675	675	DIFFERENTIAL GEOMETRY	MTH	MATHEMATICS	4	Calculus on Euclidean space, Frame fields, calculus on a surface, shape operators, and geometry of surfaces in Euclidean 3 space.	GR		Lecture
Fall 2005	MTH680	680	METHODS APPL MTH: GEOMETRIC METH	MTH	MATHEMATICS	3	Basic mathematical tools for the description of physical systems in three dimensions. Vector and tensor analysis, curvilinear coordinate systems, calculus of variations, Lagrangian mechanics, Lagrange multipliers.	GR		Lecture

Fall 2005	MTH681	681	METH APPL MTH:DIFF EQUA	MTH	MATHEMATICS	3	Solution methods for ordinary differential equations commonly arising in physics and engineering. Systems of equations, stability theory, Liapunov's methods, autonomous systems, existence and uniqueness of solutions, Poincare phase plane.	GR		Lecture
Fall 2005	MTH682	682	METHODS APPL MTH:INT METHODS	MTH	MATHEMATICS	3	Use of integral transforms in the solution of differential and integral equations. Fourier series, Fourier and Laplace transforms distributions, integral equations, Greens functions, Sturm-Liouville theory, perturbation methods and asymptotics, orthogonal functions, special functions.	GR		Lecture
Fall 2005	MTH688	688	INDEPENDENT READING	MTH	MATHEMATICS	1	Titles vary.	GR	I	Independent Study
Fall 2005	MTH692	692	SEMINAR	MTH	MATHEMATICS	1		GR	I	Independent Study
Fall 2005	MTH699	699	SELECTED TOPICS	MTH	MATHEMATICS	1	Selected topics in mathematics.	GR		Lecture
Fall 2005	MTH700	700	PRIN INSTRUCTION MATH	MTH	MATHEMATICS	3	Survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction.	GR		Lecture

Fall 2005	MTH716	716	NUMERICAL ANALYSIS I	MTH	MATHEMATICS	4	Topics chosen with emphasis on computational linear algebra. Systems of linear equations and Gaussian elimination; computation of eigenvalues and eigenvectors; matrix exponential; norm and condition number; and iterative methods.	GR		Lecture
Fall 2005	MTH717	717	NUMERICAL ANALYSIS II	MTH	MATHEMATICS	4	Finite difference methods for partial differential equations; analysis of stability and convergence	GR		Lecture
Fall 2005	MTH718	718	NUMERICAL ANALYSIS III	MTH	MATHEMATICS	4	Finite element methods for elliptic boundary value problems, analysis of errors, approximation by finite element spaces, effects of curved boundaries, numerical integration, and finite element methods for parabolic problems.	GR		Lecture
Fall 2005	MTH725	725	COMPUTATIO NAL LOGIC	MTH	MATHEMATICS	4	Introduces predicate logic as an inference system, emphasizing refutation procedures, problem reduction, and resolution. A basis for studying logic programming and artificial intelligence.	GR		Lecture
Fall 2005	MTH730	730	PRINCIPLES OF ANALYSIS	MTH	MATHEMATICS	4	Metric spaces: convergence, completeness, compactness, Ascoli-Arzela theorem. Stone-Weierstrass theorem. Banach spaces. Dual of Lp, of C[a,b].	GR		Lecture

Fall 2005	MTH731	731	REAL ANALYSIS I	MTH	MATHEMATICS	4	Lebesque measure and integration on the real line. Convergence theorems, differentiation of integrals, functions of bounded variation, and absolute continuity.	GR		Lecture
Fall 2005	MTH732	732	REAL ANALYSIS II	MTH	MATHEMATICS	4	LP spaces and their bounded linear functionals. Banach spaces, Hahn-Banach theorem, and closed-graph theorem. Hilbert space, Riesz representation theorem, orthonormal bases, and general measure spaces.	GR		Lecture
Fall 2005	MTH733	733	REAL ANALYSIS III	MTH	MATHEMATICS	4	Outer measure, measure, integration, general convergence theorems, Radon-Nikodym theorem, product measure, and Fubini's theorem.	GR		Lecture
Fall 2005	MTH751	751	ALGEBRA I	MTH	MATHEMATICS	4	Group theory-isomorphism theorems, Jordan-Holder theorem, permutation groups, Sylow theorems, finitely generated Abelian groups, and free groups.	GR		Lecture
Fall 2005	MTH752	752	ALGEBRA II	MTH	MATHEMATICS	4	Ring theory-polynomial rings, unique factorization, radicals, and Wedderburn-Artin structure theory.	GR		Lecture
Fall 2005	MTH753	753	ALGEBRA III	MTH	MATHEMATICS	4	Field theory-simple extensions, Galois theory, solvability by radicals, cyclotomy, finite fields, and Wedderburn's theorem.	GR		Lecture
Fall 2005	MTH771	771	TOPOLOGY	MTH	MATHEMATICS	4		GR		Lecture

Fall 2005	MTH777	777	APPLIED ANALYSIS I	MTH	MATHEMATICS	4	Function spaces, differential and integral equations, fixed point theorems, Hilbert spaces, compact operators, eigenvalues, eigenfunction expansions, and Sturm-Liouville problems.	GR		Lecture
Fall 2005	MTH778	778	APPLIED ANALYSIS II	MTH	MATHEMATICS	4	Inverse operators, fixed-point theorems, compactness, variational methods, and functional analysis of numerical methods.	GR		Lecture
Fall 2005	MTH789	789	CONTINUING REGISTRATION	MTH	MATHEMATICS	1		GR	I	Independent Study
Fall 2005	MTH792	792	SPECIAL PROBLEMS	MTH	MATHEMATICS	1	Titles vary.	GR	I	Independent Study
Fall 2005	MTH799	799	SELECTED TOPICS	MTH	MATHEMATICS	1	Selected topics in mathematics.	GR		Lecture
Fall 2005	MTH800	800	GRAD SEMINAR	MTH	MATHEMATICS	1		GR		Lecture
Fall 2005	MTH830	830	TOPICS IN ANALYSIS	MTH	MATHEMATICS	1		GR		Lecture
Fall 2005	MTH850	850	TOPICS IN ALGEBRA	MTH	MATHEMATICS	1		GR		Lecture
Fall 2005	MTH870	870	TOPICS IN GEOMETRY	MTH	MATHEMATICS	1		GR		Lecture
Fall 2005	MTH899	899	GRAD RESEARCH	MTH	MATHEMATICS	1	Titles vary.	GR	I	Independent Study
Fall 2005	MUA710	710	APPLIED MUSIC	MUA	MUSIC: APPLIED MUSIC	1	Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.	GR	I	Independent Study

Fall 2005	MUA720	720	APPLIED MUSIC	MUA	MUSIC: APPLIED MUSIC	2	Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.	GR	I	Independent Study
Fall 2005	MUA740	740	APPLIED MUSIC	MUA	MUSIC: APPLIED MUSIC	4	Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.	GR	I	Independent Study
Fall 2005	MUS635	635	INTRO MUS ED & SPEC LRNR	MUS	MUSIC	4	Materials, techniques, curriculum for teaching music to the special learner in public/private school music programs.	GR		Lecture
Fall 2005	MUS650	650	OPERA PROD AND COACHING	MUS	MUSIC	3	Production of opera; public performance and individual coaching. For advanced singers. At the discretion of the instructor course requirements may include participation in Dayton Opera productions.	GR		Lecture
Fall 2005	MUS651	651	PIANO LITERATURE	MUS	MUSIC	3	Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the twentieth century.	GR		Lecture
Fall 2005	MUS652	652	PIANO LITERATURE	MUS	MUSIC	3	Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the twentieth century.	GR		Lecture

Fall 2005	MUS653	653	PIANO LITERATURE	MUS	MUSIC	3	A study of selected intermediate-level piano music written by major composers and chosen to illustrate chronological sequence and characteristics of important nationalities.	GR		Lecture
Fall 2005	MUS665	665	COMPUTER APPLIC IN MUSIC	MUS	MUSIC	3	Continuation of MUS 602.	GR		Lecture
Fall 2005	MUS680	680	WORKSHOPS IN MUSIC	MUS	MUSIC	1	Selected topics or problems in music, or special areas of music teaching. Titles vary.	GR	I	Independent Study
Fall 2005	MUS681	681	ADV STUDIES IN SPEC SUBJ	MUS	MUSIC	1	May be taken for letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	MUS682	682	ADV STUDIES IN SPEC SUBJ	MUS	MUSIC	1		GR	I	Independent Study
Fall 2005	MUS683	683	ADV STUDIES IN SPEC SUBJ	MUS	MUSIC	1		GR	I	Independent Study
Fall 2005	MUS701	701	INTRO TO GRAD ST MUS ED	MUS	MUSIC	4		GR		Lecture
Fall 2005	MUS702	702	INTRO RES IN MUSIC ED	MUS	MUSIC	4		GR		Lecture
Fall 2005	MUS704	704	FDTN & PRIN OF MUS ED	MUS	MUSIC	4	Historical, philosophical, and psychological foundations of music education. Principles applied to theoretical and practical problems of music education.	GR		Lecture
Fall 2005	MUS705	705	CHAMBER MUSIC	MUS	MUSIC	1		GR		Lecture

Fall 2005	MUS706	706	SUPV&ADM OF SCHOOL MUSIC	MUS	MUSIC	3	Function of the supervisor of music in the public school. Curricula, testing programs, in-service training, teaching aids, school-community relationships, and budget.	GR		Lecture
Fall 2005	MUS707	707	CONTEMP TRENDS MUS EDUC	MUS	MUSIC	3	Problems, objectives, and current practices in music education. Contemporary theories of learning applied to music education. The arts in public education.	GR		Lecture
Fall 2005	MUS711	711	ADV CONDUCTING: CHORAL	MUS	MUSIC	3	Technique and practice of choral conducting and score preparation. Choral music literature suitable for high school and college groups.	GR		Lecture
Fall 2005	MUS712	712	ADV CONDUCTING:INSTRUMENT	MUS	MUSIC	3	Technique and practice of instrumental conducting and score preparation. Instrumental literature suitable for high school and college groups.	GR		Lecture
Fall 2005	MUS713	713	CHORAL LIT & TECH	MUS	MUSIC	3	Critical study of large group and ensemble literature from 1500 to present. Rehearsal techniques and performance practices. Selection of literature and programming.	GR		Lecture

Fall 2005	MUS714	714	INSTRUMENTAL LIT & TECH	MUS	MUSIC	3	Critical study of large group and ensemble literature. Rehearsal techniques and performance practices. Selection of literature and programming.	GR		Lecture
Fall 2005	MUS715	715	ENSEMBLE	MUS	MUSIC	1		GR		Lecture
Fall 2005	MUS716	716	TRENDS IN ELEM MUSIC	MUS	MUSIC	3	Contemporary practices in elementary school music. Creative approaches and techniques; use of new materials.	GR		Lecture
Fall 2005	MUS717	717	GEN MUS IN MID & JR HI	MUS	MUSIC	3	Philosophies, objectives, techniques, and materials. The listening program, the changing voice, and creative activities in music for the adolescent and pre-adolescent years.	GR		Lecture
Fall 2005	MUS718	718	TEACHING MUS & HUMANITIES	MUS	MUSIC	3	Exploration of relationships between music and other arts. Consideration of works of art in terms of social, political, religious, economic, and philosophical implications; teaching the arts as a humanistic discipline.	GR		Lecture
Fall 2005	MUS721	721	20TH CEN GEN MUS PROG	MUS	MUSIC	3	Critical study of music of the Twentieth Century, with techniques of teaching this music for Grades K-12.	GR		Lecture

Fall 2005	MUS722	722	MARCHING BAND TECHNIQUES	MUS	MUSIC	3	Advanced study of various marching band styles and techniques. Adopting drum corps techniques. Selection of materials. Writing shows. Field planning and production.	GR		Lecture
Fall 2005	MUS731	731	THEORY OF MUSIC	MUS	MUSIC	3	Written and analytical skills relating to music of period of common practice through the twentieth century with emphasis on four-part homophonic writing.	GR		Lecture
Fall 2005	MUS732	732	EAR TRAINING	MUS	MUSIC	1	Sight singing and aural recognition of melodic, harmonic, and rhythmic components in music from the common practice to the present.	GR		Lecture
Fall 2005	MUS733	733	ANALYTICAL TECHNIQUES I	MUS	MUSIC	3	Analytical study of representative compositions of the Middle Ages, Renaissance, and Baroque period.	GR		Lecture
Fall 2005	MUS734	734	ANALYTICAL TECHNIQUES II	MUS	MUSIC	3	Analytical study of representative compositions of the Classical and Romantic periods.	GR		Lecture
Fall 2005	MUS735	735	ANALYTICAL TECH III	MUS	MUSIC	3	Analytical study of representative compositions of the twentieth century.	GR		Lecture
Fall 2005	MUS736	736	CONTRAPUNTAL TECHNIQUES	MUS	MUSIC	3		GR		Lecture

Fall 2005	MUS741	741	BAND & ORCHES ARRANGING	MUS	MUSIC	3	Band and orchestral instrumentation; scoring of transcriptions and original compositions.	GR		Lecture
Fall 2005	MUS742	742	CHORAL ARRANGING	MUS	MUSIC	3	Arranging for choral ensembles common to schools, grades 6┬12.	GR		Lecture
Fall 2005	MUS746	746	MEDIEV & RENAISSANCE MUS	MUS	MUSIC	3		GR		Lecture
Fall 2005	MUS747	747	BAROQUE MUSIC	MUS	MUSIC	3		GR		Lecture
Fall 2005	MUS748	748	CLASSIC & ROMANTIC MUSIC	MUS	MUSIC	3		GR		Lecture
Fall 2005	MUS749	749	20TH CENTURY MUSIC	MUS	MUSIC	3		GR		Lecture
Fall 2005	MUS780	780	PEDAGOGY	MUS	MUSIC	1	Advanced course in techniques, practices, and materials for group and individual instruction. Musical styles and interpretation. Performance in instruments or voice. Titles vary.	GR	I	Independent Study
Fall 2005	MUS789	789	CONTINUING REGISTRATION	MUS	MUSIC	1		GR	I	Independent Study
Fall 2005	MUS799	799	THESIS	MUS	MUSIC	1		GR	I	Independent Study
Fall 2005	NUR614	614	SELECTED TOPICS	NUR	NURSING	3	Special topics. For nursing majors only.	GR		Lecture
Fall 2005	NUR617	617	SELECTED TOPICS	NUR	NURSING	2	Special topics.	GR		Lecture

Fall 2005	NUR640	640	SCHOOL NURSING	NUR	NURSING	2	Roles and responsibilities of school nurses in Ohio. Overview of national trends in school nursing. Emphasis on preparing an individual to assume the role of school nurse.	GR		Lecture
Fall 2005	NUR641	641	CHILDREN W/SPECIAL NEEDS	NUR	NURSING	1	Roles and responsibilities of the nurse in caring for children with special needs in the school setting.	GR		Lecture
Fall 2005	NUR642	642	HLTH ASSMT CHILD/ADOLS	NUR	NURSING	2	Health assessment course with emphasis on health history and physical assessment of children and adolescents in the school setting.	GR		Lecture
Fall 2005	NUR643	643	SCHOOL NURSING PRACTICUM	NUR	NURSING	1	Application of roles and responsibilities of school nurses in Ohio. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	NUR644	644	HLTH PROMO IN SCHOOL NSG	NUR	NURSING	2	Exploration of the art, principles, and strategies of promoting health in the school setting. Examination of existing community-based materials available for school nurse use.	GR		Lecture
Fall 2005	NUR707	707	RESEARCH DESIGN & METH	NUR	NURSING	3	Critical analysis of components, methodology, and state-of-the-art research. Application of the research process in developing a research proposal.	GR		Lecture

Fall 2005	NUR708	708	THEORET FOUNDS FOR NUR	NUR	NURSING	3	Analysis of nursing and other selected concepts, models, and theories as related to nursing practice, administration, and education. Emphasis on development and application to nursing science.	GR		Lecture
Fall 2005	NUR710	710	ADV HEALTH ASSESSMENT	NUR	NURSING	3	Use of assessment skills with clients for maximum and altered health states using both theoretical and experiential knowledge as appropriate in the role of the advanced clinical practitioner.	GR		Lecture
Fall 2005	NUR714	714	SELECTED TOPICS	NUR	NURSING	3	Advanced study of various topics. Titles vary.	GR		Lecture
Fall 2005	NUR715	715	INDEPENDENT STUDY	NUR	NURSING	1	Faculty-directed, individualized study in topics selected by the students.	GR	I	Independe nt Study
Fall 2005	NUR716	716	FAMILY HEALTH NURSING	NUR	NURSING	4	Family science and nursing theories are used as frameworks to assess and analyze family functioning including health promotion and risk identification of families experiencing health issues. Therapeutic interventions are discussed including multidisciplinary approaches.	GR		Lecture

Fall 2005	NUR717	717	ISS CHILD/ADOL HLTH NSG	NUR	NURSING	2	Examination of social, political, legal, economic, and ethical concerns and analysis of initiatives to promote the health and well-being of children, adolescents, and their families.	GR		Lecture
Fall 2005	NUR718	718	CHILDREN IN FAMILIES I	NUR	NURSING	4	Application of theory and nursing interventions for children and adolescents in families. Clinical practicum to assist in analyzing variables in the delivery of comprehensive health care in various settings.	GR		Lecture
Fall 2005	NUR719	719	CHILDREN IN FAMILIES II	NUR	NURSING	8	Application of theoretical frameworks and nursing interventions to provide care for children/adolescents in families. Clinical practicum incorporates research and multi-disciplinary collaboration in analyzing situations and delivering health care to children/adolescents in families. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	NUR720	720	FOUND ADV CLINICAL PRAC	NUR	NURSING	3	Analysis of theories and concepts related to advanced nursing practice and alternative models of care. Students concentrate on chosen client population for development of advanced nursing practice role.	GR		Lecture

Fall 2005	NUR723	723	PRACT AD HLTH & ILLSNES	NUR	NURSING	6	Observation, participation, and practice in area of clinical specialization. Seminars synthesize previous learning with application to the role of the advanced practice nurse. Clinical practicum required. Graduate standing in the College of Nursing and Health required.	GR		Lecture
Fall 2005	NUR724	724	AD HLTH & ILLNESS I	NUR	NURSING	6	Use of primary care and advanced practice concepts in the care of adult clients experiencing changes in their bio-psycho-social-spiritual being.	GR		Lecture
Fall 2005	NUR725	725	AD HLTH & ILLNESS II	NUR	NURSING	6	Examination and application of models for advanced practice roles. Use of primary care and advanced practice concepts in the care of adult clients.	GR		Lecture
Fall 2005	NUR730	730	ORG TH & BEHAV IN NSG ADM	NUR	NURSING	3	Evaluation of the concepts, models, theories and principles of nursing administration. Provides an in-depth macro focus on organizational theories and behaviors applicable to the nurse administrator in a variety of settings.	GR		Lecture

Fall 2005	NUR731	731	STRAT PLAN FOR NSG & HLTH	NUR	NURSING	6	A micro approach to nursing administration. Evaluation of management processes with an experiential component. Practical application of leadership/management concepts, models, and theories. Prerequisite: NUR 730.	GR		Lecture
Fall 2005	NUR732	732	HUM RES MGT IN NSG ADMIN	NUR	NURSING	3	Analysis of human resource management in health care organizations. Specific application is made to the nurse administrator role. Graduate standing in the College of Nursing and Health required.	GR		Lecture
Fall 2005	NUR733	733	PRACTICUM IN NSG ADMIN	NUR	NURSING	5	Observation, participation, and practice in the administration of nursing services in health care settings. Seminars synthesize previous learning and application to nursing administration. Clinical practicum required	GR		Lecture
Fall 2005	NUR734	734	FINAN MGT IN NSG ADMIN	NUR	NURSING	3	Fiscal management concepts for nurse administrators. Content focuses on financial reporting function, resource allocation, managerial issues related to finance, financial planning, and control in nursing administration.	GR		Lecture

Fall 2005	NUR735	735	DECISION MAKING IN NSG	NUR	NURSING	3	Analysis of quantitative and qualitative decision making models in health care systems. Cost-benefit, cost-utility, and cost-effectiveness analysis models are compared. CQI models evaluated for patient and staff outcomes. Introduction to database management.	GR		Lecture
Fall 2005	NUR736	736	INFO & TECH IN NSG SYS	NUR	NURSING	3	Systematic assessment of the clinical and administrative information needs of health care systems. Examines the technology and strategies needed to support nursing and health care in dynamic environmental systems.	GR		Lecture
Fall 2005	NUR740	740	NSG CURR & PROG DEVEL	NUR	NURSING	3	Analysis of learning theories and models of nursing curriculum design. Development and evaluation of nursing curriculum and educational programs.	GR		Lecture
Fall 2005	NUR741	741	NSG ED STRATEGIES	NUR	NURSING	3	Examination and application of the art, principles, and strategies of teaching in nursing programs. Role of teacher in classroom is explored.	GR		Lecture

Fall 2005	NUR742	742	EVAL STRATS IN NSG ED	NUR	NURSING	3	Examination and application of the art, principles, theories, models, and strategies of evaluation in nursing.	GR		Lecture
Fall 2005	NUR743	743	PRACTICUM IN NUR ED	NUR	NURSING	7	Observation, participation, and practice in teaching nursing concepts. Seminars synthesize previous learning with application to the role of the nurse educator. Clinical practicum required.	GR		Lecture
Fall 2005	NUR750	750	HEALTH POLICY ISSUES	NUR	NURSING	3	Critical analysis of public policies and issues affecting nursing and health care delivery. Encompasses economic, political, social, technological, ethical, and legal influences on consumers and health care providers from a global perspective. Restricted to students with graduate nursing degree status.	GR		Lecture

Fall 2005	NUR751	751	HEALTH AND WELL-BEING	NUR	NURSING	3	Identification of theoretical foundations of health promotion, disease prevention, and well-being for individuals and aggregates. Application and investigation of epidemiological concepts, cultural diversity, multidisciplinary collaboration, and national goals and trends affecting health care. Restricted to students with graduate nursing degree status.	GR		Lecture
Fall 2005	NUR752	752	ED CONCEPTS IN NURSING	NUR	NURSING	2	Analysis of conceptual models of education and instructional technologies for advanced practice. Restricted to students with graduate nursing degree status.	GR		Lecture
Fall 2005	NUR753	753	CONCEPTS ADV PRACTICE	NUR	NURSING	2	Analysis of concepts and models for advanced practice. Restricted to students with graduate nursing degree status.	GR		Lecture
Fall 2005	NUR754	754	CONCEPTS LEADER MANAGER	NUR	NURSING	2	Analysis of models and concepts of leadership and management for advanced nursing practice. Restricted to students with graduate nursing degree status.	GR		Lecture

Fall 2005	NUR755	755	INFORMATICS SEMINAR	NUR	NURSING	2	Introduction to trends and issues of informatics in health care with an emphasis on effective use of hardware and software in information technology. May be taken for a letter grade or pass/unsatisfactory.	GR	S	Seminar
Fall 2005	NUR756	756	CONCEPTS OF NSG LEADRSHP	NUR	NURSING	2	Understanding, synthesizing concepts and theories facilitating professional development and leadership in clinical practice, nursing administration or nursing education. Course includes practice models, role implementation, economic and financial issues, health care systems and trends.	GR		Lecture
Fall 2005	NUR760	760	PRIMARY CARE CONCEPTS	NUR	NURSING	2	Analysis of concepts and scope of practice for the nurse as a primary health care provider.	GR		Lecture
Fall 2005	NUR761	761	ADV PHYS FOR NURSES	NUR	NURSING	3	Examines selected major physiological concepts associated with nursing diagnoses. Physiological concepts are integrated with diagnosis and treatment of human responses to health problems. Includes cardiovascular, pulmonary, renal, neurological, endocrine, reproductive, and gastrointestinal physiology.	GR		Lecture

Fall 2005	NUR762	762	ADV HEALTH ASSESSMENT	NUR	NURSING	3	Application of cognitive processes and psychomotor skills needed for comprehensive health assessment. Emphasis on health history; physical, developmental, and nutritional assessment; and identification of common client problems across the life span.	GR		Lecture
Fall 2005	NUR763	763	PRIN OF EPIDEMIOLOGY	NUR	NURSING	2	Study of epidemiological concepts, principles, and methods with application to health and disease surveillance, investigation of disease outbreaks, and health planning. Critical analysis of published epidemiological research with regard to implications for clinical practice.	GR		Lecture
Fall 2005	NUR764	764	APPL PHARM ADV PRACT NUR	NUR	NURSING	3	Focuses on prescriptive knowledge of pharmacologic agents used in treatment of common primary health care problems and stable chronic disease states. Emphasis on indications, mechanisms of action, drug interactions, side effects, and client education. Graded pass/unsatisfactory.	GR		Lecture

Fall 2005	NUR764	764	APPL PHARM APN-SEMINAR	NUR	NURSING	0.5	Focuses on prescriptive knowledge of pharmacologic agents used in treatment of common primary health care problems and stable chronic disease states. Emphasis on indications, mechanisms of action, drug interactions, side effects, and client education. Graded pass/unsatisfactory.	GR	S	Seminar
Fall 2005	NUR765	765	PATHO CHILDREN/ADOLESCENT	NUR	NURSING	3	Advances study of physiologic systems and common pathologies for children/adolescents. Emphasis on knowledge for provision of nursing care for acute and chronic conditions as well as disease prevention and health promotion.	GR		Lecture
Fall 2005	NUR766	766	ADV CHILD HLTH ASSESSMT	NUR	NURSING	3	Application of processes and skills for comprehensive health assessment of children/adolescents. Emphasis on health history, physical assessment of children and adolescents incorporating various instruments to assess growth and development issues.	GR		Lecture

Fall 2005	NUR770	770	COMM/PUB HLTH NSG I	NUR	NURSING	5	Analysis of the role of the community health nurse specialist in community assessment and diagnosis, interdisciplinary practice, and health promotion and disease prevention primary care in a culturally and ethnically diverse evolving environment.	GR		Lecture
Fall 2005	NUR771	771	COMM/PUB HLTH NSG II	NUR	NURSING	5	Analysis of role of community health nurse specialist in program planning in partnership with community. Continuous quality improvement including both evaluation and consultation to increase social justice and improve the environment of the aggregate.	GR		Lecture
Fall 2005	NUR772	772	PRACT COMM HLTH NUR SPEC	NUR	NURSING	6	Observation, participation and practice as community health nurse specialist; seminars synthesize previous learning with application to the role. Public health policies, legislation and economics of health care, including obtaining and financial management of grants.	GR		Lecture

Fall 2005	NUR781	781	THESIS SEMINAR	NUR	NURSING	2	Development of a proposal for a thesis or scholarly project. Seminars include application of statistics, analysis, interpretation, and presentation of data. 4 hours of seminar required weekly.	GR		Lecture
Fall 2005	NUR782	782	ADV NSG CHILD/ADOL I	NUR	NURSING	6	Application of advanced practice nursing skills integrating theory, research findings, and differential diagnosis in the provision of primary, acute, and chronic care. Clinical learning incorporates use of case management in the primary care setting. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	NUR783	783	ADV NSG CHILD/ADOL II	NUR	NURSING	6	Introduces theoretical frameworks and research findings for advanced nursing practice required to provide case management and primary care for children/adolescents in families. Emphasis on nursing management of chronic/complex illnesses. Clinical practicum required. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	NUR784	784	ADV NSG CHILD/ADOL III	NUR	NURSING	6	Clinical application of relevant theories and research findings for health promotion and disease prevention, as well as health maintenance and restoration for children/adolescents using a family centered approach. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	NUR789	789	CONTINUING REGISTRATION	NUR	NURSING	1	A student must be registered at the graduate level in the quarter in which the degree is granted, or in any quarter in which the department is affording some service, such as giving an examination, reading a thesis, or giving advice on the thesis after completion of all other requirements of course work and research.	GR	I	Independent Study
Fall 2005	NUR790	790	NUR PRACT ROLES & ISSUES	NUR	NURSING	2	Analysis of the concepts and roles of the family nurse practitioner. Study of family theory as it relates to practice. Supervised lab for specialty skills.	GR		Lecture

Fall 2005	NUR791	791	PRIMARY HLTH CARE WOMEN	NUR	NURSING	1	Provides knowledge and skills needed to deliver primary health care to women in multiple settings. Emphasizes application of problem identification and management, health promotion, and client and family counseling. Clinical and supervised lab experiences. Titles vary. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	NUR792	792	PRIMARY HLTH CARE ADULTS	NUR	NURSING	1	Provides knowledge and skills to deliver primary health care to adults across their lifespan in multiple settings. Emphasizes application of problem identification and management, health promotion, and client and family counseling. Supervised lab and clinical experiences. Titles vary. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	NUR793	793	PRIMARY HLTH CARE CHILD	NUR	NURSING	1	Provides knowledge and skills to deliver primary health care to children and adolescents in multiple settings, and patient and family counseling. Supervised lab and clinical experiences. Titles vary. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	NUR794	794	FNP PRECEPTORSHIP	NUR	NURSING	1	Intensive clinical focus provides students the opportunity to apply relevant theories, concepts, and research findings to clinical care. Stresses development of clinical competence required in delivering primary health care. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	NUR795	795	MGT OF ACUTE & EMERG HLTH	NUR	NURSING	8	Focus on complex symptom management in acute and emergent physiological alterations in systems. Health promotion, maintenance, and restoration emphasized. Advanced practice role development incorporated into the course through patient care management seminars, and practice.	GR		Lecture
Fall 2005	NUR796	796	MGT OF ACUTE & EMERG II	NUR	NURSING	8	Focus on complex symptom management in acute and emergent physiological alterations in systems. Health promotion, maintenance, and restoration emphasized. Advanced practice role development incorporated into the course through patient care management seminars, and practice.	GR		Lecture

Fall 2005	NUR797	797	ACNP PRACTICUM	NUR	NURSING	7	Focus on synthesis of theory and implementation of ACNP role. Experiences emphasize clinical decision-making in an interprofessional environment with focus on ACNP as principal provider of care for patients with acute, emergent health problems. Graded ABCDF. Prerequisite: NUR 796.	GR		Lecture
Fall 2005	NUR799	799	THESIS/SCHOLARLY PROJ ADVIS	NUR	NURSING	1	Thesis or scholarly project.	GR	I	Independent Study
Fall 2005	OA 601	601	OFFICE PRACTICUM	OA	OFFICE ADMINISTRATION	1		GR	I	Independent Study
Fall 2005	P&B501	501	HUMAN PHYSIOLOGY I	P&B	PHYSIOLOGY & BIOPHYSICS	4	Includes homeostasis; cell, nerve, and muscle function; nervous system regulation; and cardiovascular and circulatory systems.	GR		Lecture
Fall 2005	P&B502	502	HUMAN PHYSIOLOGY II	P&B	PHYSIOLOGY & BIOPHYSICS	4	Includes gastrointestinal and metabolic systems; respiratory and renal systems; acid-base balance; endocrinology; and temperature regulation.	GR		Lecture
Fall 2005	P&B601	601	CELL PHYSIOLOGY & BIOPHY	P&B	PHYSIOLOGY & BIOPHYSICS	4	Fundamentals of cellular homeostasis and the role of specialized cells in organismal homeostasis	GR		Lecture

Fall 2005	P&B602	602	P&B OF CELLS & SYS II	P&B	PHYSIOLOGY & BIOPHYSICS	4	Epithelial solute and water transport; the control of intracellular pH and role in cellular growth; gastrointestinal mucosal transport; hormonal adaptation; and muscle energetics and exercise.	GR		Lecture
Fall 2005	P&B610	610	HUMAN PHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	5	An overview of human/mammalian organ physiology. Fundamental mechanisms and the experimental basis for current understanding is emphasized. Prerequisite: Introductory biology, chemistry, physics, or permission of instructor.	GR		Lecture
Fall 2005	P&B642	642	INTRO NEUROPHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	4	Physiological mechanisms that subserve the functions of the nervous system. Topics include the biophysics of neuronal information, intercellular communications, motor control, sensory systems, and developmental neurobiology.	GR		Lecture
Fall 2005	P&B650	650	GLIAL CELL PHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	3	Concepts of glial cell physiology based on the analysis of current primary literature. Topics include interactions between glia and other cell types and the role of glia in pathophysiology.	GR		Lecture

Fall 2005	P&B666	666	INTRO TO P&B	P&B	PHYSIOLOGY & BIOPHYSICS	3	Each student participates in a one-week tutorial study with each P&B faculty member. Tutorials are given sequentially over the fall quarter for entering P&B Master of Science students. Learning opportunities include readings, discussions, and written assignments. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	P&B669	669	MEMBRANE TRANSPORT	P&B	PHYSIOLOGY & BIOPHYSICS	3	Employs a quantitative approach to the properties of solutes, water, bio-electrical phenomena, the properties of transport systems that move solutes across biological membranes, and the interactions of these solutes with membranes. Completion of calculus, cell biology, and cellular physiology and biophysics required. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	P&B699	699	SPEC PROBLEMS: PHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	1	Enables students to explore potential careers in physiology. Varies from working on an ongoing physiological research project to historical survey related to a completed research project. May be taken for a letter grade or pass/unsatisfactory.	GR	I	Independent Study

Fall 2005	P&B701	701	PHYSIOLOGICAL TOPICS	P&B	PHYSIOLOGY & BIOPHYSICS	1	A selected area is discussed in greater detail than in the basic courses (P&B 702, 703). Some topics may include laboratory	GR	I	Independent Study
Fall 2005	P&B702	702	BASIC HUMAN PHYSIOLOGY I	P&B	PHYSIOLOGY & BIOPHYSICS	6	Homeostasis, cell function, muscle action, nervous system integration, and circulation. 4 hours lecture, 2 hours lab, conference.	GR		Lecture
Fall 2005	P&B702	702	BASIC HUMAN PHYSIOL I LAB	P&B	PHYSIOLOGY & BIOPHYSICS	0	Homeostasis, cell function, muscle action, nervous system integration, and circulation. 4 hours lecture, 2 hours lab, conference.	GR	L	Lab
Fall 2005	P&B703	703	BASIC HUMAN PHYSIOLOGY II	P&B	PHYSIOLOGY & BIOPHYSICS	4	Negative feedback regulation; metabolism; gastrointestinal, pulmonary, renal, and endocrine functions; and integrative functions. 4 hours lecture, 2 hours lab, conference.	GR		Lecture
Fall 2005	P&B703	703	BASIC HUMAN PHS II LAB	P&B	PHYSIOLOGY & BIOPHYSICS	0	Negative feedback regulation; metabolism; gastrointestinal, pulmonary, renal, and endocrine functions; and integrative functions. 4 hours lecture, 2 hours lab, conference.	GR	L	Lab

Fall 2005	P&B704	704	FLUORESCENCE	P&B	PHYSIOLOGY & BIOPHYSICS	1	Covers the theoretical basis for fluorescence and instrument design in this methods-oriented course. Applications of interest to the physiological and biochemical sciences will be discussed. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	P&B720	720	NEUROPHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	3	Topics address the representation, processing, and transmission of neuronal information, and the role of neuronal circuits in motor control and sensory systems.	GR		Lecture
Fall 2005	P&B722	722	ION CHANNELS	P&B	PHYSIOLOGY & BIOPHYSICS	4	This course explores the role of ion channels in a variety of cell types with an emphasis on both electrophysiological and biochemical methods for evaluation of channel function.	GR		Lecture
Fall 2005	P&B733	733	CARDIOVASCULAR PHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	3	Survey of the physiology of the human cardiovascular system; components and control, cell, organ, and system level. Both newborn and adult are included, as well as adjustments to exercise and non-exercise stress.	GR		Lecture

Fall 2005	P&B741	741	PULMONARY PHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	3	Survey of the respiratory vascular and biochemical mechanisms involved in transport of oxygen and carbondioxide from atmosphere to cells. Nonrespiratory functions of the lung are also discussed.	GR		Lecture
Fall 2005	P&B751	751	SECRETION	P&B	PHYSIOLOGY & BIOPHYSICS	3	Explores current hypothesis for the formation, sorting, and release of secretory vesicles at a molecular level integrating ideas from cell biology, neuroscience, and membrane biophysics. Methodology is emphasized.	GR		Lecture
Fall 2005	P&B761	761	GASTROINTESTINAL P&B	P&B	PHYSIOLOGY & BIOPHYSICS	3	Principles of gastrointestinal physiology and biophysics emphasizing cellular mechanisms of secretion, absorption, and motility.	GR		Lecture
Fall 2005	P&B771	771	GENERAL ENDOCRINOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	3	Survey of endocrinological mechanisms and their role in integration of body function.	GR		Lecture
Fall 2005	P&B776	776	INTERCELLULAR COMMUNICA	P&B	PHYSIOLOGY & BIOPHYSICS	4	Introduces the concepts of intercellular communication through an interdisciplinary presentation of immune and neuroendocrine system functions. Emphasizes the similarities between the systems and the multidis-ciplinary approaches used to study each.	GR		Lecture

Fall 2005	P&B777	777	MEDICAL NEUROSCIENCE	P&B	PHYSIOLOGY & BIOPHYSICS	7	Interdisciplinary/interdepartmental course for graduate and medical students that integrates basic and clinical neurosciences. Structural and functional topics are combined with clinical information to address major neurological and psychiatric disorders.	GR		Lecture
Fall 2005	P&B783	783	EXERCISE PHYSIOLOGY	P&B	PHYSIOLOGY & BIOPHYSICS	5	Integration of physiological mechanisms involved in exercise. Cellular, neuromuscular, cardiovascular, and respiratory changes are discussed with relationship to exercise performance. 4 hours lecture, 2 hours lab, student recitation.	GR		Lecture
Fall 2005	P&B783	783	EXERCISE PHYSIOLOGY LAB	P&B	PHYSIOLOGY & BIOPHYSICS	0	Integration of physiological mechanisms involved in exercise. Cellular, neuromuscular, cardiovascular, and respiratory changes are discussed with relationship to exercise performance. 4 hours lecture, 2 hours lab, student recitation.	GR	L	Lab
Fall 2005	P&B789	789	CONTINUING REGISTRATION	P&B	PHYSIOLOGY & BIOPHYSICS	1	A student must be registered at the graduate level in the quarter in which the degree is granted or in which some service is being rendered by the department, such as thesis writing.	GR	I	Independent Study

Fall 2005	P&B800	800	SEMINAR	P&B	PHYSIOLOGY & BIOPHYSICS	2	Students organize and present material to colleagues and faculty.	GR	R	Recitation
Fall 2005	P&B805	805	GEN BIOPHYSICS SEMINAR	P&B	PHYSIOLOGY & BIOPHYSICS	2	Faculty and students present scientific information/findings.	GR		Lecture
Fall 2005	P&B808	808	NEUROSCIENCE SEMINAR	P&B	PHYSIOLOGY & BIOPHYSICS	1	Students present a current scientific article to colleagues and faculty. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	P&B870	870	VASCULAR CELLS	P&B	PHYSIOLOGY & BIOPHYSICS	3	Physiological steady state and pharmacological properties of vascular cells┤circulating erythrocytes, endothelial cells and smooth muscle cells in particular┤as a basis of pathophysiologic aberrations and clinical disorders.	GR		Lecture
Fall 2005	P&B899	899	PHYSIOLOGY RESEARCH	P&B	PHYSIOLOGY & BIOPHYSICS	2	Supervised thesis research.	GR	I	Independent Study
Fall 2005	PHA701	701	TOPICS IN PHARMACOLOGY	PHA	PHARMACOLOGY - SC	2	Topics vary	GR		Lecture
Fall 2005	PHA740	740	INTERCELLULAR COMMUNICAT	PHA	PHARMACOLOGY - SC	4	Introduces the concepts of intercellular communication through an interdisciplinary presentation of immune and neuroendocrine system functions. Emphasizes the similarities between the systems and the multidisciplinary approaches used to study each.	GR		Lecture

Fall 2005	PHA752	752	GENERAL TOXICOLOGY II	PHA	PHARMACOLOGY - SC	4		GR		Lecture
Fall 2005	PHA870	870	VASCULAR CELLS	PHA	PHARMACOLOGY - SC	3	Physiological steady state and pharmacological properties of vascular cells┤circulating erythrocytes, endothelial cells, and smooth muscle cells in particular┤ as a basis of pathophysiologic aberrations and clinical disorders.	GR		Lecture
Fall 2005	PHA876	876	PRIN OF PHARMACOLGY I	PHA	PHARMACOLOGY - SC	2		GR		Lecture
Fall 2005	PHA880	880	GENERAL PHARMACOLOGY II	PHA	PHARMACOLOGY - SC	4		GR		Lecture
Fall 2005	PHA898	898	NEUROPHARMACOLOGY	PHA	PHARMACOLOGY - SC	3	In-depth treatment of the anatomy, biochemistry, physiology, and functions of neurotransmitter systems and the effects of drugs on the nervous system.	GR		Lecture
Fall 2005	PHA899	899	PHARMACOLOGY RESEARCH	PHA	PHARMACOLOGY - SC	1	Supervised thesis research.	GR		Lecture
Fall 2005	PHA990	990	TOXICOLOGY JOURNAL CLUB	PHA	PHARMACOLOGY - SC	1		GR	S	Seminar
Fall 2005	PHL532	532	STUDIES POLITICAL PHILOSOPHY	PHL	PHILOSOPHY	4	Courses of variable content dealing with topics in ancient and modern political philosophy. May be repeated.	GR		Lecture

Fall 2005	PHL541	541	AESTHETICS	PHL	PHILOSOPHY	4	Study of theories concerning the nature of the work of art, aesthetic experience, the arts, and beauty.	GR		Lecture
Fall 2005	PHL578	578	ETHICS AND MEDICINE	PHL	PHILOSOPHY	4	Ethical issues confronting society in the area of medicine and health care, considered from the perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.	GR		Lecture
Fall 2005	PHL582	582	PHL OF RELIGION: PROCESS	PHL	PHILOSOPHY	4	(Listed jointly with REL 582.) Realism and the revolt against idealism. Cross-disciplinary analysis of major contemporary process philosophers, and the implications of their thoughts for religion. Focus on Alfred North Whitehead.	GR		Lecture
Fall 2005	PHL583	583	PHL OF RELIGION: SECULAR	PHL	PHILOSOPHY	4	(Listed jointly with REL 583.) Cross-disciplinary analysis of modes of human awareness through which religious meaning is expressed. Examination of presuppositions of contemporary secular religious movements in existentialism. The problem of the ultimate from the secular perspective.	GR		Lecture
Fall 2005	PHL599	599	STUDIES IN SELECTED SUBJECTS	PHL	PHILOSOPHY	1	Problems, approaches, and topics in the field of philosophy.	GR		Lecture

Fall 2005	PHL601	601	MAJOR PHILOSOPHERS	PHL	PHILOSOPHY	4	Introduction to the major writings of the outstanding philosophers. Involves presentation and critical examination of the philosophers' views. Titles vary.	GR		Lecture
Fall 2005	PHL623	623	ADVANCED LOGIC	PHL	PHILOSOPHY	3	(Listed jointly with Mth 623.) Treats logic as an object rather than as a subject. Although it contains extensions to higher order, its main concern is with use of logic and with limitations of logical systems.	GR		Lecture
Fall 2005	PHL624	624	MATHEMATICAL PHILOSOPHY	PHL	PHILOSOPHY	4	Investigation of philosophical theories concerning the nature of mathematics, the ground of mathematical knowledge, the necessity of mathematical truth, the empirical relevance of mathematics, and the relationships between mathematical philosophy and general philosophy.	GR		Lecture
Fall 2005	PHL631	631	CLASSICAL & MED POL PHIL	PHL	PHILOSOPHY	4	(Listed jointly with PLS 601.) Critical examination of political ideas from 500 B.C. to 1500 A.D. with emphasis on Plato, Aristotle, Cicero, St. Augustine, St. Thomas, Aquinas, Luther, Calvin, and Machiavelli.	GR		Lecture

Fall 2005	PHL632	632	MODERN POL PHILOSOPHY	PHL	PHILOSOPHY	4	Critical examination of political ideas from 1600 to 1900 with emphasis on Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.	GR		Lecture
Fall 2005	PHL642	642	PHILOSOPHY & LITERATURE	PHL	PHILOSOPHY	4	Examination of philosophical ideas found in literature, philosophical interpretations of literature, and evaluations of theories and aesthetics of literature.	GR		Lecture
Fall 2005	PHL643	643	ASIAN RELIGIOUS PHILOSOPHY	PHL	PHILOSOPHY	4	Perennial themes in Asian cultures, such as individual, society, and cosmos; appearance and reality; time and history; and karma, freedom, and responsibility. Treatment of these themes in the philosophical traditions of Asian cultures.	GR		Lecture
Fall 2005	PHL667	667	PHILOSOPHY OF MIND	PHL	PHILOSOPHY	4	Classical and contemporary approaches to such issues as the nature of mind, relationships of mind to body, knowledge of other minds, intentionality, perception, and agency.	GR		Lecture
Fall 2005	PHL681	681	INDEPENDENT READING	PHL	PHILOSOPHY	3	Faculty-directed readings in philosophical literature.	GR	I	Independe nt Study
Fall 2005	PHL682	682	INDEPENDENT READING	PHL	PHILOSOPHY	3	Faculty-directed readings in philosophical literature.	GR	I	Independe nt Study
Fall 2005	PHL683	683	INDEPENDENT READING	PHL	PHILOSOPHY	3	Faculty-directed readings in philosophical literature.	GR	I	Independe nt Study

Fall 2005	PHL694	694	EXISTENTIALISM	PHL	PHILOSOPHY	4	Representative writers of the existentialist movement.	GR		Lecture
Fall 2005	PHL695	695	METAPHYSICS	PHL	PHILOSOPHY	4	Investigation of classical and contemporary attempts to develop a theory of the nature of being and reality.	GR		Lecture
Fall 2005	PHL696	696	EPISTEMOLOGY	PHL	PHILOSOPHY	4	Origin, certainty, and extent of human knowledge	GR		Lecture
Fall 2005	PHL751	751	RESEARCH IN PHILOSOPHY	PHL	PHILOSOPHY	1	Independent study.	GR	I	Independent Study
Fall 2005	PHL752	752	RESEARCH IN PHILOSOPHY	PHL	PHILOSOPHY	1	Independent study.	GR	I	Independent Study
Fall 2005	PHL753	753	RESEARCH IN PHILOSOPHY	PHL	PHILOSOPHY	1	Independent study.	GR	I	Independent Study
Fall 2005	PHL789	789	CONTINUING REGISTRATION	PHL	PHILOSOPHY	1		GR	I	Independent Study
Fall 2005	PHY599	599	SPEC PROBLEM IN PHYSICS	PHY	PHYSICS	1	Special topics, problems or research designed for specific needs and talents of the student.	GR	I	Independent Study
Fall 2005	PHY600	600	INTR SEMICONDUCMATLS	PHY	PHYSICS	3	Study of crystal structure; selected topics in quantum theory; electron band structure; charge carriers in semiconductors; generation, recombination, and motion of charge carriers; electrical and optical properties; and structure and characteristics of p-n junctions.	GR		Lecture

Fall 2005	PHY601	601	SEMICONDUCTOR DEVICE PHY	PHY	PHYSICS	3	Covers the structure and characteristics of bipolar transistors, field effect transistors, and other selected devices. Design and computer modeling of devices.	GR		Lecture
Fall 2005	PHY602	602	SEMICOND DEVICE PROCESSIN	PHY	PHYSICS	3	Survey of the individual processes used in fabricating semiconductor devices. Integration of these processes to produce MOS and bipolar structures. Computer design aids.	GR		Lecture
Fall 2005	PHY610	610	LAB ARTS AND TECHNIQUES	PHY	PHYSICS	2	Introduction to hand and machine tools in the fabrication of laboratory equipment. Emphasis is on a hands-on" approach. Practical experiences are given in vacuum and soldering technology involving commonly utilized materials."	GR	L	Lab
Fall 2005	PHY615	615	PHY INSTRUMENTATION I	PHY	PHYSICS	3	Physics laboratory experiments with an emphasis on electrical measurements and electronic instruments. Lectures on circuit theory, experiment design, and electronic instruments. 1.5 hours lecture, 3 hours lab.	GR		Lecture

Fall 2005	PHY615	615	PHY INSTRUMENT I LAB	PHY	PHYSICS	0	Physics laboratory experiments with an emphasis on electrical measurements and electronic instruments. Lectures on circuit theory, experiment design, and electronic instruments. 1.5 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	PHY616	616	PHY INSTRUMENTATION II	PHY	PHYSICS	3	Experiments emphasizing electronic instruments applied to areas such as mechanics, atomic physics, and nuclear physics. Lectures on applications of integrated circuits to experimentation, data analysis, and data presentation. 1.5 hours lecture, 3 hours lab.	GR		Lecture
Fall 2005	PHY616	616	PHY INSTRUMENT II LAB	PHY	PHYSICS	0	Experiments emphasizing electronic instruments applied to areas such as mechanics, atomic physics, and nuclear physics. Lectures on applications of integrated circuits to experimentation, data analysis, and data presentation. 1.5 hours lecture, 3 hours lab.	GR	L	Lab
Fall 2005	PHY620	620	THERMODYNAMICS	PHY	PHYSICS	3	Covers the first and second laws of thermodynamics: general thermodynamic formulas with applications to matter.	GR		Lecture
Fall 2005	PHY621	621	STAT THERMODYNAMICS	PHY	PHYSICS	3	Covers the kinetic theory of gases. Maxwell-Boltzmann statistics, and an introduction to quantum statistics.	GR		Lecture

Fall 2005	PHY622	622	APPLIED OPTICS	PHY	PHYSICS	4	Study of optical instruments by means of both geometric and physical optics. Theory and applications of interferometry and light detection devices. Brief introduction to lasers and holography. 4 hours lab for five weeks, 3 hours lecture.	GR		Lecture
Fall 2005	PHY622	622	APPLIED OPTICS LAB	PHY	PHYSICS	0	Study of optical instruments by means of both geometric and physical optics. Theory and applications of interferometry and light detection devices. Brief introduction to lasers and holography. 4 hours lab for five weeks, 3 hours lecture.	GR	L	Lab
Fall 2005	PHY632	632	LASERS	PHY	PHYSICS	3	Introduction to the physics of lasers including emission and absorption processes in lasing, the factors controlling laser gain, the properties of optical resonators, and a survey of salient features for principal types of lasers.	GR		Lecture

Fall 2005	PHY642	642	PHYSICAL OPTICS	PHY	PHYSICS	4	Interaction of light and matter and the interpretation of these phenomena using the electromagnetic wave theory of radiation. Topics include emission, coherence, and holography, interference, diffraction, absorption, scattering, and polarization.	GR		Lecture
Fall 2005	PHY645	645	INT PHY SCI W/MATH I	PHY	PHYSICS	4	Integration of physics and mathematics, fulfilling science and math standards, physics education issues, inquiry teaching practices, and assessment will be addressed in the context of science and math process skills, measurement, and properties of matter.	GR		Lecture
Fall 2005	PHY646	646	INT PHY SCI W/MATH II	PHY	PHYSICS	4	Integration of physics and mathematics, science and math standards, physics education issues, inquiry teaching, assessment and technology will be addressed in the context of kinematics, forces and energy transfers.	GR		Lecture

Fall 2005	PHY647	647	INT PHY SCI W/MATH III	PHY	PHYSICS	4	Integration of physics and mathematics, science and math standards, physics education issues, inquiry teaching, assessment, technology will be addressed in the context of electricity, magnetism, waves, optics.	GR		Lecture
Fall 2005	PHY650	650	ELECTRICITY & MAGNETISM	PHY	PHYSICS	3	Fundamental laws of electricity and magnetism presented from the viewpoint of field theory. Maxwell↕s equations, transient and steady state currents, electric and magnetic properties of matter, and electromagnetic radiation.	GR		Lecture
Fall 2005	PHY651	651	ELECTRICITY & MAGNETISM	PHY	PHYSICS	3	Fundamental laws of electricity and magnetism presented from the viewpoint of field theory. Maxwell's equations, transient and steady state currents, electric and magnetic properties of matter, and electromagnetic radiation.	GR		Lecture
Fall 2005	PHY652	652	ELECTRICITY & MAGNETISM	PHY	PHYSICS	3	Fundamental laws of electricity and magnetism presented from the viewpoint of field theory. Maxwell's equations, transient and steady state currents, electric and magnetic properties of matter, and electromagnetic radiation.	GR		Lecture

Fall 2005	PHY660	660	INTRO QUANTUM MECHANICS	PHY	PHYSICS	4	Mathematical structure of quantum mechanics. Applications to selected one- and three-dimensional problems with emphasis on atomic structure.	GR		Lecture
Fall 2005	PHY661	661	INTRO SOLID STATE PHYSICS	PHY	PHYSICS	4	Selected properties of solids and their quantitative explanation in terms of simple physical models. Applications of quantum mechanics to solids. 3 hours lecture, 2 hours lab	GR		Lecture
Fall 2005	PHY662	662	INTRO TO NUCLEAR PHYSICS	PHY	PHYSICS	4	Special theory of relativity. Nuclear radiation, nuclear properties, nuclear transformations, and elementary particles and interactions.	GR		Lecture
Fall 2005	PHY671	671	ANALYTICAL MECHANICS I	PHY	PHYSICS	3	Intermediate problems in statics, kinematics, and dynamics; the study of equilibrium of forces, rectilinear motion, curvilinear motion, central forces, constrained motion, energy and moments of inertia; and the Lagrange method.	GR		Lecture
Fall 2005	PHY672	672	ANALYTICAL MECHANICS II	PHY	PHYSICS	3	Intermediate problems in statics, kinematics, and dynamics; the study of equilibrium of forces, rectilinear motion, curvilinear motion, central forces, constrained motion, energy and moments of inertia; and the Lagrange method.	GR		Lecture

Fall 2005	PHY673	673	MATHEMATICAL PHYSICS	PHY	PHYSICS	3	Survey of the field of mathematical physics including vector analysis, analytical mechanics, electromagnetism, and thermodynamics.	GR		Lecture
Fall 2005	PHY674	674	MATHEMATICAL PHYSICS	PHY	PHYSICS	3	Survey of the field of mathematical physics including vector analysis, analytical mechanics, electromagnetism, and thermodynamics.	GR		Lecture
Fall 2005	PHY675	675	MATHEMATICAL PHYSICS	PHY	PHYSICS	3	Survey of the field of mathematical physics including vector analysis, analytical mechanics, electromagnetism, and thermodynamics.	GR		Lecture
Fall 2005	PHY680	680	INTRO THEORETICAL PHYSICS	PHY	PHYSICS	4	Classical theoretical physics with emphasis on mechanics, electromagnetic field theory, and mathematical techniques.	GR		Lecture
Fall 2005	PHY681	681	INTRO THEORETICAL PHYSICS	PHY	PHYSICS	3	Classical theoretical physics with emphasis on mechanics, electromagnetic field theory, and mathematical techniques.	GR		Lecture
Fall 2005	PHY682	682	INTRO THEORETICAL PHYSICS	PHY	PHYSICS	3	Classical theoretical physics with emphasis on mechanics, electromagnetic field theory, and mathematical techniques.	GR		Lecture
Fall 2005	PHY700	700	PRIN INSTRUCTION PHYSICS	PHY	PHYSICS	3	Introduction to nonrelativistic quantum mechanics. Schroedinger↕s equation. Matrix mechanics. Applications to simple atomic and nuclear systems.	GR		Lecture

Fall 2005	PHY704	704	PHILOSOPHY OF PHYSICS	PHY	PHYSICS	2	The various areas of physics are studied with regard to their historical and philosophical basis in modern physical theory. Consent of the department required.	GR		Lecture
Fall 2005	PHY705	705	PHILOSOPHY OF PHYSICS	PHY	PHYSICS	2	The various areas of physics are studied with regard to their historical and philosophical basis in modern physical theory. Consent of the department required.	GR		Lecture
Fall 2005	PHY706	706	PHILOSOPHY OF PHYSICS	PHY	PHYSICS	2	The various areas of physics are studied with regard to their historical and philosophical basis in modern physical theory. Consent of the department required.	GR		Lecture
Fall 2005	PHY710	710	QUANTUM MECHANICS	PHY	PHYSICS	3	Introduction to nonrelativistic quantum mechanics. Schroedinger's equation. Matrix mechanics. Applications to simple atomic and nuclear systems.	GR		Lecture
Fall 2005	PHY711	711	QUANTUM MECHANICS	PHY	PHYSICS	3	Introduction to nonrelativistic quantum mechanics. Schroedinger's equation. Matrix mechanics. Applications to simple atomic and nuclear systems.	GR		Lecture

Fall 2005	PHY712	712	QUANTUM MECHANICS	PHY	PHYSICS	3	Introduction to nonrelativistic quantum mechanics. Schroedinger's equation. Matrix mechanics. Applications to simple atomic and nuclear systems.	GR		Lecture
Fall 2005	PHY720	720	STATISTICAL PHYSICS	PHY	PHYSICS	4	Laws of thermodynamics and the development of statistical mechanics. Macroscopic and microscopic applications to physical systems. Classical and quantum statistics. Fluctuation phenomena.	GR		Lecture
Fall 2005	PHY728	728	GENERAL RELATIVITY	PHY	PHYSICS	2	Principles of the general theory of relativity with applications to gravitation and cosmology. Review of special relativity and tensor analysis. The equivalence principle, curvature, and Einstein↕s field equations.	GR		Lecture
Fall 2005	PHY729	729	GENERAL RELATIVITY	PHY	PHYSICS	2	Continuation of PHY 728. Applications of general relativity. Gravitational radiation and gravitational collapse.	GR		Lecture
Fall 2005	PHY730	730	SOLID STATE PHYSICS	PHY	PHYSICS	3	Introduction to the physics of solids. Lattice dynamics; thermal, electrical, and mechanical properties. Free electron and band theories of solids.	GR		Lecture

Fall 2005	PHY731	731	SOLID STATE PHYSICS	PHY	PHYSICS	3	Introduction to the physics of solids. Lattice dynamics; thermal, electrical, and mechanical properties. Free electron and band theories of solids.	GR		Lecture
Fall 2005	PHY732	732	SOLID STATE PHYSICS	PHY	PHYSICS	3	Introduction to the physics of solids. Lattice dynamics; thermal, electrical, and mechanical properties. Free electron and band theories of solids.	GR		Lecture
Fall 2005	PHY740	740	NUCLEAR PHYSICS	PHY	PHYSICS	3	Introductory methods in nuclear physics. Elementary concepts and simple considerations about nuclear forces, alpha and beta decay, nuclear structure. Phenomenological treatment of nuclear reactions and decay processes.	GR		Lecture
Fall 2005	PHY741	741	NUCLEAR PHYSICS	PHY	PHYSICS	3	Introductory methods in nuclear physics. Elementary concepts and simple considerations about nuclear forces, alpha and beta decay, nuclear structure. Phenomenological treatment of nuclear reactions and decay processes.	GR		Lecture

Fall 2005	PHY742	742	NUCLEAR PHYSICS	PHY	PHYSICS	3	Introductory methods in nuclear physics. Elementary concepts and simple considerations about nuclear forces, alpha and beta decay, nuclear structure. Phenomenological treatment of nuclear reactions and decay processes.	GR		Lecture
Fall 2005	PHY751	751	ATOMIC SPECTRA & STRUCT	PHY	PHYSICS	4	Modern theory of the atom and quantum mechanical treatment of the origin of atomic and X-ray spectra.	GR		Lecture
Fall 2005	PHY762	762	MOLECULAR SPECTRA & STRUC	PHY	PHYSICS	4	Theory of molecular spectra and structure with examination of experimental data as related to molecular spectra.	GR		Lecture
Fall 2005	PHY770	770	SELECTED TOPICS	PHY	PHYSICS	3	Topics vary.	GR		Lecture
Fall 2005	PHY780	780	PLASMA PHYSICS	PHY	PHYSICS	3	Introduction to plasma physics. Motion of charged particles in electric and magnetic fields. Magneto-ionic theory, continuum equations, the Vlasov equation, the Boltzmann equation, and the BBGKY equations.	GR		Lecture
Fall 2005	PHY781	781	PLASMA PHYSICS	PHY	PHYSICS	3	Introduction to plasma physics. Motion of charged particles in electric and magnetic fields. Magneto-ionic theory, continuum equations, the Vlasov equation, the Boltzmann equation, and the BBGKY equations.	GR		Lecture

Fall 2005	PHY782	782	PLASMA PHYSICS	PHY	PHYSICS	3	Introduction to plasma physics. Motion of charged particles in electric and magnetic fields. Magneto-ionic theory, continuum equations, the Vlasov equation, the Boltzmann equation, and the BBGKY equations.	GR		Lecture
Fall 2005	PHY789	789	CONTINUING REGISTRATION	PHY	PHYSICS	1		GR	I	Independent Study
Fall 2005	PHY799	799	MINOR PROBLEMS	PHY	PHYSICS	1	Students pursue topics on a tutorial basis. Cannot be used for thesis credit.	GR	I	Independent Study
Fall 2005	PHY800	800	SEMINAR	PHY	PHYSICS	0.5	Scheduled discussions of current problems in physics. Centered around student presentations.	GR		Lecture
Fall 2005	PHY899	899	RESEARCH	PHY	PHYSICS	1	Gives students opportunities for study or laboratory work in a specialized field of interest. For thesis preparation. May be repeated.	GR	I	Independent Study
Fall 2005	PLS505	505	COMPARATIVE MARXIST THEOR	PLS	POLITICAL SCIENCE	4	Critical examination of the chief theories developed by Marx, Engels, Lenin, Stalin, Mao Tse-tung, Castro, and various revisionists. Emphasis on Soviet and Chinese ideologies.	GR		Lecture
Fall 2005	PLS523	523	GOVERNMENT OF OHIO	PLS	POLITICAL SCIENCE	4		GR		Lecture

Fall 2005	PLS524	524	POL ASPECTS URBAN DEVELMT	PLS	POLITICAL SCIENCE	4	Institutional and political context of planning: laws, governmental structures and procedures, and urban politics.	GR		Lecture
Fall 2005	PLS525	525	AFRICAN AMER POLITICS	PLS	POLITICAL SCIENCE	4	Explores what makes African American politics distinctive from American politics and the prerequisites for effective political and economic leadership in the black community. The notion of black power is a major course theme.	GR		Lecture
Fall 2005	PLS539	539	U S HEALTH POLICY	PLS	POLITICAL SCIENCE	4	Critical review of important political, social, and economic causes and consequences of health policies in the United States.	GR		Lecture
Fall 2005	PLS540	540	LAW AND SOCIETY	PLS	POLITICAL SCIENCE	4	Theories of law and the nature and functions of the judicial process.	GR		Lecture
Fall 2005	PLS542	542	CIVIL LIBERTIES I	PLS	POLITICAL SCIENCE	4	Cases and related materials on the Bill of Rights and the 14th Amendment with emphasis on the First Amendment freedoms, concentrating on Supreme Court behavior and First Amendment procedures.	GR		Lecture

Fall 2005	PLS543	543	CIVIL LIBERTIES II	PLS	POLITICAL SCIENCE	4	Covers cases and related materials on the Bill of Rights and the Fourteenth Amendment. Emphasis on the First Amendment freedoms concentrating on enforcement of civil rights and liberties under the Bill of Rights and the Fourteenth Amendment.	GR		Lecture
Fall 2005	PLS546	546	PUBLIC PERSONNEL ADM	PLS	POLITICAL SCIENCE	4	Examination of the major phases of the governmental budget cycle; types of budget; budgetary reform; economic and public policy impact of government budgeting; decision-making; and legislative-executive relations in budget formation and implementation.	GR		Lecture
Fall 2005	PLS547	547	AM PUBLIC POLICY ANALYSIS	PLS	POLITICAL SCIENCE	4	The nature and classification of public policy. Emphasis on fragmentation, incrementalism, and bargaining as a means of policy development. Impact of citizens on public policy. Survey of public policy goals and problems of public policy evaluation.	GR		Lecture
Fall 2005	PLS551	551	WESTERN EUROPEAN POLITICS	PLS	POLITICAL SCIENCE	4	Comparative study of the political systems of Great Britain, France, and West Germany.	GR		Lecture

Fall 2005	PLS552	552	POLITICS OF NATIONALISM	PLS	POLITICAL SCIENCE	4	Compares ethnic identity and politics in western societies, including the United States, Canada, Great Britain, and France. Topics include minorities and the welfare state, affirmative discrimination, and Black Politics in the United States.	GR		Lecture
Fall 2005	PLS554	554	GOVERNMENTS EAST EUROPE	PLS	POLITICAL SCIENCE	4	Introduction to the governments and politics of Eastern Europe, particularly since World War II. Includes current developments in Poland, Czechoslovakia, East Germany, Hungary, Rumania, Bulgaria, and Yugoslavia.	GR		Lecture
Fall 2005	PLS556	556	POLITICS & SOC IN FRANCE	PLS	POLITICAL SCIENCE	4	Examines the historic interaction of French culture and politics. Topics include the growth of the French nation and state, French society, the nature of modern politics and institutions, and France's role in world affairs.	GR		Lecture
Fall 2005	PLS558	558	LATIN AMERICAN POLITICS	PLS	POLITICAL SCIENCE	4	Selected issues in the study of Latin American politics with an emphasis on the nature of the state and the role of institutions such as the military and unions in politics. Examples from major South American states and Mexico where appropriate.	GR		Lecture

Fall 2005	PLS560	560	POLITICS DEVELOP NATIONS	PLS	POLITICAL SCIENCE	4	Comparative analysis of various problems, particularly political, confronting developing nations in nation building and development.	GR		Lecture
Fall 2005	PLS562	562	POL SYSTEMS OF JAPAN	PLS	POLITICAL SCIENCE	4	This course surveys Japanese government and politics, with emphasis on post-World War II and the American occupation. The government-guided economic recovery, Japanese political parties, and relations with Russia and China are also examined.	GR		Lecture
Fall 2005	PLS564	564	CONTEMP AFRICAN POLITICS	PLS	POLITICAL SCIENCE	4	Political processes and governmental institutions of sub-Saharan Africa; special attention to dynamics of political development and socioeconomic change. Comparative analysis of selected African political systems.	GR		Lecture
Fall 2005	PLS566	566	POLITICS: THE MIDDLE EAST	PLS	POLITICAL SCIENCE	4		GR		Lecture
Fall 2005	PLS567	567	POLITICAL SYSTEM OF CHINA	PLS	POLITICAL SCIENCE	4	Analysis of political structures and processes of Communist China; focus on dynamic factors of socioeconomic and political development.	GR		Lecture
Fall 2005	PLS568	568	POLITICS OF VIETNAM	PLS	POLITICAL SCIENCE	4	Examines the history, demography, politics, culture, and economy of Vietnam.	GR		Lecture

Fall 2005	PLS572	572	INTERNATL ORGANIZTN	PLS	POLITICAL SCIENCE	4	Analysis of developing structures and functions of the United Nations and other international organizations, and concepts relating to world government.	GR		Lecture
Fall 2005	PLS574	574	INTL HUMAN RIGHTS	PLS	POLITICAL SCIENCE	4	Examines the role of human rights in international relations. Considers contending definitions of human rights and debates over policy by focusing on case studies including South Africa, China, Guatemala, and Bosnia.	GR		Lecture
Fall 2005	PLS575	575	HUMAN RIGHTS IN USA	PLS	POLITICAL SCIENCE	4	Examines controversies over human rights in the U.S. Considers contending definitions of human rights and debates over policy by focusing on a range of issues including immigration, pornography, gay rights, race relations, and poverty.	GR		Lecture
Fall 2005	PLS576	576	PEACE STUDIES	PLS	POLITICAL SCIENCE	4	Study of war, peace, and current efforts in dealing with international conflict. Examines the roots of war in American society and alternative strategies for elimination of war as an instrument of policy.	GR		Lecture
Fall 2005	PLS580	580	AMERICAN FOREIGN POLICY	PLS	POLITICAL SCIENCE	4		GR		Lecture

Fall 2005	PLS581	581	NAT'L SECURITY POL	PLS	POLITICAL SCIENCE	4	Study of U.S. national defense and security policy process and the major strategic issues facing the U.S. government.	GR		Lecture
Fall 2005	PLS582	582	US-JAPAN FOREIGN RELAT	PLS	POLITICAL SCIENCE	4	Examines the course of the relationship between the U.S. and Japan. Includes political, security, and economic issues.	GR		Lecture
Fall 2005	PLS599	599	STUDIES IN SELECTED SUBJE	PLS	POLITICAL SCIENCE	1		GR		Lecture
Fall 2005	PLS599	599	STUDIES IN SELECTED SUBJE	PLS	POLITICAL SCIENCE	1	Problems, approaches, and topics in the field of political science. Topics vary.	GR	I	Independe nt Study
Fall 2005	PLS602	602	CLASSIC & MED POL THOUGHT	PLS	POLITICAL SCIENCE	4	Critical examination of political ideas from 500 B.C. to A.D. 1500 with emphasis on Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, Luther, Calvin, and Machiavelli.	GR		Lecture
Fall 2005	PLS603	603	POL THOT: HOBBES TO MILL	PLS	POLITICAL SCIENCE	4	(Listed jointly with PHL 632.) Critical examination of political ideas from 1600 to 1900 with emphasis on Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.	GR		Lecture

Fall 2005	PLS604	604	20TH CENT POL THOUGHT	PLS	POLITICAL SCIENCE	4	Critical examination of the ideas of twentieth-century political theorists. Emphasis on the nature, methodology, evaluation, existing condition, and future of political thought.	GR		Lecture
Fall 2005	PLS605	605	FEMINIST THOUGHT	PLS	POLITICAL SCIENCE	4		GR		Lecture
Fall 2005	PLS606	606	GLOB THEORIE & GENDER POL	PLS	POLITICAL SCIENCE	4	Examines contending theories of the international political economy, including mercantilist, liberal, (neo) Marxist, and feminist perspectives.	GR		Lecture
Fall 2005	PLS607	607	SEMINAR POLITICAL THEORY	PLS	POLITICAL SCIENCE	4	Readings, research, reports, and discussion on selected theorists, topics, and problems.	GR		Lecture
Fall 2005	PLS608	608	RADICAL BLACK THOUGHT	PLS	POLITICAL SCIENCE	4	Examines radical black thought and philosophy from a Pan-Africanist perspective, primarily focuses on the 20th century.	GR		Lecture
Fall 2005	PLS611	611	SEMINAR IN METHODOLOGY	PLS	POLITICAL SCIENCE	4	Techniques and methods relating to research in political science; application to individual projects and research designs.	GR		Lecture
Fall 2005	PLS612	612	TOPICS EMP POL ANALYSIS	PLS	POLITICAL SCIENCE	4	Selected topics of methodological or analytical concern in contemporary political research.	GR		Lecture

Fall 2005	PLS620	620	POLITICS AND THE NOVEL	PLS	POLITICAL SCIENCE	4	(Also listed as ENG 660.) Study and critique of political themes in works of selected 20th century authors, including social roles, activism, political awareness, power, government, and conflict at the individual, institutional, and international level.	GR		Lecture
Fall 2005	PLS625	625	SEM IN METRO STUDIES	PLS	POLITICAL SCIENCE	4	Intensive interdisciplinary treatment of metropolitan studies. Reading and discussion of pertinent theory, methodology, and case studies. Practical research by students.	GR		Lecture
Fall 2005	PLS627	627	URBAN POLICY ANALYSIS	PLS	POLITICAL SCIENCE	4	(Also listed as URS 627.) Selected urban problems and their relationship to the political environment; explores program design and evaluation, and the use of social indicators.	GR		Lecture
Fall 2005	PLS628	628	CONTEMP AF-AM PROBLEMS	PLS	POLITICAL SCIENCE	4	Critical pedagogy allows for an in-depth exploration of many problematic issues that assail African Americans from outside and within the black community. Several possible explanations and solutions will be addressed.	GR		Lecture

Fall 2005	PLS629	629	URBAN COMMUNICATIONS THRY	PLS	POLITICAL SCIENCE	4	(Also listed as COM 629.) Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communication system developed by interdisciplinary systems approach.	GR		Lecture
Fall 2005	PLS630	630	SEM AM POLITICS & GOVT	PLS	POLITICAL SCIENCE	4	Selected topics related to American political institutions and processes. Emphasis on readings, discussion, and research. Topics vary.	GR		Lecture
Fall 2005	PLS633	633	PUBLIC OPINION	PLS	POLITICAL SCIENCE	4	Opinion formation in American politics; relationship of opinion to public policy; voting behavior in American elections; role of mass media and political interest groups in the policy process; and development of political attitudes and values.	GR		Lecture
Fall 2005	PLS634	634	POLITICAL LEADERSHIP	PLS	POLITICAL SCIENCE	4	Involves the study of political attitude development. The acquisition of basic political orientations and values, beginning with childhood and proceeding through adolescence and adulthood. Investigation of the role of various socializing agents.	GR		Lecture

Fall 2005	PLS635	635	POLITICAL CORRUPTION	PLS	POLITICAL SCIENCE	4	Analysis of political corruption, including campaigns and elections, graft, the executive branch, congressional ethics, corruption in law enforcement, organized crime, and abuse of authority.	GR		Lecture
Fall 2005	PLS636	636	CRIMINAL LAW	PLS	POLITICAL SCIENCE	4	Examines the nature of the criminal law and reviews the law pertaining to criminal liability; inchoate crimes; the elements of crimes against persons, property, and habitation; and the defenses to criminal actions.	GR		Lecture
Fall 2005	PLS637	637	CRIMINAL PROCEDURE	PLS	POLITICAL SCIENCE	4	Examines the constitutional protections that the individual has when confronting the criminal justice system and examines the case law pertaining to the Fourth Amendment (search and seizure), Fifth Amendment (self-incrimination), and Sixth Amendment (right to counsel).	GR		Lecture
Fall 2005	PLS638	638	ENVIRONMENTAL LAW&POLICY	PLS	POLITICAL SCIENCE	4	Examines environmental law and policy and reviews the statutory framework pertaining to environmental impact statements, the regulation of air and water pollution, the disposal and cleanup of toxic wastes, and workplace safety.	GR		Lecture

Fall 2005	PLS639	639	BIOETHICS AND LAW	PLS	POLITICAL SCIENCE	4	New biological technologies are emerging that increase our control over human behavior. Course examines legal implications of new biological technologies, particularly mind and behavior control, genetic engineering, birth and death control and organ transplantation.	GR		Lecture
Fall 2005	PLS640	640	CONSTITUTIONAL LAW	PLS	POLITICAL SCIENCE	4	Cases in which provisions of the Constitution have been judicially interpreted; federal systems; separation of powers; and limits on government.	GR		Lecture
Fall 2005	PLS642	642	AM CRIMINAL JUSTICE SYST	PLS	POLITICAL SCIENCE	4	Survey of the American criminal justice system concentrating on political aspects. Topics include police, judges, attorneys, supreme court decisions, crime, and public opinion.	GR		Lecture
Fall 2005	PLS643	643	ADMINISTRATIVE LAW PROCEDURE	PLS	POLITICAL SCIENCE	4	Study of the law controlling the process by which public agencies make and administer policy. Topics include policy formulation and budgeting, legislative delegation, administrative agencies, rule-making, and adjudication.	GR		Lecture

Fall 2005	PLS646	646	PUBLIC BUDGETING	PLS	POLITICAL SCIENCE	4	Examination of the major phases of the governmental budget cycle; types of budget; budgetary reform; economic and public policy impact of government budgeting; decision-making; and legislative-executive relations in budget formation and implementation.	GR		Lecture
Fall 2005	PLS647	647	SEM PUB ADMIN	PLS	POLITICAL SCIENCE	4	Selected national, state, and local problems with emphasis on legal scope of administrative power and on research methods used by staff agencies. Topics vary.	GR		Lecture
Fall 2005	PLS648	648	GENDER VIOLENCE & AM POL	PLS	POLITICAL SCIENCE	4	Examines gender violence in the U.S. Considers the range of violence, its sources, and solutions. Topics include domestic violence, rape, eating disorders, reproductive rights, and pornography.	GR		Lecture
Fall 2005	PLS649	649	INTL POL OF GENDER VIOL	PLS	POLITICAL SCIENCE	4	Cross cultural examination of gender violence. Considers the range of violence, its sources, and solutions. Topics include domestic abuse, rape, female genital surgeries, prostitution, and reproductive rights.	GR		Lecture

Fall 2005	PLS650	650	POLITICAL ANTHROPOLOGY	PLS	POLITICAL SCIENCE	4	(Also listed as ATH 650.) Study of the part of the culture of primitive societies that is recognized as political organization. An attempt is made to show how in less-complex (primitive) societies, new local communities come into being through fission.	GR		Lecture
Fall 2005	PLS653	653	SOVIET SUCCESSOR STATES	PLS	POLITICAL SCIENCE	4	Examines the political life in the former Soviet Union, with emphasis on the legacy of communism and the role of economics and politics in the transition to democracy.	GR		Lecture
Fall 2005	PLS660	660	SEM COMP POL SYSTEMS	PLS	POLITICAL SCIENCE	4	Readings, research, reports, and discussion of selected topics and problems. Topics vary.	GR		Lecture
Fall 2005	PLS661	661	SOCIAL MOVEMNT & PROTESTS	PLS	POLITICAL SCIENCE	4	Examines group behavior motivated by the desire to change political, economic, and social systems. Special attention will be given to movements outside of the United States, including cross-national and global movements.	GR		Lecture
Fall 2005	PLS670	670	SEM INTERN RELATIONS	PLS	POLITICAL SCIENCE	4	Readings, research, reports, and discussion on selected topics and problems.	GR		Lecture

Fall 2005	PLS671	671	INTERNATION AL LAW	PLS	POLITICAL SCIENCE	4	Study of rules governing the conduct of international politics with emphasis on their relevance to current world problems.	GR		Lecture
Fall 2005	PLS672	672	INTERNATION AL TERRORISM	PLS	POLITICAL SCIENCE	4	Surveys the phenomenon of terrorism: who employs it, how and why it occurs in international politics, and how targets respond to terrorism.	GR		Lecture
Fall 2005	PLS674	674	POL OF WOMEN TERRORISTS	PLS	POLITICAL SCIENCE	4	Examines the political behavior of women in crime and terrorism, including the roles played by women in criminal activities and terrorist groups.	GR		Lecture
Fall 2005	PLS675	675	WOMEN, GENDER, WRLD POLIT	PLS	POLITICAL SCIENCE	4	An examination of the position of women and the power of gender in world politics through the feminist international relations theory and case studies of women in international politics.	GR		Lecture
Fall 2005	PLS682	682	LEGISLATIVE INTERNSHP	PLS	POLITICAL SCIENCE	4	Experiential internship in the office of a state legislator, including office work, constituent assistance and research.	GR		Lecture
Fall 2005	PLS684	684	CHINESE FOREIGN POLICY	PLS	POLITICAL SCIENCE	4		GR		Lecture

Fall 2005	PLS685	685	CHINESE FOREIGN POLICY	PLS	POLITICAL SCIENCE	4	Examines foreign policy perspectives of modern Chinese leaders, including historical, political, economic and ideological priorities. Special attention will be given to China-US relations, as well as China's role in international and regional organizations.	GR		Lecture
Fall 2005	PLS686	686	MODEL UN SEMINAR	PLS	POLITICAL SCIENCE	4	Model UN is an experiential learning opportunity built around the seminar, with intensive training in research, public speaking, bargaining, and conflict resolution. It culminates at the national collegiate conference in New York, simulating the United Nations.	GR		Lecture
Fall 2005	PLS690	690	INDEPENDENT READINGS	PLS	POLITICAL SCIENCE	1	Supervised individual readings on selected topics.	GR	I	Independent Study
Fall 2005	PLS691	691	INDEPENDENT RESEARCH	PLS	POLITICAL SCIENCE	1	Supervised individual research on selected topics.	GR	I	Independent Study
Fall 2005	PLS692	692	INDEPEND FIELD EXPERIENCE	PLS	POLITICAL SCIENCE	1	Supervised individual projects. May involve intern programs in local government or other special programs.	GR	I	Independent Study
Fall 2005	PLS693	693	CONTEMPORARY PROBLEMS	PLS	POLITICAL SCIENCE	1		GR	I	Independent Study

Fall 2005	PLS693	693	CONTEMPORARY PROBLEMS	PLS	POLITICAL SCIENCE	1	Advanced study in selected topics in political science. Topics frequently include new developments in the methodology or subject matter of the various sub-fields of the discipline. May be repeated for credit.	GR		Lecture
Fall 2005	PLS694	694	SPECIAL TOPICS	PLS	POLITICAL SCIENCE	1	Study of particular political problems of contemporary significance.	GR	I	Independent Study
Fall 2005	PLS789	789	CONTINUING REGISTRATION	PLS	POLITICAL SCIENCE	1		GR	I	Independent Study
Fall 2005	PSI801	801	HISTORY & SYSTEMS OF PSY	PSI	PROFESSIONAL PSYCHOLOGY	3	Historical and philosophical precursors philosophers' and recent thinkers' views of epistemology, existentialism, consciousness, and behavior.	GR		Lecture
Fall 2005	PSI802	802	MEMORY COGNITION INF PROC	PSI	PROFESSIONAL PSYCHOLOGY	3	Structure of human cognitive systems. Relationship of individual differences, including cognitive styles and intelligence test performance, and cognitive structure and processing. Applications to clinical and training problems.	GR		Lecture

Fall 2005	PSI803	803	FUNDAMENTALS OF LEARNING	PSI	PROFESSIONAL PSYCHOLOGY	1	An overview of theories of learning including classical and operant conditioning and verbal learning. Course includes application of learning theories in the development and treatment of psychological disorders. Titles vary.	GR		Lecture
Fall 2005	PSI804	804	ADV STAT & EXPER DSGN I	PSI	PROFESSIONAL PSYCHOLOGY	3	Strengths, limitations, and applications of research designs. Statistical theory and principles of descriptive and major parametric and nonparametric inferential procedures. Develops ability to critically review research, demonstration, and evaluation results. Lecture, lab, field work. Titles vary.	GR		Lecture
Fall 2005	PSI805	805	ADV STAT/EXPER DSGN II	PSI	PROFESSIONAL PSYCHOLOGY	3	This is a continuation of PSI 804-Advanced Statistics and Experimental Design I. Titles vary.	GR		Lecture
Fall 2005	PSI806	806	INTERVIEWING I	PSI	PROFESSIONAL PSYCHOLOGY	3	Process of client designation, problem identification, and functional analysis. Client expectancy, establishing relationships, developing information base for linking, consultation, and referral. Interviewing styles and types. Lecture, lab, field work. Titles vary.	GR		Lecture

Fall 2005	PSI807	807	INTERVIEWING II	PSI	PROFESSIONAL PSYCHOLOGY	1	Process of client designation, problem identification, and functional analysis. Client expectancy, establishing relationships, developing information base for linking, consultation, and referral. Interviewing styles and types. Lecture, lab, field work. Titles vary.	GR		Lecture
Fall 2005	PSI808	808	PROFESSIONAL DEVELOPMENT	PSI	PROFESSIONAL PSYCHOLOGY	0	Issues relevant to students' development as professional psychologists including professional involvement, legal and legislative issues, professional ethics and standards, and relation with other professional groups.	GR		Lecture
Fall 2005	PSI810	810	PSYCHOLOGICAL ASSMNT I	PSI	PROFESSIONAL PSYCHOLOGY	1	The basics of psychological assessment. Reliability and validity of measurements, current issues in measurement, clinical interviewing and mental status examination are covered. As time allows, an introduction to theories of intelligence is presented. Titles vary. May be taken for letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSI810	810	PSYCH ASSESSMENT I LAB	PSI	PROFESSIONAL PSYCHOLOGY	1	Lab portion of PSI 810-Psychological Assessment I. Titles vary.	GR	L	Lab

Fall 2005	PSI811	811	PSY ASSESSMENT II:COGNITI	PSI	PROFESSIONAL PSYCHOLOGY	3	Basic intelligence and aptitude assessment devices and interface with intervention plans. Biological, individual, and social system influences, and minority and social class issues in assessment. Lecture, lab, field work. Titles vary. Lab may be taken for letter grade or pass/unsatisfactory and variable credit hours.	GR		Lecture
Fall 2005	PSI811	811	PSY ASSESMENT II:COG LAB	PSI	PROFESSIONAL PSYCHOLOGY	1	Lab portion of PSI 811-Psychological Assessment II: Cognitive.	GR	L	Lab
Fall 2005	PSI812	812	PSY ASSESSMENT III	PSI	PROFESSIONAL PSYCHOLOGY	3	Study of circumscribed personality theories and nonpathological aspects of personality measurement and predicting behavior; individual differences as related to personality. Knowledge of tests for measurement of personality; their use and limitations.	GR		Lecture
Fall 2005	PSI812	812	PSY ASSESSMENT III LAB	PSI	PROFESSIONAL PSYCHOLOGY	1	Lab portion of PSI 812-Psychological Assessment III.	GR	L	Lab

Fall 2005	PSI813	813	PROJECTIVE ASSMNT I	PSI	PROFESSIONAL PSYCHOLOGY	1	Overview of the administration, scoring, and interpretation of several projective techniques including projective drawings, Incomplete Sentence Blanks, the Thematic Apperception Test (TAT), the Children's Apperception Test (CAT), and other storytelling techniques. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSI814	814	EDUCATIONAL ASSESSMENT	PSI	PROFESSIONAL PSYCHOLOGY	1	Covers the issues and methods surrounding the assessment of various types of academic/learning problems including academic underpreparation, impact of psychological impairment, impact of physical impairment, specific learning disabilities, and adult ADHD. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	PSI819	819	MULTICULTURAL LAB: I	PSI	PROFESSIONAL PSYCHOLOGY	1	Focuses on the recognition of cultural diversity issues as an integral component of a psychologist's clinical and professional responsibilities and the incorporation of these issues into one's evolving professional identity. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSI820	820	MULTICULTURAL LAB: II	PSI	PROFESSIONAL PSYCHOLOGY	1	Continuation of PSI 819.	GR		Lecture
Fall 2005	PSI821	821	ETHNOCULTURAL ISSUES	PSI	PROFESSIONAL PSYCHOLOGY	3	Effects of prejudice, social policies, housing desegregation, and language styles on work and other relationships. Problem areas, strengths of minorities. Managing prejudice within the professional/client relationship. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI822	822	GENDER ISSUES	PSI	PROFESSIONAL PSYCHOLOGY	1	Explores the impact of gender on human behavior with specific focus on the role of gender in psychological assessment and practice. Titles vary.	GR		Lecture

Fall 2005	PSI830	830	THEORIES OF PERSONALITY	PSI	PROFESSIONAL PSYCHOLOGY	3	Personality and behavior in a clinical setting. Psychodynamic, phenomenological, dispositional, and behavioral theories of personality. Role of cognition, person-situation interaction, extroversion, self-esteem, and achievement motivation in therapy.	GR		Lecture
Fall 2005	PSI831	831	ADULT PSYCHOPATHOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	3	Covers definition and models of psychopathology including biochemical, genetic, dynamic, and behavioral dimensions; diagnostic systems, differential diagnosis, and treatment selection. Variables affecting individual and group functioning also are covered.	GR		Lecture
Fall 2005	PSI832	832	CHILD PSYCHOPATHOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	3	Classification and diagnostic systems related to children. Behavioral problems and related problems in life adjustment, learning, and adaption to peers. Current theories of etiology and treatment interventions.	GR		Lecture
Fall 2005	PSI835	835	HUMAN DEVELOPMENT	PSI	PROFESSIONAL PSYCHOLOGY	3	Conceptualizations of infancy, early childhood, and adolescence including physical, cognitive, intellectual, social, and interpersonal development. Lecture, lab, field work. Titles vary.	GR		Lecture

Fall 2005	PSI840	840	SOCIAL PSYCHOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	3	Theories and experimental findings regarding determinants of social behavior including social motivation, attribution theory, perception of people, attitude theories, group processes, interpersonal attraction, and environmental determinants of behavior. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI841	841	GROUP PSYCHOTHERAPY	PSI	PROFESSIONAL PSYCHOLOGY	3	Background, development, and theory of small groups. Effective leadership techniques and procedures for planning, conducting, and evaluating group interaction and progress. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI841	841	GROUP PSYCHOTHERAPY LAB	PSI	PROFESSIONAL PSYCHOLOGY	1	Laboratory portion of the PSI 841. Provides students with hands on experience in forming, conducting and evaluating group interaction and progress. May be taken for a letter grade or pass/unsatisfactory.	GR	L	Lab

Fall 2005	PSI842	842	CRISIS INTERVENTION	PSI	PROFESSIONAL PSYCHOLOGY	3	Theory and definition of crisis. Individual and community support systems and crisis programs in hospitals, suicide and crisis centers, and office, family, and other settings. Lecture, lab, field work. Concurrent enrollment in lecture and lab is required.	GR		Lecture
Fall 2005	PSI842	842	CRISIS INTERVENTN LAB	PSI	PROFESSIONAL PSYCHOLOGY	1	Laboratory portion of PSI 842.	GR	L	Lab
Fall 2005	PSI850	850	PHYSIOLOGICAL PSYCHOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	3	Physiology of body systems including endocrine, nervous, musculoskeletal, respiratory, cardiovascular, reproductive, and renal systems. Autonomic and endocrine regulation of body systems in homeostasis and during stress.	GR		Lecture
Fall 2005	PSI851	851	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	PSI852	852	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSI872	872	SERVICE DELIVERY SYSTEM	PSI	PROFESSIONAL PSYCHOLOGY	3	Problem identification, analysis, intervention management, planning, and evaluation related to systems of service, organization, and support. Quality assurance, operations theory, and evaluation applied to service delivery. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI873	873	CONSULTATIO N	PSI	PROFESSIONAL PSYCHOLOGY	3	Consultation as used for analysis and change in human service settings, business, and industry. Learning principles used to change public, community, group, and individual behavior. Lecture, lab, field work.	GR		Lecture

Fall 2005	PSI874	874	ORGANIZATIONAL PSYCHOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	3	Analysis and assessment of systems, management styles, work environments, stress and stress management, and executive assessment. Personnel relations, productivity, and human factors (human/machine interface) are considered. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI875	875	FORENSIC PSY:CRIMINAL	PSI	PROFESSIONAL PSYCHOLOGY	3	Introduction to legal and criminal justice system. Study of criminal and civil law in relation to professional practice. Study of evidentiary procedures. Discussion of adversary procedures.	GR		Lecture
Fall 2005	PSI880	880	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	This is the first of a four quarter sequence that focuses on an integrative understanding of the impact of multiple identities in the lives and experiences of clients.	GR		Lecture
Fall 2005	PSI881	881	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intense treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture

Fall 2005	PSI882	882	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intense treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture
Fall 2005	PSI908	908	PRACTICE TUTORIAL	PSI	PROFESSIONAL PSYCHOLOGY	1	Exposure to a variety of clinical case materials using a vertical team format. Titles vary.	GR		Lecture
Fall 2005	PSI910	910	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Topics vary.	GR		Lecture
Fall 2005	PSI911	911	NEUROPSYCHOLOGY I	PSI	PROFESSIONAL PSYCHOLOGY	3	Neurophysiology emphasizing major CNS structures and tracts, location and function of cranial nerve nuclei and cranial nerve pathways. Organization of CNS vasculature and localization of function. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI911	911	NEUROPSYCHOLOGY I LAB	PSI	PROFESSIONAL PSYCHOLOGY	1	Lab portion of PSI 911-Neuropsychology I.	GR	L	Lab

Fall 2005	PSI912	912	NEUROPSYCHOLOGY II	PSI	PROFESSIONAL PSYCHOLOGY	1	Introduction to the field of clinical neuropsychological assessment. Students will be provided with information relevant to the selection, administration, scoring, and interpretation of neuropsychological tests in different clinical situations.	GR		Lecture
Fall 2005	PSI912	912	NEUROPSYCHOLOGY II LAB	PSI	PROFESSIONAL PSYCHOLOGY	1	Lab portion of PSI 912-Neuropsychology II. Designed to provide students with hands-on experience in administration, scoring, and interpretation of neuropsychological tests such as those from the Benton laboratory, Halstead-Reitan Battery, and Boston process approach.	GR	L	Lab
Fall 2005	PSI913	913	PROJECT ASSESSMENT II	PSI	PROFESSIONAL PSYCHOLOGY	3	Continuation of PSI 813-Projective Assessment I. Objective and projective techniques; how and when to administer, score, interpret, and convey results meaningfully. Emphasis on integrating these results into the clinical situation. Lecture, lab, field work.	GR		Lecture

Fall 2005	PSI914	914	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture
Fall 2005	PSI915	915	CHILD ASSESSMENT	PSI	PROFESSIONAL PSYCHOLOGY	1	Overview of child assessment theory, techniques, and strategies to prepare students for further practical work in the assessment of child functioning. Titles vary.	GR		Lecture
Fall 2005	PSI916	916	FORENSIC ASSESSMENT	PSI	PROFESSIONAL PSYCHOLOGY	1	Focuses on the interface between psychological assessment and the legal arena. Titles vary.	GR		Lecture
Fall 2005	PSI917	917	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture

Fall 2005	PSI918	918	INTEGRATIVE ASSESSMENT	PSI	PROFESSIONAL PSYCHOLOGY	1	Provides a format for integrating various psychological tests into a coherent battery. In addition to addressing the evaluation of various psychological disorders, an approach is provided for constructing batteries for unique populations. Titles vary.	GR		Lecture
Fall 2005	PSI920	920	MULTICULTURAL COUPLES	PSI	PROFESSIONAL PSYCHOLOGY	1	Explores multicultural issues in couples therapy and combines clinical theory and skills development with an appreciation of ethnicity, race, family of origin, values, and sexual orientation as cultural perspectives. Titles vary.	GR		Lecture
Fall 2005	PSI921	921	GAY/LESBIAN ISSUES	PSI	PROFESSIONAL PSYCHOLOGY	1	Issues central to psychological intervention with gay/lesbian clients including dealing with homophobia/heterophilia, development of a positive gay/lesbian identity, coming-out issues, and issues for gay/lesbian couples and families. Titles vary.	GR		Lecture
Fall 2005	PSI922	922	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture

Fall 2005	PSI923	923	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture
Fall 2005	PSI924	924	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture
Fall 2005	PSI930	930	PSYCHODYNM PSYCHOTHER I	PSI	PROFESSIONAL PSYCHOLOGY	1	Freud and development of psychoanalysis, neo-Freudian, and ego psychology schools. Structural aspects, techniques, and evaluation of psychoanalysis including stages of development, the unconscious, and psychodynamics. Titles vary.	GR		Lecture
Fall 2005	PSI931	931	PSYCHODYNM PSYCHOTHER II	PSI	PROFESSIONAL PSYCHOLOGY	1	Second quarter of a three quarter sequence designed to teach theory, research, and applications of psychodynamic, object relations, and self psychology. Titles vary.	GR		Lecture

Fall 2005	PSI932	932	PSYCHODYN PSYCHOTHER III	PSI	PROFESSIONAL PSYCHOLOGY	1	Focuses on the efficacy of brief dynamic treatments, examines the research on empirically validated and nonvalidated dynamic treatment protocols for DSM-IV Axis I and II disorders. Titles vary.	GR		Lecture
Fall 2005	PSI933	933	BEHAVIORAL PSYCHOTHRPY I	PSI	PROFESSIONAL PSYCHOLOGY	3	History and assumptions of behavior therapy. Assessment for behavioral intervention techniques of behavior therapy emphasizing cognitive approaches. Intervention in problem areas with high probability outcomes. Lecture, lab, field work. Titles vary.	GR		Lecture
Fall 2005	PSI934	934	BEHAV PSY II:COGNITIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Continuation of PSI 933. Titles vary.	GR		Lecture
Fall 2005	PSI935	935	BEHAVIORAL III ADV COG TH	PSI	PROFESSIONAL PSYCHOLOGY	1	Refractory depressive and anxious mood states in clinical practice and complication of therapeutic effectiveness by co-morbid personality disorders. Emphasis on conceptual and technical approach to treatment. Titles vary.	GR		Lecture

Fall 2005	PSI936	936	HUMANIST PSYCHOTHERAPY I	PSI	PROFESSIONAL PSYCHOLOGY	3	Theory, technique, and research base of client-centered psychotherapy. Theory of assessment procedures and techniques of transactional analysis. Gestalt psychotherapy and selected existential approaches. Lecture, lab, field work. Titles vary.	GR		Lecture
Fall 2005	PSI937	937	HUMANISTIC PSYCHOTHER II	PSI	PROFESSIONAL PSYCHOLOGY	1	Continuation of PSI 936. Course is the second quarter of a three quarter sequence. Titles vary.	GR		Lecture
Fall 2005	PSI938	938	HUMANISTIC PSYCHOTHER III	PSI	PROFESSIONAL PSYCHOLOGY	1	Seminar exploring in-depth Humanistic theory, research, and practice skills that can be utilized by a general practitioner of clinical psychology. Titles vary.	GR		Lecture
Fall 2005	PSI940	940	CHEMICAL DEPENDENCY	PSI	PROFESSIONAL PSYCHOLOGY	3	Incidence and prevalence of use and misuse of substances, with emphasis on addiction syndromes and stages of alcoholism/addiction. Theories of addiction/misuse and underlying personality dynamics and styles. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI941	941	ADVANCED GROUP THERAPY	PSI	PROFESSIONAL PSYCHOLOGY	1	Addresses practical and clinical aspects of conducting group therapy. Titles vary.	GR		Lecture

Fall 2005	PSI942	942	BRIEF PSYCHOTHERAPY	PSI	PROFESSIONAL PSYCHOLOGY	1	Study and discussion of problem-focused, time-limited interventions. Study of concepts and techniques; use of programmatic and group methods. Titles vary.	GR		Lecture
Fall 2005	PSI943	943	SELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Topics vary.	GR		Lecture
Fall 2005	PSI944	944	CHILD THERAPY	PSI	PROFESSIONAL PSYCHOLOGY	3	Behavior disorders of children and adolescents. Behavior therapy, group therapy, family therapy, milieu therapy, and pharmacotherapy as intervention techniques. Problems associated with the treatment of children. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI945	945	MEDICAL FAMILY THERAPY	PSI	PROFESSIONAL PSYCHOLOGY	1	Multidisciplinary seminar introducing students to principles of family-focused health care and collaborative team practices.	GR		Lecture

Fall 2005	PSI946	946	COUPLES/FAMILY TX METHOD	PSI	PROFESSIONAL PSYCHOLOGY	1	Different from a beginning survey course, students will apply a more limited focus to the study of family psychology and family therapy. Students will select a theoretical framework or approach to treatment which they intend to research and/or apply to case examples and scholarly exposition. Titles vary.	GR		Lecture
Fall 2005	PSI947	947	AIDS:CLINICAL ISSUES	PSI	PROFESSIONAL PSYCHOLOGY	1	Explores the physiological, psychological, social, economic, and political aspects of HIV infection and AIDS with an emphasis on the unique role of psychologist as one of the many health care professionals with whom PLWAs and their families interact. Titles vary.	GR		Lecture
Fall 2005	PSI948	948	DOMESTIC VIOLENCE	PSI	PROFESSIONAL PSYCHOLOGY	1	Seminar addresses research and clinical issues regarding domestic violence. Explores impact on and intervention with victims, perpetrators, children and adolescents, and society. Titles vary.	GR		Lecture

Fall 2005	PSI949	949	INTRODUCTION/SEX THERAPY	PSI	PROFESSIONAL PSYCHOLOGY	1	Assists students in expanding their knowledge base of human sexuality, developing awareness of personal sexual values, and increasing competence in intervening with clients' sexual concerns.	GR		Lecture
Fall 2005	PSI950	950	PSYCHOPHARMACOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	3	Interaction of genetic and environmental influences on behavior; inheritance of dominant, recessive, sex-linked characteristics; genetic influence in psychopathology, intellectual function, and personality development; and genetic counseling.	GR		Lecture
Fall 2005	PSI951	951	SERV CHRONIC MENTALLY ILL	PSI	PROFESSIONAL PSYCHOLOGY	1	Designed to impact the student's knowledge, skills, and attitudes about working with individuals and families affected by chronic mental illness. Titles vary.	GR		Lecture
Fall 2005	PSI952	952	FAMILY THERAPY	PSI	PROFESSIONAL PSYCHOLOGY	3	Organization and structure of the family and common problem areas. Review of theories of family therapy and treatment strategies of marital and sexual dysfunctions. Lecture, lab, field work.	GR		Lecture

Fall 2005	PSI953	953	HEALTH PSYCHOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	3	Techniques of therapy applied to populations whose problems arise from faulty lifestyles and not from serious psychopathology. Topics include stress management, weight control, and health maintenance. Lecture, lab, field work.	GR		Lecture
Fall 2005	PSI954	954	INTRO TO CL HYPNOSIS	PSI	PROFESSIONAL PSYCHOLOGY	1	Beginning-level course addresses the nature and theory of hypnosis as well as the integration of this therapeutic technique into clinical practice. Titles vary.	GR		Lecture
Fall 2005	PSI955	955	GERIATRIC CLINICAL PSY	PSI	PROFESSIONAL PSYCHOLOGY	3	Psychological and social derivation of stereotypes and prejudice and their maintenance. Techniques for assessing and modifying stereotypes and prejudice including self-awareness, group, educational, and environmental approaches. Lecture, lab, field work. Titles vary.	GR		Lecture
Fall 2005	PSI956	956	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary.	GR		Lecture

Fall 2005	PSI957	957	PSYCHOLOGY OF WOMEN	PSI	PROFESSIONAL PSYCHOLOGY	1	Seminar addresses issues including, but not limited to, female development; the interaction of gender, race, ethnicity, and SES; body image; impact of female gender role on mental health. Feminist therapy is also covered. Titles vary.	GR		Lecture
Fall 2005	PSI958	958	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture
Fall 2005	PSI959	959	INTEGRAT PSYCHOTHERAPY	PSI	PROFESSIONAL PSYCHOLOGY	3	Practicum in developing, monitoring, and reviewing individualized service-by-objective plans and programmatic service plans. Peer review, criteria development, and other quality assurance methods are applied. Lecture, lab, field work.	GR		Lecture

Fall 2005	PSI965	965	SUPV & CASE MANAGEMENT	PSI	PROFESSIONAL PSYCHOLOGY	1	Focuses on issues related to personal and professional practice management; i.e., time and resource management, quality assurance, fundamentals of service delivery systems, and case management activities. Development of general knowledge and skill acquisition in practice management.	GR		Lecture
Fall 2005	PSI966	966	PROFESSIONAL ETHICS/ISSUE	PSI	PROFESSIONAL PSYCHOLOGY	1	Provide a working knowledge of APA ethical principles and code of conduct, and Ohio law and rules governing psychologists. Increase sensitivity to potential ethical dilemmas and develop skills in identifying and resolving ethical dilemmas in professional psychology.	GR		Lecture
Fall 2005	PSI967	967	MULTIPROFESSIONAL ETHICS	PSI	PROFESSIONAL PSYCHOLOGY	1	Study and discussion between faculty and students from medicine, professional psychology, and theology concerning ethical issues and implication for client/patient care across professional disciplines. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	PSI968	968	MULTIPROFESSIONAL ISSUES	PSI	PROFESSIONAL PSYCHOLOGY	1	Brings together faculty and students from allied health, medicine, nursing, professional psychology and social work to study access to and utilization of primary care and prevention services in urban communities. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSI970	970	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Titles vary. Topics vary.	GR		Lecture
Fall 2005	PSI972	972	PROGRAM EVALUATION	PSI	PROFESSIONAL PSYCHOLOGY	3	Emphasis on knowledge of measurement theory, test construction, survey methods, and questionnaire techniques. Study of reliability and validity of measurement devices. Familiarity with APA standards for tests and test usage.	GR		Lecture
Fall 2005	PSI973	973	TEACHING OF PSYCHOLOGY	PSI	PROFESSIONAL PSYCHOLOGY	1	Seminar provides participants with a forum for exploring issues associated with teaching psychology in higher education settings. Titles vary.	GR		Lecture

Fall 2005	PSI974	974	GRANT WRITING	PSI	PROFESSIONAL PSYCHOLOGY	1	Methods for locating funding sources as well as researching and writing grant applications. Seminar includes formats employed by state and federal funding agencies. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSI975	975	FORENSIC PSYCHOLOGY: CIVIL	PSI	PROFESSIONAL PSYCHOLOGY	1	Continuation of PSI 875. Focuses on civil court proceedings such as civil commitment, family law, and professional practice issues. Forensic Psychology I is not a prerequisite, but those who have not had the course must meet with the instructor prior to enrolling. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSI976	976	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Topics vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	PSI980	980	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Issues relevant to students' development as professional psychologists including professional involvement, legal and legislative issues, professional ethics and standards, and relation with other professional groups.	GR		Lecture
Fall 2005	PSI981	981	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Provides for an in-depth exposure of students to a variety of clinical case materials under the direct supervision of experienced clinical faculty, using a vertical team format comprised of students at various levels of training and experience. Titles vary.	GR		Lecture
Fall 2005	PSI982	982	SELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Intensive treatment of subject materials or techniques providing students with increased experience or specialization in specific interventions, assessments, concepts, or approaches. Topics vary.	GR		Lecture

Fall 2005	PSI994	994	APPLIED TEACHING PRACTICE	PSI	PROFESSIONAL PSYCHOLOGY	0	Students are given hands-on experience in assisting faculty in teaching a course or seminar. Issues dealt with are those common to most teaching settings: development of a syllabus, choice of teaching methods, grading/evaluation and obtaining feedback from students.	GR		Lecture
Fall 2005	PSI995	995	DIRECTED STUDY	PSI	PROFESSIONAL PSYCHOLOGY	1	Individualized course of readings completed under faculty supervision.	GR		Lecture
Fall 2005	PSI996	996	ELECTIVE	PSI	PROFESSIONAL PSYCHOLOGY	1	Research or evaluation performed under faculty supervision. Titles vary.	GR		Lecture
Fall 2005	PSI997	997	SUPERVISED EXPERIENCE	PSI	PROFESSIONAL PSYCHOLOGY	1	Faculty supervised clerkship, field placement, or other isolated circumscribed professional experience.	GR		Lecture
Fall 2005	PSI998	998	PROFESSIONAL DISSERTATION	PSI	PROFESSIONAL PSYCHOLOGY	1	Project of excellence or other professional project carried out with faculty approval and supervision.	GR		Lecture
Fall 2005	PSI999	999	INTERNSHIP	PSI	PROFESSIONAL PSYCHOLOGY	6		GR		Lecture
Fall 2005	PSY503	503	PSYCHOLOGY OF HEALTH BEH	PSY	PSYCHOLOGY	4	The contributions of psychology of health care. Focus is theoretical and practical, emphasizing the integration of physiological and psychological knowledge.	GR		Lecture

Fall 2005	PSY504	504	INDUSTRIAL AND ORG PSYCH	PSY	PSYCHOLOGY	4	Scientific psychological principles, procedures, and methods applied to human behavior in organizations.	GR		Lecture
Fall 2005	PSY506	506	ENGINEERING PSYCHOLOGY	PSY	PSYCHOLOGY	4	(Also listed as HFE 506.) Introduction to the study of human factors in the design and operation of machine systems.	GR		Lecture
Fall 2005	PSY507	507	TESTS AND MEASUREMENTS	PSY	PSYCHOLOGY	4	Introduction to the construction and use of attitude scales, aptitude and ability tests in organizational settings with emphasis on the use of standard tests.	GR		Lecture
Fall 2005	PSY508	508	ENVIRONMENTAL PSYCHOLOGY	PSY	PSYCHOLOGY	4	Effects on behavior of environmental factors such as crowding, noise, pollution, temperature, lighting, and architecture. Also covers applications of psychological knowledge and techniques in dealing with current environmental problems.	GR		Lecture
Fall 2005	PSY509	509	BEHAV MOD: METHOD & THEORY	PSY	PSYCHOLOGY	4	The contributions of psychology of health care. Focus is thoeretical and practical, emphasizing the integration of physiological and psychological knowledge.	GR		Lecture

Fall 2005	PSY510	510	PSYCHOLOGY OF WOMEN AND MEN	PSY	PSYCHOLOGY	4	The current state of research evidence about sex differences in all aspects of human behavior as well as patterns of public attitudes about the natures and proper roles of men and women are examined.	GR		Lecture
Fall 2005	PSY511	511	ABNORMAL PSYCHOLOGY	PSY	PSYCHOLOGY	4	An overview of the facts and theories pertaining to abnormal behavior. Topics include classification and diagnosis, causes, and treatment of abnormal behavior. For nonmajors only.	GR		Lecture
Fall 2005	PSY521	521	COGNITION & LEARNING	PSY	PSYCHOLOGY	4	Cognitive processes with emphasis on learning and memory systems. Topics include short-term memory, retrieval mechanisms, conceptual structures and skills tests (IQ), mnemonic techniques, and amnesias.	GR		Lecture
Fall 2005	PSY531	531	THEORY RESCH PERSONALITY	PSY	PSYCHOLOGY	4	Survey of contemporary perspectives in personality psychology. Research methods, assessment stragegies, and applications are compared.	GR		Lecture
Fall 2005	PSY541	541	DEVELOPMENTAL PSY	PSY	PSYCHOLOGY	4	Theory, research, and issues in the study of development of children and the young of other species.	GR		Lecture

Fall 2005	PSY551	551	EXPERIMENTAL SOC PSY	PSY	PSYCHOLOGY	4	Current theories and experimental findings regarding the determinants of social behavior.	GR		Lecture
Fall 2005	PSY561	561	LEARNING & MOTIVATION	PSY	PSYCHOLOGY	4	Introduction to experimental findings and contemporary theories of conditioning, learning, and motivation.	GR		Lecture
Fall 2005	PSY571	571	PERCEPTION	PSY	PSYCHOLOGY	4	Study of the active processes by which organisms gather, interpret, and respond to environmental stimuli.	GR		Lecture
Fall 2005	PSY591	591	PHYSIOLOGICAL PSY	PSY	PSYCHOLOGY	4	An introduction to the physiological mechanisms of behavior including relationships between the brain, hormones, and behavior. Specific topics may include reproduction, emotion, sleep, learning and memory, schizophrenia, and stress.	GR		Lecture
Fall 2005	PSY592	592	ADV PHYSIOLOGICAL PSY	PSY	PSYCHOLOGY	4	Advanced materials on the physiology of behavior. Sensory, motor, ingestive, and cognitive systems, and addictive processes are evaluated in terms of underlying neural and hormonal systems.	GR		Lecture
Fall 2005	PSY600	600	ADV DESIGN & QUANT ANALYSIS	PSY	PSYCHOLOGY	4	Use of factorial designs and multivariate tests in psychological research.	GR		Lecture

Fall 2005	PSY601	601	ADV EXP DESIGN: COMPUTER	PSY	PSYCHOLOGY	4	The use of canned computer programs such as SPSS, SAS, and BIOMED in the design, analysis, and interpretation of behaviorally oriented research.	GR		Lecture
Fall 2005	PSY611	611	ADV TOPICS IN ABNORMAL PS	PSY	PSYCHOLOGY	4	Theories and research relating to causes, symptoms, and influence of abnormal behavior.	GR		Lecture
Fall 2005	PSY619	619	ADV TPCS PHYSIOLOGICA L PSY	PSY	PSYCHOLOGY	4	(Also listed as BMS 910.) Detailed examination of selected areas in cognition and learning.	GR		Lecture
Fall 2005	PSY621	621	ADV TPCS IN COGNITION & LRNG	PSY	PSYCHOLOGY	4	Detailed examination of selected areas in cognition and learning.	GR		Lecture
Fall 2005	PSY625	625	HUMAN-COMPUTER INTERFACE	PSY	PSYCHOLOGY	4	Examination of critical factors (nature of tasks to be performed, human capabilities/limitations) in the design of effective computer interfaces.	GR		Lecture
Fall 2005	PSY629	629	INTERPERSON RELATIONS SKILLS	PSY	PSYCHOLOGY	4	Surveys the scientific literature on conformity, obedience, interpersonal choice, and verbal and nonverbal communication; relates this information to enhancement of everyday communication and interaction; and introduces techniques for developing basic interpersonal skills.	GR		Lecture

Fall 2005	PSY631	631	ADV THEORY & RESCH IN PERSON	PSY	PSYCHOLOGY	4	Examination of selected topics in personality, including theory, research, and application.	GR		Lecture
Fall 2005	PSY632	632	PRACTICUM:APPLIED PSY	PSY	PSYCHOLOGY	4	Provides an opportunity to work in an applied psychological setting under supervision. The setting will be consistent with the individual student's interests (mental health agency, industrial or organizational setting, etc.).	GR	I	Independent Study
Fall 2005	PSY633	633	DEVELOP PSYCHOPATHOLOGY	PSY	PSYCHOLOGY	4	Survey of theoretical approaches to the description and explanation of childhood psychopathology, overview of current research in childhood psychopathology, and description of methodological problems involved in clinical research with children.	GR		Lecture
Fall 2005	PSY636	636	BEH MOD: METHOD & THEORY	PSY	PSYCHOLOGY	4	The principles of conditioning as they relate to problems in human adjustment. The general principles of the psychology of learning are illustrated with cases of interest to a wide variety of helping professionals (e.g., psychologists, educators, social workers, nurses, and speech therapists).	GR		Lecture
Fall 2005	PSY637	637	BEHAVIOR MODIFICATION	PSY	PSYCHOLOGY	4	Applications of psychological principles to a wide variety of behaviors.	GR		Lecture

Fall 2005	PSY639	639	THEORY & RES CLINICAL PSY	PSY	PSYCHOLOGY	4	Overview of contemporary clinical approaches, research techniques, and empirical data.	GR		Lecture
Fall 2005	PSY641	641	ADVANCED DEVELOPMENTAL PSYCH	PSY	PSYCHOLOGY	4	Development of learning and cognition in children is covered in depth.	GR		Lecture
Fall 2005	PSY643	643	PSYCHOMETRICS	PSY	PSYCHOLOGY	4	Measurement theory and its application to test development including concepts of reliability, validity, discriminatin, and prediction.	GR		Lecture
Fall 2005	PSY644	644	ADVANCED INDUSTRIAL PSYCH	PSY	PSYCHOLOGY	4	Theories and research findings in selected topics in industrial psychology.	GR		Lecture
Fall 2005	PSY647	647	PSYCHOLOGY OF AGING	PSY	PSYCHOLOGY	4	Overview of the theories, methods and research related to human aging. Focus on both current research and application from psychology.	GR		Lecture
Fall 2005	PSY650	650	BIOFEEDBACK: RESEARCH AND APPL.	PSY	PSYCHOLOGY	4	Introduction to biofeedback in the context of general behavior theory of learning. Literature is surveyed. Topics include problems of methodology and experimental design, and application to problems in clinical psychology.	GR		Lecture
Fall 2005	PSY651	651	ADV TPCS IN EXP SOCIAL PS	PSY	PSYCHOLOGY	4	Detailed examination of selected areas of current research in social psychology.	GR		Lecture

Fall 2005	PSY655	655	PSYCHOLINGUISTICS	PSY	PSYCHOLOGY	4	Experimental findings in the areas of animal communication and human language with emphasis on their implications for current theories of language. Includes production and reception of speech, acoustic signal, speech mechanism, personality and speech behavior, development and deficiencies, and communication.	GR		Lecture
Fall 2005	PSY657	657	PSY PRIN ADMIN SOC AGENCY	PSY	PSYCHOLOGY	4	The basic social psychological principles involved in administrative mental health and mental retardation programs. Focus is on factors governing application of those principles to communication, organization development, and supervision within the mental health/mental retardation field.	GR		Lecture
Fall 2005	PSY661	661	ADV TPCS IN LRNG & MOTIVATION	PSY	PSYCHOLOGY	4	Continued study of conditioning, learning, and motivation.	GR		Lecture
Fall 2005	PSY665	665	INFORMATION PROCESSING	PSY	PSYCHOLOGY	4	(Also listed as BMS 905). Study of cognitive skills (e.g., attention) and the scientific paradigms used in their investigation.	GR		Lecture
Fall 2005	PSY671	671	ADV TPCS IN PERCEPTION	PSY	PSYCHOLOGY	4	Emphasis on modern controversial issues and theories.	GR		Lecture

Fall 2005	PSY675	675	SIGNAL DETECTION THEORY	PSY	PSYCHOLOGY	4	Presents signal detection theory in the context of Thurstonian scaling and statistical decision theory. Studies the application of signal detection theory in various areas of psychology including psychophysics, memory, physiology, and psycholinguistics.	GR		Lecture
Fall 2005	PSY678	678	ANIMAL BEHAVIOR	PSY	PSYCHOLOGY	4	Physiology, phylogeny, and ontogeny of behavior.	GR		Lecture
Fall 2005	PSY681	681	HST OF PSYCHOLOGY	PSY	PSYCHOLOGY	4	Major trends in the development of psychology from its beginning to the present.	GR		Lecture
Fall 2005	PSY682	682	THEORIES&SYSTEMS IN PSY	PSY	PSYCHOLOGY	4	Comprehensive treatment of the historical antecedents for selected theories and systems in psychology.	GR		Lecture
Fall 2005	PSY688	688	SEM IN SPECIAL TOPICS	PSY	PSYCHOLOGY	1	Topics vary.	GR	I	Independent Study
Fall 2005	PSY690	690	IND READING SELECT TOPICS	PSY	PSYCHOLOGY	1	Topics vary. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	PSY698	698	INDEPENDENT RESEARCH	PSY	PSYCHOLOGY	1	Original problems for investigation.	GR	I	Independent Study

Fall 2005	PSY700	700	PRIN INSTRUCTION IN PSY	PSY	PSYCHOLOGY	4	Survey of available instructional material and discussion of educational theory and techniques leading to more effective instruction. For psychology majors only. Department permission required. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	PSY701	701	RESRCH DSGN & QUANT: I	PSY	PSYCHOLOGY	4	The foundation of experimental design and quantitative techniques will be developed. Students are expected to understand assumptions underlying each technique or procedure. They must also understand their applications to experimental and field research and to experimental and quasi-experimental designs. Both complex analyses of variance, multiple regression and non-parametric techniques will be covered. Computation and computer skills must be mastered. First year research projects and their design and analysis will be reviewed.	GR		Lecture
Fall 2005	PSY702	702	RESRCH DSGN &QUANT: II	PSY	PSYCHOLOGY	4	Continuation of PSY 701.	GR		Lecture
Fall 2005	PSY703	703	RESRCH DSGN &QUANT: III	PSY	PSYCHOLOGY	4	Continuation of PSY 702.	GR		Lecture

Fall 2005	PSY707	707	MULTIVARIATE METH PSY	PSY	PSYCHOLOGY	4	The techniques of multivariate analysis will be reviewed and developed. Techniques will include MANOVA, discriminate analysis, canonical correlation, factor analysis, and path analyses. Application to problems in psychology will be required. Use of statistical packages for analysis.	GR		Lecture
Fall 2005	PSY717	717	MOLECULAR BIOL MEMORY	PSY	PSYCHOLOGY	3	Modern molecular biological investigations of the process of learning and memory. Implications for the development of a molecular theory of memory processes are considered.	GR		Lecture
Fall 2005	PSY721	721	ENGINEERING PSCHOLOGY	PSY	PSYCHOLOGY	4	Application of psychology to equipment design and human-machine relationships.	GR		Lecture
Fall 2005	PSY724	724	HUMAN FACTORS IN SYS	PSY	PSYCHOLOGY	4	The role of human factors in system design is examined from a cognitive systems engineering perspective. The analytic tools of CSE are explored and applied in design projects.	GR		Lecture
Fall 2005	PSY725	725	EXP METH IN SOC PSY	PSY	PSYCHOLOGY	4	The experimental method as it is applied to social psychological problems. Provides experiences in both laboratory and field techniques.	GR		Lecture

Fall 2005	PSY726	726	ATTITUDE STRUCT & CHANGE	PSY	PSYCHOLOGY	4	Attitude as a social psychological concept, including problems of measurement, empirical findings, and theoretical models.	GR		Lecture
Fall 2005	PSY727	727	SMALL GROUPS	PSY	PSYCHOLOGY	4	Current theory and research in selected areas of small groups, including communications, group norms and conformity, group structure, and leadership.	GR		Lecture
Fall 2005	PSY729	729	INTERPERSONAL RELATIONS	PSY	PSYCHOLOGY	4	Current theory and research in selected areas of small groups, including communications, group norms and conformity, group structure, and leadership.	GR		Lecture
Fall 2005	PSY731	731	ADV THEORIES PERSONALITY	PSY	PSYCHOLOGY	4	Contemporary theories of the development, organization, and dynamics of personality.	GR		Lecture
Fall 2005	PSY732	732	PERSONALITY STRUCTURE	PSY	PSYCHOLOGY	4	The major approaches for describing personality structure will be discussed and the results of factor analytic studies will be summarized. Implications of personality structure for behavior will be explored and the interactionist model will be described and evaluated. Relevant data on individual differences and tests will be summarized and evaluated. Consistency of differences across situations as well as application of results will be discussed.	GR		Lecture

Fall 2005	PSY733	733	COMMUNITY PSYCHOLOGY	PSY	PSYCHOLOGY	4	Seminar on policy formulation and programming for community-oriented approaches to mental health problems. Covers history, policy, and program development difficulties; social problems versus illness models of psychopathology and treatment, and preventive interventions.	GR		Lecture
Fall 2005	PSY735	735	SYS ANALY & ORGANIZ CHANG	PSY	PSYCHOLOGY	4	Overview of the systems approach to organizational diagnosis, planning, and intervention in human service organizations. Behavioral interventions are emphasized.	GR		Lecture
Fall 2005	PSY740	740	INDUST/ORG PSYCH	PSY	PSYCHOLOGY	4	Provides an overview of the major topics in industrial/organizational psychology. Traditional as well as developing topics are surveyed.	GR		Lecture
Fall 2005	PSY741	741	PERSONNEL SELECTION	PSY	PSYCHOLOGY	4	In-depth review of the psychological basis of personnel selection including recruitment techniques, criterion development, performance evaluation, validity generalization, and instruments. Theoretical, practical, and legal issues are covered.	GR		Lecture

Fall 2005	PSY742	742	ORGANIZATIONAL BEHAVIOR	PSY	PSYCHOLOGY	4	Review of behavior in organizations within a framework of psychological theory and research. Topics include socialization, careers, organizational design, and leadership.	GR		Lecture
Fall 2005	PSY743	743	PSYCHOLOGY OF LEADERSHIP	PSY	PSYCHOLOGY	4	Designed to explore the theories, research, and practice of leadership in work organizations from a psychological perspective.	GR		Lecture
Fall 2005	PSY745	745	RES METHOD I/O PSY	PSY	PSYCHOLOGY	4	The course focuses on the unique methodological challenges faced by I/O researchers. The empirical problems that the complex nature of organizations and their uncontrollable environments pose for researchers are discussed. Theory, causation, and experimental validity are reviewed. Various research designs (e.g., true experiments, quasi-experiments, correlation and regression analysis, ethnographic study) are presented and scrutinized. Methods of data collection (e.g., unobtrusive measurement, survey, qualitative) are reviewed. Meta-analysis as a research method is discussed.	GR		Lecture

Fall 2005	PSY751	751	PROSMNR HUMAN FACTORS PSY	PSY	PSYCHOLOGY	4	In-depth review of major areas of human factors research. The areas reviewed in this course complement those areas reviewed in PSY 752.	GR		Lecture
Fall 2005	PSY752	752	PROSMNR HUMAN FACTORS PSY	PSY	PSYCHOLOGY	4	In-depth review of major areas of human factors research. The areas reviewed in this course complement those areas reviewed in PSY 751.	GR		Lecture
Fall 2005	PSY753	753	GRP PROCESS & SOC BEH	PSY	PSYCHOLOGY	4	Theories and data on social behavior will be reviewed. Topics will include attitude and attitude change, social perception, prejudice, and group decision-making. Possible applications will be discussed.	GR		Lecture
Fall 2005	PSY759	759	SEMINAR IN HUMAN FACTORS	PSY	PSYCHOLOGY	0	Weekly discussions of topics in Human Factors.	GR		Lecture
Fall 2005	PSY761	761	HUMAN LRNG & MEMORY	PSY	PSYCHOLOGY	4	Phenomena, principles, and problems of learning and retention.	GR		Lecture
Fall 2005	PSY762	762	ADVANCED LEARNING	PSY	PSYCHOLOGY	4	Experimental findings in animal and human learning with emphasis on their implications for current theories in learning.	GR		Lecture
Fall 2005	PSY763	763	ADVANCED MOTIVATION	PSY	PSYCHOLOGY	4	Experimental findings in animal and human motivation with emphasis on their implications for current theories of motivation.	GR		Lecture

Fall 2005	PSY766	766	HUMAN INFO PROCESS LAB	PSY	PSYCHOLOGY	1	Laboratory experiments in human information processing illustrating basic cognitive phenomena. Practical experience in measurement techniques and experimental design.	GR	L	Lab
Fall 2005	PSY771	771	PERCEPTION	PSY	PSYCHOLOGY	4	Selected problems in perception with emphasis on theoretical interpretations.	GR		Lecture
Fall 2005	PSY773	773	SENSORY PROCESSES	PSY	PSYCHOLOGY	4	The basic physiology of the senses and the peripheral nervous system. Emphasis on receptor mechanisms and neural coding processes.	GR		Lecture
Fall 2005	PSY775	775	NEUROPSYCHOLOGY	PSY	PSYCHOLOGY	4	Intensive laboratory involvement with the instrumentation and surgical techniques used in physiological psychology including: GSR, EMG, EKG, and EEG recordings; animal behavioral changes produced by electrical stimulation of the brain and/or lesions of brain structures.	GR		Lecture
Fall 2005	PSY776	776	VISUAL SCIENCE	PSY	PSYCHOLOGY	3	Study of visual systems including psychophysical measurement, temporal and spatial properties, display criteria, colorimetry, and visual system modeling.	GR		Lecture

Fall 2005	PSY777	777	VISUAL SCIENCE LABORATORY	PSY	PSYCHOLOGY	1	Laboratory experiments in visual psychophysics and perception illustrating phenomena studied in PSY 776. Practical experience in measurement techniques.	GR	L	Lab
Fall 2005	PSY778	778	CORTICAL VISUAL PROCESS	PSY	PSYCHOLOGY	4	In-depth consideration of visual processes that originate in the cerebral cortex. Topics include binocular vision, motion perception, eye movements, and the application of these to human factors research.	GR		Lecture
Fall 2005	PSY782	782	INSTRUMENTATION IN PSY	PSY	PSYCHOLOGY	4	Review of instrumentation used in psychological research and applications-relevant microprocessor and analog devices will be described. Topics will include displays, timing, transducers, A/D/A, amplifiers, and logical control. Students will construct and modify devices.	GR		Lecture
Fall 2005	PSY784	784	PROFESSIONAL ISSUES	PSY	PSYCHOLOGY	1	Seminar in which professional issues and ethics are discussed.	GR	S	Seminar
Fall 2005	PSY785	785	INTERMEDIATE STATISTICS	PSY	PSYCHOLOGY	4	Statistical methods and interpretations encountered in experimental studies and presentations of behavioral data.	GR		Lecture
Fall 2005	PSY789	789	CONTINUING REGISTRATION	PSY	PSYCHOLOGY	1		GR	I	Independent Study

Fall 2005	PSY790	790	INDEPENDENT RESEARCH	PSY	PSYCHOLOGY	1	Research conducted under faculty supervision.	GR	I	Independent Study
Fall 2005	PSY797	797	INTERNSHIP	PSY	PSYCHOLOGY	1	Internship in private or governmental organizations under the direction of a faculty advisor. Does not count for graduate credit toward the M.S. or Ph.D. degree in psychology. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	PSY799	799	THESIS RESEARCH	PSY	PSYCHOLOGY	1	Research conducted for the M.S. thesis. Research must be approved by supervisory committee, submitted in writing and defended by public oral examination.	GR	I	Independent Study
Fall 2005	PSY823	823	DISPLAY DESIGN	PSY	PSYCHOLOGY	4	Principles and techniques of visual display design are discussed from the cognitive systems engineering perspective.	GR		Lecture
Fall 2005	PSY825	825	AVIATION PSYCHOLOGY	PSY	PSYCHOLOGY	4	The application of psychological principles and methods in the aviation domain. The focus is on the dynamic pilot-cockpit interface, its cognitive processing demand, and implications for designs of technological support.	GR		Lecture

Fall 2005	PSY842	842	WORK MOTIVATION	PSY	PSYCHOLOGY	4	Work motivation theories are examined in terms of their empirical support and practical usefulness. Goals and the setting of objectives by employees are discussed. The design of work is discussed.	GR		Lecture
Fall 2005	PSY845	845	ORGANIZATIONAL THEORY	PSY	PSYCHOLOGY	4	The structuring of organizations is discussed in terms of centralization, formalization, and complexity. Issues of division of labor, span of control and departmentalization and delegation are examined. Mechanistic versus organic models of organizational design are compared and contrasted. The role technology plays in design is addressed. The environment's impact on organizational design is examined including uncertainty, information processing and adaptation. Matrix designs are evaluated in terms of their efficiency and flexibility.	GR		Lecture

Fall 2005	PSY862	862	INSTRUCTIONAL SYSTEMS	PSY	PSYCHOLOGY	4	Advances in computer science and artificial intelligence have provided us with the potential to develop instructional systems that are capable of improving the effectiveness of training. The modules that comprise an instructional system (expert diagnosis, instructional, and environmental modules) are discussed. Theories of information processing, learning, and memory that can be used to guide the development of these systems are also discussed. Evaluation of training programs are analyzed in depth.	GR		Lecture
Fall 2005	PSY864	864	COGNITIVE MODELING	PSY	PSYCHOLOGY	4	Review of computer models for cognitive processing, including propositional and connectionist approaches. Development and evaluation of mathematical models.	GR		Lecture
Fall 2005	PSY873	873	VESTIBULAR FUNCTION	PSY	PSYCHOLOGY	4	Role of vestibular organs in space orientation. Stimulus parameters, anatomy, neurophysiology, psychophysics, perception, performance, and motor responses are examined with special reference to aerospace vehicles.	GR		Lecture

Fall 2005	PSY875	875	PSYCHOACOUSTICS	PSY	PSYCHOLOGY	4	Advanced examination of auditory psychophysics and perceptual processes involving consideration of peripheral and central auditory physiology whenever possible.	GR		Lecture
Fall 2005	PSY881	881	HISTORY & SYSTEMS IN PSY	PSY	PSYCHOLOGY	4	A review of the history of psychology that explores the major trends in the development of the field. The relation of modern psychology to its antecedents will be explored.	GR		Lecture
Fall 2005	PSY886	886	TOPICS IN HUMAN FACTORS	PSY	PSYCHOLOGY	1	Seminars with in-depth coverage of special topics in human factors. Topics vary. Permission of Instructor. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSY888	888	TOPICS IN INDUS/ORGANIZ	PSY	PSYCHOLOGY	1	Seminars with in-depth coverage of special topics in industrial or organizational psychology. Topics vary. Permission of Instructor. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	PSY891	891	BEHAVIORAL NEUROSCIENCE	PSY	PSYCHOLOGY	4	(Also listed as BMS 914.) Coverage of the neurobiological basis of behavior. Focuses on motor function, ingestion, mating, learning, memory, rhythmical influences, and emotion.	GR		Lecture

Fall 2005	PSY894	894	EGR PSYCHOPHYSIOLOGY	PSY	PSYCHOLOGY	4	The application of psychophysiological measures to problems in engineering psychology will be addressed. Electroencephalographic, oculomotor, cardiovascular and respiratory measures will be reviewed. Relationship to workload, attention, circadian rhythms, stress, and display design will be explored.	GR		Lecture
Fall 2005	PSY968	968	MAN CONTRL & MOTOR SKILL	PSY	PSYCHOLOGY	4	Description of human control processes and their models. Analyses of human skills and skill typology.	GR		Lecture
Fall 2005	PSY991	991	PSYCHOBIOLOGY OF STRESS	PSY	PSYCHOLOGY	4	The effects of psychological stress on neuroendocrine and other physiological systems are explored. The implications of these relationships for disease processes and human performance are discussed.	GR		Lecture
Fall 2005	PSY999	999	DISSERTATION RESEARCH	PSY	PSYCHOLOGY	1	Original research of a quality that is publishable in refereed journals. Research must be acceptable to the supervisory committee, submitted in writing and defended by public oral examination.	GR	I	Independent Study

Fall 2005	PTX700	700	RESEARCH TECHNIQUES	PTX	PHARMACOLOGY/TOXICOLOGY	3	Practical laboratory experiences in commonly used biological techniques including DNA purification and manipulation, protein expression and analysis, and the classical pharmacological techniques of mediating receptor binding. Designed to give hands-on experience along with a short weekly lecture providing background on the theory behind the topic.	GR		Lecture
Fall 2005	PTX710	710	PRINCIPLES OF BIOKINETICS	PTX	PHARMACOLOGY/TOXICOLOGY	3	This course will introduce the basic principles that govern the bio-availabilty/activity of drugs and toxants in an organism with the focus on humans.	GR		Lecture
Fall 2005	PTX750	750	PRINCIPLES OF BIODYNAMICS	PTX	PHARMACOLOGY/TOXICOLOGY	3	This course will introduce the basic principles that govern the dynamics of drugs and toxants in an organism with the focus on humans.	GR		Lecture
Fall 2005	PTX751	751	MOLECULAR TOXICOLOGY	PTX	PHARMACOLOGY/TOXICOLOGY	4	Modern toxicology focuses on understanding the mechanism of action of chemicals at the molecular level. This course will explore a spectrum of molecular mechanisms of toxicity providing a broad perspective of the cutting edge of research in toxicology.	GR		Lecture

Fall 2005	PTX879	879	MOLECULAR PHARMACOLOGY	PTX	PHARMACOLOGY/TOXICOLOGY	5	This course will provide students with an in depth treatment of the theoretical principles and practical approaches to experimental investigation of drug action at the membrane receptor level using a text and articles from the primary literature.	GR		Lecture
Fall 2005	REL510	510	EARLY & MED WEST REL THOT	REL	RELIGION	4	Survey of important themes in the religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.	GR		Lecture
Fall 2005	REL511	511	REFORM & MOD WEST REL THOT	REL	RELIGION	4	Survey of important themes in the religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.	GR		Lecture
Fall 2005	REL515	515	CHRISTIANITY	REL	RELIGION	4	An examination of the structures of religious experience which have shaped the development of Christianity in history. Institutional and ritual forms will be investigated as systems of meaning against the backdrop of the general history of religions.	GR		Lecture

Fall 2005	REL516	516	JUDAISM: FAITH & PEOPLE	REL	RELIGION	4	Judaism as a religious culture of a particular people is examined critically, historically and phenomenologically.	GR		Lecture
Fall 2005	REL518	518	CONTEMPORARY JEWISH THOT	REL	RELIGION	4	Examination of the major themes and issues in the works of contemporary Jewish thinkers, e.g., Borowitz, Herberg, Fackenheim, Kaplan, Rothschild, Heschel, Rubenstein and Wiessel.	GR		Lecture
Fall 2005	REL521	521	RELIGIONS IN BIBLICAL PERIOD	REL	RELIGION	4	Examination of selected religious movements and/or problems in the Biblical period and their interconnectedness and mutual influences.	GR		Lecture
Fall 2005	REL522	522	TOPICS IN BIBLICAL LIT	REL	RELIGION	4	Examination of selected aspects of Biblical literature from both literary and historical perspectives to explore the possible structures, functions, and meanings of this literature for its original community.	GR		Lecture
Fall 2005	REL530	530	TOPICS IN AMERICAN REL	REL	RELIGION	4	Examination of selected topics in American religion to investigate basic religious structures and to explore the relationship of religious phenomena to their cultural context.	GR		Lecture
Fall 2005	REL540	540	TOPICS IN ASIAN RELIGION	REL	RELIGION	4	Studies in the religious dimension of Asian cultures, with emphasis on historical, social, and aesthetic perspectives.	GR		Lecture

Fall 2005	REL544	544	REL IN JAPANESE LIFE	REL	RELIGION	3	Examination of the role of religion in Japanese culture and society with attention to both historical development and current issues.	GR		Lecture
Fall 2005	REL557	557	UNDERSTANDING DEATH	REL	RELIGION	4	Basic issues in death and dying using resources from human sciences and humanities in a religious perspective.	GR		Lecture
Fall 2005	REL561	561	RELIGION AND SOCIETY	REL	RELIGION	4	(Also listed as SOC 561.) Treatment of religion as a social institution. Examines the influence of religious ideas and organizations on other social institutions, and the influence of society on religion.	GR		Lecture
Fall 2005	REL562	562	ANTHROPOLOGY OF RELIGION	REL	RELIGION	4	(Also listed as ATH 546.) Anthropological approach to the meaning and function of religion in social life and the nature of the thought or belief systems that gave rise to different forms of religious life. Emphasis on primitive and peasant societies.	GR		Lecture
Fall 2005	REL563	563	RELIGION AND PSYCHOLOGY	REL	RELIGION	4	An introduction to selected themes, issues, and problems in the interaction of religion and psychology. Differing points of view are considered.	GR		Lecture

Fall 2005	REL570	570	STUDIES IN ETHICS	REL	RELIGION	4	A special topics course for intensified study of the ethical dimensions of a particular religious tradition or for concentrated study in theoretical or practical ethical problems. Topics to be announced with each offering.	GR		Lecture
Fall 2005	REL578	578	ETHICS AND MEDICINE	REL	RELIGION	4	(Also listed as PHL 578.) An examination of the ethical issues confronting society in the area of medicine and health care, considered from the perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.	GR		Lecture
Fall 2005	REL582	582	PHL OF RELIGION: PROCESS	REL	RELIGION	4	Realism and the revolt against idealism. Cross-disciplinary analysis of major contemporary process philosophers and the implications of their thoughts for religion. Focus on Alfred North Whitehead.	GR		Lecture

Fall 2005	REL583	583	PHL OF RELIGION: SECULAR	REL	RELIGION	4	Cross-disciplinary analysis of modes of human awareness through which religious meaning is expressed (sensation, morality, beauty, reason, and human relations). Examination of presuppositions of contemporary secular religion in existentialism.	GR		Lecture
Fall 2005	REL631	631	REL IN AMERICAN LIFE	REL	RELIGION	4	Development of religious thought and institutional life in the United States viewed in relationship to American social change.	GR		Lecture
Fall 2005	REL635	635	BLACK AMER REL THOUGHT	REL	RELIGION	4	Analysis of black American religious thought through critical study of the writings of selected figures who have helped shape black religion from 1780 to the present.	GR		Lecture
Fall 2005	REL641	641	ISLAM	REL	RELIGION	4	Study of the origin and development of Islam, including contemporary issues and problems.	GR		Lecture
Fall 2005	REL643	643	ASIAN RELIGIOUS PHILOSOPHY	REL	RELIGION	4	(Also listed as PHL 643.) Perennial themes in Asian cultures, such as individual, society, and cosmos; appearance and reality; time and history; and karma, freedom, and responsibility. Treatment of these themes in the philosophical traditions of Asian cultures.	GR		Lecture

Fall 2005	REL656	656	RELIGION IN LITERATURE:	REL	RELIGION	4	Courses offered under this number provide intensive study of literary works in terms of significant and recurring religious themes and images as they can be traced in various cultures, and literary traditions.	GR		Lecture
Fall 2005	REL670	670	WORKSHOP	REL	RELIGION	1	Intensive study of selected problems (e.g., the teaching of religion in secondary school, medical ethics) to meet particular needs of participating students. Titles vary.	GR	I	Independent Study
Fall 2005	REL679	679	ETHICS IN INDUSTRIAL SOC	REL	RELIGION	3	(Also listed as LAW 695 and MGT 695.) Ethical responsibilities of business in light of political, moral, social, and religious considerations. Emphasis on analysis and evaluation of the changing framework of responsibilities facing both business organizations and their leaders.	GR		Lecture
Fall 2005	REL687	687	EVOLUTION, REL & ETHICS	REL	RELIGION	4	Introduction to the biological, philosophical, theological, and ethical aspects of evolution	GR		Lecture
Fall 2005	REL693	693	SEMINAR IN RELIGION	REL	RELIGION	4	Topics vary.	GR		Lecture
Fall 2005	REL694	694	EXISTENTIALISM	REL	RELIGION	3	(Also listed as PHL 694.) Representative writers of the existentialist movement.	GR		Lecture

Fall 2005	REL701	701	READ & RESEARCH IN REL	REL	RELIGION	2	Intensive research in specialized areas. Students must submit written proposals, with faculty approval, for acceptance into course.	GR	I	Independent Study
Fall 2005	REL702	702	READ & RESEARCH IN REL	REL	RELIGION	2	Intensive research in specialized areas. Students must submit written proposals, with faculty approval, for acceptance into course.	GR	I	Independent Study
Fall 2005	REL703	703	READ & RESEARCH IN REL	REL	RELIGION	2	Intensive research in specialized areas. Students must submit written proposals, with faculty approval, for acceptance into course.	GR	I	Independent Study
Fall 2005	REL789	789	CONTINUING REGISTRATION	REL	RELIGION	1		GR	I	Independent Study
Fall 2005	RHB670	670	WORKSHOP IN REHAB	RHB	REHABILITATION	1	Workshop courses to meet the needs of in-service rehabilitation professionals as well as providing courses on a one-time basis to meet special interest needs.	GR	I	Independent Study
Fall 2005	RHB700	700	FOUNDATIONS OF VOC REHAB	RHB	REHABILITATION	4	Introduces rehabilitation. Topics include history, philosophy, legislative bases, organizational structures, rehabilitation process and procedures, public and private sectors of rehabilitation, rehabilitation agencies, and professional issues and ethics.	GR		Lecture

Fall 2005	RHB701	701	CNL THEORY AND PRACTICE	RHB	REHABILITATION	1	Surveys the major theories of counseling and provides opportunities to develop the basic skills associated with the counseling process. Also addresses the key philosophical and ethical issues associated with the counseling profession.	GR		Lecture
Fall 2005	RHB701	701	REHAB COUNSELING LAB	RHB	REHABILITATION	0	Surveys the major theories of counseling and provides opportunities to develop the basic skills associated with the counseling process. Also addresses the key philosophical and ethical issues associated with the counseling profession.	GR	L	Lab
Fall 2005	RHB702	702	MEDICAL ASSESSMENT	RHB	REHABILITATION	1	Necessary terminology and knowledge of disabilities and disorders for understanding and interpreting medical reports. Symptomology, treatment, functional limitations, and other management aspects of specific disabilities encountered in the course of employment are covered. Titles vary.	GR		Lecture

Fall 2005	RHB702	702	MEDICAL ASSESSMENT LAB	RHB	REHABILITATION	0	Necessary terminology and knowledge of disabilities and disorders for understanding and interpreting medical reports. Symptomology, treatment, functional limitations, and other management aspects of specific disabilities encountered in the course of employment are covered. Titles vary.	GR	L	Lab
Fall 2005	RHB703	703	APPLIED RESEARCH IN REHAB	RHB	REHABILITATION	1	Introduction to current rehabilitation research and rehabilitation program evaluation models.	GR		Lecture
Fall 2005	RHB703	703	APP RESEARCH IN REHAB:LAB	RHB	REHABILITATION	0	Introduction to current rehabilitation research and rehabilitation program evaluation models.	GR	L	Lab
Fall 2005	RHB704	704	PSY ADJ:SEV DISABL LAB	RHB	REHABILITATION	0	Psychological issues associated with specific disabling conditions. An in-depth review of the general adjustment process to disability and definitions of normality and abnormality.	GR	L	Lab
Fall 2005	RHB704	704	PSY ADJUST:SEVERE DISABL	RHB	REHABILITATION	1	Psychological issues associated with specific disabling conditions. An in-depth review of the general adjustment process to disability and definitions of normality and abnormality.	GR		Lecture

Fall 2005	RHB705	705	BEHAVIORAL ASSESSMENT	RHB	REHABILITATION	1	Surveys psychological tests and measurements with emphasis on attitude, interest, vocational, and personality tests. Understanding of basic principles and their application to counseling in various settings are stressed.	GR		Lecture
Fall 2005	RHB705	705	BEHAV ASSESS: SEV DIS LAB	RHB	REHABILITATION	0	Surveys psychological tests and measurements with emphasis on attitude, interest, vocational, and personality tests. Understanding of basic principles and their application to counseling in various settings are stressed.	GR	L	Lab
Fall 2005	RHB706	706	SPEC TECH CNL SEV DIS	RHB	REHABILITATION	1	Techniques of counseling individuals who are different by reason of disability. Includes counseling for adjustment to disability, problem solving, and motivation.	GR		Lecture
Fall 2005	RHB706	706	SPEC TECH CNL SEV DIS LAB	RHB	REHABILITATION	0	Techniques of counseling individuals who are different by reason of disability. Includes counseling for adjustment to disability, problem solving, and motivation.	GR	L	Lab

Fall 2005	RHB707	707	MEDICAL ASSESSMENT	RHB	REHABILITATION	1	Necessary terminology and knowledge of disabilities and disorders for understanding and interpreting medical reports. Symptomology, treatment, functional limitations, and other management aspects of specific disabilities encountered in the course of employment are covered. Titles vary.	GR		Lecture
Fall 2005	RHB711	711	VOCATNL EVAL & JOB PL TEC	RHB	REHABILITATION	1	The history, philosophy, theoretical basis, goals, function, and scope of vocational evaluation. Theories and principles concerning work and career development are also explored.	GR		Lecture
Fall 2005	RHB712	712	INDUSTRIAL REHABILITATN	RHB	REHABILITATION	1	Familiarizes rehabilitation professionals and students with industrial rehabilitation (IR), and how IR programs assist in the successful placement of people with disabilities. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture

Fall 2005	RHB714	714	WORK INCENTIVE	RHB	REHABILITATION	1	Familiarizes rehabilitation professionals and students with the available legislated and regulatory work incentives, and how they assist in the placement of people with disabilities. Includes the following programs: Social Security Act (SS), state and federal Workers Compensation, Targeted Job Tax Credit (TJTC), and various personal insurance (LTDD, STD, Catastrophin). May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	RHB716	716	EMPLOYMNT SPEC TRNG	RHB	REHABILITATION	3	Familiarizes rehabilitation professionals and students with the concept of Supported Employment including definition, worker identification, learning styles, worksite and task analysis, development and implementation of skill training and support services; and demonstrates how Supported Employment is used in placement of people with disabilities. May be taken for a letter grade or pass/unsatisfactory. Prerequisite: Graduate standing or approval of program consultant.	GR		Lecture

Fall 2005	RHB718	718	DEVEL RELAT W/ BUS&IND	RHB	REHABILITATION	5	Exposes rehabilitation professionals and students to the philosophy and practices of business and industry; incorporates specific skill competencies in job development and job placement in working with business and industry; and demonstrates how these skills assist in enhancing employment opportunities and job placement of people with disabilities. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	RHB720	720	CASE MANAGEMEN T IN VR	RHB	REHABILITATION	4	Develops specific case management skills in diagnosis, information processing planning, service arrangement, program monitoring, and job placement. Emphasis on case management techniques, ethics, consultation strategies, and specialized counseling skills development.	GR		Lecture
Fall 2005	RHB721	721	PROG ASPECTS VOCATION EVA	RHB	REHABILITATION	5	Study of processes, principles, and techniques used to determine and predict work behavior and vocational potential. Consideration is given to adapting assessment tools and systems to clients↕ needs.	GR		Lecture

Fall 2005	RHB730	730	EPIDEMIOLOGY CHEMICAL DEP	RHB	REHABILITATION	1	Addresses the sociocultural influences associated with chemical dependency. Examines models of drug and alcohol use and the personal evolution of chemical dependency, and the ethical and legal ramifications germane to work in the drug-abuse field.	GR		Lecture
Fall 2005	RHB731	731	TREATMENT CHEMICAL DEPEND	RHB	REHABILITATION	1	The theory and practice of a variety of treatment modalities, including in-patient and out-patient approaches, family interventions, and group techniques. Emphasizes systems approaches and holistic intervention strategies. Also covers self-help groups such as Alcoholics Anonymous and Al-Anon.	GR		Lecture
Fall 2005	RHB770	770	INDEPENDENT READING	RHB	REHABILITATION	1	Independent study in areas of interest to students but not readily available in any existing course. May be taken for a letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	RHB774	774	SELECTED PROBLEMS	RHB	REHABILITATION	3	Examines techniques of rehabilitation applied to selected disability groups such as mental retardation, drug abuse, emotional disturbances, alcoholism, and cultural and social deprivation.	GR		Lecture

Fall 2005	RHB775	775	GRADUATE SEMINAR	RHB	REHABILITATION	1	Includes the study of community-related rehabilitation program efforts in terms of individualized systems analysis. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	RHB801	801	INTERNSHIP I	RHB	REHABILITATION	2	Students spend approximately twenty to thirty hours per week in a selected rehabilitation setting performing assigned entry-level work consistent with the integration of skills, attitudes, and knowledge of rehabilitation counseling. Titles vary. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	RHB801	801	INTERNSHIP I LAB	RHB	REHABILITATION	0	Students spend approximately twenty to thirty hours per week in a selected rehabilitation setting performing assigned entry-level work consistent with the integration of skills, attitudes, and knowledge of rehabilitation counseling. Titles vary. Graded pass/unsatisfactory.	GR	L	Lab

Fall 2005	RHB802	802	INTERNSHIP II	RHB	REHABILITATION	1	Culminating integrative experience for graduate rehabilitation counseling students. Students spend from twenty to thirty hours per week in a rehabilitation setting providing professional-level rehabilitation counseling and services to severely disabled clients. Titles vary. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	RHB802	802	INT MED ASSESSMENT LAB	RHB	REHABILITATION	0	Culminating integrative experience for graduate rehabilitation counseling students. Students spend from twenty to thirty hours per week in a rehabilitation setting providing professional-level rehabilitation counseling and services to severely disabled clients. Titles vary. Graded pass/unsatisfactory.	GR	L	Lab
Fall 2005	RHB811	811	USE INTERP VOCATION EVAL	RHB	REHABILITATION	5	Interpretation of evaluation data to client, rehabilitation personnel, and facility staff. Attention is given to vocational counseling, staff conferences, report writing, and follow-up.	GR		Lecture

Fall 2005	RHB865	865	REHAB COUNSELING PRACT	RHB	REHABILITATION	4	Provides counseling experience in which students, under supervision, actually counsel individuals with rehabilitation concerns including vocational, educational, medical, psychosocial, and personal issues.	GR		Lecture
Fall 2005	RHB873	873	INTERNSHIP VOCATION EVAL	RHB	REHABILITATION	15	Supervised practical experience in a Vocational Evaluation unit. The student will concurrently spend two hours/week in Organization and Management of VE units seminar.	GR	I	Independent Study
Fall 2005	RM 699	699	SPEC PROBLEM REHABIL SCI	RM	REHAB MED & RESTORATIVE CARE	1	Course enables students to explore selected research topics related to the rehabilitation of various patient populations. Students and faculty advisors will interact to establish specific course requirements. May be taken for letter grade of pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	RM 800	800	SEMINAR REHABIL SCI	RM	REHAB MED & RESTORATIVE CARE	1	Various topics related to research in rehabilitative sciences are presented. Students hear faculty and guest speakers, as well as participate in seminar presentations. Graded pass/unsatisfactory.	GR		Lecture
Fall 2005	RUS599	599	STUDIES IN SEL SUBJECTS	RUS	RUSSIAN	4	Problems, approaches, and topics in the field of Russian. Topics vary.	GR	I	Independent Study

Fall 2005	SM 645	645	PROJECTS IN SCIENCE I	SM	SCIENCE AND MATHEMATICS	3	An exercise in the application of data collection and analysis to an assigned small group project, reflecting analysis of the four basic sciences.	GR		Lecture
Fall 2005	SM 646	646	PROJECTS IN SCIENCE II	SM	SCIENCE AND MATHEMATICS	3	Using a variety of resources, including the course website, students will individually design and implement and extended scientific investigation into one of the four basic science areas.	GR		Lecture
Fall 2005	SOC510	510	SOCIOLOGY OF GENDER	SOC	SOCIOLOGY	4	Cross-cultural sociological knowledge and theories concerning origin/nature of sex roles; stratification of sexes in various societies; sex roles in institutions of family, education, religion, politics, economics, and health; and other topics such as socialization and media.	GR		Lecture
Fall 2005	SOC514	514	WORKSHOP IN CURRENT PROBLEMS	SOC	SOCIOLOGY	1	Intensive study of a particular problem area, utilizing professionally qualified personnel from the academic and community environments. Specific subtitles to be added with individual workshops.	GR		Lecture
Fall 2005	SOC520	520	SOC OF DEVIANT BEHAVIOR	SOC	SOCIOLOGY	4	Extensive exploration of the various sociological approaches to the study of deviance and social disorganization with emphasis on contemporary sociological theory and research.	GR		Lecture

Fall 2005	SOC532	532	JUVENILE DELINQUENCY	SOC	SOCIOLOGY	4	Problems of definition and treatment of delinquency; preparation for further study and work with delinquents	GR		Lecture
Fall 2005	SOC540	540	SOCIAL ORGANIZATIO N	SOC	SOCIOLOGY	4	Theories and analysis of social organization in its historical and present context. Emphasis on the interrelationship between individuals, the family, and other institutions.	GR		Lecture
Fall 2005	SOC541	541	SOCIAL INEQUALITY	SOC	SOCIOLOGY	4	Structures, theories, and consequences of social inequality with emphasis on the United States.	GR		Lecture
Fall 2005	SOC550	550	SOCIOLOGY OF WORK	SOC	SOCIOLOGY	4	Investigation, analysis, and discussion of contemporary theories focusing on the relationship of the individual to work.	GR		Lecture
Fall 2005	SOC560	560	SOCIOLOGY OF FAMILY	SOC	SOCIOLOGY	4	Sociological analysis of family development over its life cycle, and the relationship of the family to society and the individual. Topics include courtship, marriage, parenthood, adulthood, and aging.	GR		Lecture

Fall 2005	SOC561	561	RELIGION AND SOCIETY	SOC	SOCIOLOGY	4	(Also listed as REL 561.) Treatment of religion as a social institution, examining the influence of religious ideas and organizations on other social institutions, and the influence of society on religion.	GR		Lecture
Fall 2005	SOC563	563	SOCIOLOGY OF EDUCATION	SOC	SOCIOLOGY	4	The school as a social institution. Internal and external influences; structure of the school social system; and sociological issues affecting the school, such as social class factors and equality of educational opportunity.	GR		Lecture
Fall 2005	SOC599	599	STUDIES IN SELECTED SUBJ	SOC	SOCIOLOGY	1	Problems, approaches, and topics in the field of sociology. Topics vary.	GR		Lecture
Fall 2005	SOC601	601	TOPICS:THEORY&METHODS	SOC	SOCIOLOGY	4	Topics vary.	GR		Lecture
Fall 2005	SOC620	620	SOC OF SEXUAL BEHAVIOR	SOC	SOCIOLOGY	4	This course examines alternative sexual lifestyles and behaviors. Employing the concepts of cultural relativity and ethnocentrism, we learn how sexual relationships are perceived and responded to in contemporary American society.	GR		Lecture

Fall 2005	SOC622	622	SOCIOLOGY OF COURTS, LAW	SOC	SOCIOLOGY	4	Students will critically examine the process, structure, and effects of the U.S. court system. Special attention will be given to issues of race, class, and other social factors that affect justice in society.	GR		Lecture
Fall 2005	SOC632	632	PENOLOGY	SOC	SOCIOLOGY	4	Historical development and critical assessment of penal institutions. Field visits to selected institutions.	GR		Lecture
Fall 2005	SOC633	633	INTERNSHIP IN CORRECTIONS	SOC	SOCIOLOGY	4	Supervised field experience in corrections (e.g., probation, parole, and jail). Course requires readings, a log, progress reports, and a paper synthesizing readings and field experience.	GR	I	Independent Study
Fall 2005	SOC639	639	TOPICS: PROBLEMS/DEVIANCE	SOC	SOCIOLOGY	4	Topics vary.	GR		Lecture
Fall 2005	SOC641	641	INDUSTRIAL SOCIOLOGY	SOC	SOCIOLOGY	4	Cross-cultural analysis of industrialization; organization of relationships within industrial social groups.	GR		Lecture
Fall 2005	SOC642	642	RACE & MINORITY RELATION	SOC	SOCIOLOGY	4	Intergroup, racial, and ethnic group relations, including the processes and consequences of conflict, prejudice, and discrimination.	GR		Lecture

Fall 2005	SOC644	644	URBAN SOCIOLOGY	SOC	SOCIOLOGY	4	Role of cities in past and present societies, the social and cultural implications of urban living, and problems associated with city life.	GR		Lecture
Fall 2005	SOC646	646	NEIGHBORHOODS,COMMUNITIES	SOC	SOCIOLOGY	4	Examines the part the community and the neighborhood play in the social life of modern societies. What makes a ‼good¶ neighborhood? What makes a ‼good¶ community? These and other questions are addressed.	GR		Lecture
Fall 2005	SOC657	657	POLICING IN SOCIETY	SOC	SOCIOLOGY	4	Developed to expand the depth of the criminology track for Sociology majors independent of, but which may be used as, course work for the new ABS CJ track.	GR		Lecture
Fall 2005	SOC659	659	EXPLAINING CRIME	SOC	SOCIOLOGY	4	Objective is to provide students with a sound understanding of theories of crime and how they operate within society as part of our understanding of the criminal justice system.	GR		Lecture
Fall 2005	SOC661	661	MEDICAL SOCIOLOGY	SOC	SOCIOLOGY	4	The social dimension of health and illness. Consideration of the patterns of disease, along with the organization, provision, and delivery of health care services.	GR		Lecture

Fall 2005	SOC662	662	SOCIAL GERONTOLOGY	SOC	SOCIOLOGY	4	(Also listed as SW 662.) Study of social aspects of aging, the needs of the aging population, and society↕s response to those needs.	GR		Lecture
Fall 2005	SOC663	663	SOCIAL GERONTOLOGY II	SOC	SOCIOLOGY	4	(Also listed as SW 663.) Continuation of social gerontology. Explores in-depth concepts and issues related to aging.	GR		Lecture
Fall 2005	SOC679	679	TOPICS:SOC INSTITUTIONS	SOC	SOCIOLOGY	4	Topics vary.	GR		Lecture
Fall 2005	SOC681	681	SOC OF SMALL GROUPS	SOC	SOCIOLOGY	4	Study of face-to-face interaction with emphasis on both intergroup and intragroup structure and processes.	GR		Lecture
Fall 2005	SOC689	689	SEL TOP SOCIAL INTERACTN	SOC	SOCIOLOGY	4	Topics vary.	GR		Lecture
Fall 2005	SOC690	690	DIR STUDIES IN SOCIOLOGY	SOC	SOCIOLOGY	2	May be taken for letter grade or pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	SOC701	701	SELECTED TOPICS IN SOC	SOC	SOCIOLOGY	2	Variable content. Specific topic announced when course is offered.	GR	I	Independent Study
Fall 2005	SOC720	720	SEMINAR IN SOCIAL DEVIANCE	SOC	SOCIOLOGY	4	Study of contemporary theories of deviant behavior from both an institutional and social-psychological perspective, with emphasis on the relationship between social change and social disorganization.	GR		Lecture

Fall 2005	SOC760	760	SEMINAR FAMILY PROBLEMS	SOC	SOCIOLOGY	4	(Also listed as ABS 781.) Builds on the foundations of society and its institutions to examine contemporary problems facing American families.	GR		Lecture
Fall 2005	SOC770	770	SEMINAR CRIMINAL JUSTICE	SOC	SOCIOLOGY	4	(Also listed as ABS 771.) Investigation of the criminal justice system in the United States and its relation to deviant adult and juvenile behavior.	GR		Lecture
Fall 2005	SPN590	590	FOREIGN LANG INSTITUTE	SPN	SPANISH	8	For teachers of Spanish. Intensive experience designed, through total immersion, to improve language skills (conversation and composition) and increase awareness of Spanish civilization and contemporary culture.	GR		Lecture
Fall 2005	SPN602	602	SPANISH NOVEL 19TH CENT	SPN	SPANISH	4	Nineteenth-century prose works by Galdos and others.	GR		Lecture
Fall 2005	SPN603	603	ADV STUDIES: LANG CIVILIZ	SPN	SPANISH	4	Topics vary. Conducted in Spanish.	GR		Lecture
Fall 2005	SPN611	611	GOLDEN AGE DRAMA	SPN	SPANISH	4	Intensive readings of dramas by playwrights of the sixteenth and seventeenth centuries.	GR		Lecture
Fall 2005	SPN612	612	MODERN DRAMA	SPN	SPANISH	4	Intensive readings of dramas by playwrights of the nineteenth and twentieth centuries.	GR		Lecture

Fall 2005	SPN621	621	DON QUIXOTE PART I	SPN	SPANISH	4	Cervantes. Intensive study of the works of Cervantes, including Don Quixote, novelas ejemplares, entremeses, and longer dramatic works. Lectures, discussions, and oral reports on Cervantes and his time.	GR		Lecture
Fall 2005	SPN631	631	SEM IN SPANISH LITERATURE	SPN	SPANISH	4	Intensive study of selected topics in peninsular literature. Background lectures, oral reports, and discussions. Titles vary.	GR		Lecture
Fall 2005	SPN632	632	SEM IN SPANISH-AMER LIT	SPN	SPANISH	4	Readings and reports in the novel, poetry, and drama of selected Spanish-American authors. Representative works of Borges, Garcma, Marquez, Rulfo, Paz, Vargas Llosa, Sanchez, and others.	GR		Lecture
Fall 2005	SPN641	641	CONTEMPORARY SPANISH LIT	SPN	SPANISH	4	Readings in the novel, poetry, and drama of major Spanish writers in the post-Civil war period.	GR		Lecture
Fall 2005	SPN642	642	CONTEMP LATIN AMER LIT	SPN	SPANISH	4	Readings in the novel, poetry, and drama of various Latin-American writers from the late 1930s to the present day.	GR		Lecture
Fall 2005	SPN650	650	IND GRAD RESEARCH	SPN	SPANISH	1	Independent graduate research.	GR		Lecture
Fall 2005	SPN662	662	GENERATION OF 1898	SPN	SPANISH	4	Novel, poetry, and theatre of Unamuno, Baroja, and others.	GR		Lecture

Fall 2005	SPN681	681	IND READ GRAD STUDENTS	SPN	SPANISH	4	Independent reading for graduate students.	GR		Lecture
Fall 2005	SPN682	682	IND READ GRAD STUDENTS	SPN	SPANISH	4	Independent reading for Graduate students.	GR		Lecture
Fall 2005	STT542	542	PROB/STAT-MIDDLE SCH TCHR	STT	STATISTICS	4		GR		Lecture
Fall 2005	STT560	560	APPLIED STATISTICS I	STT	STATISTICS	4	Introduces probability, random variables and their expectations, some commonly used discrete and continuous distributions, concept of random sampling and sampling distributions. Uses computer software packages for simulating, summarizing, and displaying data.	GR		Lecture
Fall 2005	STT560	560	APPLIED STATISTICS I LAB	STT	STATISTICS	0	Introduces probability, random variables and their expectations, some commonly used discrete and continuous distributions, concept of random sampling and sampling distributions. Uses computer software packages for simulating, summarizing,and displaying data.	GR	L	Lab

Fall 2005	STT561	561	APPLIED STATISTICS II	STT	STATISTICS	4	Introduces statistics, standard statistical methods for estimation of parameters and hypothesis testing, regression analysis and analysis of variance techniques, and exposure to data analysis using packaged computer programs.	GR		Lecture
Fall 2005	STT561	561	APPLIED STATISTICS II LAB	STT	STATISTICS	0	Introduces statistics, standard statistical methods for estimation of parameters and hypothesis testing, regression analysis and analysis of variance techniques, and exposure to data analysis using packaged computer programs.	GR	L	Lab
Fall 2005	STT567	567	INTRODUCTIO N TO SAS	STT	STATISTICS	2	Introduces the use of Statistical Analysis System (SAS), a statistical computing package widely used in industry, government, and academia.	GR		Lecture
Fall 2005	STT586	586	IND. READ IN STAT AND PROB	STT	STATISTICS	1	Independent reading in statistics and probability.	GR	I	Independe nt Study
Fall 2005	STT596	596	TOPICS IN STAT AND PROB	STT	STATISTICS	1	May be taken for letter grade or pass/unsatisfactory. Titles vary.	GR	I	Independe nt Study

Fall 2005	STT601	601	NONPARAMETRIC METHODS	STT	STATISTICS	4	Distribution-free estimation and hypothesis testing procedures. Includes methods for use in one- and two-sample location and dispersion problems, nonparametric alternatives to ANOVA and regression, goodness-of-fit tests, measures of association, and tests for randomness.	GR		Lecture
Fall 2005	STT611	611	APPLIED TIME SERIES	STT	STATISTICS	4	Stochastic models for discrete time series in the time-domain, moving average processes, autoregressive processes, model identification, parameter estimation, and forecasting. Statistical computing software packages are used.	GR		Lecture
Fall 2005	STT624	624	STATISTIC QUALITY CONTROL	STT	STATISTICS	4	Statistical process control for attributes and variables data: probability distributions, sampling plans, control charts, statistical control, process capability, process improvement, tolerance intervals, evolutionary operation, and applications.	GR		Lecture
Fall 2005	STT626	626	RELIABILITY AND LIFE DATA	STT	STATISTICS	4	Presentation of important models and methods, and analysis of lifetime and survival data	GR		Lecture

Fall 2005	STT628	628	QUEUEING THEORY	STT	STATISTICS	4	The stochastic concept of a queueing process is developed. The theory and applications of single and many server queues are presented. Particular emphasis is placed on application in engineering and computer science.	GR		Lecture
Fall 2005	STT630	630	ENVIRONMENTAL STAT	STT	STATISTICS	4	Statistical methods suitable for the collection, analysis, and interpretation of the temporal and spatial data arising in the environmental studies are discussed. Computer packages for the data analysis are introduced.	GR		Lecture
Fall 2005	STT646	646	STATISTICAL METHODS I	STT	STATISTICS	4	Classical statistical techniques for analysis and interpretation of research data, with extensive use of statistical software. Includes review of basic statistics. Simple, multiple, and polynomial regression, and single factor analysis of variance are covered.	GR		Lecture

Fall 2005	STT647	647	STATISTICAL METHODS II	STT	STATISTICS	4	Continuation of STT 646. Analysis of variance, techniques for interpretation of research data, with extensive use of statistical software. Includes factoral experiments, fixed and random effects, crossed and nested factors, and repeated measures.	GR		Lecture
Fall 2005	STT661	661	THEORY OF STATISTICS I	STT	STATISTICS	4	Probability models, density and distribution functions, expectation, marginal and conditional distributions, stochastic independence, moment generating function, central limit theorem, decision theory, and estimation of parameters.	GR		Lecture
Fall 2005	STT662	662	THEORY OF STATISTICS II	STT	STATISTICS	4	Hypothesis testing, linear model, and nonparametric methods.	GR		Lecture
Fall 2005	STT664	664	BIOSTATISTICS	STT	STATISTICS	4	(Also listed as BMS 664.) Classical statistical techniques for analysis and interpretation of research data with emphasis on biomedical applications. Includes descriptive statistics, distributions, experimental design, ANOVA, regression, correlation, contingency table analysis, and nonparametric procedures.	GR		Lecture

Fall 2005	STT666	666	STATISTICS METHODS I	STT	STATISTICS	4	Classical statistical techniques for analysis and interpretation of research data, with emphasis on the use of packaged computer routines. Includes descriptive statistics, normal distributions, one- and two-sample t-tests, sample contingency table analysis, simple linear regression, and correlation. Introduction to analysis of variance.	GR		Lecture
Fall 2005	STT667	667	STATISTICS METHODS II	STT	STATISTICS	4	Continuation of STT 666. Includes further topics in analysis of variance, multiple and curvilinear regression, multiple and partial correlation, analysis of covariance, and some exploratory data analysis.	GR		Lecture
Fall 2005	STT669	669	INTRO TO EXPERMTL DESIGN	STT	STATISTICS	4	Techniques of blocking, randomization, replication, factorial design. Topics from complete and incomplete block designs, confounding, fractional factorial designs, split-plots, response surface methods, parameter design, hierarchical designs. Statistical software used extensively.	GR		Lecture
Fall 2005	STT686	686	IND READ IN STAT AND PROB	STT	STATISTICS	1	Independent reading in statistics and probability.	GR	I	Independe nt Study

Fall 2005	STT696	696	TOPICS IN STAT AND PROB	STT	STATISTICS	1	Topics in statistics and probability.	GR	I	Independent Study
Fall 2005	STT702	702	APPLIED STOCHASTIC PROCESSES I	STT	STATISTICS	4	Stationary processes, Markov chains, Poisson processes, pure birth process, queuing processes, inventory problems, and traffic flow problems.	GR		Lecture
Fall 2005	STT721	721	SAMPLING DESIGN	STT	STATISTICS	4	Applications of sampling theory and basic methods of sampling selection. Simple random sampling, systematic sampling, sampling with probability proportionate to unit size, use of auxiliary estimators, and Warner↕s procedure.	GR		Lecture
Fall 2005	STT740	740	CONTINGENCY TABLE ANALYSIS	STT	STATISTICS	4	Standard techniques for analyzing and describing two-dimensional contingency tables. Logistic regression models and loglinear models developed for data structures involving categorical response variables, including model selection procedures, diagnostics, association graphs, and collapsibility. SAS procedures used for analysis of data sets.	GR		Lecture

Fall 2005	STT744	744	APPL MULTIVARIATE ANALYSIS	STT	STATISTICS	4	Matrix theory, multivariate distributions, correlation and regression, MANOVA, tests on covariance matrices, test of independence, canonical correlation, classification and discrimination, and structure of multivariate observations. Completion of at least two courses in probability and statistics or equivalent required.	GR		Lecture
Fall 2005	STT761	761	THEORY OF LINEAR MODELS	STT	STATISTICS	4	Concepts of matrix algebra and the multivariate normal distribution are developed in order to study the general linear model of full rank. Some applications of regression are covered.	GR		Lecture
Fall 2005	STT762	762	TOPICS IN LINEAR MODELS	STT	STATISTICS	4	Computing techniques and applications of the general linear model. Correlation and regression are emphasized.	GR		Lecture
Fall 2005	STT764	764	TOPICS IN EXPERI DESIGN	STT	STATISTICS	4	Continuation of STT 669. Topics from incomplete block designs, blocked and fractional asymmetric factorial designs, mixture experiments, split-plot designs, response surface methods, parameter design, hierarchical designs, variance components, mixed models.	GR		Lecture

Fall 2005	STT767	767	APPLIED REGRESSION ANALYSIS	STT	STATISTICS	4	Multiple linear regression with introduction to more complicated models, including nonlinear models and up-to-date computing techniques. Completion of a mathematical statistics course or permission of instructor.	GR		Lecture
Fall 2005	STT786	786	IND READ IN STAT AND PROB	STT	STATISTICS	1	Independent reading in statistics and probability.	GR	I	Independent Study
Fall 2005	STT791	791	STATISTICAL CONSULTING	STT	STATISTICS	3	Consultation with graduate students and faculty on statistical problems arising from research projects	GR		Lecture
Fall 2005	STT796	796	TOPICS IN STAT AND PROB	STT	STATISTICS	1	Topics in statistics and probability.	GR	I	Independent Study
Fall 2005	STT899	899	GRADUATE RESEARCH	STT	STATISTICS	1	Supervised thesis research.	GR	I	Independent Study
Fall 2005	SW 520	520	WORKSHOP IN CURRENT PROBLEMS	SW	SOCIAL WORK	1	Intensive study of a particular problem area, utilizing professionally qualified personnel from academia and the practive community. Specific subtitles to be added with individual workshops. May be repeated to a maximum of 12 credit hours.	GR		Lecture

Fall 2005	SW 580	580	BASIC PRACTICE THEORY	SW	SOCIAL WORK	4	Generalist social work practice theory. Problem assessment, data collection, data analysis, interventive methods, and evaluation procedures are studied and simulated.	GR		Lecture
Fall 2005	SW 599	599	STUDIES IN SEL SUBJECTS	SW	SOCIAL WORK	1	Variable content dealing with problems, approaches, and topics in the field of social work. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR	I	Independe nt Study
Fall 2005	SW 599	599	STUDIES IN SELECTED SUBJECTS	SW	SOCIAL WORK	1	Variable content dealing with problems, approaches, and topics in the field of social work. Titles vary. May be taken for a letter grade or pass/unsatisfactory.	GR		Lecture
Fall 2005	SW 662	662	SOCIAL GERONTOLOG Y	SW	SOCIAL WORK	4	(Also listed as SOC 662.) Social aspects of aging. The needs of the population and society's response to those needs.	GR		Lecture
Fall 2005	SW 663	663	SOCIAL GERONTOLOG Y II	SW	SOCIAL WORK	4	(Also listed as SOC 663.) Explores in-depth concepts and issues related to aging.	GR		Lecture
Fall 2005	SW 664	664	RACE & ETHN AWARE HUMAN SERV	SW	SOCIAL WORK	4	Impact of racism and ethnicity on the delivery of human services. Examination of interpersonal relationships and institutional policies and procedures with an opportunity to develop strategies for change at both levels.	GR		Lecture

Fall 2005	SW 677	677	PROB SEM WELF POLICY & SERV	SW	SOCIAL WORK	1	The operation of the social welfare system in America; issues, trends, and problems. Topics vary.	GR		Lecture
Fall 2005	SW 680	680	GERONTOLOGY PRACTICUM	SW	SOCIAL WORK	3	Supervised learning under direction of faculty and agency staff. Ten weeks/twenty hours per week, or twenty weeks/ten hours per week.	GR	I	Independent Study
Fall 2005	SW 681	681	GENERALIST PRAC: INDIVID	SW	SOCIAL WORK	4	In-depth study of generalist social work practice theory for the enhancement of social functioning of individuals.	GR		Lecture
Fall 2005	SW 682	682	GENERALIST PRACT: GROUPS	SW	SOCIAL WORK	4	In-depth study of generalist social work practice theory for the enhancement of social functioning as small groups.	GR		Lecture
Fall 2005	SW 683	683	GENERALIST PRAC: FAMILIES	SW	SOCIAL WORK	4	In-depth study of generalist social work practice theory for the enhancement of family social functioning	GR		Lecture
Fall 2005	SW 684	684	GENERALIST PRAC:ORGS&COMMUN	SW	SOCIAL WORK	4	In-depth study of generalist social work practice theory for the enhancement of social welfare organizations and communities.	GR		Lecture

Fall 2005	SW 690	690	RESEARCH METHODS IN SW I	SW	SOCIAL WORK	4	First course in a two quarter sequence study of evaluation research methodology. Criteria for intelligent consumption of research reports. Evaluation of selected research reports for relevance to social work practice.	GR		Lecture
Fall 2005	SW 691	691	RESEARCH METHODS IN SW II	SW	SOCIAL WORK	4	Second course in a two quarter sequence study with the emphasis of applying inferential statistics during social work research.	GR		Lecture
Fall 2005	SW 694	694	DIR STUDIES SOCIAL WORK	SW	SOCIAL WORK	2		GR	I	Independent Study
Fall 2005	SW 777	777	PROB SOC WELF POL SERV :SEM	SW	SOCIAL WORK	1	Seminar on selected topics related to the operation of the American social welfare system; issues, trends, and services. Variable content. Specific topics are announced in the class schedule.	GR	S	Seminar
Fall 2005	TH 531	531	STUDIES IN FILM HISTORY	TH	THEATRE	3	Intensive study of a selected area of film history. Titles vary.	GR		Lecture
Fall 2005	TH 533	533	STUDIES IN FILM GENRE	TH	THEATRE	3	Intensive study of a film genre (e.g., the western, the musical, and the gangster film). Titles vary	GR		Lecture
Fall 2005	TH 635	635	FILM CRITICISM	TH	THEATRE	3	Intensive examination of a selected area of film criticism. Titles vary.	GR		Lecture

Fall 2005	TH 695	695	WORKSHOP IN THEATRE	TH	THEATRE	3	Intensive study of selected special topics or problems or intensive experience in theatrical presentations designed to meet the particular needs of participating students. Specific titles to be announced for each workshop. May be repeated for credit subject to departmental, divisional, and university limits.	GR	I	Independent Study
Fall 2005	URS599	599	STUDIES SELECTED SUBJECTS	URS	URBAN AFFAIRS	4	Deals with problems, approaches, and topics in the field of urban studies. Topics vary.	GR		Lecture
Fall 2005	URS612	612	CITIES AND TECHNOLOGY	URS	URBAN AFFAIRS	4	Cities and technology deals with the evolving relationship between technology and urban growth, physical form, government, and politics. Explores how technological fixes for complex urban problems have shaped urban development and politics.	GR		Lecture
Fall 2005	URS614	614	URBAN FISCAL ADMIN	URS	URBAN AFFAIRS	4	Examines local fiscal institutions and introduces analytical tools for designing and evaluating fiscal policies. Reviews financial reporting and accounting, the municipal bond market, pension systems, state and local taxes, user charges, and intergovernmental relations.	GR		Lecture

Fall 2005	URS615	615	COMMUNITY DEVELOP I	URS	URBAN AFFAIRS	4	Focuses on the importance, the profession, and the practice of community development. Introduces theories of community and development and studies current neighborhood programs and policies.	GR		Lecture
Fall 2005	URS616	616	COMMUNITY DEVELOP II	URS	URBAN AFFAIRS	4	Examines three fundamental organizing strategies-self-help, technical assistance, and conflict-which are used to improve a community's quality of life. The course combines classroom learning and field observation.	GR		Lecture
Fall 2005	URS617	617	URBAN LABOR RELATIONS	URS	URBAN AFFAIRS	4	Examines collective bargaining, the negotiation process, impasse resolution, and contract and grievance administration in local government.	GR		Lecture
Fall 2005	URS618	618	URBAN PUBLIC WRKS ADMIN	URS	URBAN AFFAIRS	4	Examines the community's infrastructure with an emphasis on capital improvements programming. Reviews the community's development of the street system, water and sewer systems, solid waste management, and code enforcement.	GR		Lecture

Fall 2005	URS620	620	PUBLIC SAFETY ADMIN	URS	URBAN AFFAIRS	4	Policing, corrections, fire, emergency medical services, and emergency management systems will be surveyed to provide an understanding of the services offered, technologies used, problems faced, and alternatives available in each of the areas.	GR		Lecture
Fall 2005	URS623	623	ISSUES IN URBAN ADMIN	URS	URBAN AFFAIRS	4	Courses taught under this title explore issues and topics related to the administration of urban nonprofit organizations, community development agencies, and local governments. Titles vary.	GR		Lecture
Fall 2005	URS624	624	ISSUES IN URBAN PLANNING	URS	URBAN AFFAIRS	4	Various issues related to planning urban environments. Topics include housing, funding non-profit organizations, strategic planning, vision planning, and economic development action plans. Titles vary.	GR		Lecture
Fall 2005	URS625	625	ISSUES IN URBAN DEVEL	URS	URBAN AFFAIRS	4	Explores issues that impact urban development such as housing, pollution, or privatization. Emphasizes an approach for understanding the issues and formulating effective responses.	GR		Lecture

Fall 2005	URS627	627	URBAN POLICY ANALYSIS	URS	URBAN AFFAIRS	4	(Also listed as PLS 427/627.) Study of the policy development process and its relationship to past and current urban issues. The course focuses on a current urban issue through discussion, reading, and research.	GR		Lecture
Fall 2005	URS650	650	ETHICS IN PUBLIC SERV	URS	URBAN AFFAIRS	4	Systematic development of ethics in public service, including individual roles and obligations, values, standards, and codes of conduct.	GR		Lecture
Fall 2005	URS670	670	URBAN LEADERSHIP	URS	URBAN AFFAIRS	4	Study of urban government leadership and community decision making. Major theories and concepts of leadership behavior within organizations and macro studies of urban community power systems.	GR		Lecture
Fall 2005	URS675	675	MGT OF URBAN NONPROFIT	URS	URBAN AFFAIRS	4	Examines the organizational and managerial foundations of nonprofit organizations. Areas such as the nature and mission of nonprofit organizations, strategies for achieving the mission, roles involved, evaluating performance, resource development/fundraising, and managing volunteers are explored.	GR		Lecture

Fall 2005	URS690	690	SPECIAL TOPICS	URS	URBAN AFFAIRS	1	Advanced study in selected topics in urban studies. Topics may include new developments in methodology or the various subfields of the discipline.	GR	I	Independent Study
Fall 2005	URS710	710	ENVIRON OF PUBLIC ADMIN	URS	URBAN AFFAIRS	4	Examines the legal and political variables that affect the management and operation of local governments with special emphasis on Ohio.	GR		Lecture
Fall 2005	URS711	711	URBAN ORGAN'L THEORY	URS	URBAN AFFAIRS	4	Analysis of the fundamental behavior concepts and processes involved in public sector organizations. Evaluation of approaches to major behavioral issues such as motivation, leadership, and management development.	GR		Lecture
Fall 2005	URS712	712	RES METHODS IN PUB ADMIN	URS	URBAN AFFAIRS	4	Focuses on different aspects of policy evaluation by obtaining facts and analyzing information on impact of public programs. Deals with controversy over the use of objective performance indicators and citizen surveys as program performance measures.	GR		Lecture
Fall 2005	URS713	713	PUBLIC PLANNING	URS	URBAN AFFAIRS	4	Reviews concepts, theories, and practices of community development and planning. Evaluation of current developments in the field with special emphasis on implementation strategies.	GR		Lecture

Fall 2005	URS715	715	PUBLIC & NON-PROFIT BUDG	URS	URBAN AFFAIRS	4	Focuses on the budget process at the city level. Structural influences on the budget process are discussed. Different budget techniques are analyzed and critiqued.	GR		Lecture
Fall 2005	URS716	716	PUBLIC HUMAN RES ADMIN	URS	URBAN AFFAIRS	4	Examines personnel functions such as job evaluation, recruitment and selection, performance appraisal, compensation, training, labor relations, and affirmative action.	GR		Lecture
Fall 2005	URS720	720	QUANT ANALYSIS/PUB L MGRS	URS	URBAN AFFAIRS	4	Survey of the methodologies and concepts for analyzing the efficiency and effectiveness of decision-making, information management, and processes of the public organization.	GR		Lecture
Fall 2005	URS722	722	DIRECTED STUDY URBAN ADM	URS	URBAN AFFAIRS	4	If previous knowledge and/or experience in a selected core course is demonstrated, then URS 722 may be substituted for that selected core course.	GR		Lecture
Fall 2005	URS723	723	URBAN INTERNSHIP	URS	URBAN AFFAIRS	4	One quarter supervised internship of at least 200 hours in a selected urban government or agency, arranged in consultation with student's advisor or intern director. Graded pass/unsatisfactory	GR	I	Independe nt Study
Fall 2005	URS724	724	URBAN RESEARCH PROJECT	URS	URBAN AFFAIRS	4	Research project for the master↕s degree in urban administration.	GR		Lecture

Fall 2005	URS799	799	URBAN THESIS	URS	URBAN AFFAIRS	4	Under the supervision of a thesis committee and chair, students select an urban administration problem, prepare a proposal detailing the research question, complete the research, write their thesis with full documentation and defend their work before the committee.	GR		Lecture
Fall 2005	VOE601	601	BUS & MKT ED PRACTICUM	VOE	VOCATIONAL EDUCATION	1	Selected and supervised work experience in an office. Prerequisite: Bachelor's degree in business education or completion of 9 credit hours of graduate business education required. Graded pass/unsatisfactory.	GR	I	Independent Study
Fall 2005	VOE611	611	WKFC CLASS/LAB MGMT	VOE	VOCATIONAL EDUCATION	3	Course consists of a system of strategies for selection and arrangement of learning activities in the classroom and laboratory setting, procedures for safety, handling and storage of materials and supplies, student personnel systems, records and reports, maintenance of equipment, rotation of assignments, and student evaluation.	GR		Lecture

Fall 2005	VOE613	613	ORG/OPER COOP PROGRAM	VOE	VOCATIONAL EDUCATION	3	Designed to present the fundamentals of establishing and operating a cooperative program following state and federal guidelines for at-risk, work/study students.	GR		Lecture
Fall 2005	VOE614	614	TEACHING COOP EDUCATION I	VOE	VOCATIONAL EDUCATION	3	A study of the methods used in the operation of programs that are vocationally cooperative, including the coordination of classroom related instruction with on-the-job experience. Includes the development and use of a variety of individualized methods of instruction as well as group procedures.	GR		Lecture
Fall 2005	VOE615	615	TEACHING COOP EDUC II	VOE	VOCATIONAL EDUCATION	3	A study of the methods used in the operation of programs that are vocationally cooperative, including the coordination of classroom related instruction with on-the-job experience. Includes the development and use of a variety of individualized methods for at-risk students who are academically, economically, or socially disadvantaged.	GR		Lecture

Fall 2005	VOE616	616	TEACHING COOP EDUC III	VOE	VOCATIONAL EDUCATION	3	The State Department of Education requires each vocational cooperative teacher to complete in-service training as partial completion of the requirements for a four-year provisional teaching certificate. This course offers instruction, clinical experiences, and field experiences, each designed to develop a quality cooperative education program for those teachers who qualify for a cooperative certificate.	GR		Lecture
Fall 2005	VOE618	618	HIST/PHIL VOC EDUC	VOE	VOCATIONAL EDUCATION	4	Course provides historical and philosophical antecedents to present day workforce education including vocational and technical education. It examines social influences which have affected legislation which supports vocational and technical education.	GR		Lecture
Fall 2005	VOE621	621	STUDENT BEH MGMT WKFC ED	VOE	VOCATIONAL EDUCATION	3	Course is designed to provide the vocational instructor with the opportunity to explore various management techniques which will allow him or her to more effectively organize, manage, and control the students in the laboratory and classroom.	GR		Lecture
Fall 2005	VOE631	631	STUDENT ASSESSMENT WFE	VOE	VOCATIONAL EDUCATION	3	Student performance assessment in workforce education.	GR		Lecture

Fall 2005	VOE642	642	SCI CONTENT-OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides instruction in science content for the teacher in the Occupational Work Adjustment/Occupational Work Experience classroom.	GR		Lecture
Fall 2005	VOE643	643	ENG/LA CONTENT-OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides background information, specific content, and methods leading to the endorsement for teaching English/language arts in an Occupational Work Adjustment/Occupational Work Experience classroom.	GR		Lecture
Fall 2005	VOE644	644	MATH CONTENT IN OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides instruction in mathematics content for the teacher in the Occupational Work Adjustment/Occupational Work Experience classroom.	GR		Lecture
Fall 2005	VOE645	645	SOC STU CONTENT-OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides instruction in social studies content for the teacher in the Occupational Work Adjustment/Occupational Work Experience classroom.	GR		Lecture
Fall 2005	VOE646	646	ENG/LA MTDS OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides instruction in English/language arts methods for the teacher in the Occupational Work Adjustment/Occupational Work Experience classroom.	GR		Lecture

Fall 2005	VOE647	647	MATH MTDS IN OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides instruction in mathematics methods for the teacher in the Occupational Work Adjustment/Occupational Work Experience classroom.	GR		Lecture
Fall 2005	VOE648	648	SOC ST MTDS IN OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides instruction in social studies methods for the teacher in the Occupational Work Adjustment/Occupational Work Experience classroom.	GR		Lecture
Fall 2005	VOE649	649	SCI METH IN OWA/OWE	VOE	VOCATIONAL EDUCATION	3	Provides instruction in science methods for the teacher in the Occupational Work Adjustment/Occupational Work Experience Classroom.	GR		Lecture
Fall 2005	VOE650	650	TEACH WKFC ED PROGRAMS	VOE	VOCATIONAL EDUCATION	3	Provides students with an overview of teaching workforce education. Workforce education philosophy, workforce education instructional organization, lesson planning, integrated academics, and workforce classroom/laboratory planning will be presented or implementation in classroom instruction.	GR		Lecture

Fall 2005	VOE651	651	STRAT TECH WORKFORCE ED	VOE	VOCATIONAL EDUCATION	3	Provides students with a foundation for teaching workforce education competencies. Workforce education philosophy, workforce education instructional organization, lesson planning, integrated academics, and workforce classroom/laboratory planning are the focus. Students incorporate functioning in a multicultural/pluralistic society into their classrooms.	GR		Lecture
Fall 2005	VOE652	652	ASSESSMENT TEACH PERF WF	VOE	VOCATIONAL EDUCATION	3	A program of teacher assessment using three assessment methods, direct observation of classroom practice, review of written documentation prepared by the teacher, and semi-structured interviews before and after the observation. Required for certification of new, unlicensed workforce teachers completing the licensure program.	GR		Lecture

Fall 2005	VOE664	664	AT RISK STUDENTS	VOE	VOCATIONAL EDUCATION	3	Since many of the secondary vocational students are considered at risk, teachers must know and employ the most effective methods and strategies to enhance student achievement. It is imperative that workforce education teachers be able to identify, define, and practice intervention techniques. Alternative methods to teach basic academic skills will be explored.	GR		Lecture
Fall 2005	VOE669	669	COORD TECH IN WKFC ED	VOE	VOCATIONAL EDUCATION	3	Effective coordination strategies and procedures in the administration and management of cooperative programs in high schools and in adult and postsecondary education.	GR		Lecture
Fall 2005	VOE670	670	WORKSHOP VOC ED	VOE	VOCATIONAL EDUCATION	1	Intensive practical study in vocational education.	GR		Lecture
Fall 2005	VOE671	671	INSTR DESIGN WORKFORCE ED	VOE	VOCATIONAL EDUCATION	8	The development of basic cognitive and performance skills required by new non-vocational certified teachers to earn a one-year vocational teaching certificate.	GR		Lecture
Fall 2005	VOE672	672	SUPV TEACH WKFC ED I	VOE	VOCATIONAL EDUCATION	3	Development of basic knowledge, skills, attitudes, and values required for vocational certification of new, non-certified vocational teachers.	GR		Lecture

Fall 2005	VOE673	673	SUPV TEACH WKFC ED II	VOE	VOCATIONAL EDUCATION	3	Development of basic knowledge, skills, attitudes, and values required for vocational certification of new, non-certified vocational teachers.	GR		Lecture
Fall 2005	VOE674	674	SUPV TEACH WKFC ED III	VOE	VOCATIONAL EDUCATION	3	Development of basic knowledge, skills, attitudes, and values required for vocational certification of new, non-certified vocational teachers.	GR		Lecture
Fall 2005	VOE675	675	WKFORCE ED INTEG WKSP	VOE	VOCATIONAL EDUCATION	3	The refinement of curriculum development, motivation, leadership, and human relations skills required by employed one-year certified vocational teachers.	GR		Lecture
Fall 2005	VOE706	706	SURVEY WORKFORCE EDUC	VOE	VOCATIONAL EDUCATION	3	An overview of the instructional programs in workforce education and their administration at the national, state, and local levels. Current legislation, School-to-Work initiatives, Tech-Prep, and trends affecting workforce education programs are addressed and explored.	GR		Lecture
Fall 2005	VOE723	723	EDUC AND WORKPLACE	VOE	VOCATIONAL EDUCATION	4	Designed to assist counselors, teachers, and administrators in implementing an effective Career Guidance Program within their respective schools.	GR		Lecture

Fall 2005	VOE724	724	BUS/IND LINKAGES	VOE	VOCATIONAL EDUCATION	4	Externship program designed to be an action-oriented collaboration with business and industry to establish networks to advance counselor and school-to-work, vocational, tech-prep, and academic teacher learning and professional development in the workplace.	GR		Lecture
Fall 2005	VOE725	725	ADMIN/SUP WORKFORCE EDUC	VOE	VOCATIONAL EDUCATION	3	In-depth study of the principles, theories, and practices in the supervision of vocational education programs.	GR		Lecture
Fall 2005	VOE726	726	ADULT WORKFORCE EDUCATION	VOE	VOCATIONAL EDUCATION	4	Investigation of workforce education programs for adults, including curriculum, special methods, and the development of curriculum materials suitable to such programs.	GR		Lecture
Fall 2005	VOE727	727	WORK WITH ADULT LEARNERS	VOE	VOCATIONAL EDUCATION	4	Information about adult learners in terms of development, learning capabilities, and learning needs is presented. Students will take part in planning and implementing a marketing effort for adult programs.	GR		Lecture
Fall 2005	VOE728	728	TRAINING NEED FOR ADULTS	VOE	VOCATIONAL EDUCATION	4	Various methods of determining individual training needs and planning instruction for adults are presented.	GR		Lecture

Fall 2005	VOE729	729	INSTRUCT/EVALUATE ADULT	VOE	VOCATIONAL EDUCATION	4	Instructional techniques effective with adults are presented to help the student manage the adult instructional process. Evaluating the adult learners↕ progress in meeting specified objectives is covered.	GR		Lecture
Fall 2005	VOE824	824	CURR DEVLOP WRKFORCE ED	VOE	VOCATIONAL EDUCATION	3	Comprehensive study of curriculum designs including occupational task analysis, innovations, sequential structuring, preparation and development of teaching units, evaluation, and change in the workforce education programs.	GR		Lecture
Fall 2005	VOE825	825	FAC/MANAGE WORKFORCE EDUC	VOE	VOCATIONAL EDUCATION	3	Planning, evaluation, and management of workforce education laboratories and related areas.	GR		Lecture
Fall 2005	VOE826	826	PRO DEV TECH WORKFORCE ED	VOE	VOCATIONAL EDUCATION	3	Overview of coordination techniques used in a workforce program, including development of appropriate integration and simulations, behavior modification studies, guidance, selection, and placing of students in job situations, and processes used in program.	GR		Lecture

Fall 2005	VOE827	827	EVALUATION OF VOCATNL ED	VOE	VOCATIONAL EDUCATION	3	Developing procedures and involvement in the use of instruments for conducting evaluations for programs including teachers, students, facilities and equipment, and curriculum.	GR		Lecture
Fall 2005	VOE828	828	TEACH DISADV & HANDICAP	VOE	VOCATIONAL EDUCATION	3	Develops teaching strategies and equipment adaptations for disadvantaged and handicapped students in workforce education.	GR		Lecture
Fall 2005	WMS599	599	ST IN SELECTED SUBJECTS	WMS	WOMEN'S STUDIES	4	Problems, approaches and topics in the field of women's studies. Topics vary.	GR	I	Independe nt Study
Fall 2005	WMS699	699	INDEPENDENT STUDY	WMS	WOMEN'S STUDIES	1	Supervised individual research on selected topics. Arranged between students and faculty member directing the study.	GR	I	Independe nt Study