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Fall 2017

## Undergraduate and Graduate Course Descriptions, 2017 Fall

Wright State University

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ACADEMIC _PERIOD_ DESC	COURSE_ IDENTIFI CATION	COURSE_ NUMBER	TITLE_SHORT_DE SC	SUBJECT_DESC	CREDIT _MIN	COURSE_TEXT_NARRATIVE	COURSE_LEVEL	SCHEDULE_DE SC
Fall 2017	ABS7100	7100	Research Methods I	Applied Behavioral Science	3	Emphasis on research designs, testing hypotheses, and data collection techniques such as sampling, surveys, questionnaire design, scaling, interviewing, and techniques for analysis of documents and records.	GR	Lecture
Fall 2017	ABS7110	7110	Research Methods II	Applied Behavioral Science	3	Analysis and interpretation of data in social research, with emphasis on multivariate statistical techniques.	GR	Lecture
Fall 2017	ABS7120	7120	Applied Methodology	Applied Behavioral Science	3	Addresses issues pertaining to contemporary research writing in terms of the integration of problem statements, literature review, presentation of methodology, data summary, conclusions, and ethical issues.	GR	Lecture
Fall 2017	ABS7220	7220	Sem on Criminal Justice	Applied Behavioral Science	3	An investigation of the criminal justice system in the United States and its relation to deviant adult and juvenile behavior.	GR	Seminar
Fall 2017	ABS7230	7230	Modern Social Theory	Applied Behavioral Science	3	Survey of social theories that form the foundations of sociology and examine major contemporary social problems of the modern world.	GR	Seminar
Fall 2017	ABS7240	7240	Social Problems	Applied Behavioral Science	3	Analyzes how social problems are identified, legitimated and addressed in contemporary society. Considers the impact of social structure on generating social problems and the role of social movements in constructing and resolving social problems.	GR	Lecture
Fall 2017	ABS7300	7300	Studies in Spec Topics	Applied Behavioral Science	3	Study of specialized topics in the areas of criminal justice or social problems. Topics vary.	GR	Lecture
Fall 2017	ABS7600	7600	Graduate Seminar in ABS	Applied Behavioral Science	1	In-depth coverage of special topics in applied behavioral science. Topics vary. 1-2 credit hours.	GR	Seminar
Fall 2017	ABS7601	7601	Sem CJ Research	Applied Behavioral Science	1	In-depth coverage of special topics in applied behavioral science/criminal justice with an emphasis on theory, methods, and research. Topics vary. 1-2 credit hours.	GR	Lecture
Fall 2017	ABS7602	7602	Sem Crim Just System	Applied Behavioral Science	1	In-depth coverage of special topics in applied behavioral science/criminal justice with special emphasis on the criminal justice system and its components. Topics vary on law, crime, police, courts, corrections, etc. 1-2 credit hours.	GR	Lecture
Fall 2017	ABS7603	7603	Sem CJ Issues & Policy	Applied Behavioral Science	1	In-depth coverage of special topics in applied behavioral science/criminal justice with an emphasis on specific criminal justice issues and policies. Topics vary. 1-2 credit hours.	GR	Lecture

Fall 2017	ABS7604	7604	Sem Social Problems	Applied Behavioral Science	1	In-depth coverage of special topics in applied behavioral science/social problems. Topics vary. 1-2 credit hours.	GR	Lecture
Fall 2017	ABS7700	7700	Independent Research	Applied Behavioral Science	1	Independent laboratory or field research under the sponsorship of a faculty supervisor.	GR	Independent Study
Fall 2017	ABS7790	7790	Practicum in ABS	Applied Behavioral Science	1	On-site participation of students in selected behavioral science projects. Jointly supervised by faculty and on-site personnel.	GR	Practicum
Fall 2017	ABS7800	7800	Continuing Registration	Applied Behavioral Science	1	Continuing Registration.	GR	Independent Study
Fall 2017	ABS7900	7900	ABS Graduate Project	Applied Behavioral Science	1	Practical application of knowledge gained through courses applied to a capstone experience.	GR	Independent Study
Fall 2017	ABS7910	7910	Graduate Thesis Research	Applied Behavioral Science	1	Research for the Master's degree thesis.	GR	Independent Study
Fall 2017	ACC2010	2010	Accounting Principles I	Accountancy	3	Introduction to accounting for business enterprises. Includes analysis of the effect of transactions on financial position, preparation of financial statements, the recording process, and measurement issues and reporting requirements for assets.	UG	Lecture
Fall 2017	ACC2020	2020	Accounting Principles II	Accountancy	3	Introduction to accounting for business enterprises. Includes analysis of the effect of transactions on financial position, preparation of financial statements, reports for managers, and financial statement analysis.	UG	Lecture
Fall 2017	ACC2070	2070	Careers in Accounting	Accountancy	1	Introduction to career opportunities in accounting.	UG	Lecture
Fall 2017	ACC3010	3010	Intermediate Account I	Accountancy	3	Financial accounting concepts applied to complex problems in the measurement of balance sheet accounts, determination of net income and preparation of financial statements. Course emphasizes measurement and reporting of assets.	UG	Lecture
Fall 2017	ACC3020	3020	Intermediate Acc II	Accountancy	3	Financial accounting concepts applied to complex measurement problems and the preparation of financial statements.	UG	Lecture
Fall 2017	ACC3230	3230	Management Accounting	Accountancy	3	Application of managerial accounting concepts and techniques to complex problems in manufacturing accounting and service firms.	UG	Lecture
Fall 2017	ACC3260	3260	Account Sys Design Impl	Accountancy	3	Design and accounting database modeling, accounting transactions for database environment, use of CASE tools for database design, discussion of Accounting Standard Principles and use of web-based accounting packages.	UG	Lecture

Fall 2017	ACC3430	3430	Federal Income Tax I	Accountancy	3	Federal income taxation of individuals. Analysis of the determinants of taxable income and the tax liability, including property transfers, recapture, passive activities and income characterization.	UG	Lecture
Fall 2017	ACC4230	4230	Auditing	Accountancy	3	Overview of financial, operational and compliance audits. Introduces key auditing concepts: materiality, risk assessment, audit objectives, evidence, internal control considerations, and computer assisted audit techniques. Integrated Writing course	UG	Lecture
Fall 2017	ACC4420	4420	Govt Not Profit Account	Accountancy	3	Application of fund accounting concepts to governmental and not-for-profit entities. Includes accounting procedures and preparation of financial statements.	UG	Lecture
Fall 2017	ACC4440	4440	Federal Income Tax II	Accountancy	3	Federal income taxation of business entities and owners. State and local taxes and their impact on tax strategies. Introduction to the legal and ethical responsibilities of the tax practitioner.	UG	Lecture
Fall 2017	ACC4770	4770	Special Topics in ACC	Accountancy	1	Topics and prerequisites vary.	UG	Lecture
Fall 2017	ACC4780	4780	Hon: Ind Study in ACC	Accountancy	2	Research in accounting for fulfillment of the Honors Program project requirement.	UG	Independent Study
Fall 2017	ACC4810	4810	Internship in Accounting	Accountancy	1	Faculty-supervised internship in the area of public, industrial, or governmental accounting.	UG	Internship
Fall 2017	ACC7160	7160	CPA Exam Concepts	Accountancy	3	Course reviews material typically covered on the CPA exam.	GR	Lecture
Fall 2017	ACC7390	7390	Advanced Accounting	Accountancy	3	To study the accounting principles and techniques used to consolidate parent and subsidiary companies at the date of combination and in subsequent periods.	GR	Lecture
Fall 2017	ACC7410	7410	Fin ACC Adv Topics/Res	Accountancy	3	A survey of accounting theory, standard setting and accounting procedures. Includes an intensive study of the balance sheet and income statement and the underlying accounting principles. Accounting research will be integrated throughout the course	GR	Lecture
Fall 2017	ACC7430	7430	Tax-Adv Topic/Research	Accountancy	3	Introduction to the methodology of tax research and the authoritative tax sources. Applications of research techniques in the analysis of special tax topics related to individuals, corporations, partnerships, estates and trusts.	GR	Lecture
Fall 2017	ACC7440	7440	Attestation Top/Research	Accountancy	3	This course provides in depth coverage of professional standards and audit procedures applied to specific business processes, including statistical sampling techniques tests of controls, substantive tests of transactions and balances and analytical procedures	GR	Lecture
Fall 2017	ACC7460	7460	Fin Statement Analysis	Accountancy	3	Financial Statement presentations are analyzed from an accounting perspective with heavy emphasis on footnote analysis and the impact on the financial statements.	GR	Lecture

Fall 2017	ACC7470	7470	Current Topics Acctg.	Accountancy	3	This course is an overview of issues directly impacting the accounting profession or issues impacting business that indirectly effect the accounting profession.	GR	Seminar
Fall 2017	ACC7480	7480	Ethics & Corp Governance	Accountancy	3	Provides students an understanding of sound corporate governance principles and an ability to apply professional ethics standards for accountants and an awareness of ethical dilemmas commonly faced by accounting professionals.	GR	Lecture
Fall 2017	ACC7500	7500	Graduate Project in ACC	Accountancy	3	Student teams work with client organizations on accounting projects and present results to client personnel and a panel of accounting professionals.	GR	Lecture
Fall 2017	ACC7750	7750	Accounting Internship	Accountancy	3	One semester, faculty-supervised internship in the area of public, industrial, or not-for-profit accounting. Course requires written reports. Students may register for internship once during their graduate programs. May be taken for letter grade of pass/unsatisfactory.	GR	Internship
Fall 2017	ACC7800	7800	Special Topics in ACC	Accountancy	3	Titles vary. Seminar in accounting topic of current interest.	GR	Lecture
Fall 2017	ACC7810	7810	Special Studies in ACC	Accountancy	3	Titles vary.	GR	Lecture
Fall 2017	AED2680	2680	Creative Art in Ed Envir	Art Education	3	Understanding the relationship between child development and creative expression with emphasis on materials and methods appropriate for elementary/secondary students. Includes curriculum implementation strategies adaptable to a variety of ages and grade levels.	UG	Lecture/Lab Combination
Fall 2017	AED6680	6680	MA: Vis Arts: C&M I	Art Education	3	Theoretical / practical methods of teaching multi-age visual arts. Integration of artistic and educational ideas into creative programs as a continuum of issues/skills for the developing art educator with mentorship by master teachers.	GR	Lecture
Fall 2017	AED6780	6780	MA: Visual Arts: C&M II	Art Education	3	Theoretical / practical methods of teaching multi-age visual arts. Integration of artistic and educational ideas into creative programs as a continuum of issues/skills for the developing art educator with mentorship by master teachers.	GR	Lecture
Fall 2017	AES1210	1210	Foundations of USAF I	Aerospace Studies	1	Basic characteristics, missions, and organization of the Air Force. Mandatory Leadership Lab and two physical fitness sessions per week.	UG	Lecture
Fall 2017	AES1220	1220	IMT Leadership Lab	Aerospace Studies	0	Air Force Reserve Officer Training Corps training. Application of Air Force tactics, techniques, and procedures in a cadet-led, cadre-supervised lab. Mandatory Leadership Lab and two weekly physical training sessions.	UG	Lab
Fall 2017	AES1230	1230	Foundations of USAF II	Aerospace Studies	1	Basic characteristics, missions, and organization of the Air Force. Mandatory Leadership Lab and two physical training sessions per week.	UG	Lecture

Fall 2017	AES1240	1240	IMT Leadership Lab	Aerospace Studies	0	Air Force Reserve Officer Training Corps training. Application of Air Force tactics, techniques, and procedures. Air Force organizational structure, customs and courtesies. Cadet-led, cadre-supervised lab and participation in two required weekly physical training sessions.	UG	Lab
Fall 2017	AES1990	1990	AES Independent Study	Aerospace Studies	1	Independent study.	UG	Independent Study
Fall 2017	AES2210	2210	Evolution of USAF I	Aerospace Studies	1	Air Force heritage and leaders; air and space power; communication skills. Leadership lab and two physical training sessions required per week.	UG	Lecture
Fall 2017	AES2220	2220	FTP Leadership Lab	Aerospace Studies	0	Preparation for Field Training summer program. Training is cadet-led. Requires participation in two weekly physical training sessions.	UG	Lab
Fall 2017	AES2230	2230	Evolution of USAF II	Aerospace Studies	1	Preparation for Field Training summer program. Training is cadet-led. Requires participation in two weekly physical training sessions.	UG	Lecture
Fall 2017	AES2240	2240	FTP Leadership Lab	Aerospace Studies	0	Preparation for Field Training program. Training is cadet-led. Requires participation in two weekly physical training sessions.	UG	Lab
Fall 2017	AES2500	2500	GMC Lead Lab	Aerospace Studies	0	Students who have completed GMC coursework but did not receive a slot for Field Training can enroll in this course to remain proficient and will have one more chance to obtain a Field Training slot the following summer.	UG	Lab
Fall 2017	AES3310	3310	Leadership Studies I	Aerospace Studies	3	Advanced skills and knowledge in management and leadership. Cadets apply leadership and management techniques in a supervised environment.	UG	Lecture
Fall 2017	AES3320	3320	ICL Lab	Aerospace Studies	0	Application of leadership/ management concepts learned in Field Training and in previous aerospace studies courses and labs to assist in training the GMC cadets. Requires participation in two weekly physical training sessions.	UG	Lab
Fall 2017	AES3330	3330	Leadership Studies II	Aerospace Studies	3	Advanced skills and knowledge in management and leadership. Cadets apply leadership and management techniques in a supervised environment.	UG	Lecture
Fall 2017	AES3340	3340	ICL Lab	Aerospace Studies	0	Application of leadership/management concepts learned in Field Training and in previous Aerospace Studies courses and labs to assist in training the GMC cadets. Requires participation in two weekly physical training sessions.	UG	Lab
Fall 2017	AES4310	4310	Prep for Active Duty I	Aerospace Studies	3	Overview of the complex social and political issues facing the military profession.	UG	Lecture
Fall 2017	AES4320	4320	SCL Lab	Aerospace Studies	0	Preparation for active duty. Cadets take leadership roles in execution of leadership labs for the cadet wing. Students hone leadership fundamentals to a level commensurate to entry into the active duty Air Force. Requires participation in two weekly physical training sessions.	UG	Lab

Fall 2017	AES4330	4330	Prep for Active Duty II	Aerospace Studies	3	Overview of the complex social and political issues facing the military profession.	UG	Lecture
Fall 2017	AES4340	4340	SCL Lab	Aerospace Studies	0	Preparation for progression active duty. Cadets take leadership roles in execution of leadership labs for the cadet wing. Students hone leadership fundamentals to a level commensurate to entry into the active duty Air Force. Requires participation in two weekly physical training	UG	Lab
Fall 2017	AES4700	4700	ECL Lab	Aerospace Studies	0	Students who have completed Professional Officer coursework but are not yet eligible to graduate enroll in this course to remain proficient until they graduate.	UG	Lab
Fall 2017	AFS2000	2000	African Am Experience	Afr /Afr Amer Studies	3	A historical and methodological analysis of both African histories and cultures and the history of the diaspora struggles of persons of African descent to create a life and distinct culture among world civilizations. Integrated Writing course	UG	Lecture
Fall 2017	AFS3000	3000	History of Africa	Afr /Afr Amer Studies	3	General introduction to African history. Covers the culture and history of the region from early time periods to the modern era.	UG	Lecture
Fall 2017	AFS3890	3890	Variable Topics	Afr /Afr Amer Studies	3	Examines variable topics that pertain to the African American experience. Integrated Writing course.	UG	Lecture
Fall 2017	AFS3990	3990	Special Topics	Afr /Afr Amer Studies	3	Selected topics relevant to historical and current issues in African and African American Studies	UG	Lecture
Fall 2017	AFS4000	4000	Service Experience	Afr /Afr Amer Studies	3	Field placement of students in community organizations, social service agencies, and governmental entities where they will engage in work that relates to and enhances their understanding of the African American experience.	UG	Internship
Fall 2017	AFS4010	4010	Senior Research Project	Afr /Afr Amer Studies	3	Two-semester research project focusing on one specific aspect of African or African American life.	UG	Internship
Fall 2017	AFS4030	4030	History of Ideas of Race	Afr /Afr Amer Studies	3	Examination of the development of various ideas of race from 1600-present. Integrated writing course.	UG	Lecture
Fall 2017	AFS4040	4040	African Diaspora	Afr /Afr Amer Studies	3	Examination of the evolution and development of the African diaspora in an international context. Integrated writing course.	UG	Lecture
Fall 2017	AFS4990	4990	Topics African Am	Afr /Afr Amer Studies	3	Historical and current issues in African and African American studies. Integrated Writing Course.	UG	Lecture
Fall 2017	AFS6030	6030	History of Ideas of Race	Afr /Afr Amer Studies	3	Examines the development of various ideas of race from 1600 to the present.	GR	Lecture
Fall 2017	AFS6040	6040	The African Diaspora	Afr /Afr Amer Studies	3	Examination of the evolution and development of the African diaspora in an international context	GR	Lecture
Fall 2017	AFS6990	6990	Special Topics	Afr /Afr Amer Studies	3	Selected topics relevant to historical and current issues in African and African American Studies.	GR	Lecture

Fall 2017	ANT2100	2100	Human Anatomy & Phys I	Anatomy	4	Introductory survey of the anatomy and physiology of the human body with an emphasis on clinical applications. Anatomical terminology, biochemistry, cells, tissues, integumentary system, skeletal system and, articulations, nervous system, special senses and muscular system. Laboratory exercises use human donors.	UG	Lecture
Fall 2017	ANT2100L	2100L	Human Anatomy & Phys I Lab	Anatomy	0	Required laboratory for ANT 2100.	UG	Lab
Fall 2017	ANT2120	2120	Human Anatomy & Phys II	Anatomy	4	Introductory survey of the anatomy and physiology of the human body with an emphasis on clinical applications. Endocrine system, cardiovascular system, lymphatic system, respiratory system, urinary system, acid-base balance, fluid balance, reproductive system and digestive system. Laboratory exercises use human donors.	UG	Lecture
Fall 2017	ANT2120L	2120L	Human Anatomy & Phys II Lab	Anatomy	0	Required laboratory for for ANT 2120.	UG	Lab
Fall 2017	ANT3100	3100	Human Structure Funct I	Anatomy	4	Anatomical terminology and the characteristics, maintenance and basis of life. Structure of cells emphasizing function. Body systems including integumentary system, skeletal system and articulations, nervous system, special senses and muscular system. Laboratory exercises use human donors.	UG	Lecture
Fall 2017	ANT3100L	3100L	Human Structure Funct I Lab	Anatomy	0	Required laboratory for ANT 3100.	UG	Lab
Fall 2017	ANT3120	3120	Human Structure Funct II	Anatomy	4	Endocrine system, cardiovascular system, lymphatic system, respiratory system, and urinary system. Acid-base balance, fluid balance, reproductive system and digestive system. Laboratory exercises use human donors.	UG	Lecture
Fall 2017	ANT3120L	3120L	Human Structure Funct II Lab	Anatomy	0	Required laboratory for ANT 3120.	UG	Lab
Fall 2017	ANT4340	4340	Biological Safety	Anatomy	2	Identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	UG	Lecture
Fall 2017	ANT4880	4880	Ind Reading Anatomy	Anatomy	1	Various anatomy topics will be discussed with an assigned faculty advisor.	UG	Independent Study
Fall 2017	ANT4990	4990	Selected Topics Anatomy	Anatomy	1	Various anatomy topics will be discussed with an assigned advisor.	UG	Independent Study



Fall 2017	ANT5100	5100	Adv Hum Struc & Func I	Anatomy	4	Detailed study of the structure and function of the human body. The course begins with anatomical terminology and the characteristics, maintenance and basis of life and moves onto the structure of cells with emphasis on function. Body systems are then covered, which include the integumentary system, skeletal system and articulations, nervous system, special senses and muscular system. Laboratory exercises use human donors.	GR	Lecture
Fall 2017	ANT5100 L	5100L	Adv Hum Str & Func I Lab	Anatomy	0	Required Laboratory for ANT 5100. Laboratory exercises use human donors.	GR	Lab
Fall 2017	ANT5120	5120	Adv Hum Str & Func II	Anatomy	4	Detailed study of the structure and function of the human body. The course begins with the endocrine system and moves onto the cardiovascular system and lymphatic system. This is then followed by the respiratory system and urinary system. The course concludes with acid-base balance, fluid balance, reproductive system and digestive system. Laboratory exercises use human donors.	GR	Lecture
Fall 2017	ANT5120 L	5120L	Human ANT & Phys II Lab	Anatomy	0	Required Laboratory for ANT 5120. Laboratory exercises use human donors.	GR	Lab
Fall 2017	ANT6340	6340	Biological Safety	Anatomy	2	Identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	GR	Lecture
Fall 2017	ANT6990	6990	Spec Problems in Anatomy	Anatomy	1	Special Anatomical problems or research designed for specific needs and talents of the student.	GR	Independent Study
Fall 2017	ANT7000	7000	Human Anatomy Instruct	Anatomy	1	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	Independent Study
Fall 2017	ANT7010	7010	Selected Topics in ANT	Anatomy	1	A selected area of anatomy is discussed in greater detail than in basic anatomy courses. Some topics may include laboratory.	GR	Independent Study
Fall 2017	ANT7020	7020	Anatomical Techniques	Anatomy	1	Anatomical Techniques is a laboratory rotation, and is required of all students who select the Course Option, Anatomy Master's degree. Students spend a minimum of one semester in a research laboratory learning one or more research techniques. Other opportunities may be available to fulfill the requirements of this course. These include, for example, developing educational software for use in anatomy courses, or doing special cadaver donor dissections for use in the anatomy courses.	GR	Lab
Fall 2017	ANT7110	7110	Human Gross Anatomy	Anatomy	6	(Also listed as BMS 8370.) Lectures and dissection of human cadaver donor.	GR	Lecture/Lab Combination

Fall 2017	ANT7150	7150	Adv Human Embryology	Anatomy	3	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 2017	ANT7210	7210	Human Microanatomy	Anatomy	5	Detailed microanatomy of human cells, tissues, and organ systems.	GR	Lecture/Lab Combination
Fall 2017	ANT7310	7310	Human Neurobiology	Anatomy	4	(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.	GR	Lecture/Lab Combination
Fall 2017	ANT7890	7890	Continuing Registration	Anatomy	1	Continuing Registration	GR	Independent Study
Fall 2017	ANT8000	8000	Anatomy Seminar	Anatomy	1	Two seminars (Anatomy Seminar I and II) run concurrent with the Department of Neuroscience, Cell Biology and Physiology Seminar Series.	GR	Seminar
Fall 2017	ANT8110	8110	Comprehensive Exam	Anatomy	4	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/fail	GR	Independent Study
Fall 2017	ANT8510	8510	Scholarly Project	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	Independent Study
Fall 2017	ANT8600	8600	Prin Biomedical Research	Anatomy	1	Principles of Biomedical Research is appropriate for students that will be involved in biomedical research. PBR provides a lecture and student interactive series designed to introduce students to the basics of biomedical research.	GR	Lecture
Fall 2017	ANT8990	8990	Anatomy Research	Anatomy	1	Supervised thesis research.	GR	Independent Study
Fall 2017	APS3000	3000	APS Technologies	Applied Studies	3	This course introduces technologies relating to the business environment. The main focus is on business and technical applications of software, operating systems, communication and networks, computer security and safety, ethics, privacy and other current topics	UG	Lecture/Lab Combination
Fall 2017	APS3010	3010	Training & Presentations	Applied Studies	3	This course will emphasize the development of listening skills, public speaking skills, interviewing skills, and training skills. The course explores communication skills including training and development as a research and training focus for students to apply toward their chosen field. Students will learn how to identify and assess communication competence and how to develop training programs and presentations to enhance communication competency.	UG	Lecture

Fall 2017	APS3020	3020	APS Leadership	Applied Studies	3	A course to provide opportunities for students to gain knowledge, practice, and study in sustainable influence, direction, motivation, governance and "setting the pace" as they apply to business and organizational settings.	UG	Lecture
Fall 2017	APS3030	3030	Services Marketing	Applied Studies	3	This course is designed for students who may be interested in service industries and will address the distinct needs and problems of service firms and help students gain an understanding of service marketing issues.	UG	Lecture
Fall 2017	APS3040	3040	APS Management	Applied Studies	3	A course to provide opportunities for students to gain knowledge, practice, and study in technical management. Focus on management fundamentals such as organizational structure, planning, control, change, etc. as they apply to business and organizational settings. Integrated Writing course.	UG	Lecture
Fall 2017	APS4000	4000	APS Personnel Management	Applied Studies	3	A course to provide opportunities for students to gain knowledge, practice, and study in technical personnel management. Focus on fundamentals such as organizational analysis, employee selection, training, benefits, employee relations, etc. as they apply to business and organizational settings.	UG	Lecture
Fall 2017	APS4010	4010	APS Legal Issues	Applied Studies	3	A course to provide opportunities for students to gain knowledge, practice, and study in legal issues of applied business operations. Focus on fundamentals such as the legal system, regulations, tort law, negligence, liability, contracts, insurance, and labor law, etc. as they apply to business and organizational settings.	UG	Lecture
Fall 2017	APS4020	4020	Project Evaluation	Applied Studies	3	A course to provide opportunities for students to gain knowledge, practice, and study in evaluation and needs assessment. Focus on fundamentals such as the logic model in evaluation, needs assessment techniques, instrument development, information analysis and decision making as they apply to business and organizational settings. Integrated Writing course.	UG	Lecture
Fall 2017	APS4030	4030	APS Finance	Applied Studies	3	A course to provide opportunities for students to gain knowledge, practice, and study in financial management. Focus on financial management concepts such as financial goal setting, financial statements, financial analysis, credit, insurance, and financial tools.	UG	Lecture

Fall 2017	ARA1010	1010	Beginning Arabic I	Arabic	3	Communicative introduction to Arabic. Study of the vocabulary and structure of the Arabic language; practice in speaking, listening, reading, and writing.	UG	Lecture
Fall 2017	ARA1020	1020	Beginning Arabic II	Arabic	3	Communicative introduction to Arabic. Study of the vocabulary and structure of the Arabic language; practice in speaking, listening, reading, and writing.	UG	Lecture
Fall 2017	ARA2010	2010	Intermediate Arabic I	Arabic	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.	UG	Lecture
Fall 2017	ARA2020	2020	Intermediate Arabic II	Arabic	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.	UG	Lecture
Fall 2017	ARA3110	3110	Arabic Conversation I	Arabic	3	A language practicum for intermediate students of Arabic, designed to expand conversational skills in Modern Standard Arabic.	UG	Lecture
Fall 2017	ARA3120	3120	Levantine Arabic	Arabic	3	An introduction to the spoken Arabic dialect of Syria, Lebanon, Jordan and Palestine for advanced speakers of Arabic.	UG	Lecture
Fall 2017	ARA3210	3210	Adv ARA Syntax & Gramr I	Arabic	3	A course based in western approaches to Arabic morphology and grammar, designed to prepare students to engage primary texts, both modern and classical.	UG	Lecture
Fall 2017	ARA3220	3220	Adv ARA Syntax & Grmr II	Arabic	3	An advanced course based in classical approaches to Arabic grammar and syntax, designed to prepare students to engage primary texts, both modern and classical.	UG	Lecture
Fall 2017	ARA3700	3700	Internship in Arabic	Arabic	3	Supervised use of Arabic in workplace settings. Must complete an application available from the Department of Modern Languages. Minimum time commitment 135 hours a semester, including a minimum of 120 hours of on-site work. Senior standing and advisor permission required.	UG	Internship
Fall 2017	ARA3980	3980	Studies in Selec Subj	Arabic	1	Individual research project approved and supervised by a full-time faculty member. Taught in Arabic.	UG	Lecture
Fall 2017	ARA4210	4210	Intro to Media Arabic	Arabic	3	A course designed to give students a foundation in the language and style of modern Arabic media through the study of newspapers, magazines, TV and radio.	UG	Lecture
Fall 2017	ARA4310	4310	Classical Arabic Texts	Arabic	3	A text-based course introducing students to the history and development of the earliest Arabic prose writings (7th-11th century).	UG	Lecture
Fall 2017	ARA4410	4410	Intro to Arabic Fiction	Arabic	3	A text-based course introducing students to the history and development of Arabic fiction through the study of classical and modern texts.	UG	Lecture
Fall 2017	ARA5110	5110	Arabic Conversation I	Arabic	3	A language practicum for intermediate students of Arabic, designed to expand conversational skills in Modern Standard Arabic.	GR	Lecture

Fall 2017	ARA5120	5120	Levantine Arabic	Arabic	3	An introduction to the spoken Arabic dialect of Syria, Lebanon, Jordan and Palestine for advanced speakers of Arabic.	GR	Lecture
Fall 2017	ARA5210	5210	Adv ARA Syntax & Gramr I	Arabic	3	A course based in western approaches to Arabic morphology and grammar, designed to prepare students to engage primary texts, both modern and classical.	GR	Lecture
Fall 2017	ARA5220	5220	Adv ARA Syntax & Gramr II	Arabic	3	An advanced course based in classical approaches to Arabic grammar and syntax, designed to prepare students to engage primary texts, both modern and classical.	GR	Lecture
Fall 2017	ARA6210	6210	Intro to Media Arabic	Arabic	3	A course designed to give students a foundation in the language and style of modern Arabic media through the study of newspapers, magazines, TV and radio.	GR	Lecture
Fall 2017	ARA6310	6310	Classical Arabic Texts	Arabic	3	A text-based course introducing students to the history and development of the earliest Arabic prose writings (7th-11th century).	GR	Lecture
Fall 2017	ARA6410	6410	Intro to Arabic Fiction	Arabic	3	A text-based course introducing students to the history and development of Arabic fiction through the study of classical and modern texts.	GR	Lecture
Fall 2017	ART2000	2000	Studies in Art	Art	3	Problems and approaches to art, especially for the non-art major. May include cross-media and interdisciplinary studies.	UG	Lab
Fall 2017	ART2060	2060	Drawing I	Art	3	Introduction to materials, techniques, and concepts of drawing. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	ART2070	2070	Photography I	Art	3	Exploration of black and white photographic materials and camera techniques. Investigation of aesthetic possibilities and basic processes of the media. Development of personal concepts and aesthetic expression in photography.	UG	Lab
Fall 2017	ART2080	2080	3D Foundations	Art	3	Introduction to basic processes, materials, and concepts of sculpture. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	ART2090	2090	2D Foundations	Art	3	Basics of visual organization including repetition, rhythm, progression, and harmony. Identification and use of two-dimensional visual elements of line, shape, texture, and color properties and relationships.	UG	Lab
Fall 2017	ART2110	2110	Art Hist I: Ancient-Ren	Art	3	Historical survey of painting and sculpture in the Western world from antiquity to the Renaissance. Introduces the basic concepts of visual and stylistic analysis.	UG	Lecture
Fall 2017	ART2120	2120	Art Hist II: Ren-Contemp	Art	3	Historical survey of modern painting and sculpture in the Western world from the Renaissance to the present.	UG	Lecture
Fall 2017	ART2140	2140	Themes in Visual Culture	Art	3	Introduction to the visual arts focusing on selected major works of art throughout history. Discusses comparisons across time, basic art media, and the formal characteristics of art.	UG	Lecture

Fall 2017	ART2150	2150	Foundations of Art Ed	Art	3	Introduction to art education. Approaches to aesthetic awareness; inquiries into theories of art, art appreciation and criticism; current issues; child development through art; and art education methodologies.	UG	Lecture
Fall 2017	ART2280	2280	Drawing II	Art	3	Introduces concepts and techniques of drawing. May include studies from the human figure and other natural forms. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2060 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART2430	2430	Non-Western Art	Art	3	Geographical and chronological survey of the art of non-western cultures. Develops and deepens skills of looking and visual thinking. Credit will not be given for ART 2430 to students who have already successfully completed CST 2430. Integrated Writing course	UG	Lecture
Fall 2017	ART2580	2580	Intro to Digital Photo	Art	3	Exploration of black and white photographic materials and camera techniques. Investigation of aesthetic possibilities of the media. Development of personal concepts and aesthetic expression in photography. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2070 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3010	3010	Independent Study in Art	Art	1	Special studies and intensive individual work with faculty supervision.	UG	Independent Study
Fall 2017	ART3040	3040	Studies in Art History	Art	3	Problems and approaches to art and art history. Includes cross-period and interdisciplinary studies. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3110	3110	Ancient/Classical Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3120	3120	Studies in Medieval Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3130	3130	Studies Renaissance Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture

Fall 2017	ART3140	3140	Studies in Baroque Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3150	3150	Studies in 19th Cent Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3160	3160	Studies 20th Century Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3170	3170	Non-Western Art	Art	3	General surveys and intensive studies of periods, major movements, and artists in non-Western art. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3180	3180	Art Theory & Criticism	Art	3	Historical surveys and intensive studies of art theory and criticism. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART3280	3280	Intermediate Drawing	Art	3	Development of personal concepts and aesthetic expression in drawing. Emphasis on individualized approach to drawing problems that arise from the work of students. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2280 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3470	3470	Beginning Painting	Art	3	Working from still life, figure, and landscape emphasizing the use of color and drawing in visual organization. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2090 Minimum Grade of D and Undergraduate level ART 2060 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3480	3480	Intermediate Painting I	Art	3	Emphasis on principles of pictorial organization. Attention to the relationship of subject matter and abstraction as related to contemporary and traditional approaches. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3470 Minimum Grade of D</b>	UG	Lab

Fall 2017	ART3490	3490	Intermediate Painting II	Art	3	Emphasis on principles of pictorial organization. Attention to the relationship of subject matter and abstraction as related to contemporary and traditional approaches. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3480 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3580	3580	Intermed Photo Practices	Art	3	Exploration of expanded black and white photographic materials and photography techniques. Investigation of aesthetic possibilities of the media. Development of personal concepts and aesthetic expression in photography. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2580 Minimum Grade of D and Undergraduate level ART 2590 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3590	3590	Color Photography	Art	3	Exploration of expanded digital photographic processes and techniques. Investigation of aesthetic possibilities of the media. Development of personal concepts and aesthetic expression in photography. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2580 Minimum Grade of D and Undergraduate level ART 2590 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3660	3660	Beg Printmkg: Relief	Art	3	Exploration of printmaking, stressing relief methods using wood and linoleum. Exploration of aesthetic possibilities of the media. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2280 Minimum Grade of D and Undergraduate level ART 2090 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3670	3670	Beg Printmkg: Intaglio	Art	3	Exploration of printmaking stressing intaglio methods: etching, engraving, drypoint, aquatint, and liftgrounds. Use of black-and-white techniques and introduction to color printing. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2280 Minimum Grade of D and Undergraduate level ART 2090 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART3680	3680	Beg Printmkg: Lithograph	Art	3	Introduction to basic lithographic techniques using stone and/or metal plate. Emphasis on black-and-white printing and aesthetic possibilities of the media. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2280 Minimum Grade of D and Undergraduate level ART 2090 Minimum Grade of D</b>	UG	Lab



Fall 2017	ART3690	3690	Beg Printmkg: Screenprin	Art	3	Introduction to silkscreening techniques such as stencil cut, photo stencil, and crayon and touche resists. Exploration of aesthetic possibilities of the media. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2280 Minimum Grade of D</b></h>	UG	Lab
Fall 2017	ART3750	3750	Armature/Figure Modeling	Art	3	Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using armature structure and figure modeling. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2080 Minimum Grade of D</b></h>	UG	Lab
Fall 2017	ART3760	3760	Subtractive Proc	Art	3	Development of personal concepts and aesthetic expression in sculpture, with focus on subtractive proceses. Emphasizes theoretical and perceptual issues, such as the relationships between objects and the process of their making, and the choice and manipulation of materials. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2080 Minimum Grade of D</b></h>	UG	Studio
Fall 2017	ART3770	3770	Fab/Construction Process	Art	3	Development of personal concepts and aesthetic expression using wood and metal fabrication. Emphasis on theoretical and perceptual issues, such as the relationships between objects and the process of their making and the choice and manipulation of materials. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2080 Minimum Grade of D</b></h>	UG	Lab
Fall 2017	ART3780	3780	Modeling/Casting Process	Art	3	Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using clay as a sculptural material. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2080 Minimum Grade of D</b></h>	UG	Lab
Fall 2017	ART3970	3970	Intro to Museum Studies	Art	3	History, purposes, and literature of museums and galleries. Various aspects of gallery management, such as planning, organizing, and installing exhibitions. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ART 2110 Minimum Grade of D and Undergraduate level ART 2120 Minimum Grade of D</b></h>	UG	Lecture
Fall 2017	ART4000	4000	Art Seminar	Art	2	Group discussions of contemporary writings in art and critiques of student work in a peer setting with faculty and visiting artists participating on an informal basis.	UG	Seminar

Fall 2017	ART4010	4010	Ind Study in Art History	Art	1	Intensive individual work with faculty supervision in art history.	UG	Independent Study
Fall 2017	ART4020	4020	Museum/Gallery Intern	Art	1	Supervised individual projects in museum or gallery setting.	UG	Internship
Fall 2017	ART4030	4030	Studies in Drawing	Art	3	Explores problems and approaches to drawing and includes cross-media and interdisciplinary studies. Topics vary.<b> Department Managed Prerequisite(s): Undergraduate level ART 3280 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4040	4040	Studies in Art History	Art	3	Problems and approaches to art and art history. Includes cross-period and interdisciplinary studies.	UG	Lecture
Fall 2017	ART4050	4050	Studies in Sculpture	Art	3	Opportunities to explore problems and approaches to sculpture. May include cross-media and interdisciplinary studies.<b> Department Managed Prerequisite(s): Undergraduate level ART 3750 Minimum Grade of D and Undergraduate level ART 3760 Minimum Grade of D and Undergraduate level ART 3770 Minimum Grade of D and Undergraduate level ART 3780 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4060	4060	Studies in Painting	Art	3	Explores problems and approaches to painting and includes cross-media and interdisciplinary studies.<b> Department Managed Prerequisite(s): Undergraduate level ART 3490 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4070	4070	Studies in Printmaking	Art	3	Provides opportunities to explore problems and approaches to printmaking and may include cross-media and interdisciplinary studies. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2090 Minimum Grade of D and Undergraduate level ART 2280 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4080	4080	Studies in Photography	Art	3	Explore problems and approaches to photography. May include cross-media and interdisciplinary studies.<b> Department Managed Prerequisite(s): Undergraduate level ART 2580 Minimum Grade of D and Undergraduate level ART 2590 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4090	4090	Studies in Art	Art	3	Problems and approaches to art. Includes cross-media and interdisciplinary studies.	UG	Lab
Fall 2017	ART4110	4110	Adv St Ancient/Classical	Art	3	Intensive studies of the period, major movements, and artists of the time.<b> Department Managed Prerequisite(s): Undergraduate level ART 3110 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART4120	4120	Adv Studies Medieval Art	Art	3	Intensive studies of the period, major movements, and artists of the time.<b> Department Managed Prerequisite(s): Undergraduate level ART 3120 Minimum Grade of D</b>	UG	Lecture

Fall 2017	ART4130	4130	Adv Stud Renaissance Art	Art	3	Intensive studies of the period, major movements, and artists of the time.<b> Department Managed Prerequisite(s): Undergraduate level ART 3130 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART4140	4140	Adv Studies Baroque Art	Art	3	Intensive studies of the period, major movements, and artists of the time.<b> Department Managed Prerequisite(s): Undergraduate level ART 3140 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART4150	4150	Studies Mod Contemp Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time.<b> Department Managed Prerequisite(s): Undergraduate level ART 3150 Minimum Grade of D and Undergraduate level ART 3160 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART4170	4170	Adv Stud NonWestern Art	Art	3	Intensive studies of periods, major movements, and artists in non-Western art.<b> Department Managed Prerequisite(s): Undergraduate level ART 3170 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ART4280	4280	Advanced Drawing	Art	3	Explores the structure and interrelationships of visual form in drawing, painting, and sculpture. Principal historical modes of drawing examined. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	ART4370	4370	Install/Perform Sculpt	Art	3	Development of personal concepts and aesthetic expression in the fabrication and experimentation with sculptural media. Emphasis on individualized approach to sculptural media problems. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3750 Minimum Grade of D and Undergraduate level ART 3760 Minimum Grade of D and Undergraduate level ART 3770 Minimum Grade of D and Undergraduate level ART 3780 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4480	4480	Advanced Painting	Art	3	Continued emphasis on pictorial organization with increased attention to the personal imagery of students. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3490 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4490	4490	Senior Painting Thesis	Art	3	Production of cohesive, substantial body of work representing an investigation of a specific visual idea or problem. Culmination of undergraduate study in painting and foundation of an individual direction beyond the BFA experience.<b> Department Managed Prerequisite(s): Undergraduate level ART 3490 Minimum Grade of D</b>	UG	Independent Study

Fall 2017	ART4580	4580	Adv Photo Practices	Art	3	Exploration of advanced photographic materials and photography techniques. Investigation of aesthetic possibilities of the media. Development of personal concepts and aesthetic expression in photography. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3580 Minimum Grade of D and Undergraduate level ART 3590 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4590	4590	Senior Photo Portfolio	Art	3	Exploration of advanced photographic materials and techniques with emphasis on producing a thematic body of work. Investigation of aesthetic possibilities of the media. Development of personal concepts and aesthetic expression in photography. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 4580 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4660	4660	Adv Printmkg: Relief	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3660 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4670	4670	Adv Printmkg: Intaglio	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3670 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4680	4680	Adv Printmkg: Lithograph	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3680 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4690	4690	Adv Printmkg: Scrnprntng	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3690 Minimum Grade of D</b>	UG	Lab
Fall 2017	ART4730	4730	Landscape Sculpture	Art	3	Development of personal concepts and aesthetic expression in landscape sculpture. Emphasis on individualized approach to sculptural problems in nature. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 2080 Minimum Grade of D</b>	UG	Lab

Fall 2017	ART4740	4740	New Tech in Sculpt	Art	3	Development of personal concepts and aesthetic expression in new technologies in sculpture. Emphasis on theoretical issues, such as relationships between physical and virtual environments in both functional and conceptual aspects. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3750 Minimum Grade of D and Undergraduate level ART 3760 Minimum Grade of D and Undergraduate level ART 3770 Minimum Grade of D and Undergraduate level ART 3780 Minimum Grade of D.</b>	UG	Lab
Fall 2017	ART4780	4780	Advanced Sculpture	Art	3	Further development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by the students. This course has a fee that is non-refundable once the term begins.<b> Department Managed Prerequisite(s): Undergraduate level ART 3750 Minimum Grade of D and Undergraduate level ART 3760 Minimum Grade of D and Undergraduate level ART 3770 Minimum Grade of D and Undergraduate level ART 3780 Minimum Grade of D.</b>	UG	Lab
Fall 2017	ART5010	5010	Independ Study in Art	Art	1	Special studies for qualified students. Intensive individually directed work in art with faculty consultation and supervision.	GR	Independent Study
Fall 2017	ART5110	5110	Study Ancient/Classical	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART5120	5120	Studies in Medieval Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART5130	5130	Renaissance Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART5140	5140	Studies in Baroque Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART5150	5150	Nineteenth Century Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART5160	5160	Studies 20th Century Art	Art	3	General surveys and intensive studies of the period, major movements, and artists of the time.	GR	Lecture
Fall 2017	ART5170	5170	Studies Non-Western Art	Art	3	General surveys and intensive studies of periods, major movements, and artists in non-Western art.	GR	Lecture
Fall 2017	ART5180	5180	Art Theory and Criticism	Art	3	Historical surveys and intensive studies in art theory and criticism.	GR	Lecture
Fall 2017	ART5280	5280	Drawing	Art	3	Exploration of the structure and interrelationships of visual form in drawing, painting, and sculpture. Principal historical modes of drawing are examined. This course has a fee that is non-refundable once the term begins.	GR	Lab
Fall 2017	ART5480	5480	Painting	Art	3	Emphasis on pictorial organization with increased attention to the individual student's personal imagery. This course has a fee that is non-refundable once the term begins.	GR	Lab

Fall 2017	ART5580	5580	Photography	Art	3	Exploration of personal concepts and aesthetic expression in photography. Intensive individual work with faculty supervision. This course has a fee that is non-refundable once the term begins.	GR	Lab
Fall 2017	ART5660	5660	Printmaking: Relief	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of relief. This course has a fee that is non-refundable once the term begins.	GR	Lab
Fall 2017	ART5670	5670	Printmaking: Intaglio	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of intaglio. This course has a fee that is non-refundable once the term begins.	GR	Lab
Fall 2017	ART5680	5680	Printmaking: Lithography	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of lithography. This course has a fee that is non-refundable once the term begins.	GR	Lab
Fall 2017	ART5690	5690	Printmaking: Screenprinting	Art	3	Development of personalized concepts and individual aesthetic expression in printmaking with an emphasis in the area of screenprinting. This course has a fee that is non-refundable once the term begins.	GR	Lab
Fall 2017	ART5780	5780	Sculpture	Art	3	Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by the students. This course has a fee that is non-refundable once the term begins.	GR	Lab
Fall 2017	ART5970	5970	Museology & Gallery Mgt	Art	3	Supervised independent field experience and practical work in all areas of Art Museum management in the university and greater Dayton area communities. Each student handled as a tutorial intern.	GR	Independent Study
Fall 2017	ART6010	6010	Ind Study in Art History	Art	1	Intensive individually directed work in art history with faculty consultation and supervision.	GR	Independent Study
Fall 2017	ART6030	6030	Studies in Drawing	Art	3	Provides opportunities to explore special problems and approaches to drawing including cross-media and interdisciplinary studies. Titles vary.	GR	Lab
Fall 2017	ART6050	6050	Studies in Sculpture	Art	3	Provides opportunities to explore special problems and approaches to sculpture including cross-media and interdisciplinary studies. Titles vary.	GR	Lab
Fall 2017	ART6060	6060	Studies in Painting	Art	3	Provides opportunities to explore special problems and approaches to painting including cross-media and interdisciplinary studies. Titles vary.	GR	Lab
Fall 2017	ART6070	6070	Studies in Printmaking	Art	3	Provides opportunities to explore special problems and approaches to printmaking including cross-media and interdisciplinary studies. Titles vary.	GR	Lab

Fall 2017	ART6080	6080	Studies in Photography	Art	3	Provides opportunities to explore special problems and approaches to photography includes cross-media and interdisciplinary studies. Titles vary.	GR	Lab
Fall 2017	ART6110	6110	Adv St Ancient/Classical	Art	3	Intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART6120	6120	Adv St Medieval Art	Art	3	Intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART6130	6130	Adv Stud Renaissance Art	Art	3	Intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART6140	6140	Adv Studies Baroque Art	Art	3	Intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART6150	6150	Adv Modern/Contemp Art	Art	3	Intensive studies of the period, major movements, and artists of the time. Titles vary.	GR	Lecture
Fall 2017	ART6170	6170	Adv St Non Western Art	Art	3	Intensive studies of periods, major movements, and artists in non-Western art. Titles vary.	GR	Lecture
Fall 2017	ASL1010	1010	Beginning ASL I	American Sign Language	4	An introduction to fundamental vocabulary and conversational skills in American Sign Language, including basic sentence structure of ASL, fingerspelling and numbers and exposure to Deaf culture. Outside activity required.	UG	Lecture
Fall 2017	ASL1020	1020	Beginning ASL II	American Sign Language	4	A continuation of the introduction to conversational skills in American Sign Language, including study of vocabulary and structure of ASL sentences, practice in conversation both receptive and expressive and exposure to Deaf culture. Outside activity required.	UG	Lecture
Fall 2017	ASL2010	2010	Intermediate ASL I	American Sign Language	4	An intermediate course in American Sign Language that continues to develop grammatical and vocabulary competency, fluency in conversational ranges, and increases knowledge of the Deaf community and its cultural aspects. Outside activity required.	UG	Lecture
Fall 2017	ASL2020	2020	Intermediate ASL II	American Sign Language	4	An expansion of the conversational skills and knowledge of American Sign Language that continues to develop expressive and receptive fluency, knowledge of grammatical features and the Deaf community and its cultural aspects. Outside activity required.	UG	Lecture
Fall 2017	ASL3010	3010	Deaf Culture & Community	American Sign Language	3	Major concepts and issues in the field of deafness, integrating the disciplines of history, anthropology, linguistics, creative arts, and literature as they apply to deaf culture and the deaf community and the current cultural trends and issues.	UG	Lecture
Fall 2017	ASL3020	3020	Deaf History in America	American Sign Language	3	The multi-faceted history of the American Deaf community, exploring the deaf experience through time.	UG	Lecture

Fall 2017	ASL4010	4010	Aspects of Deaf Life	American Sign Language	3	Psychosocial aspects of deafness, examining the development and functioning of deaf persons, including intellectual functioning, personality issues, personal/social adjustment issues, and family dynamics. A historical and sociological perspective on the evolution from a pathological view of deaf people to a cultural one.	UG	Lecture
Fall 2017	ASL4020	4020	Communication Variations	American Sign Language	3	Exploration of the range of registers and signing styles of deaf persons depending on factors including age, experience, education, race, socio-economic level, degree of hearing loss.	UG	Lecture
Fall 2017	ASM6510	6510	Aerospace Medicine Basic	Aerospace Medicine	3	An introduction to the basics of aerospace medical issues that prepares students for the aeromedical concerns and operational flight environment course. Subject matter includes aerospace medical history, illusions, atmospheric physics, physical environmental issues such as radiation, thermal issues, noise, and space environments.	GR	Lecture
Fall 2017	ASM7000	7000	Accident Investigation	Aerospace Medicine	3	This course provides an overview of aerospace accident investigation procedures, relevant regulations, and interdisciplinary management from an aeromedical perspective. Selected advance topics include the analysis of relevant aerospace accident reports, post-crash survivability, and future directions.	GR	Lecture
Fall 2017	ASM7071	7071	Biostatistics	Aerospace Medicine	4	Catalogue Description: Studies basic and advanced statistical methods with an emphasis on biomedical problems. Includes sampling techniques, making valid inferences and estimations, testing hypotheses, ANOVA, multiple regression, survey methods, experimental designs, diagnostic testing, and sequential analysis.	GR	Lecture
Fall 2017	ASM7072	7072	Epidemiology	Aerospace Medicine	4	An introduction to epidemiological studies, descriptive and clinical epidemiology, experimental and observational investigations, prospective and retrospective studies, mortality and morbidity measurements, life tables, chronic and infectious diseases, with emphasis on preventive medicine and public health.	GR	Lecture
Fall 2017	ASM7073	7073	Health Services Admin	Aerospace Medicine	3	This course provides an overview of the US health care system including public and private institutions and agencies, federal and state regulations, and methods of financing. Topics of focused study include the major contemporary forces affecting the health care delivery system.	GR	Lecture
Fall 2017	ASM7210	7210	Aeromedical Concerns Ops	Aerospace Medicine	3	This course builds on the basics of aerospace medicine course (ASM 6510) to advance the understanding of the relevant aeromedical aspects related to the operational flight & space environments.	GR	Lecture



Fall 2017	ASM7370	7370	Aerospace Toxicology	Aerospace Medicine	2 Aerospace Toxicology is a required course as suggested by the American Board of Preventive Medicine in the specialty training area of Aerospace Medicine. It is designed to integrate fundamental aspects and theory of toxicological principles with current operational Aerospace Medicine issues encountered by today's Flight Surgeons.	GR	Independent Study
Fall 2017	ASM7471	7471	Environmental Medicine	Aerospace Medicine	3 Interaction of humans with occupational environments and environmental exposures of both man made and natural sources. Emphasis is focused on injuries, illnesses, risk assessment, as well as public health concerns and prevention in both occupational and environmental settings.	GR	Lecture
Fall 2017	ASM7472	7472	Social Behavioral Science	Aerospace Medicine	3 This course takes a look at combined major public health issues dealing with lifestyle and behavioral health issues. It is structured mainly in a seminar and project style of instruction.	GR	Lecture
Fall 2017	ASM7571	7571	Aerospace Skills I	Aerospace Medicine	2 Aerospace Skills for Healthcare Providers I is intended to provide an integration of flightcrew (pilot) operational aeronautical knowledge/skills and pertinent aeromedical concepts as it pertains to the flight surgeon.	GR	Seminar
Fall 2017	ASM7572	7572	Aerospace Skills II	Aerospace Medicine	2 This is the second in a series of three courses designed to bridge traditional didactic knowledge obtained in the classroom with the post-graduation operational aerospace environment. Areas studied include human factors concepts and their integration and application to aerospace accident investigation. Contemporary accident investigation classification systems and utilization of the Divisions flight simulator will be employed in recreating mishaps to further strengthen learning outcomes.	GR	Seminar
Fall 2017	ASM7573	7573	Aerospace Skills III	Aerospace Medicine	2 Aerospace Skills for Healthcare Providers III is the third in a series of three courses designed to bridge traditional didactic knowledge obtained in the classroom with the post-graduation operational aerospace environment. Areas studied include, but are not limited to, hyperbaric/hypobaric, aeromedical evacuation/transfer, centrifuge, microgravity, spaceflight launch/landing, EVA, survival, fitness to fly evaluations, aircraft hygiene and international travel and disease mitigation operations.	GR	Seminar
Fall 2017	ASM7771	7771	Fund Aerospace Med I	Aerospace Medicine	2 Fundamentals of Aerospace Medicine I is the first in a series of three courses that provide a foundation of basic principles and concepts applicable to the multiple realms encountered in the field of aerospace medicine. Each of the two subsequent courses in the series will build upon the knowledge gained in this initial exposure and further expand and progressively integrate knowledge attained.	GR	Seminar

Fall 2017	ASM7772	7772	Fund Aerospace Med II	Aerospace Medicine	2	Fundamentals of Aerospace Medicine II is the second in a series of three courses that provide a foundation of basic principles and concepts applicable to the multiple realms encountered in the field of aerospace medicine. The third and final course in the series will build upon the knowledge gained in this second exposure and further expand and progressively integrate knowledge attained.	GR	Seminar
Fall 2017	ASM7773	7773	Fund Aerospace Med III	Aerospace Medicine	2	Fundamentals of Aerospace Medicine III is the third in a series of three courses that provide a foundation of basic principles and concepts applicable to the multiple realms encountered in the field of aerospace medicine. This final course in the series will build upon the knowledge gained in the previous two and further expand and progressively integrate knowledge attained.	GR	Seminar
Fall 2017	ASM7777	7777	Space Medicine	Aerospace Medicine	4	This course will provide graduate students with special opportunities to receive information specifically relevant to the practice of Space Medicine and its application in promoting current sub-orbital and orbital space flights, planned missions beyond Low Earth Orbit, and future commercial space flight operations.	GR	Lecture
Fall 2017	ASM7871	7871	Space Medicine I	Aerospace Medicine	2	Space Medicine I will introduce Aerospace physicians to the unique environment of medical operations involved in sub-orbital, orbital, and beyond earth orbit space flight operations.	GR	Seminar
Fall 2017	ASM7872	7872	Space Medicine II	Aerospace Medicine	2	Space Medicine II will introduce Aerospace physicians to the unique environment of medical operations involved in sub-orbital, orbital, and beyond earth orbit space flight operations.	GR	Seminar
Fall 2017	ASM7873	7873	Space Medicine III	Aerospace Medicine	2	Space Medicine III will introduce Aerospace physicians to the unique environment of medical operations involved in sub-orbital, orbital, and beyond earth orbit space flight operations.	GR	Seminar
Fall 2017	ASM7971	7971	Aerospace Research I	Aerospace Medicine	1	Introduction to Aerospace Medical Research I will introduce students to the history of aerospace medical research and the techniques by which contemporary scientific inquiry are performed. This course will also assist students in the completion of their aerospace medicine research project required for graduation.	GR	Seminar
Fall 2017	ASM7972	7972	Aerospace Research II	Aerospace Medicine	1	Introduction to Aerospace Medical Research II will build upon the concepts studied in Aerospace Medical Research I and further explore the techniques by which contemporary scientific inquiry are performed. This course will assist students in the completion of their aerospace medicine research project required for graduation.	GR	Seminar

Fall 2017	ASM7973	7973	Aerospace Research	Aerospace Medicine	1	Independent research on a topic of aerospace medical relevance culminating with a formal presentation followed by a question and answer session. Additionally, final research reports and presentation material must be submitted electronically.	GR	Independent Study
Fall 2017	ASM8990	8990	Aeromed Research Thesis	Aerospace Medicine	4	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	Independent Study
Fall 2017	ATH2000	2000	Intro to Anthropology	Anthropology	1	An introduction to the major including advising, curriculum, and career options. The course is optional, but highly recommended for Anthropology majors and minors.	UG	Lecture
Fall 2017	ATH2100	2100	Intro to Bio Anth	Anthropology	4	An overview of human biology and behavior, including human evolution, primate behavior, and human physical variation.	UG	Lecture
Fall 2017	ATH2100L	2100L	Lab in Biological Anthro	Anthropology	0	Laboratory exercises to accompany ATH 2100, Introduction to Biological Anthropology.	UG	Lab
Fall 2017	ATH2150	2150	Comp Nonwest Cultures	Anthropology	3	Introduction to basic concepts, ideas, issues and debates in cultural anthropology, using examples from Asia, Africa, Latin America, Native North America and the Middle East. Explores diverse ways in which humans relate to one another, and reveals the cultural milieus, political configurations, ways of speaking and environments which people have used to shape their world. Integrated Writing course. Credit will not be given to students who have completed CST 2410, ATH 2500 or ATH 2110.	UG	Lecture
Fall 2017	ATH2200	2200	Intro to Archaeology	Anthropology	3	Introduces the nature of archaeological data, techniques of archaeological dating, and methods of data collection, analysis, and interpretation.	UG	Lecture
Fall 2017	ATH2500	2500	Cultural Ant Hlth Care	Anthropology	3	Basic concepts, ideas, issues and debates in cultural anthropology, using examples from Asia, Africa, Latin America, Native North America and the Middle East. Explores diverse ways humans relate to one another and reveals cultural milieus, political configurations, ways of speaking and environments people have used to shape their world. For students who intend to become health care professionals. Credit for ATH 2500 will not be given to students who have completed CST 2410.	UG	Lecture
Fall 2017	ATH3000	3000	Peoples of Native Americ	Anthropology	3	An introduction to the variety of people whose ancestry goes back to pre-conquest Native North America, and who continue to live and thrive on the North American continent today. The course will touch on their past, their cultures and their place in current North American political and social contexts.	UG	Lecture

Fall 2017	ATH3010	3010	Peoples/Cultures Africa	Anthropology	3	Introduction to the diverse, complex and fascinating peoples of sub-Saharan Africa. Particular attention is paid to connections between communities, regions and between Africa and the rest of the world.	UG	Lecture
Fall 2017	ATH3020	3020	Peoples/Cultures So Asia	Anthropology	3	An introduction to the variety of people living in Southern Asia, particularly India, Pakistan, Bangladesh and Sri Lanka. The course will investigate various cultural, environmental, religious, ethnic and national groupings, while attempting to uncover unity behind the great diversity of the subcontinent	UG	Lecture
Fall 2017	ATH3030	3030	Peoples/United States	Anthropology	3	An introductory course focusing on anthropological approaches to the study of culture in the United States. We belong to a community consisting of people of diverse cultural origins, and of different races, classes, genders and sexual orientations. Although we will consider examples of diversity that have often been labeled multiculturalism, we will also look at otherwise familiar forms of cultural expression using an anthropological lens.	UG	Lecture
Fall 2017	ATH3100	3100	Anthro of Sex & Gender	Anthropology	3	An introduction to anthropological perspectives of sex and gender, including attributes associated with "maleness" or "femaleness" and norms and ideals regarding appropriate roles, behaviors and sexualities. The course presents cross-cultural models enabling us to confront how we come to consider and express ourselves as "men," "women," or something else, the social forces constraining us to act as gendered persons, and consequences for not conforming to these norms.	UG	Lecture
Fall 2017	ATH3110	3110	Human Identification	Anthropology	3	Survey of criminal forensic identification processes and compositional factors as they relate to human identification. Includes DNA, Skeletal x-rays, fingerprints, odontology, excavation techniques and forensic entomology.	UG	Lecture
Fall 2017	ATH3200	3200	Special Topics: Cultural	Anthropology	3	Selected topics concerning the method and theory of anthropological thought and relationships to the allied disciplines of economics, linguistics, art, politics, and history. Emphasis on current trends influencing research in cultural anthropology. Topics vary.	UG	Lecture
Fall 2017	ATH3210	3210	Medical Anthropology	Anthropology	3	Introduction to the core concepts and methods of medical anthropology, emphasizing the cultural aspects of health and healing.	UG	Lecture

Fall 2017	ATH3300	3300	Primate Behavior	Anthropology	3	An exploration of the biology, behavior, and cognitive abilities of the Order Primates -- prosimians, monkeys, apes, and humans. Nonhuman primates are studied as unique animals, focusing on their distinctive biological attributes and behavioral adaptations, and humans and nonhuman primates are compared in order to identify the biological and behavioral features they share.	UG	Lecture
Fall 2017	ATH3310	3310	Human Evolution	Anthropology	3	Review of the fossil and archaeological records and the genetic evidence for human evolution, and examination of evolutionary principles and current issues addressed by paleoanthropology. Department Managed Prerequisite(s): Undergraduate level ATH 2100 Minimum Grade of D	UG	Lecture
Fall 2017	ATH3320	3320	Human Variation and Adpt	Anthropology	3	An exploration of biological variation in contemporary human populations and an examination of the genetic, physical, and cultural foundations of human biological diversity. Reviews selected population adaptations to specific environmental conditions. Emphasis on the interaction of biology and culture in human variation and adaptation. Considers the link between human variation science and U.S. society and culture.	UG	Lecture
Fall 2017	ATH3400	3400	Special Topics Biologica	Anthropology	3	Surveys of various specialized aspects of biological anthropology.	UG	Lecture
Fall 2017	ATH3500	3500	Archaeology of N America	Anthropology	3	A survey of the development of the major prehistoric cultures of North America, with an emphasis on those located east of the Rocky Mountains.	UG	Lecture
Fall 2017	ATH3510	3510	Lab in Archaeology	Anthropology	3	An introduction to the identification and analysis of artifacts commonly encountered in prehistoric North American archaeological sites, emphasizing lithics and ceramics. Students undertake an original analysis of a selected group of artifacts from excavated sites and produce a report of their findings and interpretations.	UG	Lab
Fall 2017	ATH3600	3600	Special Topics Archaeolo	Anthropology	3	Surveys of various specialized aspects of archaeology.	UG	Lecture
Fall 2017	ATH3700	3700	Arch Field Methods	Anthropology	3	A review of the techniques of archaeological survey, the development of fieldwork strategies for the investigation of sites, and techniques of mapping sites and recording archaeological data.	UG	Lecture
Fall 2017	ATH3710	3710	Ethnographic Fieldwork	Anthropology	3	Explores the meaning, scope and dilemmas of ethnography using both a hands-on ethnographic project and a wide array of readings. Integrated Writing course.	UG	Lecture

Fall 2017	ATH3720	3720	Ethnographic Museum Coll	Anthropology	3	An introduction to museums with ethnographic and archaeological materials in their collections. Examination of collections in terms of aesthetic manifestations and historical and cultural content. Utilizes ethnographic and cultural collections housed in museums in Ohio to familiarize students with the importance of collections in documenting the cultural diversity of peoples of the United States and the world. Integrated Writing course.	UG	Lecture
Fall 2017	ATH3730	3730	Methods Human Osteology	Anthropology	3	This course will explore the anthropological methodology of human osteology, or the study of human skeletal materials.	UG	Lecture
Fall 2017	ATH3800	3800	Special Topics/ Methods	Anthropology	1	Selected topics concerning the training of undergraduate majors in current methodologies used in cultural, biological or archaeological anthropology. Topics vary.	UG	Lecture
Fall 2017	ATH3900	3900	Readings in Anthropology	Anthropology	3	Independent, intensive reading in a specific area of anthropology done under the guidance of a faculty member. Integrated Writing.	UG	Independent Study
Fall 2017	ATH4000	4000	Political Anthropology	Anthropology	3	Focuses on the anthropological study of political life cross-culturally. Presents evolutionary and historical approaches to political institutions, and classic anthropological analyses of political institutions. Investigates recent developments in the study of politics as a contemporary problem. Integrated Writing course.	UG	Lecture
Fall 2017	ATH4010	4010	Kinship/Social Structure	Anthropology	3	An examination of the study of kinship as the basis for understanding social structure cross-culturally. Examines the central role kinship plays in stateless societies, how state formation utilized kinship analogs, and how kinship relates to issues of household organization and class and gender relations. Integrated Writing course.	UG	Lecture
Fall 2017	ATH4020	4020	Anthropology of Religion	Anthropology	3	(also listed as REL 3810) Introduction to the anthropological study of religions of the world and how they relate to other domains of human cultural existence. Examples of contemporary nonwestern religions and other world religions. Integrated Writing course.	UG	Lecture
Fall 2017	ATH4030	4030	Urban Anthropology	Anthropology	3	Explores the nature of the city from an anthropological perspective, confronting basic questions such as the extent to which the urbanite experiences a different kind of culture from his/her rural counterpart and the factors that have contributed to the growth and expansion of urbanism over the last few centuries? Integrated Writing course.	UG	Lecture
Fall 2017	ATH4100	4100	Spec Topics-Cultural ATH	Anthropology	3	Intensive study of selected topics in cultural anthropology. Topics vary.	UG	Lecture
Fall 2017	ATH4210	4210	Biomedical Anthropology	Anthropology	3	An anthropological perspective of human health integrating biological and socio-cultural dimensions of health and illness in selected societies of the contemporary world and in the	UG	Lecture

Fall 2017	ATH4300	4300	Special Topics Biologica	Anthropology	3	Intensive study of selected topics in biological anthropology.	UG	Lecture
Fall 2017	ATH4310	4310	Bioarchaeology	Anthropology	3	Advanced course in bioanthropology, exploring the behavioral, ecological and developmental factors that affect human skeletal development, and leave their imprint on human skeletal remains. Integrated Writing.	UG	Seminar
Fall 2017	ATH4400	4400	Sem Woodland Archaeology	Anthropology	3	Intensive review of the prehistoric Woodland period (600 B.C. A.D. 900) of eastern North America. Covers major regional cultures such as Adena and Hopewell, and explores such topics as social and political organization, site architecture, mortuary customs, and exchange systems.	UG	Seminar
Fall 2017	ATH4410	4410	Historical Archaeology	Anthropology	3	Reviews the archaeology of the post-European discovery period in North America. Seminar discussions focus on such topics as the Colonial period, plantation systems and the archaeology of slavery, nineteenth-century sites, industrial sites, and urban sites. May include a small analysis project utilizing excavated materials from Ohio historic sites.	UG	Seminar
Fall 2017	ATH4500	4500	Special Topics Archaeolo	Anthropology	3	Intensive study of selected topics in archaeology.	UG	Lecture
Fall 2017	ATH4600	4600	African Oral Traditions	Anthropology	3	Study of oral traditions in Africa, including oral traditions, oral history, and societies with combinations of oral traditions and written history. Explores how oral traditions are generated, their contexts, and their significance for those who produce them. Applicable to many situations beyond the continent of Africa. Integrated Writing course.	UG	Lecture
Fall 2017	ATH4650	4650	Archaeology Field School	Anthropology	3	Summer field training in the methods of excavation and data recording at selected archaeological sites.	UG	Lab
Fall 2017	ATH4700	4700	Development of Anthropol	Anthropology	3	This advanced course examines both past and current theoretical frameworks for understanding cultural patterns, practices, and precepts employed in anthropology. Integrated Writing course.	UG	Lecture
Fall 2017	ATH4750	4750	Sem Archaeological Theory	Anthropology	3	A survey of traditional and contemporary archaeological theory, and how a variety of problems including the origins of agriculture, the rise of complex societies, and transoceanic contacts have been interpreted by those adopting different theoretical positions.	UG	Seminar
Fall 2017	ATH4900	4900	Ind Research in Anthro	Anthropology	3	Independent reading and research under the supervision of a faculty member in the department of anthropology.	UG	Independent Study
Fall 2017	ATH5000	5000	Cultures/Native North Am	Anthropology	3	An introduction to the variety of people whose ancestry goes back to pre-conquest Native North America, and who continue to live and thrive on the North American continent today. Includes their past, their cultures and their place in current North American political and social contexts.	GR	Lecture

Fall 2017	ATH5010	5010	Cultures of Africa	Anthropology	3	An introduction to the diverse, complex and fascinating peoples of sub-Saharan Africa.	GR	Lecture
Fall 2017	ATH5020	5020	Peoples/Cultures So Asia	Anthropology	3	An introduction to the variety of people living in Southern Asia, particularly India, Pakistan, Bangladesh and Sri Lanka. Investigates various cultural, environmental, religious, ethnic and national groupings, while attempting to uncover unity behind the great diversity of the subcontinent	GR	Lecture
Fall 2017	ATH5030	5030	Peoples/Cult United Stat	Anthropology	3	Focuses on the anthropological approaches to the study of culture in the United States. Confronts how to both recognize that your own culture is but one out of many, and how to systematically study the underpinnings of differences within one's own culture	GR	Lecture
Fall 2017	ATH5200	5200	Sp Topics in Cult Anth	Anthropology	3	Selected topics concerning the method and theory of anthropological thought and relationships 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 2017	ATH5400	5400	Special Topics-Bio ATH	Anthropology	3	Intensive study of selected graduate-level topics in Biological or Medical anthropology. Topics vary.	GR	Lecture
Fall 2017	ATH5600	5600	Special Topics/Archaeology	Anthropology	3	Intensive graduate-level study of selected topics in archaeology. Topics vary.	GR	Lecture
Fall 2017	ATH5710	5710	Ethnographic Methods	Anthropology	3	Explores the meaning, scope and dilemmas of ethnography using both a hands-on ethnographic project and a wide array of readings.	GR	Lecture
Fall 2017	ATH5800	5800	Sp Topics in Anth Method	Anthropology	3	Selected topics concerning the training of graduate students in current methodologies used in cultural, biological or archaeological anthropology. Topics vary.	GR	Lecture
Fall 2017	ATH6000	6000	Political Anthropology	Anthropology	3	(Also PLS 6500/SOC 6000) Focuses on the anthropological approaches to the study of political life cross-culturally. Presents evolutionary and historical approaches to political institutions, and classic anthropological analyses of political institutions. Also recent developments in the study of politics as problems related to organization versus relationship, domination versus resistance, freedom versus order, and globalization	GR	Lecture
Fall 2017	ATH6010	6010	Kinship/Social Structure	Anthropology	3	Introduction to the study of kinship as the basis for understanding social structure cross-culturally. Starts with the basic tools for classic kinship analysis, and proceeds to discuss the central role kinship plays in stateless societies, how state formation utilized kinship analogs, and how kinship relates to issues of household organization, class and gender relations.	GR	Lecture



Fall 2017	ATH6020	6020	Anthropology of Religion	Anthropology	3	(Also REL 5810) An introduction to the anthropological study of the practices and ideas associated with religions of the world, and how they relate to other domains of human cultural existence. Discusses many examples of contemporary non-Western religions, but will also use that information to gain insights regarding more familiar Western ones.	GR	Lecture
Fall 2017	ATH6030	6030	Urban Anthropology	Anthropology	3	Explores the nature of city, confronting basic questions, such as, to what extent does the urbanite experience a different kind of culture from his/her rural counterpart? and what factors have contributed to the growth and expansion of urbanism over the last few centuries?	GR	Lecture
Fall 2017	ATH6100	6100	Spec Topics-Cultural ATH	Anthropology	3	Intensive study of selected topics in graduate-level cultural anthropology. Topics vary.	GR	Lecture
Fall 2017	ATH6200	6200	Anth of Women's Health	Anthropology	3	Offers a graduate-level anthropological perspective on the health of women around the world. Integrates biological and socio-cultural dimensions of disease and illness and focuses on the intersection of gender, ethnicity and class in western and non-western societies	GR	Lecture
Fall 2017	ATH6210	6210	Biomedical Anthropology	Anthropology	3	Offers a graduate-level anthropological perspective on human health by integrating biological and socio-cultural dimensions of health and illness in selected societies of the contemporary world and in the past.	GR	Lecture
Fall 2017	ATH6300	6300	Special Topics-Biologic	Anthropology	3	Intensive study of selected graduate-level topics in Biological or Medical anthropology. Topics vary.	GR	Lecture
Fall 2017	ATH6400	6400	Sem Woodland Archaeology	Anthropology	3	Intensive review of the prehistoric Woodland period (600 B.C. A.D. 900) of eastern North America. Covers major regional cultures such as Adena and Hopewell, and explores such topics as social and political organization, site architecture, mortuary customs, and exchange systems.	GR	Seminar
Fall 2017	ATH6410	6410	Historical Archaeology	Anthropology	3	Reviews the archaeology of the post-European discovery period in North America. Discussions focus on such topics as the Colonial period, plantation systems and the archaeology of slavery, nineteenth-century sites, industrial sites, and urban sites. May include a small analysis project utilizing excavated materials from Ohio historic sites.	GR	Lecture
Fall 2017	ATH6500	6500	Spec Topics Archaeology	Anthropology	3	Advanced graduate study of various specialized aspects of archaeology.	GR	Lecture

Fall 2017	ATH6600	6600	African Oral Traditions	Anthropology	3	Study of oral traditions in Africa. Includes examples of oral traditions, oral history, societies with combinations of oral traditions and written history. Explores how oral traditions are generated, their contexts, and their significance for those who produce them. Lessons to be learned are not only about Africa, but are applicable to many situations beyond the continent of Africa.	GR	Lecture
Fall 2017	ATH6650	6650	Field School Archaeology	Anthropology	3	Field training in the surveying and excavation of selected archaeological sites.	GR	Lab
Fall 2017	ATH6700	6700	Dev Ethnological Thought	Anthropology	3	An introduction to the many approaches used in anthropology.	GR	Lecture
Fall 2017	ATH6750	6750	Sem Archaeology Theory	Anthropology	3	Introduces students to the directions taken by archaeological theory during the past century through a sampling of the literature in a number of topical areas. Examines how both the questions asked and the answers found in archaeological data have changed over time.	GR	Seminar
Fall 2017	ATR2610	2610	Basic Principles of AT	Athletic Training	4	Basic concepts/language of athletic training, specifically professional development and responsibilities, risk management, and management skills of athletic injuries/conditions.	UG	Lecture/Lab Combination
Fall 2017	ATR2620	2620	Athletic Emergency Care	Athletic Training	4	Recognition and management of athletic emergencies and relationships of allied health care providers.	UG	Lecture/Lab Combination
Fall 2017	ATR2840	2840	Basic Skills in AT	Athletic Training	2	Basic skills in Athletic Training.	UG	Clinical
Fall 2017	ATR3020	3020	Strength & Cond in AT	Athletic Training	3	Introduction to testing and techniques to improve strength, flexibility, power, agility, speed, endurance, body composition and cardiovascular fitness levels.	UG	Lecture/Lab Combination
Fall 2017	ATR3030	3030	Therapeutic Exercise	Athletic Training	3	Knowledge, skills, and dispositions required of the entry-level certified athletic trainer to plan, implement, document, and evaluate the efficacy of therapeutic exercise programs for the rehabilitation/reconditioning of injuries to and illnesses of the physically active.	UG	Lecture/Lab Combination
Fall 2017	ATR3600	3600	Therapeutic Modalities	Athletic Training	3	Theory and practical application of therapeutic modalities to athletic injuries. Modalities may include superficial heat and cold, hydrotherapy, massage, traction, intermittent compression units, ultrasound, electro-stimulation, and microwave and shortwave diathermy.	UG	Lecture/Lab Combination
Fall 2017	ATR3610	3610	Assess Athletic Injury I	Athletic Training	2	Assessment and skills for lower body athletic injuries/conditions of the physically active.	UG	Lecture/Lab Combination
Fall 2017	ATR3620	3620	Assess Ath Injuries II	Athletic Training	2	Assessment and skills for upper body athletic injuries/conditions of the physically active.	UG	Lecture/Lab Combination
Fall 2017	ATR3840	3840	Lower Body Assessment	Athletic Training	2	Clinical/practicum emphasizing lower body injury assessment skills.	UG	Clinical

Fall 2017	ATR3850	3850	Upper body Assessment	Athletic Training	2	Clinical/practicum course emphasizing upper body injury assessment skills.	UG	Clinical
Fall 2017	ATR4610	4610	Org & Admin in AT	Athletic Training	3	Knowledge, skills, and dispositions required of the entry-level Certified Athletic Trainer to develop, organize, and manage an athletic training facility. Professional development will also be addressed.	UG	Lecture
Fall 2017	ATR4620	4620	Adv Concepts in AT	Athletic Training	3	Advanced knowledge, skills and dispositions required of the entry-level Certified Athletic Trainer and application of that knowledge.	UG	Lecture
Fall 2017	ATR4630	4630	Evid Based Prac in AT	Athletic Training	3	An in-depth course of study into the utilization of evidence-based medicine in the athletic training profession.	UG	Lecture/Lab Combination
Fall 2017	ATR4820	4820	Pharmacology for AT	Athletic Training	3	Pharmacological information that pertains to the care of the physically active.	UG	Lecture
Fall 2017	ATR4840	4840	Adv Rehab Techniques	Athletic Training	3	Development of rehabilitation protocols for the physically active when injured/ill using advanced rehabilitation techniques.	UG	Lecture/Lab Combination
Fall 2017	ATR4850	4850	Surgical Applications	Athletic Training	3	Surgical procedures, rehabilitation protocols and research as they pertain to athletic training. Prepares Athletic Training students to counsel regarding patient treatment options and to research current trends in medical procedures. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	ATR4860	4860	Medical Conditions in AT	Athletic Training	3	Knowledge, skills and dispositions required of the entry-level Certified Athletic Trainer to properly evaluate and refer medical conditions that may occur in athletic training.	UG	Clinical
Fall 2017	ATR4870	4870	Athletic Training Intern	Athletic Training	1	Internship in one of the following settings: high school, college, sports medicine clinic, industrial setting, Olympics, or professional sports or any other setting approved by the Director of Athletic Training Education.	UG	Internship
Fall 2017	AVI2000	2000	Intro to Aviation	Aviation	3	Introduction to aviation systems and careers: airlines, business, freight, flight test, and military flight operations. Introduces aviation systems including aircraft, airports, airspace, and regulatory environment for the broad range of aviation activities.	UG	Lecture
Fall 2017	AVI2001	2001	Priv Pilot Grnd School	Aviation	3	Conduct flight training in a single engine land airplane. Preparation for computer-based private pilot knowledge test.	UG	Lecture
Fall 2017	AVI2002	2002	Private Pilot Flight Lab	Aviation	2	Aeronautical knowledge and experience. Develop the flight proficiency necessary to meet the requirements for a private pilot certificate.	UG	Lab
Fall 2017	BIO1010	1010	Medical Terminology	Biology	3	Sequential, programmed study of the language of health care. Illustrations, practice quizzes and exercises support the material and reinforce learning.	UG	Lecture

Fall 2017	BIO1050	1050	Biology of Food	Biology	4	Biological principles applied to the nature of food, its production, and use in the human body. Topics include molecular biology, photosynthesis, respiration, macro- and micronutrients, anatomy and function of digestion, nutrition, food labeling, food safety, and issues of feeding a rapidly growing human population. Three hours lecture, two hours lab.	UG	Lecture
Fall 2017	BIO1050 L	1050L	Biology of Food Lab	Biology	0	Required laboratory for BIO 1050.	UG	Lab
Fall 2017	BIO1060	1060	Global Eco and Diversity	Biology	4	Introduces non-science majors to global ecosystems, the biological principles and processes that have contributed to the diversity of species and natural processes and human actions that work together to shape the ecological balance of the earth. Laboratory topics include speciation, macroevolution, adaptive radiation, symbiosis, biogeography, and the scientific management of modern biological resources. Three hours lecture, two hours lab.	UG	Lecture
Fall 2017	BIO1060 L	1060L	Global Eco and Diversity Lab	Biology	0	Required laboratory for Bio 1060.	UG	Lab
Fall 2017	BIO1070	1070	Health and Disease	Biology	4	Introduces non-science majors to how the human body functions and the social, political, and cultural aspects of public health. Students will gain a deeper appreciation about health promotion and disease prevention, and acquire information that may help them to make health care decisions for themselves and their families. Three hours lecture, two hours lab.	UG	Lecture
Fall 2017	BIO1070 L	1070L	Health and Disease Laboratory	Biology	0	Required laboratory for BIO 1070.	UG	Lab
Fall 2017	BIO1080	1080	Intro to Public Health	Biology	3	Concepts and practices in public health. Students will explore the history, purposes, structures, policies, and programs that contribute to the effort to create an environment that promotes healthful living, with application to domestic and international circumstances.	UG	Lecture
Fall 2017	BIO1120	1120	Cells and Genes	Biology	4	Introduction to basic concepts of biology. Topics include genetics and the molecular and cellular basis for the unity of life. Three hours lecture, two hours lab.	UG	Lecture
Fall 2017	BIO1120 L	1120L	Cells & Genes Laboratory	Biology	0	Required laboratory for BIO 1120.	UG	Lab
Fall 2017	BIO1150	1150	Organisms and Ecosystems	Biology	4	Introduction to basic concepts of biology. Topics include evolution, ecology, and the diversity of life. Three hours lecture, two hours lab.	UG	Lecture
Fall 2017	BIO1150 L	1150L	Organisms & Ecosystems Lab	Biology	0	Required laboratory for BIO 1150.	UG	Lab

Fall 2017	BIO1190	1190	Bio Honors Recitation	Biology	1	Recitation/discussion section to review basic concepts developed in the laboratory. Co-registration in lecture and honors laboratory is required.	UG	Recitation
Fall 2017	BIO2100	2100	Orientation Sem: Bio Sci	Biology	1	Overview of programs, career options, department activities, and research opportunities in the biological sciences.	UG	Lecture
Fall 2017	BIO2110	2110	Molecular Bio & Genetics	Biology	3	Transmission, molecular and population genetics. Gene structure, allelic segregation, genic interactions, the regulation of gene expression and the genetic structure of populations.	UG	Lecture
Fall 2017	BIO2120	2120	Cell Biology	Biology	3	Eukaryotic cell structure and function, including energetics and involvement of various organelles.	UG	Lecture
Fall 2017	BIO2140	2140	Intro Cell Bio Lab	Biology	2.5	Concepts pertaining to cell structure, the analysis of macromolecules, microscopy and the use of model organisms.	UG	Lab
Fall 2017	BIO2140R	2140R	Intro Cell Bio Recitation	Biology	0	Required recitation for BIO 2140.	UG	Recitation
Fall 2017	BIO2310	2310	Evolution and Ecology	Biology	4	Overview of the concepts of evolution and ecology. Examines the major reasons that populations of organisms change genetically over time, the basis of speciation and influences on organisms, and what determines the direction of those changes including interactions with the physical environment and other organisms. Community and ecosystem processes will be discussed. Labs will explore approaches including modeling and analysis of data. Integrated Writing course.	UG	Lecture
Fall 2017	BIO2310L	2310L	Evolution & Ecology Lab	Biology	0	Required laboratory for BIO 2310.	UG	Lab
Fall 2017	BIO3050	3050	Animal Physiology	Biology	5	Basic adaptive mechanisms and their coordination in the activities of the metazoa. Interdependency of form and function, of plasticity and homeostasis, and control mechanisms in animal physiology.	UG	Lecture
Fall 2017	BIO3050L	3050L	Animal Physiology Lab	Biology	0	Required laboratory for BIO 3050.	UG	Lab
Fall 2017	BIO3100	3100	Clinical Microbiology	Biology	3	The study of biological processes of microorganisms, with emphasis on microorganisms that cause human disease (pathogens).	UG	Lecture
Fall 2017	BIO3110	3110	Clinical Micro Bio Lab	Biology	2	The study of biological processes of microorganisms, with emphasis on microorganisms that cause human disease (pathogens).	UG	Lab
Fall 2017	BIO3120	3120	General Microbiology	Biology	5	Morphology, cultivation, and biochemical activities of microorganisms. Viruses, bacteria, blue-green algae, fungi and their diversity in natural environments.	UG	Lecture
Fall 2017	BIO3120L	3120L	General Microbiology	Biology	0	Required laboratory for BIO 3120.	UG	Lab

Fall 2017	BIO3130	3130	Plant Biology	Biology	5	Overview of plant biology, including algae, fungi, mosses and vascular plants. Basic plant structure and metabolism. Taxonomy of plants and representative plant families. Labs include demonstrations, experimental manipulations of plants, aspects of structure and function, and outdoor labs.	UG	Lecture
Fall 2017	BIO3130 L	3130L	Plant Biology Lab	Biology	0	Required laboratory for BIO 3130.	UG	Lab
Fall 2017	BIO3140	3140	Molecular Bio Lab	Biology	3.5	Concepts pertaining to gene structure, the regulation of gene expression and the genetic structure of populations.	UG	Lab
Fall 2017	BIO3140 R	3140R	Molecular Bio Lab Rec	Biology	0	Required recitation for BIO 3140.	UG	Lab
Fall 2017	BIO3150	3150	Invertebrate Zoology	Biology	5	Introduction to the evolution, diversity, and ecology of invertebrate animals. Major patterns in the evolution of form and function of animal bodies. Examination of old and new theories about relationships among animal groups.	UG	Lecture
Fall 2017	BIO3150 L	3150L	Invertebrate Zoology Lab	Biology	0	Required laboratory for BIO 3150.	UG	Lab
Fall 2017	BIO3160	3160	Vertebrate Zoology	Biology	4	Basic structures of vertebrates: anatomy and functional morphology, major adaptations and phylogenetic constraints. Major radiations of vertebrate groups during geological, climatic, and biological events. Current threats to various vertebrate groups, such as habitat loss, loss of genetic diversity.	UG	Lecture
Fall 2017	BIO3160 L	3160L	Vertebrate Zoology Lab	Biology	0	Required laboratory for BIO 3160.	UG	Lab
Fall 2017	BIO3200	3200	Intro to Immunology	Biology	3	Principles and concepts of immunology. Organization of the immune system. Cellular and molecular mechanisms used by the immune system to protect organisms from disease. Practical application of immunological advances in basic and medical science.	UG	Lecture
Fall 2017	BIO3250	3250	Basic Cell Culture Tech	Biology	3	Eukaryotic cell culture and basic techniques used to culture eukaryotic cells. Basic cell culture laboratory setup and equipment, propagation and maintenance of cell culture lines, the introduction of new genes into cell lines, and cellular staining. Students will work both in groups and independently.	UG	Lecture
Fall 2017	BIO3250 L	3250L	Basic Cell Culture Tech Lab	Biology	0	Required laboratory for BIO 3250.	UG	Lab

Fall 2017	BIO3450	3450	Concepts Bio I ECE/MCE	Biology	3.5	Introduction to biological concepts for ELEMENTARY AND MIDDLE SCHOOL EDUCATION MAJORS. Structured around the National and Ohio State Science Standards and taught from an inquiry perspective. Examines approaches that attempt to teach science as a knowledge-building practice, i.e., by engaging in scientific investigations and participating in scientific practices such as designing an investigation, explanation, and working with scientific models.	UG	Lecture/Lab Combination
Fall 2017	BIO3460	3460	Concepts Bio II ECE/MCE	Biology	4	Concepts and applications of biology formatted to model implications of state and national pedagogical standards, aimed specifically at preparing students for biology teaching in Grades 4-9. For Middle Childhood Education majors only. Integrated lecture/lab	UG	Lecture/Lab Combination
Fall 2017	BIO3520	3520	Human Biomechanics	Biology	4	Analysis of muscular interrelationships in basic body movements; analysis of principles of mechanics as they relate to fundamental and complex motor skills.	UG	Lecture
Fall 2017	BIO3520 L	3520L	Human Biomechanics Lab	Biology	0	Required laboratory for BIO 3520.	UG	Lab
Fall 2017	BIO3530	3530	Exercise Physiology	Biology	4	Acute and chronic metabolic and physiological responses of the human body to exercise in health and disease. Exercise physiology as applied to fitness and performance. Includes programs that distinguish between health-related fitness and physiology of maximal performance.	UG	Lecture
Fall 2017	BIO3530 L	3530L	Exercise Physiology Lab	Biology	0	Required laboratory for BIO 3530.	UG	Lab
Fall 2017	BIO3700	3700	Bioethics	Biology	3	Provides an opportunity to learn/discuss contemporary issues in biology, medicine, and health; recognize, compare, contrast, approach bioethical situations and problems; acquire and separate factual knowledge from opinion; and demonstrate critical thinking. Integrated Writing course.	UG	Lecture
Fall 2017	BIO3710	3710	Forensic DNA Profiling	Biology	2	Analysis of videos addressing DNA profiling. Promotes critical thinking about science associated with forensic DNA profiling, particularly in criminal cases where DNA evidence plays an important role.	UG	Lecture
Fall 2017	BIO3800	3800	Conservation Biology	Biology	3	Examination of the scientific theory and applied research focused on the sustained preservation of global biological diversity.	UG	Lecture
Fall 2017	BIO3810	3810	Intro to Bioinformatics	Biology	3	Tools-oriented approach to bioinformatics emphasizing DNA data structure, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics, and use of web-based bioinformatic tools.	UG	Lecture

Fall 2017	BIO3850	3850	Tropical Ecology	Biology	3	Introduction to tropical ecosystems. Structure, unique plants, climate, animals, topography, and high diversity. Understanding why these tropical regions need to be preserved and protected.	UG	Lecture
Fall 2017	BIO3920	3920	Dept Honors Seminar	Biology	1	Preparation you for designing honors project. Focus on aspects of research design, literature review, and communication of results. Students will receive detailed guidance in writing the proposal and will present some aspect of the honors project.	UG	Seminar
Fall 2017	BIO3990	3990	Undergrad Teaching Asst	Biology	1	Supervised experience in preparing materials and apparatus for laboratory sessions in the biological sciences. Students will work with course staff on a regularly scheduled basis to develop the practices and skills associated with laboratory teaching responsibility and assist course staff in teaching the laboratory. Graded pass/unsatisfactory.	UG	Independent Study
Fall 2017	BIO4000	4000	Senior Capstone	Biology	1	Students research and evaluate scientific literature and techniques to create and give oral presentations. Integrated Writing course.	UG	Independent Study
Fall 2017	BIO4010	4010	Topics in Modern Biology	Biology	1	Advanced topics in modern biology of current interest. Topics vary.	UG	Lecture
Fall 2017	BIO4020	4020	Current Lit in Biology	Biology	3	Uses current research articles to develop critical thinking skills. Designed for advanced undergraduate or beginning graduate students. Integrated Writing course.	UG	Lecture
Fall 2017	BIO4030	4030	Topics in Modern Biology	Biology	1	Advanced topics of current interest. Topics vary.	UG	Lecture
Fall 2017	BIO4040	4040	Topics in Modern Biology	Biology	1	Advanced topics of current interest. Topics vary.	UG	Lecture
Fall 2017	BIO4060	4060	Evolutionary Biology	Biology	3	Critically examines modern evolutionary research, with focus on recent theoretical and empirical developments. Topics include speciation and species definitions, phylogeography, phylogenetic biology, molecular evolution, adaptation and natural selection, and sexual selection.	UG	Lecture
Fall 2017	BIO4070	4070	Wetlands Biology	Biology	5	Ecological investigation of wetlands of United States, with emphasis on Midwest. Covers soils, vegetation, hydrology, conservation, and restoration. Primarily field oriented and some lecture.	UG	Lecture/Lab Combination
Fall 2017	BIO4080	4080	Writing in the Bio Sci	Biology	3	Surveys grammatical and stylistic aspects of scientific writing and teaches students how to organize, write, and submit a manuscript for publication in a biological journal. Writing grants will also be discussed. Integrated Writing course.	UG	Lecture
Fall 2017	BIO4090	4090	Intro to R Biology Apps	Biology	3	Programming biostatistics applications in the statistical software package R.	UG	Lecture



Fall 2017	BIO4110	4110	The Aquatic Environment	Biology	5	Detailed coverage of the physical-chemical and biological aspects of inland aquatic ecosystems. Origins and physical and chemical properties of lakes and rivers and the influences of physical-chemical parameters (light, heat, nutrients) on biological processes. Emphasizes the identity and functions of organisms in aquatic ecosystems.	UG	Lecture
Fall 2017	BIO4110 L	4110L	The Aquatic Environment Lab	Biology	0	Required laboratory for BIO 4110.	UG	Lab
Fall 2017	BIO4200	4200	Designing Biological Exp	Biology	3	Principles of effective sampling design for biological studies, reconcile the peculiarities of biological data with the assumptions of statistical methods.	UG	Lecture
Fall 2017	BIO4270	4270	Pathogenic Microbiology	Biology	3	Studies microorganisms pathogenic for humans and animals using the organ system approach. Emphasizes mechanisms of pathogenesis and host resistance.	UG	Lecture
Fall 2017	BIO4340	4340	Biological Safety	Biology	2	Identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	UG	Lecture
Fall 2017	BIO4410	4410	Behavioral Ecology	Biology	3	How and why animals behave the way they do. How an individuals behavior contributes to its survival and reproductive success. Environmental influences on optimal behavioral strategies. Theory is emphasized, but real behaviors will also be examined as case studies.	UG	Lecture
Fall 2017	BIO4420	4420	Adv Molecular Biology	Biology	3	Gene organization and genome organization, centering on the molecular anatomy, expression, and regulation of eukaryotic genes. Emphasizes recombinant DNA technology.	UG	Lecture
Fall 2017	BIO4430	4430	Vertebrate Histology	Biology	5	Study of structure/function relationships in vertebrate tissues, organs and organ systems.	UG	Lecture
Fall 2017	BIO4430 L	4430L	Vertebrate Histology Lab	Biology	0	Required laboratory for BIO 4430.	UG	Lab
Fall 2017	BIO4440	4440	Plant Physiology	Biology	4	Plant physiology, including the major features of nutrition, photosynthesis, transport, hormones, development, and environmental responsiveness. Laboratory includes analytical techniques, experimental design, and interpretation and communication of scientific results.	UG	Lecture
Fall 2017	BIO4440 L	4440L	Plant Physiology Laboratory	Biology	0	Required laboratory for BIO 4440.	UG	Lab
Fall 2017	BIO4450	4450	Amazon Expedition	Biology	4	Classroom instruction followed by travel to Peruvian Amazon, viewing primary and secondary rainforest, tropical rivers, and wildlife.	UG	Lecture/Lab Combination
Fall 2017	BIO4460	4460	Advanced Cell Biology	Biology	3	Cell structure/function including the organization of the cell nucleus, DNA replication, multiple steps of gene expression, membrane composition and the importance of the cytoskeleton for cell motility, cell division and cell adhesion.	UG	Lecture

Fall 2017	BIO4470	4470	Pop and Comm Ecology	Biology	3	Use of deterministic and stochastic models to characterize populations and quantitative methods for analyzing community structure, composition, and dynamics.	UG	Lecture
Fall 2017	BIO4480	4480	Advanced Cell Techniques	Biology	3	Analysis of cellular proteins. Hands-on experience manipulating human cells in culture, extracting cellular proteins, transfecting cells, and performing immunoblotting and immunofluorescence techniques.	UG	Lecture/Lab Combination
Fall 2017	BIO4490	4490	Genetic Screen using RNA	Biology	3	Students will perform original research in the fields of developmental and reproductive biology by using planarian screens to identify genes expressed in the reproductive system and required for development of eggs and sperm. Cloned genes in bacterial vectors will then be used to determine whether genes are expressed in the reproductive system, and perform loss-of-function experiments by RNA-interference (RNAi). This will uncover molecular mechanisms required for developmental function.	UG	Lecture/Lab Combination
Fall 2017	BIO4500	4500	Clin Exercise Phys	Biology	5	Use of exercise as it relates to the prevention of disease specific risk factors, the prevention of occurrence or reoccurrence of a disease-specific event.	UG	Lecture
Fall 2017	BIO4500 L	4500L	Clin Exercise Phys Lab	Biology	0	Required laboratory for BIO 4500.	UG	Lab
Fall 2017	BIO4520	4520	Exercise Pharmacology	Biology	3	Effect of exercise on the therapeutic actions of commonly used prescription and over-the-counter drugs. The effect of drugs on athletic performance is also emphasized.	UG	Lecture
Fall 2017	BIO4530	4530	Respiratory Physiology	Biology	4	An in-depth exploration of oxygen transport for cellular respiration.	UG	Lecture
Fall 2017	BIO4530 L	4530L	Respiratory Physiology Lab	Biology	0	Required laboratory for BIO 4530.	UG	Lab
Fall 2017	BIO4540	4540	Pathophysiology	Biology	3	Patient care as applied to a wide variety of diseases and associated therapies. The disease process, inflammation and healing, immunity, infection. Discussions of blood, cardiovascular, digestive, urinary, neurologic, endocrine, and musculoskeletal disorders. Case studies accompany each topic area.	UG	Lecture
Fall 2017	BIO4550	4550	Plant Systematics	Biology	4	The diversity of vascular plant species with an emphasis on angiosperms, phylogenetic relationships and methods, terminology pertinent to taxonomic classification and nomenclature.	UG	Lecture
Fall 2017	BIO4550 L	4550L	Plant Systematics Laboratory	Biology	0	Required laboratory for BIO 4550.	UG	Lab
Fall 2017	BIO4560	4560	Ecosystem/Global Change	Biology	3	Covers current understanding of ecosystem function and the impacts of humans on global biogeochemical cycles and the distribution of life on earth.	UG	Lecture

Fall 2017	BIO4600	4600	Population Genetics	Biology	4	Examines the causes of genetic differences within and among species and how molecular biology techniques can be used to identify these differences. Emphasizes human genetics, anthropology, ecology, and conservation implications.	UG	Lecture
Fall 2017	BIO4600L	4600L	Population Genetics Lab	Biology	0	Required laboratory for BIO 4600.	UG	Lab
Fall 2017	BIO4660	4660	Intern Appl Physiology	Biology	1	A capstone practicum experience involving work site training or a research project.	UG	Internship
Fall 2017	BIO4700	4700	General Entomology	Biology	4	Basic biology of insects, including their morphology, physiology, life history, ecology, evolution and taxonomy.	UG	Lecture
Fall 2017	BIO4700L	4700L	General Entomology Lab	Biology	0	Required laboratory for BIO 4700.	UG	Lab
Fall 2017	BIO4720	4720	Ornithology	Biology	4	Introduction to the world of birds. Covers a range of scales from genetics that underlie evolution and phylogeny to global ecology and conservation. Students are introduced to diversity, form and function, physiology, behavior, life history, ecology and conservation of birds. Lectures are paired with labs that add hands on experience in bird research. We will work on bird identification by sound and sight.	UG	Lecture
Fall 2017	BIO4720L	4720L	Ornithology Lab	Biology	0	Required laboratory for BIO 4720.	UG	Lab
Fall 2017	BIO4730	4730	Marine Biology	Biology	5	Oceanic ecosystem dynamics and the biological communities associated with different marine habitats. Emphasizes structural and physiological adaptations of organisms to their environment and interactions among different species (competition, predation, and mutualisms). Current threats to marine habitats. Includes a 1 week field trip to the North Carolina coast.	UG	Lecture
Fall 2017	BIO4750	4750	Ichthyology	Biology	4	Overview of the major themes of fish evolution, anatomy, physiology, and ecology, with special emphasis on fresh water species. Includes practical field experience in collection, dissection, and identification.	UG	Lecture
Fall 2017	BIO4750L	4750L	Ichthyology Lab	Biology	0	Required laboratory for BIO 4750.	UG	Lab
Fall 2017	BIO4760	4760	Hum Parasites & Mycology	Biology	3	Surveys parasites of humans worldwide with emphasis on those that occur in North and Central America and Europe. Develops a working knowledge of the anatomy, life cycle and epidemiology of each parasite covered. Compares pathogenic and opportunistic fungal infections. The epidemiology, transmission, symptoms of human mycoses and identification of pathogenic fungal infections and the available treatments.	UG	Lecture

Fall 2017	BIO4810	4810	Bioinformatic Algorithms	Biology	3	Theory-oriented approach to application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques are introduced for solving specific computational problems in molecular genetics.	UG	Lecture
Fall 2017	BIO4840	4840	Biogeography	Biology	3	Introduction to the factors affecting the distribution of plants and animals.	UG	Lecture
Fall 2017	BIO4880	4880	Independent Reading	Biology	1	Study of published scientific literature leading to library research paper. Minimum GPA of 2.25	UG	Independent Study
Fall 2017	BIO4900	4900	Biology Internship	Biology	3	Off-campus experience in cooperating scientific agency or industrial organization. Reports and specific assignments determine in consultation with faculty advisor and supervising professionals. Application required.	UG	Independent Study
Fall 2017	BIO4920	4920	Senior Seminar	Biology	1	Literature survey, discussion, and oral presentations of selected topics in the biological sciences. Minimum GPA of 2.25.	UG	Seminar
Fall 2017	BIO4950	4950	Senior Honors Research	Biology	1	Independent research working closely with a faculty sponsor on the formulation and execution of a research project and thesis preparation. Acceptance into the Departmental Honors Program required.	UG	Independent Study
Fall 2017	BIO4960	4960	Internship Exercise	Biology	1	A capstone practicum experience involving work site training or a research project. GPA of 3.0 or higher.	UG	Internship
Fall 2017	BIO4990	4990	Bio Special Problems	Biology	1	Independent laboratory study course.	UG	Independent Study
Fall 2017	BIO5450	5450	Concepts in Bio I for ED	Biology	3.5	Introduction to biological concepts for Elementary and Middle School education majors. Structured around the National and Ohio State Science Standards and taught from an inquiry perspective. We examine approaches that attempt to teach science as a knowledge-building practice, i.e., by engaging in scientific investigations and participating in scientific practices such as designing an investigation, explanation, and working with scientific models.	GR	Lecture/Lab Combination
Fall 2017	BIO5460	5460	Concept in Bio II for Ed	Biology	4	Concepts and applications of biology formatted to model implications of state and national pedagogical standards, aimed specifically at preparing students for biology teaching in Grades 4-9.	GR	Lecture/Lab Combination
Fall 2017	BIO5810	5810	Intro to Bioinformatics	Biology	3	Tools-oriented approach to bioinformatics emphasizing DNA data structure, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics, and use of web-based bioinformatic tools.	GR	Lecture
Fall 2017	BIO6010	6010	Topics in Biology	Biology	1	Advanced topics in modern biology of current interest. Topics vary.	GR	Lecture

Fall 2017	BIO6020	6020	Current Lit in Biology	Biology	3	Writing intensive course using current research articles to develop critical thinking skills designed for advanced undergraduates or graduate students. Four different sections emphasize broad areas of biology.	GR	Lecture
Fall 2017	BIO6030	6030	Topics in Biology	Biology	1	Advanced topics in modern biology of current interest. Topics vary.	GR	Lecture
Fall 2017	BIO6040	6040	Topics in Biology	Biology	1	Advanced topics in modern biology of current interest. Topics vary.	GR	Lecture
Fall 2017	BIO6060	6060	Evolutionary Biology	Biology	3	Upper-level course in evolutionary biology for graduate students that have already achieved a basic background in evolution. Objectives of the course are to critically examine modern evolutionary research, with focus on recent theoretical and empirical developments. Topics include: speciation and species definitions, phylogeography, phylogenetic biology, molecular evolution, adaptation and natural selection, and sexual selection.	GR	Lecture
Fall 2017	BIO6070	6070	Wetlands Biology	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/Lab Combination
Fall 2017	BIO6080	6080	Writing in the Bio Sci	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 2017	BIO6090	6090	Intro to R w/App in Bio	Biology	3	The goal of this class is to learn programming biostatistics in the statistical software package R.	GR	Lecture
Fall 2017	BIO6110	6110	The Aquatic Environment	Biology	5	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 2017	BIO6110 L	6110L	The Aquatic Environment Lab	Biology	0	Required laboratory for BIO 6110.	GR	Lab
Fall 2017	BIO6200	6200	Design Bio Experiments	Biology	3	This course presents an overview of effective sampling design for biological studies. It shows how to reconcile the peculiarities of biological data with the assumptions of statistical methods. It introduces some statistical methods useful in biology though rarely covered in introductory statistics courses. It outlines the major ways that data are analyzed in biology. It discusses ways to present results.	GR	Lecture

Fall 2017	BIO6410	6410	Behavioral Ecology	Biology	3	This course will focus on how and why animals behave the way they do. In particular, we will study how an individual's behavior contributes to its survival and reproductive success (i.e., why do particular behaviors evolve?) and how the environment influences optimal behavioral strategies (i.e., what is the ecological basis of behavior?). This course has a large theoretical component, but we will also examine some real behaviors as case studies.	GR	Lecture
Fall 2017	BIO6420	6420	Adv Molecular Biology	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 2017	BIO6430	6430	Vertebrate Histology	Biology	5	Study of structure/function relationships in vertebrate tissues, organs and organ systems.	GR	Lecture
Fall 2017	BIO6430 L	6430L	Vertebrate Histology Lab	Biology	0	Required laboratory for BIO 6430.	GR	Lab
Fall 2017	BIO6440	6440	Plant Physiology	Biology	4	Course covers plant physiology, including the major features of nutrition, photosynthesis, transport, hormones, development, and environmental responsiveness. Laboratory will expose students to analytical techniques, experimental design, and interpretation and communication of scientific results.	GR	Lecture
Fall 2017	BIO6440 L	6440L	Plant Physiology Lab	Biology	0	Required laboratory for BIO 6440.	GR	Lab
Fall 2017	BIO6450	6450	Amazon Expedition	Biology	4	This course has two stages. In the first stage, we meet weekly in a classroom setting. Class will consist of mini-lectures, discussion of assigned readings, and field activities. In the second stage, we travel to the Peruvian Amazon, where you will see primary and secondary rainforest, tropical rivers, and wildlife.	GR	Lecture/Lab Combination
Fall 2017	BIO6460	6460	Advanced Cell Biology	Biology	3	Students will gain a thorough understanding about eukaryotic cell structures and functions including the organization of the cell nucleus, DNA replication, the multiple steps of gene expression, membrane composition and dynamics, and the importance of the cytoskeleton for cell motility, cell division and cell adhesion.	GR	Lecture
Fall 2017	BIO6470	6470	Pop & Comm Ecology	Biology	3	Derivation and use of deterministic and stochastic population models, methods of analyzing community structure, composition, and dynamics.	GR	Lecture
Fall 2017	BIO6480	6480	Advanced Cell Techniques	Biology	4	Analysis of cellular proteins will be the major focus. Students will have first-hand experience manipulating human cells in culture, extracting cellular proteins, transfecting cells, and performing immunoblotting and immunofluorescence techniques.	GR	Lecture/Lab Combination

Fall 2017	BIO6490	6490	Genetic Screen using RNA	Biology	3	Students will perform original research in the fields of developmental and reproductive biology by using planarian screens to identify genes expressed in the reproductive system and required for development of eggs and sperm. Cloned genes in bacterial vectors will then be used to determine whether genes are expressed in the reproductive system, and perform loss-of-function experiments by RNA-interference (RNAi). This will uncover molecular mechanisms required for developmental function.	GR	Lecture/Lab Combination
Fall 2017	BIO6550	6550	Plant Systematics	Biology	4	The diversity of vascular plant species with an emphasis on angiosperms, phylogenetic relationships and methods, terminology pertinent to taxonomic classification and nomenclature.	GR	Lecture
Fall 2017	BIO6550 L	6550L	Plant Systematics Lab	Biology	0	Required laboratory for BIO 6550.	GR	Lab
Fall 2017	BIO6560	6560	Ecosystem/Global Change	Biology	3	Covers current understanding of ecosystem function and the impacts of humans on global biogeochemical cycles and the distribution of life on earth.	GR	Lecture
Fall 2017	BIO6600	6600	Population Genetics	Biology	4	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 2017	BIO6600 L	6600L	Population Genetics Lab	Biology	0	Required laboratory for BIO 6600.	GR	Lab
Fall 2017	BIO6700	6700	General Entomology	Biology	4	Basic biology of insects, including their morphology, physiology, life history, ecology, evolution and taxonomy.	GR	Lecture
Fall 2017	BIO6700 L	6700L	General Entomology Lab	Biology	0	Required lab for BIO 6700.	GR	Lab
Fall 2017	BIO6720	6720	Ornithology	Biology	4	This class is an introduction to the world of birds. We will cover the whole range of scales important to any organism from genetics that underlie evolution and phylogeny to global ecology and conservation. You will be introduced to diversity, form and function, physiology, behavior, life history, ecology and conservation of birds. Lectures are paired with labs that add hands on experience in bird research. We will work on bird identification by sound and sight, and study design.	GR	Lecture
Fall 2017	BIO6720 L	6720L	Ornithology Lab	Biology	0	Required laboratory for BIO 6720.	GR	Lab

Fall 2017	BIO6730	6730	Marine Biology	Biology	5	Lectures cover oceanic ecosystem dynamics and the biological communities associated with different marine habitats. Emphasis is placed on structural and physiological adaptations of organisms to their environment and interactions among different species (competition, predation, and mutualisms). Current threats to marine habitats are discussed. The course includes a 1 week field trip to the North Carolina coast.	GR	Lecture
Fall 2017	BIO6750	6750	Ichthyology	Biology	4	Introduction to the diversity of fishes. This course will provide an overview of the major themes of fish evolution, anatomy, physiology, and ecology. This course will familiarize students with the most diverse group of vertebrates with special emphasis on fresh water taxa. Lecture topics are combined with field based collections and lab activities to facilitate conceptual learning with practical field experience in collection, dissection, and identification.	GR	Lecture
Fall 2017	BIO6750 L	6750L	Ichthyology Lab	Biology	0	Required laboratory for BIO 6750.	GR	Lab
Fall 2017	BIO6810	6810	Bioinformatic Algorithms	Biology	3	Theory-orientated approach to the application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques are introduced in the context of application toward solving specific computational problems in molecular genetics.	GR	Lecture
Fall 2017	BIO6840	6840	Biogeography	Biology	3	Introduction to the factors affecting the distribution of plants and animals.	GR	Lecture
Fall 2017	BIO6990	6990	Special Prob in Biology	Biology	1	All assignments, reading material, and experimentation are determined by instructor. Typically, instructional material will be derived from primary research literature and writing a critical review paper will be required. This does not discount inclusion of relevant laboratory or field exercises. Instruction will generally consist of one-on-one, student:instructor discussions and mentoring.	GR	Independent Study
Fall 2017	BIO7000	7000	Prin Instruction Biology	Biology	1	Survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction.	GR	Lecture
Fall 2017	BIO7010	7010	Selected Topics in Bio	Biology	1	Topics vary.	GR	Lecture



Fall 2017	BIO7020	7020	Intro Research Biology	Biology	1	The class will emphasize building talents and skills required to succeed in the Biology M.S. program. Special emphasis will be placed on the components of proposal writing that are required for degree completion. The class will also emphasize how to conduct responsible and ethical research. This will include obtaining the necessary approvals required by the university.	GR	Lecture
Fall 2017	BIO7120	7120	Env Bio Genes Org & Eco	Biology	3	Graduate level introduction to environmental biology at multiple levels of biological organization including molecular biology, organismal physiology and evolutionary biology, and community and ecosystem ecology.	GR	Lecture
Fall 2017	BIO7300	7300	Cell Biology	Biology	3	Topics include but not limited to a review of current understanding of the structure and function of cells, organelles and subcellular complexes.	GR	Lecture
Fall 2017	BIO7880	7880	Continuing Enrollment	Biology	0	Work toward completion of thesis research, completion of written thesis or completion of an internship or residency program.	GR	Independent Study
Fall 2017	BIO7890	7890	Continuing Registration	Biology	1	Maintenance of contacts with department. Fulfills university requirement that student must be registered for at least one hour of graduate credit during the quarter in which they successfully defend their thesis.	GR	Independent Study
Fall 2017	BIO7990	7990	Literature Critique	Biology	1	Independent project to write a critical review of literature on a specific topic. Graded pass/unsatisfactory.	GR	Independent Study
Fall 2017	BIO8000	8000	Graduate Seminar	Biology	1	Topics vary but will include extensive discussion of primary, research literature.	GR	Seminar
Fall 2017	BIO8990	8990	Graduate Research	Biology	1	Supervised thesis research.	GR	Independent Study
Fall 2017	BMB1000	1000	Freshman Seminar in BMB	Biochem & Molecular Biology	0.5	Introduction to BMB faculty and the facilities at WSU. Development of a learning portfolio to facilitate student growth and development and BMB program success. Introduction to the scientific practices encompassed in the Next Generation Science Standards (NGSS)	UG	Lecture
Fall 2017	BMB1010	1010	Topics in BMB	Biochem & Molecular Biology	0.5	Topics will vary. Current media coverage of biochemistry and molecular biology related events, popular literature, or other special interest topics related to biochemistry and molecular biology.	UG	Lecture
Fall 2017	BMB2000	2000	Career Planning in BMB	Biochem & Molecular Biology	1	Students will be exposed to multiple future career pathways available in BMB upon completion of their B.S. degree.	UG	Lecture
Fall 2017	BMB2100	2100	Intro to Biochemistry	Biochem & Molecular Biology	2	Basic concepts in Biochemistry.	UG	Lecture

Fall 2017	BMB2500	2500	Human Nutrition	Biochem & Molecular Biology	3	Nutrition as an integrated science emphasizing biochemical and physiological principles. Topics include nutritional energetics, specific nutrients, and nutrition and physiology. Relation of basic concepts to clinical situations and to nutritional management of specific disease conditions.	UG	Lecture
Fall 2017	BMB3030	3030	Research Ethics	Biochem & Molecular Biology	1	Ethical dilemmas present in scientific research including discussion of various real-life scenarios.	UG	Lecture
Fall 2017	BMB3220	3220	Biochemistry for Pre-Med	Biochem & Molecular Biology	3	Prepares students for the Biochemistry section of the MCAT as outlined by AAMC under the sections of Biological and Biochemical Foundations of Living Systems and Chemical and Physical Foundation of Biological Systems.	UG	Lecture
Fall 2017	BMB3850	3850	Biochem Lab	Biochem & Molecular Biology	3	Laboratory methodologies such as chromatography, electrophoresis, purification and characterization of enzymes, culminating in guided research projects. This course is writing intensive.	UG	Lecture/Lab Combination
Fall 2017	BMB3900	3900	Scientific Communication	Biochem & Molecular Biology	2	Reading, comprehending, and generating scientific literature in Biochemistry and Molecular Biology. IW in major.	UG	Lecture
Fall 2017	BMB4000	4000	BMB Seminar	Biochem & Molecular Biology	1	Students will attend, evaluate and summarize selected lectures given by experienced researchers.	UG	Seminar
Fall 2017	BMB4010	4010	Topics in BMB	Biochem & Molecular Biology	0.5	Review of current literature or current research techniques in Biochemistry and Molecular Biology.	UG	Independent Study
Fall 2017	BMB4020	4020	Research Perspectives	Biochem & Molecular Biology	1	Acquaints students with the research being carried out by faculty in the Biochemistry and Molecular Biology program.	UG	Lecture
Fall 2017	BMB4100	4100	Senior Reflection	Biochem & Molecular Biology	1	Preparing students to enter the workforce. Reflections on the BMB program and courses. Self-evaluations and a culminating senior project. This course is Integrated Writing.	UG	Lecture
Fall 2017	BMB4210	4210	Biochem and Mol Bio I	Biochem & Molecular Biology	3	Basic principles of biochemistry and molecular biology of the cells at the molecular level. Emphasizes experimental procedures used to generate current understanding of the biochemistry of proteins, enzymes and nucleic acids.	UG	Lecture
Fall 2017	BMB4230	4230	Biochem and Mol Bio II	Biochem & Molecular Biology	3	Biosynthetic and biodegradative metabolism with emphasis on the molecular events leading to the regulation of metabolism. Covers the chemistry which enables cells to generate energy for life-sustaining processes and the role of biological membranes in this process. Includes control and regulation of metabolic processes at the molecular level.	UG	Lecture
Fall 2017	BMB4870	4870	BMB Sem with Dev Rsch	Biochem & Molecular Biology	1	Students will attend graduate students' presentations.	UG	Seminar
Fall 2017	BMB4880	4880	Ind Read Biochem Mol Bio	Biochem & Molecular Biology	1	Review of current literature in biochemistry and molecular biology.	UG	Independent Study
Fall 2017	BMB4950	4950	Biochem Honors Research	Biochem & Molecular Biology	1	Research experience in a biochemistry and molecular biology laboratory.	UG	Lab
Fall 2017	BMB4990	4990	Undergraduate Research	Biochem & Molecular Biology	1	Biochemical and/or molecular biological research in a faculty member's laboratory.	UG	Independent Study

Fall 2017	BMB6020	6020	Research Perspectives	Biochem & Molecular Biology	3	Lecture/reading course to acquaint new graduate students with the research being carried out by the faculty in the Biochemistry and Molecular Biology program.	GR	Lecture
Fall 2017	BMB6990	6990	Spec Problems in Biochem	Biochem & Molecular Biology	1	Current problems in Biochemistry and Molecular Biology as assigned by BMB faculty members with approval of the Chair.	GR	Independent Study
Fall 2017	BMB7010	7010	Selected Topics-Biochem	Biochem & Molecular Biology	0.5	Special topics in Biochemistry and Molecular Biology covering recent developments in selected faculty member's area of research expertise.	GR	Lecture
Fall 2017	BMB7030	7030	Research Ethics	Biochem & Molecular Biology	0.5	Also listed as BMS 7030. Research ethics emphasizes the evaluation of hypothetical ethical scenarios in biomedical research. Class discussion is based on integrating ethical policy and practices as they relate to research at Wright State and beyond.	GR	Lecture
Fall 2017	BMB7030R	7030R	Research Ethics Rec	Biochem & Molecular Biology	0	Required recitation for BMB 7030.	GR	Recitation
Fall 2017	BMB7260	7260	Bioenergetics	Biochem & Molecular Biology	2	Emphasis on eukaryotic cell energy metabolism and ATP synthesis in normal and diseased states. Current research developments in carbohydrate, fat and amino acid metabolism will be covered through individual pathways and an interacting systems approach within cells. Mitochondrial energy transduction at the molecular level will be discussed in detail.	GR	Lecture
Fall 2017	BMB7270	7270	Proteins and Enzymes	Biochem & Molecular Biology	3	Also listed as BMS 7670. Current concepts in protein structure and function and the mechanism of enzymatic catalysis.	GR	Lecture
Fall 2017	BMB7500	7500	Molecular Biochemistry I	Biochem & Molecular Biology	3	Also listed as BMS 7500. Survey course emphasizing experimental and problem-solving approaches to understanding amino acids, protein structure, enzymes, nucleic acid structure and DNA replication.	GR	Lecture
Fall 2017	BMB7520	7520	Molecular Biochem II	Biochem & Molecular Biology	3	Survey course emphasizing an experimental and problem-solving approach to metabolism, nucleic-acid function, protein synthesis, membranes and hormones.	GR	Lecture
Fall 2017	BMB7530	7530	Molecular Signalling	Biochem & Molecular Biology	3	Also listed as BMS 7530. A molecular analysis of information transfer into and within cells.	GR	Lecture
Fall 2017	BMB7600	7600	Molec Bio of the Nucleus	Biochem & Molecular Biology	3	Also listed as BMS 7600. A literature based course covering molecular events in the nucleus including DNA replication, repair and recombination and transcription.	GR	Lecture
Fall 2017	BMB7630	7630	NMR Spectro	Biochem & Molecular Biology	3	Also listed as BMS 7630 and BME 7630. 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 2017	BMB7650	7650	Comp Tools/Strategy BMS	Biochem & Molecular Biology	2	This is a survey course of modern high-throughput experimental approaches and computational tools used currently in cell and molecular biology, microbiology, and ecology. Students will gain knowledge of the most widely used experimental techniques and will obtain hands on laboratory-type computational experience with key software and strategies. Covered topics include genomics, gene expression profiling, phylogenetic analysis, next-generation sequencing, and biological pathway analysis.	GR	Lecture
Fall 2017	BMB7660	7660	Systems Biology	Biochem & Molecular Biology	3	This course will describe current state-of-the-art experimental and analytical techniques in the area of systems biology. The covered topics include genomics, proteomics, RNA expression, metabolite measurements, and molecular ecology.	GR	Lecture
Fall 2017	BMB7670	7670	Mol Basis Inherited Dis	Biochem & Molecular Biology	3	An intensive course on human diseases at all levels; replicational, transcriptional, translational, protein expression, protein folding and processing, protein structure and function, cellular metabolic changes, nuclear and cellular phenotypic changes, symptoms, and putative therapies.	GR	Seminar
Fall 2017	BMB7890	7890	Continuing Registration	Biochem & Molecular Biology	1	Continuing registration for advanced degree.	GR	Independent Study
Fall 2017	BMB8000	8000	Biochemistry Seminar	Biochem & Molecular Biology	1	Current departmental research in Biochemistry and Molecular Biology presented in an informal seminar format.	GR	Seminar
Fall 2017	BMB8990	8990	Biochemistry Research	Biochem & Molecular Biology	0.5	Original research in a BMB faculty laboratory. Variable credit hours .5 - 15.	GR	Independent Study
Fall 2017	BMB9000	9000	Advanced Seminar	Biochem & Molecular Biology	1	Current research in Biochemistry and Molecular Biology presented in a didactic seminar format.	GR	Seminar
Fall 2017	BME1110	1110	Fundamentals of BIE	Biomedical Engineering	1	Introduction to the disciplines of Biomedical, Industrial & Systems and Human Factors Engineering. Provides an overview of how engineers design, develop, implement, and improve integrated systems that include people, materials, information, equipment, and energy. Consists of lecture classes and computer-based instrumentation lab sessions; includes freshman design experience with emphasis on teamwork and problem solving. Department faculty provide interesting insights in their areas of expertise.	UG	Lecture/Lab Combination
Fall 2017	BME1110 L	1110L	Fundamentals of BIE Lab	Biomedical Engineering	0	Required laboratory for BME 1110.	UG	Lab
Fall 2017	BME1550	1550	Adaptive Computer Tech	Biomedical Engineering	3	Presented for physically impaired students for the purpose of familiarizing them with adaptive computer usage. It is structured to teach necessary skills related to each student's rehabilitative needs.	UG	Lecture/Lab Combination
Fall 2017	BME1950	1950	Undergrad Resrch BME I	Biomedical Engineering	1	Undergraduate research in biomedical engineering. Topics vary.	UG	Independent Study

Fall 2017	BME1980	1980	Special Topics in BME I	Biomedical Engineering	1	Undergraduate special topics in biomedical engineering. Topics vary.	UG	Lecture
Fall 2017	BME1990	1990	Independ Stdy in BME I	Biomedical Engineering	1	Undergraduate independent studies in biomedical engineering. Topics vary.	UG	Independent Study
Fall 2017	BME3211	3211	Human Biomechanics I	Biomedical Engineering	4	Biostatic considerations, human systems and mechanics.	UG	Lecture
Fall 2017	BME3211R	3211R	Human Biomechanics I Rec	Biomedical Engineering	0	Required recitation for BME 3211.	UG	Recitation
Fall 2017	BME3212	3212	Human Biomechanics II	Biomedical Engineering	3	Linear and angular kinematics and kinetics applied to human performance. Other topics include human systems analysis with work-energy methods and injury biomechanics utilizing impulse-momentum methods.	UG	Lecture
Fall 2017	BME3511	3511	Bioelectronics I	Biomedical Engineering	4	Electronic theory applied to biomedical / human systems (physiological measurements, medical devices, prosthetics, medical imaging). Passive components, voltage/current sources, switches/relays. Circuit/network analysis using law/theorems (Ohm, Joules, Kirchhoff, Thevenin/Norton). Hands-on laboratory component reinforces an understanding of biomedical electronic systems and devices using function generators, multi-meters, oscilloscopes to measure voltage, current, impedance, frequency.	UG	Lecture
Fall 2017	BME3511L	3511L	Bioelectronics I Laboratory	Biomedical Engineering	0	Required laboratory for BME 3511.	UG	Lab
Fall 2017	BME3512	3512	Bioelectronics II	Biomedical Engineering	4	Modern electronic devices/circuits applied to human systems / biomedical applications, instrumentation, data collection. Reactive components, filters, semiconductors, op-amps, digital logic circuits in biomedical applications and devices. Hands-on laboratory component provides experience in designing, assembling, testing, and employing amplifiers, filters, digital logic circuits used for collecting and analyzing data related to biomedical engineering applications.	UG	Lecture
Fall 2017	BME3512L	3512L	Bioelectronics II Laboratory	Biomedical Engineering	0	Required laboratory for BME 3512.	UG	Lab
Fall 2017	BME3520	3520	Microcomputers for BME	Biomedical Engineering	4	Principles, hardware structure, and programming techniques of microprocessors, microcomputers and microcontrollers. Applications of microcomputers and microcontrollers in health care, rehabilitation and medical research.	UG	Lecture
Fall 2017	BME3520L	3520L	Microcomputers for BME Lab	Biomedical Engineering	0	Required laboratory for BME 3520.	UG	Lab

Fall 2017	BME3530	3530	BME Signals and Systems	Biomedical Engineering	3	Concept and theory of signals and systems applied to biomedical engineering. Topics include continuous-time periodic and non-periodic signals; linear time-invariant system; Fourier transform and Laplace transform. Discrete signals and discrete Fourier transform	UG	Lecture
Fall 2017	BME3540	3540	Intro to Comp for BME	Biomedical Engineering	3	Digital computer applications in biomedical related fields. Use of Matlab to solve biomedical problems and display the results.	UG	Lecture/Lab Combination
Fall 2017	BME3540 L	3540L	Biomedical Computation Lab	Biomedical Engineering	0	Required laboratory for BME 3540.	UG	Lab
Fall 2017	BME4350	4350	Comp Neuroerg & Hlth App	Biomedical Engineering	3	Principles and application of computational methods and technologies to neuroergonomics and neuroengineering; analysis of applications related to brain-system interface and augmented sensory perception; articulation of various methods of non-invasive neuroscience measurements	UG	Lecture
Fall 2017	BME4410	4410	Biothermodynamics	Biomedical Engineering	3	Application of first and second laws of thermodynamics to human, physiological and biological systems.	UG	Lecture
Fall 2017	BME4421	4421	Biotransport	Biomedical Engineering	3	Derivation and application of engineering principles to flow properties of biological and other fluids; conservation equations applied to control volumes in the body as well as extracorporeal devices; principles of heat and mass transfer to similar control volumes, using basic laws and empirical heat and mass transfer relationships; dimensional analysis methodology and applications	UG	Lecture
Fall 2017	BME4422	4422	Adv Biotransp Artif Org	Biomedical Engineering	4	Introduction to transport processes vital to the design of medical devices for artificial intervention into living systems. Topics include pulmonary gas transport, mathematical modeling of pharmacokinetic systems, membrane transport, tissue engineering and bioartificial organ design.	UG	Lecture
Fall 2017	BME4422 L	4422L	Adv Biotransp Artif Org Lab	Biomedical Engineering	0	Required laboratory for BME 4422.	UG	Lab
Fall 2017	BME4430	4430	Engineering Biophysics	Biomedical Engineering	3	Application of mathematics and engineering techniques toward describing biophysical systems. Topics include cellular transport, electrical properties of membranes, and biophysics of muscle contraction.	UG	Lecture
Fall 2017	BME4440	4440	Biomaterials	Biomedical Engineering	4	Application of materials in different biomedical fields. Design and analyses.	UG	Lecture/Lab Combination
Fall 2017	BME4440	4440	Biomaterials	Biomedical Engineering	4	Application of materials in different biomedical fields. Design and analyses.	UG	Lecture
Fall 2017	BME4440 L	4440L	Biomaterials Lab	Biomedical Engineering	0	Required laboratory for BME 4440.	UG	Lab

Fall 2017	BME4441	4441	Biofluid Mechanics	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 extra-corporeal fluids.	UG	Lecture
Fall 2017	BME4442	4442	BME Heat & Mass Transfer	Biomedical Engineering	3	Introduction to 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 the various modes, diffusion mass transport, and heat/mass transport in applicable technological systems.	UG	Lecture
Fall 2017	BME4443	4443	Biotrans & Artif Orgs	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.	UG	Lecture
Fall 2017	BME4443L	4443L	Biotrans & Artif Orgs Lab	Biomedical Engineering	0	Required laboratory for BME 4443.	UG	Lab
Fall 2017	BME4520L	4520L	Microprocessors for BME Lab	Biomedical Engineering	0	Required laboratory for BME 4520.	UG	Lab
Fall 2017	BME4550	4550	Bioinstrumentation	Biomedical Engineering	4	Various electrodes, transducers, chemical sensors, special circuits, devices and methods for measuring biological signals and variables; therapeutic and prosthetic devices; electrical safety.	UG	Lecture
Fall 2017	BME4550L	4550L	Bioinstrumentation Laboratory	Biomedical Engineering	0	Required laboratory for BME 4550.	UG	Lab
Fall 2017	BME4610	4610	Clinical Engr Dev World	Biomedical Engineering	3	Students will be exposed to the culture of a developing country; learn how to live and interact with the local people; gain an appreciation for a culture different from their own and of the limited technical resources of educational and healthcare facilities in a developing country; learn how to install and repair medical and other technical equipment with simple tools. <b> Department Managed Prerequisite(s): Undergraduate level PHY 2410 Minimum Grade of D+ /b>	UG	Lecture/Lab Combination
Fall 2017	BME4701	4701	Medical Imaging	Biomedical Engineering	4	Overview of the various methods used in generating images in medicine. Basic principles of the image-forming process and the physical properties of the resultant image are discussed.	UG	Lecture
Fall 2017	BME4701L	4701L	Medical Imaging Laboratory	Biomedical Engineering	0	Required laboratory for BME 4701.	UG	Lab
Fall 2017	BME4701R	4701R	Med Imaging Recitation	Biomedical Engineering	0	A recitation section that focuses on problem solving skills that apply to medical imaging.	UG	Lecture/Recitation Combination

Fall 2017	BME4702	4702	Advanced Medical Imaging	Biomedical Engineering	4	Generation, effects, and detection of ionizing radiation and its application to plain radiographic imaging in medicine. Successful completion of this course entitles students to be registered users of radioactive isotopes and radiation-generating equipment.	UG	Lecture
Fall 2017	BME4702L	4702L	Advanced Medical Imaging Lab	Biomedical Engineering	0	Required laboratory for BME 4702.	UG	Lab
Fall 2017	BME4703	4703	Medical Imaging	Biomedical Engineering	4	Overview of the various methods used in generating images in medicine. Basic principles of the image-forming process and the physical properties of the resultant image are discussed.	UG	Lecture
Fall 2017	BME4703R	4703R	Medical Imaging Recitation	Biomedical Engineering	0	A recitation section that focuses on problem solving skills that apply to medical imaging.	UG	Recitation
Fall 2017	BME4704	4704	Advanced Medical Imaging	Biomedical Engineering	4	Generation, effects, and detection of ionizing radiation and its application to plain radiographic imaging in medicine. Successful completion of this course entitles students to be registered users of radioactive isotopes and radiation-generating equipment.	UG	Lecture
Fall 2017	BME4704L	4704L	Adv Med Imag Lab	Biomedical Engineering	0	Lab for BME 4704.	UG	Lab
Fall 2017	BME4850	4850	Six Sigma for Engineers	Biomedical Engineering	3	Introduction to the practical application of Six Sigma tools in production and service contexts. Includes videos and case studies of real-world applications.	UG	Lecture
Fall 2017	BME4910	4910	BME Design I	Biomedical Engineering	3	Segment one of the BME senior design sequence. Introduction to patents and engineering ethics included. Practicum results in the definition of the capstone design project to be completed in BME 4920. Integrated Writing course.	UG	Lecture
Fall 2017	BME4920	4920	BME Design II	Biomedical Engineering	3	Segment two of the BME senior design sequence. Practicum results in the final engineering design and completion of the design project. Integrated Writing course.	UG	Lecture
Fall 2017	BME4950	4950	Undergrad Resrch BME II	Biomedical Engineering	1	Undergraduate research in advanced biomedical engineering. Topics vary.	UG	Independent Study
Fall 2017	BME4980	4980	Special Topics in BME II	Biomedical Engineering	1	Undergraduate special topics in advanced biomedical engineering. Topics vary.	UG	Lecture
Fall 2017	BME4990	4990	Independ Stdy in BME II	Biomedical Engineering	1	Undergraduate independent studies in advanced biomedical engineering. Topics vary.	UG	Independent Study
Fall 2017	BME5520	5520	Microcomputers for BME	Biomedical Engineering	4	Principles, hardware structure, and programming techniques of microprocessors, microcomputers and microcontrollers. Applications of microcomputers and microcontrollers in health care, rehabilitation and medical research. Department Managed Prerequisite(s): Undergraduate level PHY 2410 Minimum Grade of D- /h>	GR	Lecture



Fall 2017	BME5520 L	5520L	Microprocessors for BME Lab	Biomedical Engineering	0	Required laboratory for BME 5520.	GR	Lab
Fall 2017	BME5530	5530	BME Signals and Systems	Biomedical Engineering	3	Concept and theory of signals and systems applied to biomedical engineering. Topics include continuous-time periodic and non-periodic signals; linear time-invariant system; Fourier transform and Laplace transform. Discrete signals and discrete Fourier transform.<b> Department Managed Prerequisite(s): Undergraduate level BME 3511 Minimum Grade of D and Undergraduate level BME 3540 Minimum Grade of D. (BME 3540 can be taken	GR	Lecture
Fall 2017	BME6010	6010	Ethics in Engineering	Biomedical Engineering	1	Introduce new engineering graduate students to ethics of engineering, scientific research, and technical writing. Additional topics include active reading, active listening, effective presentation, faculty-advisor relationships and the thesis/dissertation process	GR	Lecture
Fall 2017	BME6310	6310	Ergonomics	Biomedical Engineering	3	Introduction to the application of ergonomic principles to the industrial environment. Includes ergonomic planning and implementation, the work environment, NIOSH work factors, work measurement, and workstation and equipment design.<b> Department Managed Prerequisite(s): Graduate level IHE 6120 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME6350	6350	Comp Neuroerg & Hlth App	Biomedical Engineering	3	Principles and application of computational methods and technologies to neuroergonomics and neuroengineering; analysis of applications related to brain-system interface and augmented sensory perception; articulation of various methods of non-invasive neuroscience measurements	GR	Lecture
Fall 2017	BME6410	6410	Biothermodynamic s	Biomedical Engineering	3	Students will be able to apply first and second laws, along with constitutive equations for simple fluids to problems involving human systems, and human physiology/ biology.<b> Department Managed Prerequisite(s): Undergraduate level BME 3211 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME6421	6421	Biotransport	Biomedical Engineering	3	Students will be able to apply engineering principles to solve transport problems in biomedical engineering, in the body as well as extracorporeal devices. Dimensional analysis will also be learned and applied to problems in biofluid flow and bioheat and mass transfer.<b> Department Managed Prerequisite(s): Graduate level BME 6410 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME6430	6430	Engineering Biophysics	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 2017	BME6440	6440	Biomaterials	Biomedical Engineering	4	Application of materials in different biomedical fields. Design and analyses.	GR	Lecture
Fall 2017	BME6440 L	6440L	Biomaterials Lab	Biomedical Engineering	0	Required laboratory for BME 6440.	GR	Lab
Fall 2017	BME6441	6441	Biofluid Mechanics	Biomedical Engineering	3	Students will gain a better understanding of the behavior of fluids as encountered in everyday life, general engineering and biomedical engineering applications. Student will be able to model and analyze as well as design devices and systems which involve stationary or moving fluids.<b> Department Managed Prerequisite(s): Graduate level BME 6410 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME6442	6442	Bio Heat & Mass Transfr	Biomedical Engineering	3	Students will gain a better understanding of the principles of heat and mass transfer as encountered in everyday life, general engineering and biomedical engineering applications. To be able to model, analyze and design devices and systems that require heat and/or mass transfer as part of their function.<b> Department Managed Prerequisite(s): Graduate level BME 6410 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME6443	6443	Biotransport & Artif Org	Biomedical Engineering	4	Students use the basic laws of mass, momentum and energy conservation in biomedical engineering applications. Other supporting relations are used in conjunction with these to solve problems in cardiovascular, pulmonary, and other organ systems and in design of their replacements.<b> Department Managed Prerequisite(s): Graduate level BME 6421 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME6443 L	6443L	Biotransport & Artif Org Lab	Biomedical Engineering	0	Required laboratory for BME 6443.	GR	Lab
Fall 2017	BME6550	6550	Bioinstrumentation	Biomedical Engineering	4	Various electrodes, transducers, chemical sensors, special circuits, devices and methods for measuring biological signals and variables; therapeutic and prosthetic devices; electrical safety.<b> Department Managed Prerequisite(s): Undergraduate level ANT 3120 Minimum Grade of D and Undergraduate level BME 3512 Minimum Grade of D and Undergraduate level BME 3530 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME6550 L	6550L	Bioinstrumentation Lab	Biomedical Engineering	0	Required laboratory for BME 6550.	GR	Lab
Fall 2017	BME6610	6610	Clinical Engr Dev World	Biomedical Engineering	3	Students will be exposed to the culture of a developing country; learn how to live and interact with the local people; gain an appreciation for a culture different from their own and of the limited technical resources of educational and healthcare facilities in a developing country; learn how to install and repair medical and other technical equipment with simple tools.<b> Department Managed Prerequisite(s): Undergraduate level PHY 2410 Minimum Grade of D</b>	GR	Lecture/Lab Combination

Fall 2017	BME6701	6701	Medical Imaging	Biomedical Engineering	4	Overview of the various methods used in generating images in medicine. Basic principles of the image-forming process and the physical properties of the resultant image are discussed.	GR	Lecture
Fall 2017	BME6701R	6701R	Medical Imaging Recitation	Biomedical Engineering	0	Required recitation for BME 6701.	GR	Recitation
Fall 2017	BME6702	6702	Advanced Medical Imaging	Biomedical Engineering	4	Generation, effects, and detection of ionizing radiation and its application to plain radiographic imaging in medicine. Successful completion of this course entitles students to be registered users of radioactive isotopes and radiation-generating equipment. Department Managed Prerequisite(s): Undergraduate level BME 4701 Minimum Grade of D or Graduate level BME 6701 Minimum Grade of D	GR	Lecture
Fall 2017	BME6702L	6702L	Advanced Medical Imaging Lab	Biomedical Engineering	0	Required laboratory for BME 6702.	GR	Lab
Fall 2017	BME6703	6703	Medical Imaging	Biomedical Engineering	4	Overview of the various methods used in generating images in medicine. Basic principles of the image-forming process and the physical properties of the resultant image are discussed.	GR	Lecture
Fall 2017	BME6703R	6703R	Medical Imaging Recitation	Biomedical Engineering	0	Required recitation for BME 6703.	GR	Recitation
Fall 2017	BME6704	6704	Advanced Medical Imaging	Biomedical Engineering	4	Generation, effects, and detection of ionizing radiation and its application to plain radiographic imaging in medicine. Successful completion of this course entitles students to be registered users of radioactive isotopes and radiation-generating equipment	GR	Lecture
Fall 2017	BME6704L	6704L	Adv Med Imaging Lab	Biomedical Engineering	0	Required laboratory for BME 6704.	GR	Lab
Fall 2017	BME6710	6710	Optical Imaging	Biomedical Engineering	3	Biophotonics and optical imaging concepts. Basic optics, light propagation in tissue, modern microscopy techniques, diagnostic use of lasers (optical biopsies, optical spectroscopy, optical imaging), thermal aspects of light-tissue interaction, therapeutic use of laser (laser ablation, photodynamic therapy, light-activated therapy), novel technologies and applications including optical molecular imaging. Includes microscopy facility tour and small lab experiments.	GR	Lecture
Fall 2017	BME6850	6850	Six Sigma for Engineers	Biomedical Engineering	3	Practical application of Six Sigma tools in production and service contexts. Includes videos and case studies of real world applications. Department Managed Prerequisite(s): Graduate level IHE 6120 Minimum Grade of D	GR	Lecture
Fall 2017	BME6980	6980	Special Topics in BME I	Biomedical Engineering	1	Graduate special topics in advanced biomedical engineering. Topics vary.	GR	Lecture

Fall 2017	BME6990	6990	Independ StdY in BME I	Biomedical Engineering	1	Graduate independent studies in advanced biomedical engineering. Topics vary.	GR	Independent Study
Fall 2017	BME7110	7110	Biomedical Signals	Biomedical Engineering	3	Study of various techniques for the analysis and processing of biomedical signals. Main topics include time-domain and frequency-domain analysis of continuous and discrete signals, random signals and random processes, Principal Component Analysis, adaptive filtering, classical and modern spectral estimation	GR	Lecture
Fall 2017	BME7112	7112	Proc of Medical Images	Biomedical Engineering	3	Digital image processing and its application to medical images. Topics include image display, compression, filtering, spatial versus frequency domain techniques, edge detection, morphological operations, registration and classification.<b> Department Managed Prerequisite(s): Graduate level BME 7110 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7113	7113	Medical Image Analysis	Biomedical Engineering	3	Topics of 2-D and 3-D image segmentation and registration; 2-D and 3-D feature selection; validation methods; and visualization techniques for volumetric medical images are covered.<b> Department Managed Prerequisite(s): Graduate level BME 7112 Minimum Grade of D or Undergraduate level CEG 4500 Minimum Grade of D or Graduate level CEG 6500 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7131	7131	Medical Ultrasonics	Biomedical Engineering	3	Fundamentals of medical ultrasonics: ultrasound generation, propagation, scattering, and attenuation in biological tissue. Traditional A-mode, B-mode, M-mode, Doppler techniques and advanced ultrasound imaging techniques.<b> Department Managed Prerequisite(s): Undergraduate level BME 4702 Minimum Grade of D or Graduate level BME 6702 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7132	7132	Computed Tomography	Biomedical Engineering	3	Principles of generating images from projections. Discussion of specific problems like beam hardening, scatter, metal artefacts, etc.. Focus on quantitative imaging in medical applications.<b> Department Managed Prerequisite(s): Undergraduate level BME 4702 Minimum Grade of D or Graduate level BME 6702 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7133	7133	Nucl Magnetic Res in Med	Biomedical Engineering	3	Principles of imaging and spectroscopy of nuclear magnetic resonance in their applications to medicine. Topics include magnetization models, material and spatial encoding, cardiac MRI, perfusion imaging, functional MRI etc.<b> Department Managed Prerequisite(s): Undergraduate level BME 4702 Minimum Grade of D or Graduate level BME 6702 Minimum Grade of D</b>	GR	Lecture

Fall 2017	BME7135	7135	Photon Emission Imaging	Biomedical Engineering	3	Principles of imaging procedures based on radioactive isotopes. Topics include radioactive isotopes, gamma camera physics, single-photon-emission tomography, and positron-emission tomography. Each topic covers instrumentation, image production, and major applications.<b> Department Managed Prerequisite(s): Undergraduate level BME 4702 Minimum Grade of D or Graduate level BME 6702 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7136	7136	Instrumen Radiation Meas	Biomedical Engineering	3	Theoretical and practical consideration of radiation detectors and associated instrumentation, with focus on measurement of gamma radiation in the diagnostic energy range. Identification of metrics used to characterize system performance; quality assurance of imaging components.<b> Department Managed Prerequisite(s): Graduate level BME 6701 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7136 L	7136L	Instrumen Radiation Meas Lab	Biomedical Engineering	0	Required laborator for BME 7136.	GR	Lab
Fall 2017	BME7140	7140	Biomedical Optics	Biomedical Engineering	3	Quantitative biomedical optics, principles and applications of light propagation in biological tissues; optical imaging contrasts, light transport models including photon diffusion in living tissue; optical devices for light-based diagnostics for cancer detection, brain function monitoring; light-based therapies as alternative treatment for cancer and brain diseases. Application of concepts in lab experiments. Presentation of translational research of optical methods and clinical applications	GR	Lecture
Fall 2017	BME7210	7210	Ortho & Prosthetic Engr	Biomedical Engineering	3	The course enables the student to use engineering techniques in orthopaedic and prosthetic applications. Students also learn some of the human anatomy and terminology used by physicians and other practitioners so that they may become more literate and better able to communicate with the latter professions and to understand the literature in this field of biomechanics.<b> Department Managed Prerequisite(s): Undergraduate level BME 3212 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7220	7220	Exp Ortho Eng	Biomedical Engineering	3	The course prepares the students to learn design aspects used in orthopaedic devices. It introduces the learner the components and designs of total joint replacement implants and fixation methods. Students research FDA application categories for various types of devices	GR	Lecture

Fall 2017	BME7310	7310	Adv Ergon	Biomedical Engineering	3 Design of workstations and hand-tools using physiology and biomechanics approach. Ergonomic analysis of assembly, machining and manual material handling operations. Practical solutions and real world case studies to improve productivity and reduce workers compensation costs.<b> Department Managed Prerequisite(s): Graduate level IHE 6310 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7315	7315	Ergon Engr	Biomedical Engineering	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 2017	BME7330	7330	Neuromuscular Engineer	Biomedical Engineering	3 Teaches the design and application of neuromuscular assistive devices. Emphasizes biomathematics modeling and control theory.	GR	Lecture
Fall 2017	BME7331	7331	Quant Workload Analysis	Biomedical Engineering	3 Physiological and mathematical methods needed to accomplish a workload analysis as requisite to a system design or a redesign of an ergonomic system.	GR	Lecture
Fall 2017	BME7335	7335	Ergon Biodyn	Biomedical Engineering	3 Covers quantitative assessment of human motions. Mathematical descriptions include anthropometry, kinematics, kinetics and energetics. The methods of kinesiology, biomechanical modeling and electromyography are emphasized	GR	Lecture
Fall 2017	BME7350	7350	Human Control Engineer	Biomedical Engineering	3 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 2017	BME7370	7370	Medical Devices	Biomedical Engineering	3 For students who are interested in acquiring a broad-based knowledge in the human factors of medical instrumentation and devices. Approaches the design and implementation of medical technology from the perspective of patient safety and product usability. Topics to be covered will range from design guideline considerations, tools for usability analysis, and emerging trends and technologies.<b> Department Managed Prerequisite(s): Graduate level IHE 6300 Minimum Grade of D or Undergraduate level ISE 4300 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7371	7371	Fail Analysis Med Device	Biomedical Engineering	3 Failure modes of medical devices. Common medical devices such as total joint replacement implants, fixation plates and screws, intermedullary nails, pace makers, other implantable products. Procedures to conduct failure cause investigations within the guidelines developed by regulatory agencies.	GR	Lecture

Fall 2017	BME7380	7380	Neur to Beh - Hlth & Dis	Biomedical Engineering	3	The course presents the stretch reflex as an example of a neural circuit and how it mediates movement. Discussion of the neuronal components that form the stretch reflex circuit and how electrical signals are generated and processed in this circuit under normal and pathological conditions.	GR	Lecture
Fall 2017	BME7411	7411	Rehab Egr Design I	Biomedical Engineering	3	Application of knowledge and experience in the rehabilitation engineering design, research and development process. Includes navigating funding issues.	GR	Lecture
Fall 2017	BME7411P	7411P	Rehab Egr Design I Practicum	Biomedical Engineering	0	Required practicum for BME 7411.	GR	Practicum
Fall 2017	BME7412	7412	Rehab Egr Design II	Biomedical Engineering	3	Continuation of BME 7411. Application of knowledge and experience in the rehabilitation engineering design, research and development process. Includes navigating funding issues.	GR	Lecture
Fall 2017	BME7412P	7412P	Rehab Egr Design II Practicum	Biomedical Engineering	0	Required practicum for BME 7412.	GR	Practicum
Fall 2017	BME7421	7421	Rehab Egr Sys I	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 2017	BME7422	7422	Rehab Egr Sys II	Biomedical Engineering	3	Design and application of assistive devices used in rehabilitation of people with disabilities in various systems. Provides an understanding of the problems faced by people with disabilities, and the variety of possible solutions to these problems.	GR	Lecture
Fall 2017	BME7450	7450	Rehab Egr Serv Deliver	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 2017	BME7461	7461	Rehab Egr Computers I	Biomedical Engineering	3	Introduces adaptive computer access hardware and software solutions for various disability populations in detail. Covers basic principles of programming with application to rehabilitation engineering. Lecture and lab are combined.	GR	Lecture
Fall 2017	BME7461L	7461L	Rehab Egr Computers I Lab	Biomedical Engineering	0	Required laboratory for BME 7461.	GR	Lab
Fall 2017	BME7462	7462	Rehab Egr Computers II	Biomedical Engineering	3	Continuation of BME 7461. Focuses on development of computer application programs and assistive devices for people with disabilities.	GR	Lecture
Fall 2017	BME7480	7480	Rehab Egr Intr Clin Prac	Biomedical Engineering	3	Introduces clinical practices and interdisciplinary services provided to individuals with disabilities receiving services from various rehabilitation service delivery systems. Focuses on testing, evaluation, and training in multiple disability specialty areas.	GR	Lecture

Fall 2017	BME7490	7490	Clinical Rehab Egr	Biomedical Engineering	1	Engineering analysis and design are applied to rehabilitation tasks within a clinical setting. Provides training in rehabilitation engineering management of various disabilities.	GR	Practicum
Fall 2017	BME7521	7521	Advanced Biotransport	Biomedical Engineering	3	Application of advanced principles of transport phenomena, including the solution of the conservation equations of momentum and mass transfer to model biological systems; analysis of the physiological characteristics of biological systems and evaluation of their implication in biological transport	GR	Lecture
Fall 2017	BME7530	7530	Nanomed Fundamentals	Biomedical Engineering	3	The purpose of this introductory course is to provide an overview of the distinctive features of nanotechnology and their application to bio-medical problems. The course contrasts macro/micro/nano to bring out the unique properties of nanotechnology in nanomedicine. Cutting-edge nanomedical technologies for sensing and imaging, drug delivery, and therapeutic applications will be addressed.	GR	Lecture
Fall 2017	BME7850	7850	Lean Proc Impr Engr	Biomedical Engineering	3	Introduction to the practical application of lean manufacturing and kaizen techniques in multiple environments. Includes case studies and team projects based on real world problems and solutions. <b> Department Managed Prerequisite(s): Graduate level IHE 6310 Minimum Grade of D</b>	GR	Lecture
Fall 2017	BME7930	7930	Non-Thesis Resrch in BME	Biomedical Engineering	1	M.S. Non-Thesis Research in Biomedical Engineering	GR	Independent Study
Fall 2017	BME7950	7950	Thesis Research in BME	Biomedical Engineering	1	M.S. Thesis Research in Biomedical Engineering	GR	Independent Study
Fall 2017	BME7980	7980	Special Topics in BME II	Biomedical Engineering	1	Graduate special topics in advanced biomedical engineering. Topics vary.	GR	Lecture
Fall 2017	BME7990	7990	Independ Stdy in BME II	Biomedical Engineering	1	Graduate independent studies in advanced biomedical engineering. Topics vary.	GR	Independent Study
Fall 2017	BME8930	8930	Non-Dissrt Resrch in BME	Biomedical Engineering	1	Ph.D. Non-Dissertation Research in Biomedical Engineering.	GR	Independent Study
Fall 2017	BME8950	8950	Dissertation Resrch BME	Biomedical Engineering	1	Ph.D. Dissertation Research in Biomedical Engineering	GR	Independent Study
Fall 2017	BMS6550	6550	Advanced Linear Algebra	Biomedical Sciences	3	Basic principles of linear independence, spanning sets, bases, and dimension. Linear transformations, matrix representations of linear transformations, and determinants. Spectral theory of square matrices, Jordan canonical form. Perron-Frobenius results on positive matrices	GR	Lecture



Fall 2017	BMS6640	6640	Computational Statistics	Biomedical Sciences	3	Random number generation and Monte Carlo methods. The bootstrap and permutation tests. Numerical methods for optimization related to maximum likelihood estimation. Nonparametric density estimation. Monte Carlo Markov Chain (MCMC) methods. Classification and regression trees. Software used for the course includes SPSS or R.	GR	Lecture
Fall 2017	BMS6740	6740	Advanced Stat Methods	Biomedical Sciences	0.5	Practical, applied coverage of basic statistical principles and terminology, ANOVA, multiple and logistic regression, sample size issues and experimental design. Biomedical data examples, review of computer output and class exercises are provided.	GR	Lecture
Fall 2017	BMS7030	7030	Research Ethics	Biomedical Sciences	0.5	(Also listed as BMB 7030.) Research ethics emphasizes the evaluation of hypothetical ethical scenarios in biomedical research. Class discussion is based on integrating ethical policy and practices as they relate to research at Wright State and beyond.	GR	Lecture
Fall 2017	BMS7050	7050	Applied Linear Technique	Biomedical Sciences	3	Graduate level linear engineering methods in finite and infinite dimensions.	GR	Lecture
Fall 2017	BMS7060	7060	Modern Control I	Biomedical Sciences	3	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 2017	BMS7080	7080	Digital Signal Process	Biomedical Sciences	3	Introduces principles and applications of digital signal processing (DSP) from the design and implementation perspective. Introduction to advanced digital signal processing design concepts. Focus on time and frequency domain algorithms. Methods include multirate signal processing. Filter banks, time-frequency analysis, and wavelets.	GR	Lecture
Fall 2017	BMS7100	7100	Continuous Control Syst	Biomedical Sciences	3	Introductory course providing students with a general control background. Major topics include block diagrams and signal-flow graphs, electromechanical modeling, time response, root locus, and design of PID controllers.	GR	Lecture
Fall 2017	BMS7110	7110	Biomedical Signals	Biomedical Sciences	3	Study of techniques for the analysis of signals and systems, with a particular emphasis on the use of mathematical tools for analysis of medical imaging systems and data. Time-domain and frequency-domain analysis of continuous-time and discrete-time signals, sampling theory, 2D FFT, Fourier Slice Theorem, Radon transform, Hilbert transform.	GR	Lecture

Fall 2017	BMS7111	7111	Adv Biomedical Signals	Biomedical Sciences	3	Characteristics and measurement of various biomedical signals; time-domain and frequency-domain, continuous and discrete signal representations; applications of digital and random signal processing methods to various biomedical signals	GR	Lecture
Fall 2017	BMS7120	7120	Cont Control Sytems	Biomedical Sciences	3	Introductory course providing students with a general control background. Major topics include block diagrams and signal-flow graphs, electromechanical modeling, time response, root locus, and design of PID controllers.	GR	Lecture
Fall 2017	BMS7130	7130	Cont Control Sys Lab	Biomedical Sciences	1	Laboratory supporting BMS 7120. Students will experience hands on learning in lab environment. Application and testing of control systems theory with electromechanical systems.	GR	Lab
Fall 2017	BMS7135	7135	Photon Emission Imaging	Biomedical Sciences	3	Principles of imaging procedures based on radioactive isotopes. Topics include radioactive isotopes, gamma camera physics, single-photon-emission tomography, and positron-emission tomography. Each topic covers instrumentation, image production, and major applications.	GR	Lecture
Fall 2017	BMS7136	7136	Inst for Radiation Meas	Biomedical Sciences	3	Theoretical and practical consideration of radiation detectors and associated instrumentation, with focus on measurement of gamma radiation in the diagnostic energy range. Identification of metrics used to characterize system performance; quality assurance of imaging components.	GR	Lecture/Lab Combination
Fall 2017	BMS7210	7210	Orthopaed & Prosthet Eng	Biomedical Sciences	3	The course enables the student to use engineering techniques in orthopaedic and prosthetic applications. Students also learn some of the human anatomy and terminology used by physicians and other practitioners so that they may become more literate and better able to communicate with the latter professions and to understand the literature in this field of biomechanics.	GR	Lecture
Fall 2017	BMS7220	7220	Exper Orthopaed Engr	Biomedical Sciences	3	The course prepares the students to learn design aspects used in orthopaedic devices. It introduces the learner the components and designs of total joint replacement implants and fixation methods. Students research FDA application categories for various types of devices.	GR	Lecture
Fall 2017	BMS7260	7260	Synthetic Polymer Chm	Biomedical Sciences	2	(Also listed as CHM 6610.) Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers.	GR	Lecture
Fall 2017	BMS7270	7270	Proteins and Enzymes	Biomedical Sciences	3	Also listed as BMB 7270. Current concepts in protein structure and function and the mechanism of enzymatic catalysis.	GR	Lecture

Fall 2017	BMS7310	7310	Advanced Ergonomics	Biomedical Sciences	3	Design of workstations and hand-tools using Physiology and Biomechanics approach. Ergonomic analysis of assembly, machining and manual material handling operations. Practical solutions and real world case studies to improve productivity and reduce Workers Compensation costs.	GR	Lecture
Fall 2017	BMS7315	7315	Ergonomic Engineering	Biomedical Sciences	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 2017	BMS7330	7330	Adv Inorganic Chem I	Biomedical Sciences	2	Study of the modern theories of valence, structural inorganic chemistry, and the chemistry of nonmetals.	GR	Lecture
Fall 2017	BMS7331	7331	Quant Workload Analysis	Biomedical Sciences	3	Physiological and mathematical methods needed to accomplish a workload analysis as requisite to a system design or a redesign of an ergonomic system.	GR	Lecture
Fall 2017	BMS7335	7335	Ergonomic Biodynamics	Biomedical Sciences	3	Covers quantitative assessment of human motions. Mathematical descriptions include anthropometry, kinematics, kinetics and energetics. The methods of kinesiology, biomechanical modeling and electromyography are emphasized.	GR	Lecture
Fall 2017	BMS7340	7340	Adv Inorganic Chem II	Biomedical Sciences	2	Thorough examination of the chemistry of metals stressing the transition elements, ligand field theory, and mechanisms of inorganic reactions.	GR	Lecture
Fall 2017	BMS7350	7350	Human Cont Engineering	Biomedical Sciences	3	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 2017	BMS7360	7360	Chemical Kinetics	Biomedical Sciences	2	Characterization of simple and complex kinetic systems, experimental techniques, methods of data analyses, kinetic theories, reactions in gas phase, in solution and chemical chain reactions, deduction of reaction mechanisms from experimental rate laws.	GR	Lecture
Fall 2017	BMS7370	7370	Thermodynamics	Biomedical Sciences	2	Fundamentals of chemical thermodynamics; first, second, and third laws; applications to solutions.	GR	Lecture
Fall 2017	BMS7410	7410	Struc Concept Org Chem	Biomedical Sciences	2	Study of molecular orbital theory, reactive species, theories of acids and bases, and an introduction to stereochemistry.	GR	Lecture
Fall 2017	BMS7411	7411	Rehab Engin Design I	Biomedical Sciences	3	Application of knowledge and experience in the rehabilitation engineering design, research and development process. Includes navigating funding issues.	GR	Lecture
Fall 2017	BMS7412	7412	Rehab Eng Design II	Biomedical Sciences	3	Continuation of BMS 7411. Application of knowledge and experience in the rehabilitation engineering design, research and development process. Includes navigating funding issues.	GR	Lecture

Fall 2017	BMS7421	7421	Rehab Eng Systems I	Biomedical Sciences	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 2017	BMS7422	7422	Rehab Eng Systems II	Biomedical Sciences	3	Design and application of assistive devices used in rehabilitation of people with disabilities in various systems. Provides an understanding of the problems faced by people with disabilities, and the variety of possible solutions to these problems.	GR	Lecture
Fall 2017	BMS7450	7450	Rehab Eng Serv Delivery	Biomedical Sciences	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 2017	BMS7461	7461	Rehab Eng Computers I	Biomedical Sciences	3	Introduces adaptive computer access hardware and software solutions for various disability populations in detail. Covers basic principles of programming with application to rehabilitation engineering. Lecture and lab are combined.	GR	Lecture/Lab Combination
Fall 2017	BMS7462	7462	Rehab Eng Computers II	Biomedical Sciences	3	Continuation of BMS 7461. Focuses on development of computer application programs and assistive devices for people with disabilities.	GR	Lecture
Fall 2017	BMS7480	7480	Rehab Eng Intro Clinical	Biomedical Sciences	3	Introduces clinical practices and interdisciplinary services provided to individuals with disabilities receiving services from various rehabilitation service delivery systems. Focuses on testing, evaluation, and training in multiple disability specialty areas.	GR	Lecture
Fall 2017	BMS7500	7500	Molecular Biochemistry I	Biomedical Sciences	3	Also listed as BMB 7500. Survey course emphasizing experimental and problem-solving approaches to understanding amino acids, protein structure, enzymes, nucleic acid structure and DNA replication.	GR	Lecture
Fall 2017	BMS7520	7520	Molecular Biochemist. II	Biomedical Sciences	3	Survey course emphasizing an experimental and problem-solving approach to metabolism, nucleic-acid function, protein synthesis, membranes and hormones.	GR	Lecture
Fall 2017	BMS7530	7530	Molecular Signalling	Biomedical Sciences	3	Also listed as BMB 7530. A molecular analysis of information transfer into and within cells.	GR	Lecture
Fall 2017	BMS7600	7600	Molec Bio of the Nucleus	Biomedical Sciences	3	(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 2017	BMS7630	7630	NMR Spectro & Imaging	Biomedical Sciences	3	Also listed as BMS 7630 and BME 7134. 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 2017	BMS7650	7650	Comp Tool/Strategies BMS	Biomedical Sciences	2	This is a survey course of modern computational tools and strategies used in sequence, e-D structure and functional analysis of biomolecules. Students will gain hands on "laboratory" experience with key software and strategies.	GR	Lecture
Fall 2017	BMS7670	7670	Mol Basis Inherited Dis	Biomedical Sciences	3	An intensive course on human diseases at all levels; replicational, transcriptional, translational, protein expression, protein folding and processing, protein structure and function, cellular metabolic changes, nuclear and cellular phenotypic changes, symptoms, and putative therapies.	GR	Seminar
Fall 2017	BMS7750	7750	Pathogenic Mechanisms	Biomedical Sciences	4	(Also listed as M&I 6750.) 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. 4.0 Credit hours	GR	Lecture
Fall 2017	BMS7770	7770	Gene Therapy	Biomedical Sciences	3	(Also listed as M&I 7770.) The molecular basis of gene therapy and the use of viral gene delivery systems for the treatment of human disease are examined. Gene therapy strategies are contrasted with various diseases, including cancer and AIDS.	GR	Lecture
Fall 2017	BMS7780	7780	Cell Biology	Biomedical Sciences	3	Topics include but not limited to a review of current understanding of the structure and function of cells, organelles and subcellular complexes.	GR	Lecture
Fall 2017	BMS7860	7860	Lean Proc Improv for Eng	Biomedical Sciences	3	Introduction to the practical application of lean manufacturing and Kaizen techniques in multiple environments. Includes case studies and team projects based on real world problems and solutions.	GR	Lecture
Fall 2017	BMS8020	8020	Immunology	Biomedical Sciences	4	(Also listed as M&I 7260.) Fundamentals of immunobiology and basic virology. Emphasis on 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 2017	BMS8030	8030	Pathogenic Microbiology	Biomedical Sciences	4	(Also listed as M&I 7270.) 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 2017	BMS8050	8050	Intercell. Communication	Biomedical Sciences	3	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 2017	BMS8070	8070	Virology	Biomedical Sciences	3	(Also listed as M&I 7310.) This course provides an introduction to the field of virology. The course emphasizes the intrinsic properties of viruses that cause human disease and their interaction with cells, multiplication, genetics, and tumor induction.	GR	Lecture
Fall 2017	BMS8170	8170	Biological Safety	Biomedical Sciences	2	Identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	GR	Lecture
Fall 2017	BMS8370	8370	Human Gross Anatomy	Biomedical Sciences	6	(Also listed as ANT 7110.) Lectures and dissection of human cadaver donor.	GR	Lecture/Lab Combination
Fall 2017	BMS8380	8380	Human Microanatomy	Biomedical Sciences	5	Detailed microanatomy of human cells, tissues, and organ systems.	GR	Lecture/Lab Combination
Fall 2017	BMS8530	8530	Ion Channels	Biomedical Sciences	3	(Also listed as P&B 7220.) 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 2017	BMS8560	8560	Glial Cell Physiology	Biomedical Sciences	2	(Also listed as P&B 6500.) 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 2017	BMS8620	8620	Human Physiology	Biomedical Sciences	4	(Also listed as P&N 6100.) 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 2017	BMS8630	8630	Prin Biomedical Research	Biomedical Sciences	1	Principles of Biomedical Research is appropriate for students that will be involved in biomedical research. PBR provides a lecture and student interactive series designed to introduce students to the basics of biomedical research.	GR	Lecture
Fall 2017	BMS8650	8650	Intro Neurophysiology	Biomedical Sciences	3	(Also listed as P&N 6420.) 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 2017	BMS8690	8690	Quant Aspct-Membran Trns	Biomedical Sciences	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/un satisfactory.	GR	Lecture
Fall 2017	BMS8720	8720	Mechanisms of Cell Death	Biomedical Sciences	2	Signalling and Molecular mechanisms of Apoptotic Cell Death and relationship to human diseases.	GR	Lecture
Fall 2017	BMS8750	8750	Neuroscience & Physiolog	Biomedical Sciences	3	In-depth coverage of cellular neuroscience with an emphasis on physiological concepts. Subjects include nervous system development, generation of ion gradients, ionic basis of the action potential, synaptic transmission and ion channels.	GR	Lecture
Fall 2017	BMS8990	8990	Continuing Registration	Biomedical Sciences	0.5		GR	Lecture
Fall 2017	BMS9030	9030	Human Neurobiology	Biomedical Sciences	4	(Also listed as ANT 7310.) Detailed survey of the anatomy and physiology of the major fiber tracts and cell groups of the human central nervous system.	GR	Lecture/Lab Combination
Fall 2017	BMS9540	9540	Quant Workload Analysis	Biomedical Sciences	3	Physiological and mathematical methods needed to accomplish a workload analysis as requisite to a system design or a redesign of an ergonomic system.	GR	Lecture
Fall 2017	BMS9560	9560	Medical Ultrasonics	Biomedical Sciences	3	Fundamentals of medical ultrasonics: ultrasound generation, propagation, scattering, and attenuation in biological tissue. Traditional A-mode, B-mode, M-mode, Doppler techniques and advanced ultrasound imaging techniques.	GR	Lecture
Fall 2017	BMS9570	9570	Computed Tomography	Biomedical Sciences	3	Principles of generating images from projections. Discussion of specific problems like beam hardening, scatter, metal artefacts, etc. Focus on quantitative imaging in medical applications.	GR	Lecture
Fall 2017	BMS9590	9590	Process Medical Images	Biomedical Sciences	3	Digital image processing and its application to medical images. Topics include image display, compression, filtering, spatial versus frequency domain techniques, edge detection, morphological operations, registration and classification.	GR	Lecture
Fall 2017	BMS9610	9610	Neuromusculr Engineering	Biomedical Sciences	3	Teaches the design and application of neuromuscular assistive devices. Emphasizes biomathematics modeling and control theory.	GR	Lecture
Fall 2017	BMS9900	9900	Biomedical Sciences Sem	Biomedical Sciences	0.5	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 2017	BMS9910	9910	Special Topics	Biomedical Sciences	1	Selected topics in biomedical sciences.	GR	Lecture
Fall 2017	BMS9910	9910	Special Topics	Biomedical Sciences	1	Selected topics in biomedical sciences.	GR	Lab

Fall 2017	BMS9910	9910	Special Topics	Biomedical Sciences	1	Selected topics in biomedical sciences.	GR	Combination
Fall 2017	BMS9940	9940	Introduction to Research	Biomedical Sciences	4	Introduces BMS students to the ongoing research activities within the nine program tracks; involves presentations by BMS faculty. Graded pass/unsatisfactory.	GR	Lecture
Fall 2017	BMS9950	9950	Non-Dissertation Resrch	Biomedical Sciences	1	Supervised research other than laboratory rotations or dissertation research. Pass/unsatisfactory grades.	GR	Lecture
Fall 2017	BMS9960	9960	Laboratory Rotation I	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	Lab
Fall 2017	BMS9970	9970	Laboratory Rotation II	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	Lab
Fall 2017	BMS9980	9980	Laboratory Rotation III	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	Lab
Fall 2017	BMS9990	9990	Dissertation Research	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	Lecture
Fall 2017	BUS1000	1000	Bus. & Career Opp.	Business	1	Perspectives on an undergraduate degree in Business. Professional career opportunities, preparation for a business career, academic paths, and resources available to students through both Wright State University and the Raj Soin College of Business.	UG	Lecture
Fall 2017	BUS4000	4000	Applied Business Plan	Business	3	Provide students with contemporary entrepreneurial experience by solving real business challenges & working with local executives. Student objectives are to face an unstructured business situation & develop recommendations to address the opportunity for commercialization; put fundamental business planning skills into practice; use analysis & planning tools (e.g., SWOT, marketing and competitive analysis, forecasts, ROI) to develop recommendations.	UG	Practicum



Fall 2017	CEG2170	2170	Intro to C Prog for S&E	Computer Engineering	4	Basic engineering problem solving using the C programming language. Topics include loops, selection, input/output, files, functions, arrays, complex variables, pointers, structures, and dynamic memory. Students will learn how to approach solving problems in engineering and science; how to develop algorithms, using advanced techniques such as recursion, searching, sorting and linked lists, to solve those problems; and how to implement those algorithms in the C language.<b> Department Managed Prerequisite(s): Undergraduate level MTH 1280 Minimum Grade of D or WSU Math Placement 25-40	UG	Lecture
Fall 2017	CEG2170L	2170L	Intro to C Prog for S&E Lab	Computer Engineering	0	Required laboratory for CEG 2170.	UG	Lab
Fall 2017	CEG2171	2171	C++ Prog for Sci & Egr	Computer Engineering	4	Object-oriented programming using the C++ programming language. Topics include abstract data types, inheritance, polymorphism, abstract classes, templates, pointers, linked lists, stacks, queues, recursion, sorting algorithms, and binary trees. Students will apply problem-solving techniques and algorithm development to solve problems in engineering and science, and will implement those algorithms in the C++ language. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level CEG 2170 Minimum Grade of C+ /b>	UG	Lecture
Fall 2017	CEG2171L	2171L	C++ Prog for Sci & Egr Lab	Computer Engineering	0	Required laboratory for CEG 2171.	UG	Lab
Fall 2017	CEG2350	2350	Op Sys Concepts & Usage	Computer Engineering	4	Provides introduction to Linux and Windows operating systems and system administration. Covers files and directories, ownership and sharing, programs and processes, system calls, libraries, dynamic linking, command line shells, scripting, regular expressions and secure network protocols.<b> Department Managed Prerequisite(s): Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D+ /b>	UG	Lecture
Fall 2017	CEG2350L	2350L	OS Concepts and Usage Lab	Computer Engineering	0	Required laboratory for CEG 2350.	UG	Lab
Fall 2017	CEG2400	2400	Intro to PC Networking	Computer Engineering	3	Introduces networking technologies including infrastructure and architectures, standards, protocols and directory services, administration, security and management. Integrated lecture and lab.<b> Department Managed Prerequisite(s): Undergraduate level CS 1150 Minimum Grade of D or Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D+ /b>	UG	Lecture/Lab Combination

Fall 2017	CEG2900	2900	Spec Topics in Comp Egr	Computer Engineering	1	Special topics in Computer Engineering.	UG	Lecture
Fall 2017	CEG3110	3110	Intro Software Testing	Computer Engineering	3	This course introduces software testing strategies and established best practices for testing software in a systematic manner. Focus is on planning, writing, and executing a software test plan along with documented results. <b> Department Managed Prerequisite(s): Undergraduate level CS 1161 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D</b>	UG	Lecture
Fall 2017	CEG3120	3120	Design of Info Tech Sys	Computer Engineering	3	Introduction to the design of information systems comprising modern technologies such as SQL database programming, networks, and distributed computing with CORBA, electronic and hypertext (HTML) documents, and multimedia. <b> Department Managed Prerequisite(s): Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CS 1161 Minimum Grade of D</b>	UG	Lecture
Fall 2017	CEG3310	3310	Computer Organization	Computer Engineering	4	Organization and sequential operation of digital computers. Binary and hexadecimal number systems, 2's complement arithmetic, program control, memory organization and hierarchy, addressing modes, stacks and parameter passing, interrupts and traps, I/O devices, DMA, cache, and virtual memory. <b> Department Managed Prerequisite(s): Undergraduate level CS 1181 Minimum Grade of C or (Undergraduate level CEG 2170 Minimum Grade of C and (Undergraduate level CEG 3320 Minimum Grade of D or Undergraduate level EE 2000 Minimum Grade of D)</b>	UG	Lecture
Fall 2017	CEG3310 L	3310L	Computer Organization Lab	Computer Engineering	0	Required laboratory for CEG 3310.	UG	Lab
Fall 2017	CEG3320	3320	Digital System Design	Computer Engineering	4	Basics of digital computer hardware and design. Topics include switching algebra and switching functions, logic design of combinational and sequential circuits, storage elements, register-level design, and instrumentation. Integrated Writing course. <b> Department Managed Prerequisite(s): (Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D) and (Undergraduate level MTH 1280 Minimum Grade of D or WSU Math Placement 05)</b>	UG	Lecture
Fall 2017	CEG3320 L	3320L	Digital System Design Lab	Computer Engineering	0	Required laboratory for CEG 3320.	UG	Lab

Fall 2017	CEG3400	3400	Intro to Cyber Security	Computer Engineering	3	Focuses on educating students with essential security knowledge in modern cyber space. Covers security issues across all layers of cyber space, including data, host, infrastructure, human, and economics.<b> Department Managed Prerequisite(s): Undergraduate level CS 1181 Minimum Grade of D</b>	UG	Lecture
Fall 2017	CEG3410	3410	Intro Digital Forensics	Computer Engineering	3	Students build a body of knowledge in digital forensics in both computers and networks by incrementally seeking answers to fundamental questions including i) where to collect digital materials, ii) how to collect them, iii) how to interpret and use them, and iii) how to actively design new mechanisms to facilitate forensics. Students will develop practical skills by using various forensics analysis tools	UG	Lecture
Fall 2017	CEG3900	3900	Spec Topics in Comp Egr	Computer Engineering	1	Special Topics in Computer Engineering.	UG	Lecture
Fall 2017	CEG3970	3970	Independent Study	Computer Engineering	1	Independent study in computer engineering topics.	UG	Independent Study
Fall 2017	CEG4110	4110	Intro to Software EGR	Computer Engineering	3	Introduction to the concepts of Software Engineering. Software qualities, development life-cycle models, requirements analysis, semi-formal and formal systems modeling, system design, testing, and project management techniques. Case studies and a course project serve as examples illustrating the software engineering process. Integrated Writing course	UG	Lecture
Fall 2017	CEG4120	4120	Managing Softw Dev Proc	Computer Engineering	3	Software development processes, models, and techniques necessary to successfully develop large-scale software. Presents the Capability Maturity Model (CMM). Each student will participate in the development of a software project. Integrated Writing course	UG	Lecture
Fall 2017	CEG4130	4130	Pers Softw Dev Process	Computer Engineering	3	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	UG	Lecture
Fall 2017	CEG4180	4180	Obj-Oriented Prog&Design	Computer Engineering	3	Study of object-oriented design and programming. Programming topics emphasize the core concepts of encapsulation, inheritance, polymorphism, and dynamic binding. Additional topics include class organization, software maintenance, and design of reusable components	UG	Lecture
Fall 2017	CEG4230	4230	Intro Robotics	Computer Engineering	3	(Also listed as CEG 6560 and ME 6560.) An introduction to the mathematics of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, Jacobians, dynamic and trajectory planning	UG	Lecture

Fall 2017	CEG4230 L	4230L	Intro Robotics Lab	Computer Engineering	1	First exposure to plant modeling and controller design to realize elementary control strategies in a laboratory environment.	UG	Lab
Fall 2017	CEG4260	4260	Matrix Computations	Computer Engineering	3	Numerical linear algebra survey using high-level computing tools. Topics include linear equations, matrix factorizations, eigenvalue problems, least squares, applications of singular value decompositions, and iterative methods for large sparse matrices. Emphasizes conditioning of problems and accuracy and stability of algorithms.	UG	Lecture
Fall 2017	CEG4320 L	4320L	Dig Integ Ckt Design Lab	Computer Engineering	1	Realizations, testing and evaluation of digital integrated circuits with particular emphasis on programmable logic devices.	UG	Lab
Fall 2017	CEG4322	4322	VLSI Design	Computer Engineering	3	Introduction to VLSI system and subsystem design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, basic system subcomponents (adders, subtractors, ALUs, and others), system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.	UG	Lecture
Fall 2017	CEG4322 L	4322L	VLSI Design Lab	Computer Engineering	1	Work station based experience designing ASIC devices for evaluation and testing. <b> Department Managed Prerequisite(s): Undergraduate level EE 2000 Minimum Grade of D and Undergraduate level EE 2000L Minimum Grade of D</b>	UG	Lab
Fall 2017	CEG4324	4324	Digital Circuit Design	Computer Engineering	3	Digital design with behavioral level VHDL; application of VHDL to the design, analysis, and synthesis of digital integrated circuits; field programmable gate arrays (FPGAs) and design and application of digital integrated circuits using FPGA's. CAD tools, devices and boards will be used in the lab portion of the course. Topics include registers, counters, memory devices, register-level design, microcomputer system organization. Students must show competency in design of digital systems.	UG	Lecture
Fall 2017	CEG4324 L	4324L	Dig Integ Ckt Design Lab	Computer Engineering	1	Realizations, testing and evaluation of digital integrated circuits with particular emphasis on programmable logic devices. <b> Department Managed Prerequisite(s): (Undergraduate level EE 2000 Minimum Grade of C and Undergraduate level EE 2000L Minimum Grade of C and Undergraduate level EE 3210 Minimum Grade of C) or Undergraduate level CEG 3320 Minimum Grade of D</b>	UG	Lab
Fall 2017	CEG4330	4330	Microproc Embedded Sys	Computer Engineering	4	Introduction to small, special-purpose microprocessor systems. Topics include hardware design issues, software design and implementation, and real-time operating systems.	UG	Lecture

Fall 2017	CEG4330 L	4330L	Microproc Embedded Sys Lab	Computer Engineering	0	Required laboratory for CEG 4330.	UG	Lab
Fall 2017	CEG4350	4350	OS Internals and Design	Computer Engineering	3	Overview of operating systems internals. File-system usage and design, process usage and control, virtual memory, multi user systems, access control. Course projects use C++ language.	UG	Lecture
Fall 2017	CEG4360	4360	Distrib Computing & Sys	Computer Engineering	3	Study of process communication, core distributed algorithms, distributed file systems, cloud computing, and massive scale data-parallel processing.	UG	Lecture
Fall 2017	CEG4400	4400	Comp Networks & Security	Computer Engineering	4	Introduction to computer networks, network security, and technologies for ensuring network security.	UG	Lecture
Fall 2017	CEG4400 L	4400L	Comp Networks & Security Lab	Computer Engineering	0	Required laboratory for CEG 4400.	UG	Lab
Fall 2017	CEG4410	4410	Mobile Computing	Computer Engineering	3	Study networking protocol and system design in mobile computing. Focus on concepts, architecture, design, and performance evaluation of mobile computing principles, protocols and applications, including: wireless TCP, Mobile IP, 802.11 agent techniques, etc.	UG	Lecture
Fall 2017	CEG4420	4420	Host Computer Security	Computer Engineering	3	This course introduces security hardening of a single system, and how to protect it when connected to a network. It explains how malware can compromise security and privacy from the moment a machine is powered on until shut down. Topics include Privilege Escalation, Buffer Overruns, Network Packet Mangling, Session Hijacking, Firewalls, and ethics. Lab work uses tools such as nmap and BackTrack Linux.	UG	Lecture
Fall 2017	CEG4422	4422	Secure Computing Pract	Computer Engineering	3	Computing practices that improve security in all computer work. Topics include secure deletion of files, secure wireless connections, covert channels, Steganography, cryptography, Sandboxes, Zombie Machines, DDoS and Man-in-the-Middle Attacks. Will use tools such as ssh, TrueCrypt, GnuPGP, virtual-box.	UG	Lecture
Fall 2017	CEG4424	4424	Security Attacks & Def	Computer Engineering	3	Introduction to attacks and their defenses. Reconnaissance, penetration, denial of service, and covert channels. Topics include privilege escalation, hijacking, trusted booting, packet filtration, protocol scrubbing and honeypots.	UG	Lecture
Fall 2017	CEG4426	4426	Legal Aspects Cyber Sec	Computer Engineering	3	Examines some of the most pressing threats to data and systems, the major legal and practical responses, and the policy issues they raise, with a particular focus on military divisions, corporations, not-for-profit organizations, and civilian government agencies.	UG	Lecture

Fall 2017	CEG4430	4430	Cyber Network Security	Computer Engineering	3	Focus on security vulnerabilities, threats, attacks, and mitigation solutions in the context of cyber networks. Topics include network traffic analysis, basic cryptography, protocol vulnerabilities, application vulnerabilities, secure networking protocols, malicious logics, firewalls, as well as the design and evaluation of intrusion detection systems	UG	Lecture
Fall 2017	CEG4440	4440	Android Int and Security	Computer Engineering	3	Study the internals of the Android mobile OS such as Messaging, Graphics, Audio, Video, Camera, GPS, Networking, File System, Touch Sensors, and other subsystems. Study the combined impact of these on the architecture, design, and security of mobile computing, in the context of Android.	UG	Lecture
Fall 2017	CEG4450	4450	Sensor Net and Systems	Computer Engineering	3	Introduction to wireless sensor networks, fundamental problems and their solutions. Focus on data aggregation, dissemination, localization, power management, security, algorithms and protocol. Students develop applications using Micaz nodes and sensors running TinyOS operating system	UG	Lecture
Fall 2017	CEG4500	4500	Computer Graphics	Computer Engineering	3	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 three-dimensional hierarchical model, manipulate, and view it	UG	Lecture
Fall 2017	CEG4510	4510	3D Modeling/Animation	Computer Engineering	3	Transformations, interpolation, morphing, camera control, hierarchical kinematic modeling, rigid-body animation, controlling groups of objects, collision detection, image-based rendering. Students develop three programs and a final project relating to animation	UG	Lecture
Fall 2017	CEG4520	4520	Sci Vis and Virt Env	Computer Engineering	3	Visualization approaches for different data types, using real-world data sets. Different usage modalities, including non-traditional input devices and display types.	UG	Lecture
Fall 2017	CEG4750	4750	Information Security	Computer Engineering	3	A comprehensive study of security vulnerabilities in information systems and the basic techniques for developing secure applications and practicing safe computing.	UG	Lecture
Fall 2017	CEG4870	4870	Intelligent Control Sys	Computer Engineering	3	Foundations of fuzzy set theory, system modeling using fuzzy rules, structure of fuzzy controllers and PID fuzzy controller design. Also included are neural network foundations, single layered/multi-layered perceptions, learning rules, basics of adaptive controls and adaptive neural control	UG	Lecture
Fall 2017	CEG4870L	4870L	Intelligent Control Lab	Computer Engineering	1	Implements intelligent control strategies on systems and subsystems in industrial and engineering applications.<b> Department Managed Prerequisite(s): Undergraduate level EE 4130 Minimum Grade of D and Undergraduate level EE 4130L Minimum Grade of D</b>	UG	Lab

Fall 2017	CEG4900	4900	Special Topics	Computer Engineering	1	Special topics in computer engineering.	UG	Lecture
Fall 2017	CEG4910	4910	Tech Based Ventures	Computer Engineering	3	Train students on methods to develop breakthrough products with an entrepreneurial perspective and managerial outlook. Topics include advanced product development, protecting intellectual property, fostering strategic and creative thinking, effectively leading technology-driven teams	UG	Lecture
Fall 2017	CEG4970	4970	Independent Study	Computer Engineering	1	Independent study in computer engineering topics.	UG	Independent Study
Fall 2017	CEG4980	4980	Team Projects I	Computer Engineering	3	A summative computer engineering team design project building upon previous engineering, science, mathematics, and communication course work focusing on professional practice in computer science and engineering. Must enroll in CEG 4981 in the following term	UG	Lecture
Fall 2017	CEG4981	4981	Team Projects II	Computer Engineering	3	CEG 4981 is a continuation of CEG 4980 and must be taken in the term immediately following CEG 4980. Project groups maintain their composition and project from CEG 4980.	UG	Lecture
Fall 2017	CEG4990	4990	Undergraduate Thesis	Computer Engineering	3	Completion of a computer engineering research project. Writing and defending a thesis that describes the research and summarizes the results.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4970 Minimum Grade of D</b></h>	UG	Independent Study
Fall 2017	CEG5110	5110	Intro Software Testing	Computer Engineering	3	This course introduces software testing strategies and established best practices for testing software in a systematic manner. Focus is on planning, writing, and executing a software test plan along with documented results.<b> Department Managed Prerequisite(s): Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	CEG5120	5120	Design of Info Tech Sys	Computer Engineering	3	Introduction to the design of information systems comprising modern technologies such as SQL database programming, networks, and distributed computing with CORBA, electronic and hypertext (HTML) documents, and multimedia.	GR	Lecture
Fall 2017	CEG5310	5310	Computer Organization	Computer Engineering	4	Organization and sequential operation of digital computers. Binary and hexadecimal number systems, 2's complement arithmetic, program control, memory organization and hierarchy, addressing modes, stacks and parameter passing, interrupts and traps, I/O devices, DMA, cache, and virtual memory.<b> Department Managed Prerequisite(s): Graduate level CS 1181 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	CEG5310 L	5310L	Computer Organization Lab	Computer Engineering	0	Required laboratory for CEG 5310.	GR	Lab

Fall 2017	CEG5320	5320	Digital System Design	Computer Engineering	4	Basics of Digital Computer Hardware and Design. Topics include switching algebra and switching functions, logic design of combinational and sequential circuits, storage elements, register-level design, and instrumentation.<b> Department Managed Prerequisite(s): WSU Math Placement 05 and (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	CEG5320 L	5320L	Digital System Design Lab	Computer Engineering	0	Required laboratory for CEG 5320.	GR	Lab
Fall 2017	CEG5900	5900	Special Topics in CS	Computer Engineering	1	Selected topics in computer science.	GR	Lecture
Fall 2017	CEG5970	5970	Independent Study in CEG	Computer Engineering	1	Independent study in computer engineering topics.	GR	Independent Study
Fall 2017	CEG6110	6110	Intro to Software Engr	Computer Engineering	3	Introduction to the concepts of Software Engineering. Software qualities, development life-cycle models, requirements analysis, semi-formal and formal systems modeling, system design, testing, and project management techniques. Case studies and a course project serve as examples illustrating the software engineering process.<b> Department Managed Prerequisite(s): Graduate level CS 5000 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG6120	6120	Managing Sofw/Dev Proces	Computer Engineering	3	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.<b> Department Managed Prerequisite(s): Graduate level CEG 6110 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG6130	6130	Pers Softw/Dev Process	Computer Engineering	3	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.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4110 Minimum Grade of D or Undergraduate level CEG 6110 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG6180	6180	Obj-Orient Prog & Design	Computer Engineering	3	Topics emphasize the core concepts of encapsulation, inheritance, polymorphism, and dynamic binding. Additional topics include class organization, software maintenance, and design of reusable components.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4110 Minimum Grade of D or Graduate level CEG 6110 Minimum Grade of D</b>	GR	Lecture



Fall 2017	CEG6230	6230	Intro Robotics	Computer Engineering	3	(Also listed as CEG 6560 and ME 6560.) An introduction to the mathematics of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, Jacobians, dynamic and trajectory planning	GR	Lecture
Fall 2017	CEG6230L	6230L	Intro Robotics Lab	Computer Engineering	1	Laboratory supporting EE 6560. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	CEG6260	6260	Matrix Computations	Computer Engineering	3	Numerical linear algebra survey using high-level computing tools. Topics include linear equations, matrix factorizations, eigenvalue problems, least squares, applications of singular value decompositions, and iterative methods for large sparse matrices. Emphasizes conditioning of problems and accuracy and stability of algorithms.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D and (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	CEG6322	6322	VLSI Design	Computer Engineering	3	(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 2017	CEG6322L	6322L	VLSI Design Lab	Computer Engineering	1	Work station based experience designing asic devices for evaluation and testing.	GR	Lab
Fall 2017	CEG6324	6324	Dig Integ Ckt Design	Computer Engineering	3	Digital design with behavioral level VHDL; application of VHDL to the design, analysis, and synthesis of digital integrated circuits; field programmable gate arrays (FPGAs); and design and application of digital integrated circuits using FPGAs. CAD tools, devices, and boards will be used in lab portion of the course. Topics include registers, counters, memory devices, register-level design, microcomputer system organization. Students must show competency in the design of digital systems	GR	Lecture
Fall 2017	CEG6324L	6324L	Dig Integ Ckt Design Lab	Computer Engineering	1	Realizations, testing and evaluation of digital integrated circuits with particular emphasis on programmable logic devices.	GR	Lab
Fall 2017	CEG6330	6330	Micropro Embedded System	Computer Engineering	4	Introduction to small, special-purpose microprocessor systems. Topics include hardware design issues, software design and implementation, and real-time operating systems.<b> Department Managed Prerequisite(s): Undergraduate level CEG 3320 Minimum Grade of D or Graduate level CEG 5320 Minimum Grade of D</b>	GR	Lecture

Fall 2017	CEG6330 L	6330L	Micropro Embedded System Lab	Computer Engineering	0	Required laboratory for CEG 6330.	GR	Lab
Fall 2017	CEG6350	6350	OS Internals and Design	Computer Engineering	3	Overview of operating systems internals. File-system usage and design, process usage and control, virtual memory, multi user systems, access control. Course projects use C++ language.<b> Department Managed Prerequisite(s): Undergraduate level CEG 3310 Minimum Grade of D or Graduate level CEG 5310 Minimum Grade of D or Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG6360	6360	Distrib Sys & Cloud Comp	Computer Engineering	3	Study of process communication, core distributed algorithms, distributed file systems, cloud computing, and massive scale data-parallel processing.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4350 Minimum Grade of D or Graduate level CEG 6350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG6400	6400	Comp Networks & Security	Computer Engineering	4	This course covers fundamental knowledge on computer networks, network security, and technologies for ensuring network security.<b> Department Managed Prerequisite(s): Undergraduate level CEG 3310 Minimum Grade of D or Graduate level CEG 5310 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG6400 L	6400L	Comp Networks & Security Lab	Computer Engineering	0	Required laboratory for CEG 6400.	GR	Lab
Fall 2017	CEG6410	6410	Mobile Computing	Computer Engineering	3	Study networking protocol and system design in mobile computing. Focus on concepts, architecture, design, and performance evaluation of mobile computing principle, protocols and applications, including: wireless TCP, Mobile IP, 802.11 agent techniques, etc.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4400 Minimum Grade of D or Graduate level CEG 6400 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	CEG6420	6420	Host Computer Security	Computer Engineering	3	This course introduces security hardening of a single system, and how to protect it when connected to a network. It explains how malware can compromise security and privacy from the moment a machine is powered on until shut down. Topics include Privilege Escalation, Buffer Overruns, Network Packet Mangling, Session Hijacking, Firewalls, and ethics. Lab work uses tools such as nmap and BackTrack Linux.<b> Department Managed Prerequisite(s): Graduate level CEG 6350 Minimum Grade of D</b>	GR	Lecture

Fall 2017	CEG6422	6422	Secure Computing Pract	Computer Engineering	3	This course describes computing practices that one should adopt to improve security in all computer work. It describes the use of cryptography, without getting into crypto algorithms, such as MD5, SHA1. Topics include secure deletion of files, secure wireless connections, Covert channels, Steganography, Sandboxes, Zombie Machines, DDoS and Man-in-the-Middle Attacks. Lab work uses tools such as ssh, TrueCrypt, GnuPG, virtual box.	GR	Lecture
Fall 2017	CEG6424	6424	Security Attacks & Def	Computer Engineering	3	This course presents the principles behind techniques of attacks and their defenses. It introduces reconnaissance, penetration, denial of service, and covert channels. Topics include Privilege Escalation, Hijacking, Trusted booting, Packet filtration, Protocol scrubbing and Honeypots. Lab work uses tools such as MetaSploit.	GR	Lecture
Fall 2017	CEG6426	6426	Legal Aspects Cyber Sec	Computer Engineering	3	Examines some of the most pressing threats to data and systems, the major legal and practical responses, and the policy issues they raise, with a particular focus on military divisions, corporations, not-for-profit organizations, and civilian government agencies.	GR	Lecture
Fall 2017	CEG6430	6430	Cyber Network Security	Computer Engineering	3	This course focuses on security vulnerabilities, threats, attacks, and mitigation solutions in the context of cyber networks. Topics include network traffic analysis, basic cryptography, protocol vulnerabilities, application vulnerabilities, secure networking protocols, malicious logics, firewalls, as well as the design and evaluation of intrusion detection systems.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D and Undergraduate level CEG 4400 Minimum Grade of D</b></b>	GR	Lecture
Fall 2017	CEG6440	6440	Android Int & Security	Computer Engineering	3	Study the internals of the Android mobile OS such as Messaging, Graphics, Audio, Video, Camera, GPS, Networking, File System, Touch Sensors, and other subsystems. Study the combined impact of these on the architecture, design, and security of mobile computing, in the context of Android.	GR	Lecture
Fall 2017	CEG6450	6450	Sensor Net and Systems	Computer Engineering	3	Introduction to wireless sensor networks. Overview of fundamental problems and their solutions. Focus on data aggregation, dissemination, localization, power management, security, algorithms and protocol. Students develop applications using Micaz motes and sensors running TinyOS operating systems.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4400 Minimum Grade of D or Graduate level CEG 6400 Minimum Grade of D</b></b>	GR	Lecture

Fall 2017	CEG6500	6500	Computer Graphics	Computer Engineering	3	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 three-dimensional hierarchical model, manipulate, and view it.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D or Undergraduate level MTH 2520 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	CEG6510	6510	3D Modeling/Animation	Computer Engineering	3	Covers transformations, interpolation, morphing, camera control, hierarchical kinematic modeling, rigid-body animation, controlling groups of objects, collision detection, image-based rendering. Students develop three programs and a final project relating to animation.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4500 Minimum Grade of D or Graduate level CEG 6500 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	CEG6520	6520	Sci Vis and Virt Env	Computer Engineering	3	Covers various visualization approaches for different data types. These visualization approaches are discussed using real-world data sets. Different usage modalities will be discussed, including non-traditional input devices and display types.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4500 Minimum Grade of D or Graduate level CEG 6500 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	CEG6750	6750	Information Security	Computer Engineering	3	A comprehensive study of security vulnerabilities in information systems and the basic techniques for developing secure applications and practicing safe computing.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of C and Undergraduate level MTH 2300 Minimum Grade of D and (Undergraduate level ISE 2211 Minimum Grade of D or Undergraduate level STT 3600 Minimum Grade of D)</b></td><td>GR</td><td>Lecture</td>
Fall 2017	CEG6870	6870	Intro Intel Cont Sys	Computer Engineering	3	Foundations of fuzzy set theory, system modeling using fuzzy rules, structure of fuzzy controllers and PID fuzzy controller design. Also included are neural network foundations, single layered/multi-layered perceptions, learning rules, basics of adaptive controls and adaptive neural control</td><td>GR</td><td>Lecture</td>
Fall 2017	CEG6870L	6870L	Intro Intel Cont Sys Lab	Computer Engineering	1	Laboratory supporting EE 6190. Students will experience hands on learning in lab environment.</td><td>GR</td><td>Lab</td>
Fall 2017	CEG6900	6900	Special Topics in CEG	Computer Engineering	1	Special topics in computer engineering</td><td>GR</td><td>Lecture</td>
Fall 2017	CEG6905	6905	Tech-Based Ventures	Computer Engineering	1	Technology-based ventures.</td><td>GR</td><td>Lecture</td>

Fall 2017	CEG6910	6910	Tech Based Ventures	Computer Engineering	3	Train students on methods to develop breakthrough products with an entrepreneurial perspective and managerial outlook. Topics include advanced product development, protecting intellectual property, fostering strategic and creative thinking, effectively leading technology-driven teams	GR	Lecture
Fall 2017	CEG6970	6970	Independent Study in CEG	Computer Engineering	1	Independent study in computer engineering.	GR	Independent Study
Fall 2017	CEG7020	7020	Low Pwr VLSI Sys Des	Computer Engineering	3	CMOS VLSI subsystems and low-power subsystems design. Includes data path operators for FIR and IIR filter design: counters, high-speed adders, multipliers, and memory elements.	GR	Lecture
Fall 2017	CEG7020 L	7020L	Low Pwr VLSI Sys Des Lab	Computer Engineering	1	Required lab for EE 7520.	GR	Lab
Fall 2017	CEG7030	7030	VLSI Des Synth Optim	Computer Engineering	3	VLSI Synthesis and optimization including data path synthesis, glue logic synthesis control-unit synthesis, and resource sharing. Covers behavioral level to layout level synthesis and corresponding algorithms.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4620 Minimum Grade of D and Undergraduate level EE 4620L Minimum Grade of D) or (Graduate level EE 6620 Minimum Grade of D and Graduate level EE 6620L Minimum Grade of D)</b>	GR	Lecture
Fall 2017	CEG7030 L	7030L	VLSI Des Synth Optim Lab	Computer Engineering	1	Required laboratory for EE 7530.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4620 Minimum Grade of D and Undergraduate level EE 4620L Minimum Grade of D) or (Graduate level EE 6620 Minimum Grade of D and Graduate level EE 6620L Minimum Grade of D)</b>	GR	Lab
Fall 2017	CEG7040	7040	VLSI Testing Design	Computer Engineering	3	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, and test for mixed-signal systems and systems-on-a-chip (SOC).<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b>	GR	Lecture
Fall 2017	CEG7040 L	7040L	VLSI Testing Design Lab	Computer Engineering	1	Required laboratory for EE 7540.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b>	GR	Lab

Fall 2017	CEG7050	7050	Trust Integ Ckt Design	Computer Engineering	3	This course will cover topics in "Trust for Integrated Circuit Design." We will explore the problem of Trust at each level of the Integrated circuit design process, from high level simulation all the way to layout, fabrication, and packaging.<b> Department Managed Prerequisite(s): (Graduate level EE 6620 Minimum Grade of D and Graduate level EE 6620L Minimum Grade of D) or (Undergraduate level EE 4620 Minimum Grade of D and Undergraduate level EE 4620 Minimum Grade of D) or Undergraduate level CEG 3320 Minimum Grade of D)</b>	GR	Lab
Fall 2017	CEG7060	7060	Advanced Robotics	Computer Engineering	3	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. Sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.<b> Department Managed Prerequisite(s): Undergraduate level EE 4560 Minimum Grade of D or Graduate level EE 6560 Minimum Grade of D or Undergraduate level CEG 4230 Minimum Grade of D or Graduate level CEG 6230 Minimum Grade of D or Undergraduate level ME 4260 Minimum Grade of D or	GR	Lecture
Fall 2017	CEG7060 L	7060L	Advanced Robotics Lab	Computer Engineering	1	Required laboratory for EE 7560.	GR	Lab
Fall 2017	CEG7080	7080	CMOS Mxd Sig IC Des	Computer Engineering	3	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, CMOS comparators, and CMOS Op Amps, CMOS Analog to Digital Converters, and CMOS Digital to Analog Converters, and Switched Capacitor Circuits.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b>	GR	Lecture
Fall 2017	CEG7080 L	7080L	CMOS Mxd Sig IC Des Lab	Computer Engineering	1	Required lab for EE 7580.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b>	GR	Lab

Fall 2017	CEG7350	7350	Computer Architecture	Computer Engineering	3	Review of sequential computer architectures and study of parallel computer architectures. Topics include instruction-level parallelism, multiprocessor systems, memory hierarchy, pipeline processing, and interconnection networks.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4350 Minimum Grade of D or Graduate level CEG 6350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG7360	7360	Embedded Systems	Computer Engineering	3	Study special-purpose computing systems. Topics include system architecture, embedded processors, field programmable gate arrays, hardware software co-design, real-time scheduling, and real-time operating systems.<b> Department Managed Prerequisite(s): Undergraduate level CEG 3320 Minimum Grade of D or Graduate level CEG 5320 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG7370	7370	Distributed Computing	Computer Engineering	3	Semaphores: weak and strong, split-binary, distributed. Distributed Algorithms. Communicating sequential processes. Distributed Tuple Space. Clients and servers, RPC, RMI, Hadoop.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4350 Minimum Grade of D or Graduate level CEG 6350 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	CEG7380	7380	Cloud Computing	Computer Engineering	3	Students will learn the major concepts in cloud computing and large-scale data intensive parallel processing. They will learn to use existing cloud computing platforms (e.g., Amazon EC2) to solve large-scale data intensive problems. They will also learn to program with large-scale parallel processing methods (e.g., mapreduce).<b> Department Managed Prerequisite(s): Undergraduate level CS 5100 Minimum Grade of D and Undergraduate level CEG 6350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG7420	7420	Rev Egr & Prog Analysis	Computer Engineering	3	This course will build on computer security topics discussed in CEG 6420, Host Computer Security and will involve discussion about low-level computer security vulnerabilities, reverse engineering, malware analysis, vulnerability discovery, reverse engineering tool development, and advanced program analysis techniques	GR	Lecture

Fall 2017	CEG7450	7450	Adv. Comp. Networks	Computer Engineering	3	This course provides an in-depth coverage of advanced computer network architecture, communication and networking technologies. Topics include: Quality of service networking architecture (IntServ, DiffServ, RSVP, Core state-less), packet scheduling, quality of service routing, congestion control, multicast, delay tolerant networking, inter-planetary networking, self-similar traffic analysis, network calculus, overlay networks, peer-to-peer networks, and network security.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4400 Minimum Grade of D or Graduate level CEG 6400 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CEG7470	7470	Adv. Wireless Networks	Computer Engineering	3	Advanced topics in Wireless Networking and Mobile Computing, including: queueing system analysis, network theory, multimedia coding and networking, emerging wireless and mobile technologies.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4400 Minimum Grade of D or Graduate level CEG 6400 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	CEG7550	7550	Computer Vision	Computer Engineering	3	Algorithms for low- and mid-level vision, including noise filtering, edge detection, image segmentation, texture analysis, feature extraction, stereo depth perception, camera calibration. 3-D reconstruction. shape from shading	GR	Lecture
Fall 2017	CEG7560	7560	Visual & Image Process	Computer Engineering	3	The course will teach students visualization concepts and principles without requiring computer graphics specific knowledge. Similarly, basic image processing techniques will be covered relevant for cyber security, including segmentation and tracking techniques	GR	Lecture
Fall 2017	CEG7570	7570	Pattern Recognition	Computer Engineering	3	Supervised and unsupervised classification are covered, including feature extraction, feature selection, distance measures, sequential clustering, hierarchical clustering, Bayesian decision theory, parameter estimation, and applications of pattern recognition	GR	Lecture
Fall 2017	CEG7580	7580	Digital Image Processing	Computer Engineering	3	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 2017	CEG7590	7590	Medical Image Analysis	Computer Engineering	3	Topics of 2-D and 3-D image segmentation and registration; 2-D and 3-D feature selection; validation methods; and visualization techniques for volumetric medical images are covered.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4500 Minimum Grade of D or Graduate level CEG 6500 Minimum Grade of D</b>	GR	Lecture



Fall 2017	CEG7900	7900	Selected Topics in CEG	Computer Engineering	1	Selected topics in computer engineering.	GR	Lecture
Fall 2017	CEG7920	7920	Independent Study in CEG	Computer Engineering	1	Independent study in computer engineering	GR	Independent Study
Fall 2017	CEG7950	7950	MSCEG Thesis Research	Computer Engineering	1	Master's thesis research in computer engineering.	GR	Independent Study
Fall 2017	CEG7980	7980	Part-time CPT in CEG	Computer Engineering	0	Practical work experience in graduate level Computer Engineering.	GR	Internship
Fall 2017	CEG7990	7990	Full-time CPT in CEG	Computer Engineering	0	Practical work experience in graduate level Computer Engineering.	GR	Internship
Fall 2017	CEG8900	8900	Selected Topics in CEG	Computer Engineering	1	Selected topics in computer engineering.	GR	Lecture
Fall 2017	CEG8910	8910	PhD Seminar in CEG	Computer Engineering	1	Seminar discussion of current research in computer engineering.	GR	Seminar
Fall 2017	CEG8920	8920	Independent Study in CEG	Computer Engineering	1	Independent study in computer engineering.	GR	Independent Study
Fall 2017	CEG8930	8930	PhD Qualifying Exam	Computer Engineering	1	Examination that tests understanding of the fundamentals necessary to begin concentrated study in a chosen Ph.D. research area.	GR	Independent Study
Fall 2017	CEG8940	8940	Res Research in Comp Egr	Computer Engineering	1	Research on the Ph.D. dissertation topic taken in residence.	GR	Independent Study
Fall 2017	CEG8950	8950	Dissertation Research	Computer Engineering	1	Research on the Ph.D. dissertation topic.	GR	Independent Study
Fall 2017	CEG8960	8960	PhD Candidacy Exam	Computer Engineering	1	Examination that tests for depth and understanding in a chosen computer engineering research area. Includes a written proposal for a Ph.D. topic and an oral examination that is open to the public.	GR	Independent Study
Fall 2017	CEG8980	8980	Continuing Registration	Computer Engineering	1	A student must be registered at the graduate level in the quarter in which the degree is granted, or in any term in which the program 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 coursework and research.	GR	Independent Study
Fall 2017	CEG8990	8990	Dissertation Defense	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.	GR	Independent Study
Fall 2017	CHI1010	1010	Beginning Chinese I	Chinese	3	Communicative introduction to Chinese. Study of the vocabulary and structure of the Chinese language; practice in speaking, listening, reading, and writing.	UG	Lecture
Fall 2017	CHI1020	1020	Beginning Chinese II	Chinese	3	Communicative introduction to Chinese. Study of the vocabulary and structure of the Chinese language; practice in conversation, reading, and writing.	UG	Lecture

Fall 2017	CHI2010	2010	Intermediate Chinese I	Chinese	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.	UG	Lecture
Fall 2017	CHI2020	2020	Intermediate Chinese II	Chinese	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.	UG	Lecture
Fall 2017	CHI2210	2210	Intro Chinese Characters	Chinese	3	An in-depth practical introduction to the Chinese writing system. Includes history of Chinese characters, radicals, sequence of strokes, calligraphy, and dictionary use.	UG	Lecture
Fall 2017	CHI3010	3010	Advanced Chinese I	Chinese	3	Development of linguistic proficiency through studying advanced reading and grammar patterns with emphasis on cultural aspects of communication. Taught in Chinese. If prerequisite not met, contact instructor for permission.	UG	Lecture/Lab Combination
Fall 2017	CHI3020	3020	Advanced Chinese II	Chinese	3	Further development of advanced linguistic proficiency and complex conversation skills with emphasis on cultural aspects of communication. Taught in Chinese. If prerequisite not met, contact instructor for permission.	UG	Lecture/Lab Combination
Fall 2017	CHI3110	3110	Chinese Conversation	Chinese	3	This course will pursue a balance of the four basic language skills: reading, writing, listening, and speaking in Chinese with a focus on conversation.	UG	Lecture
Fall 2017	CHI3120	3120	Adv Chinese Conversation	Chinese	3	Continuation of Chinese 3110 pursuing a balance of the four basic language skills: reading, writing, listening, and speaking in Chinese with a focus on conversation.	UG	Lecture
Fall 2017	CHI3210	3210	Chinese Composition	Chinese	3	Development of composition skills using famous Chinese writings as guided examples of grammar and techniques. Taught in Chinese. If prerequisite not met, contact instructor for permission.	UG	Lecture/Lab Combination
Fall 2017	CHI3220	3220	Adv. Chinese Composition	Chinese	3	Continuation of Chinese composition skills development through intensive reading and writing practice. Taught in Chinese.	UG	Lecture
Fall 2017	CHI3250	3250	Business Chinese	Chinese	3	An introduction to the language of business Chinese with insight into China's place in the global economy.	UG	Lecture
Fall 2017	CHI3500	3500	CHI Ambassador Program	Chinese	3	Professor-led study abroad program in China, service-learning intensive course, taught in Chinese.	UG	Lecture
Fall 2017	CHI3700	3700	Internship in Chinese	Chinese	3	Supervised use of Chinese in workplace settings. Must complete an application available from the Department of Modern Languages. Minimum time commitment 135 hours a semester, including a minimum of 120 hours of on-site work. Senior standing and advisor permission required.	UG	Internship
Fall 2017	CHI3810	3810	Elem Chinese Instruct	Chinese	3	Chinese students assist elementary course instructors in conducting classes. Taught in Chinese.	UG	Independent Study
Fall 2017	CHI3980	3980	Studies in Selec Subj	Chinese	1	Individual research project approved and supervised by a full-time faculty member. Taught in Chinese.	UG	Lecture
Fall 2017	CHI4030	4030	Multimedia Chinese	Chinese	3	Advanced Chinese language learning by exploration of cultural products in a variety of media and authentic online materials. Taught in Chinese.	UG	Lecture

Fall 2017	CHI5010	5010	Advanced Chinese I	Chinese	3	Development of linguistic proficiency through studying advanced reading and grammar patterns with emphasis on cultural aspects of communication.	GR	Lecture
Fall 2017	CHI5020	5020	Advanced Chinese II	Chinese	3	Further development of advanced linguistic proficiency and complex conversation skills with emphasis on cultural aspects of communication. Taught in Chinese.	GR	Lecture
Fall 2017	CHI5110	5110	Chinese Conversation	Chinese	3	Integrates and balances competency of the four basic language skills: reading, writing, listening, and speaking in Chinese with a focus on conversation.	GR	Lecture
Fall 2017	CHI5120	5120	Adv Chinese Conversation	Chinese	3	A continuation of Chinese 3110/5110 pursuing a balance of the four basic language skills: reading, writing, listening, and speaking in Chinese with a focus on conversation.	GR	Lecture
Fall 2017	CHI5210	5210	Chinese Composition	Chinese	3	Development of composition skills using famous Chinese writings as guided examples of grammar and techniques.	GR	Lecture
Fall 2017	CHI5220	5220	Adv. Chinese Composition	Chinese	3	Continuation of Chinese composition skills development through intensive reading and writing practice. Taught in Chinese.	GR	Lecture
Fall 2017	CHI5250	5250	Business Chinese	Chinese	3	Introduces the language of business Chinese and explores China's place in the global economy.	GR	Lecture
Fall 2017	CHI5500	5500	CHI Ambassador Program	Chinese	3	Professor-led study abroad program in China; may include service-learning component; taught in Chinese.	GR	Lecture
Fall 2017	CHI6030	6030	Adv Studies: Lang & Civ	Chinese	3	Advanced course on Chinese or Chinese-American literature, culture or film. Topics vary. May include service-learning component. Taught in Chinese.	GR	Lecture
Fall 2017	CHM1010	1010	Intro to Chemistry	Chemistry	3	Fundamentals of chemistry: composition and structure, properties and transformations of matter. For students who have not completed high school chemistry.	UG	Lecture
Fall 2017	CHM1010L	1010L	Intro to Chemistry Lab	Chemistry	0	Required laboratory for CHM 1010.	UG	Lab
Fall 2017	CHM1020	1020	Elem Organic Chem w/Appl	Chemistry	4	Introduction to the principles of organic chemistry and biochemistry.	UG	Lecture
Fall 2017	CHM1020L	1020L	Elem Organic Chem w/Appl Lab	Chemistry	0	Required laboratory for CHM 1020.	UG	Lab
Fall 2017	CHM1050	1050	Chemistry: Living Things	Chemistry	4	Principles of covalent bonding, structures, and reactions of molecules important to living things, with attention to related technological, regulatory, and social issues.	UG	Lecture
Fall 2017	CHM1050L	1050L	Chemistry: Living Things Lab	Chemistry	0	Required laboratory for CHM 1050.	UG	Lab
Fall 2017	CHM1060	1060	Chemistry: Materials	Chemistry	4	Examines the bonding of metals and nonmetals to explain the nature of familiar materials of industrial importance. Attention to the risk/benefit implications of these materials and technologies for consumers.	UG	Lecture

Fall 2017	CHM1060 L	1060L	Chemistry: Materials Lab	Chemistry	0	Required laboratory for CHM 1060.	UG	Lab
Fall 2017	CHM1070	1070	Chemistry: Energy & Env	Chemistry	4	Examines gaseous and liquid states and thermochemistry as a basis for understanding air and water quality and fossil and nuclear fuels. Attention to the chemistry of the solar system. Integrated Writing course.	UG	Lecture
Fall 2017	CHM1070 L	1070L	Chemistry: Energy & Env Lab	Chemistry	0	Required laboratory for CHM 1070.	UG	Lab
Fall 2017	CHM1210	1210	General Chemistry I	Chemistry	3	Structure and properties of atoms and molecules and their chemical behavior and reactivity.	UG	Lecture
Fall 2017	CHM1210 L	1210L	General Chemistry Lab I	Chemistry	2	Examination of the principles of General Chemistry I through experimentation.	UG	Lab
Fall 2017	CHM1210 R	1210R	General Chemistry Lab I Rec	Chemistry	0	Required recitation for CHM 1210.	UG	Recitation
Fall 2017	CHM1220	1220	General Chemistry II	Chemistry	3	Properties of liquids, solids and solutions, phase changes, chemical kinetics and equilibrium, acid/base chemistry and its applications. thermodynamics and electrochemistry.	UG	Lecture
Fall 2017	CHM1220 L	1220L	General Chemistry Lab II	Chemistry	2	Examination of the principles of General Chemistry II through experimentation.	UG	Lab
Fall 2017	CHM1220 R	1220R	General Chemistry Lab II Rec	Chemistry	0	Required recitation for CHM 1220.	UG	Recitation
Fall 2017	CHM2110	2110	Organic Chemistry I	Chemistry	3	Principles, theories, and applications of the chemistry of carbon compounds.	UG	Lecture
Fall 2017	CHM2110 L	2110L	Organic Chemistry Lab I	Chemistry	2	Laboratory illustrations of CHM 2110 lecture material and techniques of preparative organic chemistry.	UG	Lab
Fall 2017	CHM2110 R	2110R	Organic Chemistry I Recitatio	Chemistry	0	Required recitation for CHM 2110.	UG	Recitation
Fall 2017	CHM2120	2120	Organic Chemistry II	Chemistry	3	Principles, theories, and applications of the chemistry of carbon compounds.	UG	Lecture
Fall 2017	CHM2120 L	2120L	Organic Chemistry Lab II	Chemistry	2	Laboratory illustrations of CHM 2120 lecture material and techniques of preparative organic chemistry.	UG	Lab
Fall 2017	CHM2120 R	2120R	Organic Chemistry II Recitatio	Chemistry	0	Required recitation for CHM 2120.	UG	Recitation
Fall 2017	CHM2450	2450	Concepts Chem I ECE/MCE	Chemistry	3.5	Accelerated treatment of fundamental concepts and applications of chemistry for elementary education majors. Emphasizes concrete observable topics most appropriate for presentation to elementary and middle school students. Demonstrations and activities are used extensively. Integrated lecture/lab	UG	Lecture/Lab Combination
Fall 2017	CHM3120	3120	Quantitative Analysis	Chemistry	2	Introduction to chemical methods of analysis covering traditional as well as modern techniques and equipment; emphasis on calculations and the interpretation of analytical data.	UG	Lecture

Fall 2017	CHM3120 L	3120L	Quant Analysis Lab	Chemistry	3	Experimental methods of analysis. Practical applications of lecture material presented in CHM 3120.	UG	Lab
Fall 2017	CHM3190	3190	Chem Lit & Comp	Chemistry	2	Literature searching of journals, handbooks, abstracts, and patents. Writing of literature reports, abstracts, papers, and reports. Integrated Writing course.	UG	Lecture
Fall 2017	CHM3460	3460	Concepts Chem II MCE	Chemistry	4	Periodic table, chemical reactions, thermochemistry, organic and nuclear chemistry with everyday examples. Inquiry-based activities including historical and societal perspectives. For Middle Childhood Majors pursuing science concentration. Based on National Science Education Standards. Integrated lecture/lab	UG	Lecture/Lab Combination
Fall 2017	CHM3510	3510	Physical Chemistry I	Chemistry	3	Thermodynamics applied to chemical systems: solids, liquids, gases, and mixtures thereof. Kinetic rates and mechanisms of chemical reactions in the gas phase and in solutions.	UG	Lecture
Fall 2017	CHM3510 L	3510L	Physical Chm Lab I	Chemistry	2	Experimental methods of physical chemistry. Integrated Writing course.	UG	Lab
Fall 2017	CHM3510 R	3510R	Physical Chm Lab I Recitation	Chemistry	0	Required recitation for 3510.	UG	Recitation
Fall 2017	CHM3520	3520	Physical Chemistry II	Chemistry	3	Theoretical aspects of chemistry including quantum chemistry, spectroscopy and statistical mechanics	UG	Lecture
Fall 2017	CHM3520 L	3520L	Physical Chem Lab II	Chemistry	2	Experimental methods of physical chemistry. Integrated Writing course.	UG	Lab
Fall 2017	CHM3520 R	3520R	Physical Chemistry II Rec	Chemistry	0	Required recitation for CHM 3520.	UG	Recitation
Fall 2017	CHM3560	3560	Phys Chm-Life Sci	Chemistry	3	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	UG	Lecture
Fall 2017	CHM4020	4020	Environmental Chemistry	Chemistry	3	Environmental sampling and analysis using instrumental techniques. Chemical fate prediction by measurement and examination of physical and chemical properties.	UG	Lecture
Fall 2017	CHM4020 L	4020L	Environmental Chemistry Lab	Chemistry	0	Required laboratory for CHM 4020.	UG	Lab
Fall 2017	CHM4170	4170	Applied Chemical Spectro	Chemistry	2	Practical applications of various spectrophotometral techniques (mass spectroscopy, infrared spectroscopy, ultraviolet spectroscopy, and nuclear magnetic resonance) to the study of the structure of organic molecules.	UG	Lecture
Fall 2017	CHM4200	4200	Inorganic Chemistry I	Chemistry	3	Principles and concepts of inorganic chemistry including the periodic table, atomic structure, chemical bonding, coordination compounds, and an introduction to group theory.	UG	Lecture

Fall 2017	CHM4210	4210	Inorganic Chemistry II	Chemistry	2	Principles and concepts of inorganic chemistry including coordination chemistry, reactions of coordination compounds and organometallic chemistry.	UG	Lecture
Fall 2017	CHM4210L	4210L	Adv Inorganic Syn Lab	Chemistry	2	Advanced synthesis and characterization of representative inorganic compounds.	UG	Lab
Fall 2017	CHM4210R	4210R	Adv Inorganic Syn Rec	Chemistry	0	Required recitation for CHM 4210.	UG	Recitation
Fall 2017	CHM4350	4350	Instrumental Analysis	Chemistry	3	Theory and practice of modern chemical instrumentation. Elementary electronics, spectrophotometry, atomic absorption, electro-chemical techniques, chromatography, and other instrumental techniques.	UG	Lecture
Fall 2017	CHM4350L	4350L	Instrumental Analy Lab	Chemistry	3	Instrumental techniques and analysis giving practical experience in the operation of chemical instrumentation.	UG	Lab
Fall 2017	CHM4370	4370	Electroanalytical Chem	Chemistry	2	Fundamental principles of electrochemistry and the application of electrochemical methods to chemistry and chemical analysis.	UG	Lecture
Fall 2017	CHM4370L	4370L	Electroanalytical Chem Lab	Chemistry	0	Required laboratory for CHM 4370.	UG	Lab
Fall 2017	CHM4610	4610	Synthetic Polymer Chem	Chemistry	2	Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers.	UG	Lecture
Fall 2017	CHM4650	4650	Physical Polymer Chem	Chemistry	2	Structural and physical aspects of macromolecules. Emphasizes the relationship of polymer structure to physical and mechanical properties.	UG	Lecture
Fall 2017	CHM4650L	4650L	Physical Polymer Chem Lab	Chemistry	0	Required laboratory for CHM 4650.	UG	Lab
Fall 2017	CHM4680	4680	Experimental Nanoscience	Chemistry	3	Laboratory experiments include fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses and computational modeling of nanoscale physical phenomena.	UG	Combination
Fall 2017	CHM4680	4680	Experimental Nanoscience	Chemistry	3	Laboratory experiments include fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses and computational modeling of nanoscale physical phenomena.	UG	Lecture

Fall 2017	CHM4680	4680	Experimental Nanoscience	Chemistry	3	Laboratory experiments include fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses and computational modeling of nanoscale physical phenomena.	UG	Lab
Fall 2017	CHM4720	4720	Chemical Crystallography	Chemistry	3	Methodology and techniques in the determination of crystal and molecular structures using single-crystal x-ray diffraction.	UG	Lecture
Fall 2017	CHM4880	4880	Ind Reading Chemistry	Chemistry	1	Selected readings in Chemistry.	UG	Independent Study
Fall 2017	CHM4900	4900	Critical Lit Analysis	Chemistry	1	Development of critical thinking skills for analysis of current chemical and general scientific literature.	UG	Lecture
Fall 2017	CHM4990	4990	Special Prob Chemistry	Chemistry	1	Examination of specific problems or issues in chemistry.	UG	Lecture
Fall 2017	CHM5120	5120	Quantitative Analysis	Chemistry	2	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 2017	CHM5120 L	5120L	Quant Analysis Lab	Chemistry	3	Experimental methods of analysis. Practical applications of the lecture material presented in CHM 5120.	GR	Lab
Fall 2017	CHM5200	5200	Adv Inorganic Chem I	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 2017	CHM5210	5210	Inorganic Chemistry	Chemistry	2	A thorough examination of the chemistry of the metals stressing the transition elements, ligand field theory and mechanisms of inorganic reactions.	GR	Lecture
Fall 2017	CHM5210 L	5210L	Adv Inorg Syn & Charact	Chemistry	2	Advanced synthesis and characterization of representative inorganic compounds.	GR	Lab
Fall 2017	CHM5210 R	5210R	Adv Inorg Syn & Charact Rec	Chemistry	0	Required recitation for CHM 5210.	GR	Recitation
Fall 2017	CHM5350	5350	Instrumental Analysis	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 2017	CHM5350 L	5350L	Instr Analysis Lab	Chemistry	3	Introduction to experimental instrumental analysis. Practical experience in the operation of chemical instrumentation; emphasizes applications of the material presented in CHM 5350.	GR	Lab
Fall 2017	CHM5510	5510	Physical Chemistry I	Chemistry	3	Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.	GR	Lecture
Fall 2017	CHM5510 L	5510L	Physical Chemistry Lab I	Chemistry	2	Experimental methods of physical chemistry.	GR	Lab

Fall 2017	CHM5510 R	5510R	Physical Chemistry Lab I Rec	Chemistry	0	Required recitation for CHM 5510L.	GR	Recitation
Fall 2017	CHM5520	5520	Physical Chemistry II	Chemistry	3	Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.	GR	Lecture
Fall 2017	CHM5520 L	5520L	Physical Chem Lab II	Chemistry	2	Experimental methods of physical chemistry.	GR	Lab
Fall 2017	CHM5520 R	5520R	Physical Chemistry II Rec	Chemistry	0	Required recitation for CHM 5520.	GR	Recitation
Fall 2017	CHM5560	5560	Physical Chem Life Sci	Chemistry	3	An introduction to physical chemistry, including thermodynamics, properties of liquids and solids, solution properties, and kinetics. Intended for biologists, premedical students and others with an interest in physical chemistry.	GR	Lecture
Fall 2017	CHM5880	5880	Independent Reading	Chemistry	1		GR	Independent Study
Fall 2017	CHM5990	5990	Special Problems in Chem	Chemistry	1		GR	Independent Study
Fall 2017	CHM6020	6020	Adv Environ Chm & Analy	Chemistry	3	Environmental sampling and analysis using instrumental techniques. Chemical fate prediction by measurement and examination of physical and chemical properties.	GR	Lecture
Fall 2017	CHM6020 L	6020L	Adv Environ Chm & Analy Lab	Chemistry	0	Required laboratory for CHM 6020.	GR	Lab
Fall 2017	CHM6170	6170	Applied Chemical Spectro	Chemistry	2	Practical applications of various spectrophotometrical 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 2017	CHM6350	6350	Instrumental Analysis	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 2017	CHM6370	6370	Electroanalytical Chem	Chemistry	2	Fundamental principles of electrochemistry and the application of electrochemical methods to chemistry and chemical analysis.	GR	Lecture
Fall 2017	CHM6370 L	6370L	Electroanalytical Chem Lab	Chemistry	0	Required laboratory for CHM 6370.	GR	Lab
Fall 2017	CHM6450	6450	Concepts Chem I ECE/MCE	Chemistry	3.5	Basic fundamental concerns of chemistry for early childhood education majors. Those concrete observable topics most appropriate for early childhood education minors will be emphasized. Course includes an in-depth study of heat and temperature.	GR	Lecture/Lab Combination



Fall 2017	CHM6500	6500	Concepts Chem II MCE	Chemistry	4	Concepts in chemistry II is for graduate students in middle childhood science education (MST Program). Course includes detailed study of chemical reactions, kinetics, environmental issues, acids/bases, and nuclear chemistry. Portfolio development will be utilized for students to learn the development of inquiry activities for the classroom	GR	Lecture
Fall 2017	CHM6550	6550	Chem Microscopy with App	Chemistry	2	Examination of microscopy instrumentation and its applications to the study of surface and interface chemistry. The course will cover fundamentals of instrumentation design and methods. Topics will focus on scanning probe microscopy and its applications, particularly to solid-fluid interfaces.	GR	Lecture
Fall 2017	CHM6610	6610	Synthetic Polymer Chm	Chemistry	2	Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers.	GR	Lecture
Fall 2017	CHM6650	6650	Physical Polymer Chm	Chemistry	2	Introduction to the structural and physical aspects of macromolecules; emphasis on the relationship of polymer structure to physical and mechanical properties.	GR	Lecture
Fall 2017	CHM6650 L	6650L	Physical Polymer Chm Lab	Chemistry	0	Required laboratory for CHM 6650.	GR	Lab
Fall 2017	CHM6680	6680	Exp Nanomaterials	Chemistry	3	This course will provide a series of laboratory experiments similar to the state-of-the-art R&D in nanotechnology and nanoscience. The experiments include 1) fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; 2) characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses etc; and 3) computational modeling of nanoscale physical phenomena.	GR	Lab
Fall 2017	CHM6680	6680	Exp Nanomaterials	Chemistry	3	This course will provide a series of laboratory experiments similar to the state-of-the-art R&D in nanotechnology and nanoscience. The experiments include 1) fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; 2) characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses etc; and 3) computational modeling of nanoscale physical phenomena.	GR	Lecture

Fall 2017	CHM6680	6680	Exp Nanomaterials	Chemistry	3	This course will provide a series of laboratory experiments similar to the state-of-the-art R&D in nanotechnology and nanoscience. The experiments include 1) fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; 2) characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses etc; and 3) computational modeling of nanoscale physical phenomena.	GR	Combination
Fall 2017	CHM6720	6720	Chemical Crystallography	Chemistry	3	Methodology and techniques in the determination of crystal and molecular structures using single-crystal x-ray diffraction.	GR	Lecture/Lab Combination
Fall 2017	CHM6880	6880	Ind Reading in Chemistry	Chemistry	1	Selected Readings in Chemistry	GR	Independent Study
Fall 2017	CHM6900	6900	Critical Lit Analysis	Chemistry	1	For the development of a set of critical thinking skills that will allow for a thorough analysis of current chemical and general scientific literature.	GR	Lecture
Fall 2017	CHM6980	6980	Chemistry for Educators	Chemistry	1	Selected topics in chemical education. Directed readings or one-time offerings of topics related to the teaching of chemistry at various levels using different pedagogical approaches. May include summer workshops or institutes.	GR	Independent Study
Fall 2017	CHM7000	7000	Prin Instruction Chem	Chemistry	1	Survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction. For chemistry majors only.	GR	Lecture
Fall 2017	CHM7010	7010	Thesis	Chemistry	1	The collection, organization and description of chemical data for the process of writing a thesis.	GR	Lecture
Fall 2017	CHM7020	7020	Res Perspectives Chem	Chemistry	1	Lecture/reading course to acquaint new graduate students with the research being carried out by the faculty in the Department of Chemistry.	GR	Lecture
Fall 2017	CHM7180	7180	Chem Process in Environ	Chemistry	3	Skills are developed to predict behavior and movement of chemical contaminants in atmospheric, aquatic, and soil systems. Physical and chemical properties of contaminants and environmental interactions are evaluated to determine their ultimate fate.	GR	Lecture
Fall 2017	CHM7200	7200	Adv Inorganic Chem I	Chemistry	2	Study of the modern theories of valence, structural inorganic chemistry, and the chemistry of nonmetals.	GR	Lecture
Fall 2017	CHM7210	7210	Adv Inorganic Chem II	Chemistry	2	Thorough examination of the chemistry of metals stressing the transition elements, ligand field theory, and mechanisms of inorganic reactions.	GR	Lecture
Fall 2017	CHM7350	7350	Analytical Chemistry	Chemistry	1	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 2017	CHM7440	7440	Struc Concept Org Chem	Chemistry	2	Study of molecular orbital theory, reactive species, theories of acids and bases, and an introduction to stereochemistry.	GR	Lecture

Fall 2017	CHM7460	7460	Elements Org Reaction	Chemistry	2	Discussion of the more important organic reactions including their scope, limitations, and mechanisms.	GR	Lecture
Fall 2017	CHM7480	7480	Syn Org Reactions	Chemistry	2	Systematic treatment of organic reactions including, where applicable, some theoretical basis for the nature of the reaction. Emphasis on the uses of these reactions in organic synthesis.	GR	Lecture
Fall 2017	CHM7500	7500	Intro to Quantum Chem	Chemistry	3	Introduction to the ideas and mathematical techniques of quantum theory, including applications to some simple chemical systems.	GR	Lecture
Fall 2017	CHM7510	7510	Chemical Kinetics	Chemistry	2	Characterization of simple and complex kinetic systems; experimental techniques, methods of data analyses; kinetic theories; reactions in gas phase, in solution and chemical chain reactions; deduction of reaction mechanisms from experimental rate laws.	GR	Lecture
Fall 2017	CHM7520	7520	Thermodynamics	Chemistry	2	Fundamentals of chemical thermodynamics; first, second, and third laws; applications to solutions.	GR	Lecture
Fall 2017	CHM7620	7620	Mass Spectrometry	Chemistry	2	Current topics in mass spectrometry are discussed with emphasis on theory and state-of-the-art instrumentation and ionization methods.	GR	Lecture
Fall 2017	CHM7630	7630	Analytical Separations	Chemistry	2	Theory of separations techniques are reviewed. The two techniques of gas and liquid chromatography are discussed with emphasis in column technology, inlet systems and detection devices.	GR	Lecture
Fall 2017	CHM7890	7890	Continuing Registration	Chemistry	1		GR	Independent Study
Fall 2017	CHM8000	8000	Seminar	Chemistry	1	Departmental Seminar	GR	Seminar
Fall 2017	CHM8250	8250	Sel Topics in Inorganic	Chemistry	1	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 2017	CHM8450	8450	Sel Topics in Organic	Chemistry	1	Selected topics in the field of organic chemistry, such as organic spectroscopy, heterocyclic chemistry, organometallic chemistry, and the chemistry of natural products.	GR	Lecture
Fall 2017	CHM8550	8550	Select Topic Phys Chem	Chemistry	1	Selected topics 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 2017	CHM8960	8960	Early Start Research	Chemistry	2	A short-term research project as an introduction to Masters-level chemistry research.	GR	Independent Study
Fall 2017	CHM8970	8970	Chemistry Research	Chemistry	1	Original research in a CHM faculty laboratory.	GR	Independent Study

Fall 2017	CHM8980	8980	Thesis Research	Chemistry	1	Progress and completion of a research project which is suitable for publication.	GR	Independent Study
Fall 2017	CHM8990	8990	Thesis Defense	Chemistry	2	Public defense of a written thesis that is based on original research in a CHM faculty laboratory.	GR	Seminar
Fall 2017	CL4200	4200	Intro Clinical Lab Sci	Clinical Laboratory Science	2	Theory and application of lab safety, universal precautions, specimen collection, quality assurance, and other techniques fundamental to clinical laboratory. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	CL4220	4220	Laboratory Management	Clinical Laboratory Science	1.5	Principles of education, laboratory management, computer application and completion and presentation of a scientific project. Integrated Writing course.	UG	Lecture
Fall 2017	CL4230	4230	Clinical Pathology Sem	Clinical Laboratory Science	1.5	Discussion of clinical findings through case studies.	UG	Seminar
Fall 2017	CL4310	4310	Urine/Body Fluid Analys	Clinical Laboratory Science	2	Study of body fluids, including the pathophysiology of their formation and the biochemical and morphological methods used to obtain diagnostic information. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	CL4410	4410	Hematology	Clinical Laboratory Science	3	Theory and application of principles of hematology, including hematopoiesis, counting and identification of cells in the peripheral blood, and the use of cellular morphology to diagnose disease. Lecture and laboratory. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	CL4420	4420	Advanced Hematology	Clinical Laboratory Science	1.5	Advanced topics in hematology with an emphasis on the diagnosis and treatment of anemias, myelodysplastic and myeloproliferative disorders.	UG	Lecture
Fall 2017	CL4430	4430	Intro Hematology Prac	Clinical Laboratory Science	1	Introduction to practical application of hematology techniques at a clinical site.	UG	Practicum
Fall 2017	CL4440	4440	Adv Hematology Practicum	Clinical Laboratory Science	2	Practical application of hematology techniques at a clinical site.	UG	Practicum
Fall 2017	CL4510	4510	Hemostasis	Clinical Laboratory Science	1.5	Blood vessel contraction, platelet activation and formation, and activation of coagulation factors, and their use in diagnosing coagulation defects and monitoring anticoagulant therapy. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	CL4610	4610	Basic Clinical Chemistry	Clinical Laboratory Science	2.5	Theory and application of human biochemistry and principles of chemistry techniques used in the analysis of blood and other body fluids. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination

Fall 2017	CL4620	4620	Adv Clinical Chemistry	Clinical Laboratory Science	2	Study of endocrine system, inborn errors of metabolism, toxicology, the role of tumor markers in cancer diagnosis and management, and other advanced topics in clinical chemistry.	UG	Lecture
Fall 2017	CL4630	4630	Intro Clinical Chem Prac	Clinical Laboratory Science	1	Introduction to the practical application of clinical chemistry techniques at a clinical site.	UG	Practicum
Fall 2017	CL4640	4640	Adv Clinical Chem Prac	Clinical Laboratory Science	2	Practical application of clinical chemistry techniques at a clinical site.	UG	Practicum
Fall 2017	CL4710	4710	Diagnostic Microbiology	Clinical Laboratory Science	3	Study of media composition and selection, biochemical techniques used to identify bacteria and related physiology, antibiotic susceptibility of bacteria, and discussion and identification of parasites. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	CL4720	4720	Advanced Microbiology	Clinical Laboratory Science	2	Characteristics, pathophysiologic mechanisms and identification of chlamydia, fungi, viruses and other organisms and the methods used to diagnose and treat related diseases.	UG	Lecture
Fall 2017	CL4730	4730	Intro Microbiology Prac	Clinical Laboratory Science	1	Introduction to the practical application of microbiology techniques at a clinical site.	UG	Practicum
Fall 2017	CL4740	4740	Adv Microbiology Prac	Clinical Laboratory Science	2	Practical application of microbiology techniques at clinical site.	UG	Practicum
Fall 2017	CL4810	4810	Immunology/Serology	Clinical Laboratory Science	2	Antigens and the stimulation of antibodies in vivo, and the use of these reactions to perform in vitro testing to diagnose and monitor the course of disease. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	CL4910	4910	Immunohematology	Clinical Laboratory Science	2	Use of antigens and antibodies in blood grouping and transfusion medicine. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	CL4920	4920	Adv Immunohematology	Clinical Laboratory Science	1.5	Advanced topics in transfusion medicine, including immune hemolytic anemias, paternity testing, component therapy, HLA antigens, quality assurance and the role of regulatory agencies in the practice of transfusion medicine.	UG	Lecture
Fall 2017	CL4930	4930	Intro Transfusion Prac	Clinical Laboratory Science	1	Introduction to the practical application of transfusion medicine techniques at a clinical site.	UG	Practicum
Fall 2017	CL4940	4940	Adv Transfusion Prac	Clinical Laboratory Science	2	Practical application of transfusion medicine techniques at a clinical site.	UG	Practicum

Fall 2017	CLS1000	1000	Latin Greek Roots Eng	Classics	3	Builds English vocabulary through a study of Latin and Greek roots. Emphasis on words used commonly in higher education rather than on specialized terminology.	UG	Lecture
Fall 2017	CLS1010	1010	Medical Sci Terminology	Classics	3	Spelling, recognition, and understanding contemporary specialized medical and scientific vocabulary that is based on the Latin and Greek languages. Emphasis on terminology of the medical sciences.	UG	Lecture
Fall 2017	CLS1500	1500	Greek and Roman Culture	Classics	3	Survey of the development of classical culture from prehistoric Greece to the fall of the Roman Empire. A broad view of the philosophy, religion, mythology, literature, art, and architecture and the interrelated political, economic, and social conditions.	UG	Lecture
Fall 2017	CLS1600	1600	Intro Classical Myth	Classics	3	A survey of the myths and legends of ancient Greece and Rome which are an important part of the Western literary and cultural tradition. Credit will not be given for CLS 1600 Introduction to Classical Mythology for students who have already successfully completed CLS 2600.	UG	Lecture
Fall 2017	CLS2040	2040	Great Books - Classics	Classics	3	Introduction to interpreting literature, using selected texts from ancient Greece and Rome, viewed in their socio-historical contexts and read for their value in treating more general themes of the human experience. Integrated Writing course.	UG	Lecture
Fall 2017	CLS2600	2600	Classical Mythology	Classics	3	A survey of the myths and legends of ancient Greece and Rome which are an important part of the Western literary and cultural tradition. Integrated Writing course. Credit will not be given for CLS 2600 Classical Mythology for students who have already successfully completed CLS 1600.	UG	Lecture
Fall 2017	CLS3300	3300	Studies in Ancient Lit	Classics	3	Drama, epic, and lyric poetry; prose; selected themes in ancient literature; and literary criticism. Integrated Writing course.	UG	Lecture
Fall 2017	CLS3400	3400	Art and Archaeology	Classics	3	Greece in the Bronze Age; classical Greece and Rome; and selected areas of Greek and Roman art and archaeology. Integrated Writing course.	UG	Lecture
Fall 2017	CLS3500	3500	Ancient Culture and Soc	Classics	3	Special topics in ancient culture and civilization based on literature, art, archaeology, legal documents, and other sources. Integrated Writing course.	UG	Lecture
Fall 2017	CLS3600	3600	Ancient Mythology	Classics	3	Greek and Roman mythology; aspects of and approaches to the study of myths. Integrated Writing course.	UG	Lecture
Fall 2017	CLS3700	3700	Ancient Pol/Law/War	Classics	3	Politics, law and legal systems, and warfare in Greece and Rome. Integrated Writing course.	UG	Lecture
Fall 2017	CLS4100	4100	Adv Studies in Antiquity	Classics	3	Literature, mythology, law and government, art and archaeology, culture and society. Integrated Writing course.	UG	Lecture

Fall 2017	CLS4810	4810	Independent Study	Classics	1	Faculty-directed, individualized study on student-selected topics. Limited to majors and advanced students. Permission of department and a minimum 3.0 GPA required.	UG	Independent Study
Fall 2017	CLS4970	4970	Senior Project	Classics	3	Guided research culminating in a major paper on a topic chosen by the student and the instructor. Students develop a comprehensive bibliography, prepare a detailed outline, and write and revise the final project. May be completed for Honors.	UG	Independent Study
Fall 2017	CLS5300	5300	Ancient Literature	Classics	3	Offers variety of topics including drama, epic, and lyric poetry; prose; selected themes in ancient literature; and literary criticism.	GR	Lecture
Fall 2017	CLS5400	5400	Art & Archaeology	Classics	3	Greece in the Bronze Age; classical Greece and Rome; and selected areas of Greek and Roman art and archaeology.	GR	Lecture
Fall 2017	CLS5500	5500	Ancient Culture and Soc.	Classics	3	Aspects of Greek and Roman civilization with evidence from literature, history, documents, and other materials.	GR	Lecture
Fall 2017	CLS5600	5600	Ancient Mythology	Classics	3	Greek and Roman mythology; aspects and approaches to the study of myth.	GR	Lecture
Fall 2017	CLS5700	5700	Studies:Anct:Law/Gov/Pol	Classics	3	Political problems of the ancient world; law and legal systems; and government and administration.	GR	Lecture
Fall 2017	CLS6810	6810	Independent Study	Classics	1	Faculty-directed, individualized study on student-selected topics. Limited to advanced students. Permission of faculty and a minimum 3.5 GPA required.	GR	Independent Study
Fall 2017	CNL4610	4610	Principles of Counseling	Counseling	3	An overview of major counseling principles, theories, techniques, historical foundations, and services.	UG	Lecture
Fall 2017	CNL4630	4630	Mental Hlth & Disability	Counseling	3	Factors influencing behavior of individuals and methods a rehabilitation specialist may use in observing, analyzing, and improving attitudes and behavior.	UG	Lecture
Fall 2017	CNL4640	4640	Crisis Counseling	Counseling	3	Background, theory, practice, and needs of crisis intervention within the helping professions. Explores a variety of crisis intervention models and community resources.	UG	Lecture
Fall 2017	CNL4670	4670	Group Background Theory	Counseling	3	Surveys the background, theory, function, techniques, and the uses of small groups in counseling.	UG	Lecture/Lab Combination
Fall 2017	CNL4700	4700	Counseling Workshop	Counseling	1	Intensive study of selected areas in counseling to meet the particular needs of participating students, schools, and agencies. Titles vary.	UG	Seminar
Fall 2017	CNL6010	6010	CNL Theory and Practice	Counseling	3	Presents an overview of the major theoretical approaches to counseling. Key concepts, therapeutic processes, and techniques will be examined. Opportunity will also be available for discussion of philosophical and ethical issues in counseling.	GR	Lecture
Fall 2017	CNL6020	6020	Techniques of Counseling	Counseling	3	Laboratory practice in individual counseling techniques; focuses on the development of basic skills and procedures.	GR	Lecture/Lab Combination

Fall 2017	CNL6030	6030	Stats Res for Counseling	Counseling	3	Surveys counseling and rehabilitation research, evidence-based practice, program evaluation, needs assessment, descriptive, inferential, qualitative, quantitative, and single-case designs statistical analysis, and ethical and culturally relevant strategies for interpreting and reporting human services research	GR	Lecture
Fall 2017	CNL6200	6200	Clin Pathology in Counsl	Counseling	3	Introduces students in human services to basic psychopathology, factors influencing the behavior of individuals and methods a counselor may use in observing, analyzing and improving attitudes and behavior.	GR	Lecture
Fall 2017	CNL6210	6210	Crisis Counseling	Counseling	3	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	GR	Lecture
Fall 2017	CNL6220	6220	Group Background & Theory	Counseling	3	Surveys the background, theory, patterns of function, techniques of facilitating, and the uses of small groups in counseling.	GR	Lecture/Lab Combination
Fall 2017	CNL6610	6610	Principles of Counseling	Counseling	3	Introduction and overview of major counseling principles, theories, techniques, historical foundations, and services. Also, addresses counseling specialties and professional organizations.	GR	Lecture
Fall 2017	CNL6620	6620	Prob Stu Behavior & Dev	Counseling	3	Considers physical, psychological, and personality development of students. The interrelationship of these factors and their effects on student functioning are also explored. The course also explores the impact of social learning on student behavior	GR	Lecture
Fall 2017	CNL6700	6700	Counseling Workshop	Counseling	0.5	Intensive study of selected areas in counseling to meet the particular needs of participating students, schools, and agencies. Titles vary.	GR	Lecture
Fall 2017	CNL7220	7220	Group Process Counseling	Counseling	3	Serves as an introduction to group 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.	GR	Lab
Fall 2017	CNL7230	7230	Asses & Eval in Counsel	Counseling	3	Explores best practice and use of instruments used in counseling assessment and evaluation. Additional topics include statistical concepts, reliability, validity, ethical applications. social cultural factors.	GR	Lecture
Fall 2017	CNL7240	7240	Career Counseling & Dev	Counseling	3	Presents career development as a series of vocational and other life choices in the process of self-realization, and also considers the effect of rapid social and technological change on this process.	GR	Lecture



Fall 2017	CNL7250	7250	Cnl Mental Hlth Prac/Ser	Counseling	3	Acquaints students with preventive mental health, advocacy roles, legal and ethical issues, and interdisciplinary approaches to community mental health.	GR	Lecture
Fall 2017	CNL7260	7260	Marriage	Counseling	1	Fundamental introduction to marriage and family counseling. Students learn to think across a wide variety of family structures and a diverse range of issues (i.e. gender, culture, and substance abuse).	GR	Lecture
Fall 2017	CNL7261	7261	Systems Theory	Counseling	2	Considers principles and techniques of marriage and family counseling from a variety of theoretical orientations.	GR	Lecture
Fall 2017	CNL7270	7270	Coun Life-Span Develop	Counseling	3	Developmental factors influencing the behavior of individuals across the life-span and the unique counseling strategies that are employed.	GR	Lecture
Fall 2017	CNL7280	7280	Pro Orient Eth & Leg Iss	Counseling	3	Surveys legal, professional, and ethical issues in counseling. Topics include: historical review, counselor roles and functions, self-care strategies, supervision models, advocacy, professional organizations, and professional credentialing.	GR	Lecture
Fall 2017	CNL7290	7290	Multicultural Counseling	Counseling	3	Studies social change, cultures, issues related to immigration, gender, sexual orientation, socioeconomic status, religious affiliation, and unique characteristics of individuals, couples, families, ethnic groups, and communities. This course does require some experiential exercises.	GR	Lecture
Fall 2017	CNL7650	7650	Prin & Prac of Schl Coun	Counseling	3	This course explores the design, implementation, management, and evaluation of comprehensive school counseling programs. School counseling programming is discussed in terms of its relationship to the total school program and to community support systems.	GR	Lecture
Fall 2017	CNL7651	7651	Addiction K-12 Setting	Counseling	3	Overview of addiction and substance related issues for children and adolescents in the K-12 setting. Emphasis on the school counselor's role in prevention, screening and responsive services when working with students and/or families impacted by addiction and substance use disorders.	GR	Lecture
Fall 2017	CNL7700	7700	Indep Study Minor Prob	Counseling	1	Planned reading and/or project under the guidance of a Department of Human Services faculty member.	GR	Independent Study
Fall 2017	CNL7800	7800	Sys Tech in Marr & Fam	Counseling	2	This course focuses on teaching systemic interventions and problem solving in the process of resolving marriage and family related concerns.	GR	Lecture
Fall 2017	CNL7800	7800	Sys Tech in Marr & Fam	Counseling	2	This course focuses on teaching systemic interventions and problem solving in the process of resolving marriage and family related concerns.	GR	Lecture/Lab Combination
Fall 2017	CNL7800 L	7800L	Sys Tech in Marr & Fam Lab	Counseling	0	Required laboratory for CNL 7800.	GR	Lab

Fall 2017	CNL7801	7801	Marriage Pre-Practicum	Counseling	1	This course focuses on the practice of systemic interventions and problem solving in the process of resolving marriage and family related concerns.	GR	Lab
Fall 2017	CNL8000	8000	Human Sexuality Counsel	Counseling	3	The principles and practice of human sexuality and sexuality counseling are reviewed. A major focus of the course is the application and integration of theories and principles of sexuality counseling with couples.	GR	Lecture
Fall 2017	CNL8600	8600	Adv Seminar Counseling	Counseling	1	Provides an opportunity for students to further develop skills in counseling, appraisal, research, or other related areas under faculty direction.	GR	Seminar
Fall 2017	CNL8640	8640	Practicum	Counseling	3	Provides an experience in counseling, interviewing, training, and/or consultation in which the student under supervision, demonstrates skills in educational, vocational, organizational, and/or personal areas to individuals and/or groups.	GR	Practicum
Fall 2017	CNL8650	8650	Indiv & Grp Pract Couns	Counseling	3	Provides supervised experience for counselor trainees providing psychotherapy, counseling, guidance, instruction, and assessment to individuals and groups to resolve behavioral, substance, educational/vocational/career, marital/family/relational, and personal/social problems and diagnose and treat mental and emotional/affective disorders.	GR	Practicum
Fall 2017	CNL8670	8670	Internship	Counseling	1	This field-based experience provides human services masters degree students with advanced clinical practice and supervision in their major specialty areas.	GR	Internship
Fall 2017	CNL9500	9500	Adv Pers Theory & Psyc	Counseling	3	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 2017	CNL9510	9510	Clin Assess in Cnl Prac	Counseling	3	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 2017	CNL9520	9520	Diagnosis Clin Cnl Prac	Counseling	3	Clinical course designed to introduce the student to comprehensive diagnostic evaluation. Students will gain familiarity with the DSM nomenclatures via assigned readings, case studies and assignments.	GR	Lecture
Fall 2017	CNL9530	9530	Case Form Interven Supv	Counseling	3	This course reviews clinical decision making skills in counselor practice and emphasizes using sound, clinically defensible diagnostic assessment and clinical interventions supported in current outcome research. Advanced case conceptualization and counselor supervision also presented.	GR	Lecture

Fall 2017	CNL9600	9600	Adv Instit Human Serv	Counseling	1	Individual, group study of current problems in counseling. Provides a focus on the development of new skills related to interventions. Topics might include professional ethics and responsibilities, crisis intervention, techniques, and human sexuality	GR	Lecture
Fall 2017	CNL9601	9601	Adv. Crisis Intervention	Counseling	3	Overview of issues associated with trauma, stress, crisis, and disaster experiences and the importance of differentiating their varying characteristics. Emphasis on knowledge and skills of different types of interventions	GR	Lecture
Fall 2017	CNL9602	9602	Assess. & Diag. of PTSD	Counseling	3	Overview of trauma theories, assessment, and diagnosis of PTSD in clinical mental health settings. Emphasis on knowledge and skills of trauma assessment, diagnosis, multicultural and diversity issues using lifespan perspective.	GR	Lecture
Fall 2017	COM1010	1010	Essential Public Address	Communication	3	Fundamentals of verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of a speech.	UG	Lecture/Lab Combination
Fall 2017	COM1030	1030	Writing for Com	Communication	3	Introduction to fundamentals of critical inquiry. Study of critical thinking, conducting research and analysis. Comprehensive academic writing included	UG	Lecture/Lab Combination
Fall 2017	COM1040	1040	Intro to Human Com	Communication	3	Surveys major concepts, theories, and research approaches in the study of human communication. Assists students in developing an understanding of the foundation of communication theory in preparation for advanced study.	UG	Lecture
Fall 2017	COM1520	1520	Mass Comm	Communication	3	Study of mass media functions, industries, and effects to help students become more critical mass media consumers and contributors.	UG	Lecture/Recitation Combination
Fall 2017	COM2020	2020	Interpersonal Com	Communication	3	A theoretical and behavioral approach to the role of communication in relationships across various contexts. Emphasis on perception and self-concept, relational development, verbal and nonverbal messages, influence, gender and diversity	UG	Lecture/Lab Combination
Fall 2017	COM2410	2410	Small Group Com	Communication	3	Explores of the fundamentals of group formation, communication, and processes, including conflict resolution, leadership, problem-solving and decision-making. Emphasis on comprehension of theoretical fundamentals as well as skill development	UG	Lecture/Lab Combination
Fall 2017	COM2460	2460	Organizational Comm	Communication	3	Nature and functions of communication in the organizational setting. Concepts and methods needed to assess and improve communication in organizations.	UG	Lecture
Fall 2017	COM2560	2560	Basic Media Writing	Communication	3	Introduction to writing for media. Includes structure and organization of media copy. Requires reporting in the field. Integrated Writing course.	UG	Lecture

Fall 2017	COM3250	3250	Health Communication	Communication	3	Basic themes and issues that have developed in health communication research including physician-patient and nurse-patient communications, organizational communication in health care organizations, and relationships among care providers	UG	Lecture
Fall 2017	COM3330	3330	Persuasion & Rhet Theory	Communication	3	Delineation of the concept of persuasion together with an overview of general rhetorical theory. Preparation and presentation of persuasive communication. Integrated Writing course.	UG	Lecture
Fall 2017	COM3450	3450	Public Relations	Communication	3	Simulation focusing on the processes of a public-relations campaign: fact finding, action planning, implementation of communication channels. and program evaluation.	UG	Lecture
Fall 2017	COM3490	3490	Survey of Com Research	Communication	3	Introduction to the behavioral approach and current theories and experiments in communications research. Integrated Writing course.	UG	Lecture
Fall 2017	COM3660	3660	Advanced News Writing	Communication	3	Advanced study of writing skills, practices, and procedures used in reporting news for mass media. Reporting in the field required. Integrated Writing course.	UG	Lecture
Fall 2017	COM3680	3680	Visual Communication	Communication	3	Theoretical and practical foundation in the creation of visuals for multi-media projects suitable for publication in mass media.	UG	Lecture
Fall 2017	COM3700	3700	Dispute Resolution	Communication	3	Nature and cause of conflict, the impact of communication on conflict escalation, and the process of conflict resolution. Integrated Writing course.	UG	Lecture
Fall 2017	COM4110	4110	Perform for the Media	Communication	3	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. Integrated Writing course.	UG	Lecture
Fall 2017	COM4250	4250	Health Communication	Communication	3	Basic themes and issues that have developed in health communication research including physician-patient and nurse-patient communications, organizational communication in health care organizations, and relationships among care providers	UG	Lecture
Fall 2017	COM4251	4251	Race, Gender, and Health	Communication	3	Students will learn about the integral nature of communication in health including: the role communication plays in shaping individuals' social and cultural expectations and beliefs about health and illness, and the ways in which this information may influence how it is we understand and communicate about race, gender and health	UG	Lecture
Fall 2017	COM4320	4320	Race Class Gender Comm	Communication	3	Theoretical and pragmatic consideration of the impact of race, class, and gender on the communication process within society.	UG	Lecture

Fall 2017	COM4330	4330	Internship	Communication	1	Research, practice, and participation in communication fora, symposia, or an oral communication project designed to meet the interest of individual students.	UG	Internship
Fall 2017	COM4430	4430	Interviewing	Communication	3	Through a matrix organizational structure, students experience theory in selection, survey, journalistic, performance appraisal, persuasion, and counseling interviewing situations with the focus on human resource development.	UG	Lecture
Fall 2017	COM4470	4470	Com Relations in Orgs	Communication	3	Examines factors that help and hinder effective professional relationships. Aims to increase understanding of interpersonal relationships and apply the knowledge to individual and organizational goals.	UG	Lecture
Fall 2017	COM4570	4570	Intercultural Comm	Communication	3	Emphasis on research and theory to better understand the complexity of intercultural communication interactions.	UG	Lecture
Fall 2017	COM4620	4620	Mass Media Law	Communication	3	Laws and regulations affecting mass media.	UG	Lecture
Fall 2017	COM4640	4640	Media Criticism	Communication	3	Analysis of contemporary programming and production practices including the development of critical standards for evaluation.	UG	Lecture
Fall 2017	COM4710	4710	Topics in Comm	Communication	3	Special topics in the various areas of speech communication.	UG	Lecture
Fall 2017	COM4810	4810	Independent Study	Communication	1	Faculty-directed readings and research.	UG	Independent Study
Fall 2017	COM4820	4820	Senior Honors Project	Communication	1	Independent studies course that allows students to pursue research that culminates in a senior honors thesis or project.	UG	Independent Study
Fall 2017	COM6250	6250	Health Com	Communication	3	Basic themes and issues that have developed in health communication research including physician-patient and nurse-patient communications, organizational communication in health care organizations, and relationships among care providers.	GR	Lecture
Fall 2017	COM6320	6320	Race, Class Gender Com	Communication	3	Theoretical and pragmatic consideration of the impact of race, class, and gender on the communication process within society.	GR	Lecture
Fall 2017	COM6490	6490	Survey of Com Research	Communication	3	Introduction to the behavioral approach and current theories and experiments in communications research.	GR	Lecture
Fall 2017	COM6640	6640	Media Literacy	Communication	3	Analysis of contemporary programming and production practices including the development of critical standards for evaluation.	GR	Lecture
Fall 2017	COM6810	6810	Independent Study	Communication	1	Faculty-directed readings and research.	GR	Independent Study

Fall 2017	CPE0910	0910	Cooperative Education I	Cooperative Education	0	Cooperative Education I: Full-time career-related work. Through cooperative education, students enhance professional preparation, develop job-related skills, test career interests, relate course of study to practical work situations, and earn income to meet educational expenses. CPE registration records co-op experiences on the transcript. Career Services staff enroll students in the CPE course and monitor their learning.	UG	Internship
Fall 2017	CPE0920	0920	Cooperative Education II	Cooperative Education	0	Cooperative Education II: Part-time career-related work. Through cooperative education, students enhance professional preparation, develop job-related skills, test career interests, relate course of study to practical work situations, and earn income to meet educational expenses. CPE registration records co-op experiences on the transcript. Career Services staff enroll students in the CPE course and monitor their learning.	UG	Internship
Fall 2017	CRT1000	1000	Intro to Corrections	Corrections	3	Trends and developments in all elements of a modern correctional system for the treatment of juvenile and adult offenders.	UG	Lecture
Fall 2017	CRT1010	1010	Intro Community Corr	Corrections	3	Origins, organization and trends in current traditional and non-traditional (e.g., electronic monitoring, house arrest, day-treatment, boot-camp, fines) community corrections.	UG	Lecture
Fall 2017	CRT1030	1030	Corr Management	Corrections	3	Trends and developments in modern correctional management.	UG	Lecture
Fall 2017	CRT1040	1040	Corr Procedures and Ops	Corrections	3	Contemporary legal issues impacting corrections management. Using case law, how the First, Fourth, Fifth, Eighth and Fourteenth Amendments relate to the day-to-day issues of running a prison, jail, and other corrections programs, such as probation and parole.	UG	Lecture
Fall 2017	CRT2030	2030	Probation and Parole	Corrections	3	Comprehensive, up to date, evidence-based practices and research for probation, release from prison, and other community-based alternatives. Community-based correctional programs in their historical, philosophical, social, and legal context with the opportunity to integrate real-life practice.	UG	Lecture
Fall 2017	CRT2990	2990	Law Enforcement Intern	Corrections	3	Opportunity to observe the criminal justice system in operation while comparing classroom theory with the day-to-day operation of the agency to which they are assigned and the roles and responsibilities of the professional in the field. Total of 40 clock hours, spread over the semester, in the agencies assigned.	UG	Internship

Fall 2017	CS1000	1000	Technology and Society	Computer Science	3	Examines and evaluates the consequences of technology on individuals, organizations and society to recognize its benefits, potential, and limitations. Explores current social, ethical, legal and philosophical topics to understand how the Digital Revolution impacts society.	UG	Lecture/Lab Combination
Fall 2017	CS1010	1010	Intro Comps & Office	Computer Science	3	Microsoft Office software applications including intermediate word processing, spreadsheets, database and presentation graphics using a case study approach requiring critical thinking and problem solving skills.	UG	Lecture/Lab Combination
Fall 2017	CS1011	1011	Comp Software Prod Tools	Computer Science	3	Advanced Microsoft Office software for problem solving and data analysis. Spreadsheet and database features such as macros, Visual Basic for Applications in spreadsheets, formula auditing, data validation, switchboards, pivot tables, and web integration.<b> Department Managed Prerequisite(s): Undergraduate level CS 1010 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	CS1020	1020	Intro to Microsoft Excel	Computer Science	1	This course focuses on learning MS Excel software applications using a case study approach where critical thinking and problem solving skills are required. File Management and the basics of Microsoft Office 2010 will also be discussed.	UG	Lecture
Fall 2017	CS1021	1021	Intro to Microsoft Access	Computer Science	1	This course focuses on learning MS Access software application using a case study approach where critical thinking and problem solving skills are required.	UG	Lecture
Fall 2017	CS1030	1030	Survey of CS and CEG	Computer Science	1	Provides broad introduction to the fields of computer science and engineering. Explores resources designed to enhance new student success.	UG	Lecture
Fall 2017	CS1150	1150	Intro to Comp Sci	Computer Science	4	Expose students to the scientific method as implemented in computer science. Topics include basic programming, web design, database, logic gates, algorithm development and fundamentals of networking. The course requires students to apply and extend the concepts in a laboratory setting.	UG	Lecture
Fall 2017	CS1150L	1150L	Intro to Comp Sci Lab	Computer Science	0	Required laboratory for CS 1150.	UG	Lab
Fall 2017	CS1160	1160	Intro to Comp Program	Computer Science	4	Fundamentals of computer programming. No prior knowledge of programming is assumed. The concepts covered will be applied to the Java programming language.<b> Department Managed Prerequisite(s): WSU Math Placement Level 30 or Undergraduate level DEV 0970 Minimum Grade of P</b>	UG	Lecture

Fall 2017	CS1160	1160	Intro to Comp Program	Computer Science	4	Fundamentals of computer programming. No prior knowledge of programming is assumed. The concepts covered will be applied to the Java programming language.<b> Department Managed Prerequisite(s): WSU Math Placement Level 30 or Undergraduate level DEV 0970 Minimum Grade of P</b>	UG	Lecture/Lab Combination
Fall 2017	CS1160L	1160L	Intro to Comp Prog Lab	Computer Science	0	Required laboratory for CS 1160.	UG	Lab
Fall 2017	CS1161	1161	Intro to Comp Prog II	Computer Science	4	Introduction to advanced programming concepts and techniques. Emphasis is on object-oriented programming and graphical user interfaces.<b> Department Managed Prerequisite(s): (Undergraduate level CS 1160 Minimum Grade of C or Undergraduate level CEG 2170 Minimum Grade of C or Undergraduate level CS 1180 Minimum Grade of C) and (Undergraduate level DEV 0970 Minimum Grade of P or Undergraduate level CS 1200 Minimum Grade of D or WSU Math Placement 04)</b>	UG	Lecture/Lab Combination
Fall 2017	CS1180	1180	Computer Science I	Computer Science	4	Basic concepts of programming and programming languages. Structured programming, stepwise refinement, and object-oriented development. Integrated Writing course.<b> Department Managed Prerequisite(s): WSU Math Placement 05 or Undergraduate level MTH 1280 Minimum Grade of D</b>	UG	Lecture
Fall 2017	CS1180L	1180L	Computer Science I Lab	Computer Science	0	Required laboratory for CS 1180.	UG	Lab
Fall 2017	CS1181	1181	Computer Science II	Computer Science	4	Advanced concepts of computer programming. Use of data structures and tools that facilitate programming. Integrated Writing course.<b> Department Managed Prerequisite(s): (Undergraduate level CS 1180 Minimum Grade of C or Undergraduate level CS 1161 Minimum Grade of C) and (Undergraduate level MTH 1280 Minimum Grade of D or WSU Math Placement 05)</b>	UG	Lecture
Fall 2017	CS1181L	1181L	Computer Science II Lab	Computer Science	0	Required laboratory for CS 1181.	UG	Lab
Fall 2017	CS1200	1200	Intro to Discr Struct	Computer Science	4	Introduction to discrete structures for computer science. Emphasis of basic mathematical notation and manipulation with discrete structures.<b> Department Managed Prerequisite(s): WSU Math Placement Level 30 or Undergraduate level DEV 0970 Minimum Grade of P</b>	UG	Lecture
Fall 2017	CS1200R	1200R	Intro Discrete Struct Rec	Computer Science	0	Required recitation for CS 1200.	UG	Recitation



Fall 2017	CS2160	2160	Visual Basic Programming	Computer Science	3	An introduction to event-driven programming. Emphasis is on the design of graphical user interfaces and the development of programming skills using an object-oriented approach.<b> Department Managed Prerequisite(s): Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	CS2200	2200	Discrete Structures and Algorithms	Computer Science	4	Discrete structures and their algorithms for computer science. Emphasis on rigorous proof and formal argumentation.<b> Department Managed Prerequisite(s): Undergraduate level CS 1200 Minimum Grade of C</b>	UG	Lecture
Fall 2017	CS2200R	2200R	Discrete Structures and Algorithms Recitation	Computer Science	0	Required recitation for CS 2200.	UG	Recitation
Fall 2017	CS2210	2210	Logic for Computer Scientists	Computer Science	3	Fundamental material in foundations of logic most relevant to Computer Science. Propositional logic, predicate logic, modeling of knowledge, and algorithms for logical reasoning.	UG	Lecture
Fall 2017	CS2570R	2570R	Recitation for MTH 2570	Computer Science	1	Recitation for MTH 2570.	UG	Recitation
Fall 2017	CS2800	2800	Web Development I	Computer Science	3	Introduction to basic web design and development using HTML and CSS. Topics include page structure, responsive design, and use of multimedia. Client-side programming using scripting languages such as JavaScript and jQuery will be introduced.<b> Department Managed Prerequisite(s): (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D)</b>	UG	Lecture/Lab Combination
Fall 2017	CS2900	2900	Special Topics in Computer Science	Computer Science	1	Special Topics in Computer Science.	UG	Lecture
Fall 2017	CS3100	3100	Data Structures & Algorithms	Computer Science	3	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 path). Emphasis on high-level language software design.<b> Department Managed Prerequisite(s): Undergraduate level CS 1181 Minimum Grade of C and Undergraduate level CEG 2350 Minimum Grade of D and Undergraduate level CEG 3310 Minimum Grade of C and (Undergraduate level MTH 2570 Minimum Grade of D or Undergraduate level CS 2200 Minimum Grade of D)</b>	UG	Lecture

Fall 2017	CS3170	3170	Mobile App Development	Computer Science	3	Focuses on projects to progressively demonstrate concepts and practical approaches to developing software for mobile devices focusing on iOS devices including any of iPhone, iPod Touch, or iPad. The course covers application design, Apple's core technologies, animation, image processing, video processing, audio, 3D graphics, and built in sensors.	UG	Lecture
Fall 2017	CS3180	3180	Comparative Languages	Computer Science	3	Fundamental concepts and paradigms underlying modern programming languages to enable better appreciation, comparison and evaluation of languages. Covers an object-oriented language, a functional language, a logic language, and a multi-paradigm scripting language. Basics of interpreters and compilers are explored through programming assignments.	UG	Lecture
Fall 2017	CS3190	3190	Prog Lang Workshop	Computer Science	1	Independent study in one of several programming languages (e.g., Python, C#, Ruby). Students learn the language solve a set of assigned programming problems.	UG	Independent Study
Fall 2017	CS3200	3200	Theory of Computing	Computer Science	3	Introduction to the theory of formal languages and automata with an emphasis on the classes of languages commonly encountered by computer scientists. Computability examines the solution of decision problems; the Church-Turing thesis; the undecidability of the Halting Problem; and problem reduction and undecidability.	UG	Lecture
Fall 2017	CS3250	3250	Comp Data Analysis	Computer Science	3	Introduction to the representation, manipulation, and analysis of large datasets from a user's perspective. Topics include data filtering, clustering, classification, and data mining. The basic principles behind each technique are first introduced and then numerical experiments demonstrate their applicability. Standard software and programming languages are used. <b> Department Managed Prerequisite(s): (Undergraduate level MTH 2240 Minimum Grade of D or Undergraduate level MTH 2280 Minimum Grade of D or Undergraduate level MTH 2300 Minimum Grade of D) and (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D) and (Undergraduate level STT 1600 Minimum Grade of D or Undergraduate level STT 3600 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D or	UG	Lecture

Fall 2017	CS3260	3260	CS Numerical Methods	Computer Science	3	Numerical methods for the sciences using modern programming languages. Solution of linear and nonlinear equations, symmetric matrix eigenvalue problems, interpolation, and least squares. Initial value and boundary value problems for representative systems governed by ordinary and partial differential equations are also solved numerically.<b> Department Managed Prerequisite(s): (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D or Undergraduate level ME 1020 Minimum Grade of D) and (Undergraduate level MTH 2350 Minimum Grade of D or Undergraduate level MTH 2550 Minimum Grade of D)</b>	UG	Lecture
Fall 2017	CS3700	3700	Intro to Oracle/SQL DB	Computer Science	3	Relational client server database design and access techniques. Includes building database tables, writing SQL and PL/SQL statements and programs and developing user interfaces using forms and reports.<b> Department Managed Prerequisite(s): Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D</b></b>	UG	Lecture
Fall 2017	CS3800	3800	Web Development II	Computer Science	3	Focuses on server side web development. Topics include creation of dynamic web pages, processing form data, database design and interaction, managing cookies and sessions, and security. Students will use a current server-side language such as PHP and a database management system such as MySQL	UG	Lecture/Lab Combination
Fall 2017	CS3810	3810	Intro to Bioinformatics	Computer Science	3	Tools-oriented approach to bioinformatics emphasizing data structure and DNA, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics, and web-based bioinformatic tools.<b> Department Managed Prerequisite(s): Undergraduate level BIO 1120 Minimum Grade of D or Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D</b></b>	UG	Lecture
Fall 2017	CS3820	3820	Intro to Semantic Web	Computer Science	3	Primary W3C standards for the Semantic Web, in particular the Web Ontology Language OWL, the Resource Description Framework RDF, and the SPARQL RDF Query Language. Obtain a solid understanding of their syntaxes, and also how these languages are used to convey information for machine-processing. Project-driven course format with a significant amount of hands-on modeling and programming	UG	Lecture

Fall 2017	CS3900	3900	Spec Topics in Comp Sci	Computer Science	1	Special Topics in Computer Science.	UG	Lecture
Fall 2017	CS3970	3970	Independent Study	Computer Science	1	Independent study in computer science.	UG	Independent Study
Fall 2017	CS4000	4000	Social Implications Comp	Computer Science	3	Impact of computers and computing on society. Topics include privacy, dangers introduced by computers performing critical tasks, the effect of robots on the work force, the impact of computers on education, and the new legal issues introduced by computing. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level EGP 3350 Minimum Grade of D-/b>	UG	Lecture
Fall 2017	CS4070	4070	Optimization Techniques	Computer Science	3	Algorithms for optimizing real functions of several variables subject to equality and inequality constraints. Convexity properties of functions and sets, linear programming, simplex and interior point methods, integer programming, branch and bound algorithm, transportation problem, necessary and sufficient conditions for nonlinear function optimization, Newton and quasi-Newton methods, Lagrange multiplier conditions, Kuhn-Tucker conditions, dynamic programming	UG	Lecture
Fall 2017	CS4240	4240	Coding Theory	Computer Science	3	Essentials of error-correcting codes, including methods for efficient and accurate transfer of information. Perfect and related codes, linear and cyclic codes, BCH codes, Reed-Muller codes, Reed-Solomon cods, Self-dual codes, weight enumerators and bounds	UG	Lecture
Fall 2017	CS4260	4260	Matrix Computations	Computer Science	3	Numerical linear algebra survey using high-level computing tools. Topics include linear equations, matrix factorizations, eigenvalue problems, least squares, applications of singular value decompositions, and iterative methods for large sparse matrices. Conditioning of problems and accuracy and stability of algorithms are emphasized	UG	Lecture
Fall 2017	CS4270	4270	Optimization Techniques	Computer Science	3	Algorithms for optimizing real functions of several variables subject to equality and inequality constraints. Convexity properties of functions and sets, linear programming, simplex and interior point methods, integer programming, branch and bound algorithm, transportation problem, necessary and sufficient conditions for nonlinear function optimization, Newton and quasi-Newton methods, Lagrange multiplier conditions, Kuhn-Tucker conditions, dynamic programming	UG	Lecture
Fall 2017	CS4280	4280	Combinatorics and Graphs	Computer Science	4	Permutations, combinatorics, generating functions, recurrence relations, and Polya's theory of counting; methods, results, and algorithms of graph theory, with emphasis on graphs as mathematical models applicable to organizational and industrial situations	UG	Lecture

Fall 2017	CS4290	4290	Cryptography Data Secur	Computer Science	3	Mathematical principles of cryptography and data security. Introduces relevant algebra and number theory. Discusses developments in cryptography, including the data encryption standard (DES), public-key encryption (RSA), cryptographic hash functions, digital signatures, key safeguarding schemes, and cryptographic protocols such as key exchange and entity authentication, identification schemes, electronic elections and digital cash.	UG	Lecture
Fall 2017	CS4370	4370	Par Prog Many-Core GPUs	Computer Science	3	This course will introduce an important trend in high-performance computing, the use of many-core graphics processing units (GPUs) to solve computation-intensive problems. Students will learn about new many-core GPU architecture, CUDA programming model, memory hierarchy design, parallel programming concepts, and compiling techniques to improve parallelism.	UG	Lecture
Fall 2017	CS4700	4700	Database Management	Computer Science	3	Logical and physical aspects of database management systems are surveyed. Data models including entity-relationship (ER) and relational models are presented. Physical implementation (data organization and indexing) methods are discussed. Query languages including SQL, relational algebra, relational calculus, and QBE are studied. Database schema design methods are presented.	UG	Lecture/Lab Combination
Fall 2017	CS4710	4710	Introductory Data Mining	Computer Science	3	Introduction to the fundamentals of data mining. Emphasis is on data preparation/evaluation/exploration, association rules, classification, clustering, OLAP/OLAM, pattern/model evaluation, anomaly detection. Students will develop and use data mining software.	UG	Lecture/Lab Combination
Fall 2017	CS4800	4800	Web Information Systems	Computer Science	3	Covers topics in building Web-based applications involving variety of data; covers data, metadata, knowledge and ontologies; key Web languages and protocols; search engines, social networking, Web2.0, semantic web. Good programming skills are prerequisite.	UG	Lecture
Fall 2017	CS4810	4810	Bioinformatic Algorithms	Computer Science	3	Theory-orientated approach to the application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques applied to solving specific computational problems in molecular genetics.	UG	Lecture
Fall 2017	CS4830	4830	Systems Simulation	Computer Science	3	Introduction to simulation concepts and techniques. Modeling, discrete simulation, continuous simulation, random number generators, input distribution selection and analysis of simulation results. Emphasis on the application of simulation techniques for analyzing behavior of real systems. Integrated Writing course.	UG	Lecture

Fall 2017	CS4840	4840	Intro Machine Learning	Computer Science	3	Introduction to the field of probabilistic machine learning. Examples are drawn from sensor signal exploitation, biology, text processing, computer vision, and robotics. Key techniques are demonstrated and implemented in MATLAB.	UG	Lecture
Fall 2017	CS4850	4850	Foundations of AI	Computer Science	3	Problem-solving methods in artificial intelligence (AI) with emphasis on heuristic approaches. Topics include methods of representation, search, intelligent agents, planning, learning, natural language processing, logic, inference, robotics, and case-based reasoning.	UG	Lecture
Fall 2017	CS4900	4900	Spec Topics in Comp Sci	Computer Science	1	Special Topics in Computer Science.	UG	Lecture
Fall 2017	CS4970	4970	Independent Study	Computer Science	1	Independent study in computer science.	UG	Independent Study
Fall 2017	CS4990	4990	Undergraduate Thesis	Computer Science	3	Completion of a computer science research project. Writing and defending a thesis that describes the research and summarizes the results. <b>&lt;b&gt;</b> Department Managed Prerequisite(s): Undergraduate level CS 4970 Minimum Grade of D <b>&lt;/b&gt;</b>	UG	Independent Study
Fall 2017	CS5100	5100	Data Struc & Algorithms	Computer Science	3	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 path). Emphasis on high-level language software design. <b>&lt;b&gt;</b> Department Managed Prerequisite(s): Undergraduate level CS 1181 Minimum Grade of D and Undergraduate level CEG 2350 Minimum Grade of D and Undergraduate level MTH 2570 Minimum Grade of D <b>&lt;/b&gt;</b>	GR	Lecture
Fall 2017	CS5160	5160	Computer Science Fundame	Computer Science	6	Hands-on survey of the fundamental concepts of computer science including: fundamentals of programming, algorithm design, analysis, and selection, computational complexity, and data structures. This class is a project-intensive boot camp for graduate students who need preparation in computer science fundamentals at the graduate level.	GR	Lecture/Lab Combination
Fall 2017	CS5170	5170	Mobile App Development	Computer Science	3	Focuses on projects to progressively demonstrate concepts and practical approaches to developing software for mobile devices focusing on iOS devices including any of iPhone, iPod Touch, or iPad. The course covers application design, Apple's core technologies, animation, image processing, video processing, audio, 3D graphics, and built in sensors. <b>&lt;b&gt;</b> Department Managed Prerequisite(s): Undergraduate level CS 1181 Minimum Grade of C <b>&lt;/b&gt;</b>	GR	Lecture

Fall 2017	CS5180	5180	Comparative Languages	Computer Science	3	This course introduces fundamental concepts and paradigms underlying modern programming languages, to enable better appreciation, comparison and evaluation of languages. For concreteness, it covers the details of an object-oriented language, a functional language, a logic language, and a multi-paradigm scripting language. Basics of interpreters and compilers explored through programming assignments.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS5200	5200	Theory of Computing	Computer Science	3	Introduction to the theory of formal languages and automata with an emphasis on the classes of languages commonly encountered by computer scientists. Computability examines the solution of decision problems; the Church-Turing thesis; the undecidability of the Halting Problem; and problem reduction and undecidability.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS5250	5250	Comp Data Analysis	Computer Science	3	Introduction to the representation, manipulation, and analysis of large datasets from a user's perspective. Topics include data filtering, clustering, classification, and data mining. The basic principles behind each technique are first introduced and then numerical experiments demonstrate their applicability. Standard software and programming languages are utilized.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 2300 Minimum Grade of D or Undergraduate level MTH 2280 Minimum Grade of D or Undergraduate level MTH 2240 Minimum Grade of D) and (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D) and (Undergraduate level STT 1600 Minimum Grade of D or Undergraduate level STT 3600 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D or	GR	Lecture

Fall 2017	CS5260	5260	CS Numerical Methods	Computer Science	3	Numerical methods for the sciences using modern programming languages. Solution of linear and nonlinear equations, symmetric matrix eigenvalue problems, interpolation and least squares. Initial value and boundary value problems for representative systems governed by ordinary and partial differential equations are also solved numerically.<b> Department Managed Prerequisite(s): (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D or Undergraduate level ME 1020 Minimum Grade of D) and (Undergraduate level MTH 2350 Minimum Grade of D or Undergraduate level MTH 2550 Minimum Grade of D)	GR	Lecture
Fall 2017	CS5300	5300	Comp Sys & Structures	Computer Science	0	This is an Online/Distance Education course primarily designed for working professional/non-traditional students' reentry into university for advanced studies in Computer Science	GR	Lecture/Lab Combination
Fall 2017	CS5810	5810	Intro to Bioinformatics	Computer Science	3	Tools-oriented approach to bioinformatics emphasizing DNA data structure, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics, and use of web-based bioinformatic tools.	GR	Lecture
Fall 2017	CS5900	5900	Special Topics in CS	Computer Science	1	Special topics in computer science.	GR	Lecture
Fall 2017	CS5970	5970	Independent Study in CS	Computer Science	1	Independent study in computer science	GR	Independent Study
Fall 2017	CS6070	6070	Optimization Techniques	Computer Science	3	Algorithms for optimizing real functions of several variables subject to equality and inequality constraints. Convexity properties of functions and sets, linear programming, simplex and interior point methods, integer programming, branch and bound algorithm, transportation problem, necessary and sufficient conditions for nonlinear function optimization, Newton and quasi-Newton methods, Lagrange multiplier conditions, Kuhn-Tucker conditions, dynamic programming.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level MTH 2520 Minimum Grade of D	GR	Lecture



Fall 2017	CS6100	6100	Grad Research Prog Prac	Computer Science	3	This course teaches the fundamental concepts of practical research programming to prepare graduate students for developing simulations for computer science and computer engineering research. This class is a project-intensive boot camp for graduate students who came from non-ABET accredited programs, bachelor's programs outside of computer science / computer engineering, or who otherwise need preparation in practical programming at the graduate level.	GR	Lecture/Lab Combination
Fall 2017	CS6240	6240	Coding Theory	Computer Science	3	An introduction to the essentials of error-correcting codes, including methods for efficient and accurate transfer of information. Perfect and related codes, linear and cyclic codes, BCH codes, Reed-Muller codes, Reed-Solomon codes, Self-dual codes, weight enumerators and bounds. Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D- /b>	GR	Lecture
Fall 2017	CS6270	6270	Optimization Techniques	Computer Science	3	Algorithms for optimizing real functions of several variables subject to equality and inequality constraints. Convexity properties of functions and sets, linear programming, simplex and interior point methods, integer programming, branch and bound algorithm, transportation problem, necessary and sufficient conditions for nonlinear function optimization, Newton and quasi-Newton methods, Lagrange multiplier conditions, Kuhn-Tucker conditions, dynamic programming. Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D- /b>	GR	Lecture
Fall 2017	CS6280	6280	Combinatorics and Graphs	Computer Science	4	Topics include: permutations, combinatorics, generating functions, recurrence relations, and Polya's theory of counting, methods, results, and algorithms of graph theory, with emphasis on graphs as mathematical models applicable to organizational and industrial situations. Department Managed Prerequisite(s): Undergraduate level MTH 2310 Minimum Grade of D and (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D- /b>	GR	Lecture

Fall 2017	CS6290	6290	Cryptography Data Secur	Computer Science	3	Mathematical principles of cryptography and data security. Preliminary algebra and number theory will be briefly introduced. Various developments in cryptography will then be discussed, including the data encryption standard (DES), public-key encryption (RSA), cryptographic hash functions, digital signatures, key safeguarding schemes, and cryptographic protocols such as key exchange and entity authentication, identification schemes, electronic elections and digital cash.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2520 Minimum Grade of D+ /b>	GR	Lecture
Fall 2017	CS6370	6370	Par Prog Many-Core GPUs	Computer Science	3	This course will introduce an important trend in high-performance computing, the use of many-core graphics processing units (GPUs) to solve computation-intensive problems. Students will learn about new many-core GPU architecture, CUDA programming model, memory hierarchy design, parallel programming concepts, and compiling techniques to improve parallelism.<b> Department Managed Prerequisite(s): Undergraduate level CEG 5310 Minimum Grade of D and Undergraduate level CEG 6350 Minimum Grade of D and Undergraduate level CS 5100 Minimum Grade of D+ /b>	GR	Lecture
Fall 2017	CS6700	6700	Database Management	Computer Science	3	Logical and physical aspects of database management systems are surveyed. Data models including entity-relationship (ER) and relational models are presented. Physical implementation (data organization and indexing) methods are discussed. Query languages including SQL, relational algebra, relational calculus, and QBE are studied. Database schema design methods are presented.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D+ /b>	GR	Lecture/Lab Combination
Fall 2017	CS6710	6710	Intro to Data Mining	Computer Science	3	Introduction to the fundamentals of data mining. Emphasis is on data preparation/evaluation/exploration, association rules, classification, clustering, OLAP/OLAM, pattern/model evaluation, anomaly detection. Students will develop and use data mining software.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D+ /b>	GR	Lecture/Lab Combination

Fall 2017	CS6800	6800	Web Information Systems	Computer Science	3	Covers topics in building Web-based applications involving variety of data; covers data, metadata, knowledge and ontologies; key Web languages and protocols; search engines, social networking, Web2.0, semantic web. Good programming skills are prerequisite.<b> Department Managed Prerequisite(s): (Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D) and Undergraduate level CS 3800 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS6810	6810	Bioinformatic Algorithms	Computer Science	3	Theory-orientated approach to the application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques are introduced in the context of application toward solving specific computational problems in molecular genetics.	GR	Lecture
Fall 2017	CS6830	6830	Systems Simulation	Computer Science	3	Introduction to simulation concepts and techniques. Topics include modeling, discrete simulation, continuous simulation, random number generators, input distribution selection and analysis of simulation results. Emphasis is on the application of simulation techniques for analyzing behavior of real systems.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D and (Undergraduate level STT 3600 Minimum Grade of D or Undergraduate level STT 3630 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	CS6840	6840	Intro Machine Learning	Computer Science	3	This course offers an introduction to the field of probabilistic machine learning. Examples are drawn from sensor signal exploitation, biology, text processing, computer vision, and robotics. Key techniques are demonstrated and implemented in MATLAB.<b> Department Managed Prerequisite(s): Undergraduate level EE 3260 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D or Undergraduate level STT 3630 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS6850	6850	Foundations of AI	Computer Science	3	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.<b> Department Managed Prerequisite(s): Undergraduate level CS 2210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS6900	6900	Special Topics in CS	Computer Science	1	Special topics in computer science	GR	Lecture

Fall 2017	CS6970	6970	Independent Study in CS	Computer Science	1	Independent study in computer science.	GR	Independent Study
Fall 2017	CS7060	7060	Numerical Analysis I	Computer Science	4	Solutions of systems of linear and nonlinear equations, numerical solution of matrix eigenvalue problems, interpolation and numerical integration, numerical solution of initial and boundary value problems for differential equations.<b> Department Managed Prerequisite(s): Graduate level MTH 6550 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS7070	7070	Numerical Analysis II	Computer Science	4	Finite difference and finite element methods for partial differential equations, including elliptic, parabolic and hyperbolic.<b> Department Managed Prerequisite(s): Graduate level MTH 5330 Minimum Grade of D and Graduate level MTH 6550 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS7100	7100	Adv. Prog. Languages	Computer Science	3	This course provides a solid foundation in programming language specification and design. It covers different programming paradigms, algebraic specification and implementation of data types, and develops interpreters for specifying operationally various programming language constructs. It also introduces attribute grammar formalism and axiomatic basis for computer programming.<b> Department Managed Prerequisite(s): Undergraduate level CS 3180 Minimum Grade of D or Graduate level CS 5180 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS7120	7120	Functional & Logic Prog.	Computer Science	3	This course will discuss concepts of functional programming such as recursive definitions, polymorphic type inference, abstract data types, induction, etc. and concepts of logic programming such as model-theoretic semantics, logical deduction, backtracking, negation as failure, etc. The programming exercises will illustrate the utility of list-processing, pattern matching, abstraction of data/control, typing, etc. for problem solving.<b> Department Managed Prerequisite(s): Undergraduate level CS 3180 Minimum Grade of D or Graduate level CS 5180 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS7140	7140	Adv Software Engineering	Computer Science	3	This course covers advanced topics in software engineering. Aspects of problem specification, design, verification, and evaluation are discussed. We will focus on design methods, including software patterns and software architecture, plus some advanced topics involving formal methods of software specification or evaluation using software metrics. Students will participate in team projects to apply the methods discussed.<b> Department Managed Prerequisite(s): Undergraduate level CEG 4110 Minimum Grade of D or Graduate level CEG 4110 Minimum Grade of D</b>	GR	Lecture

Fall 2017	CS7200	7200	Alg. Design and Analysis	Computer Science	3	Study of algorithmic methods and associated computational complexity for problem solving. Techniques include divide and conquer methods, greedy algorithms, dynamic programming, and parallel algorithms.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	CS7210	7210	Network Science	Computer Science	3	Emphasizes theoretical concepts that underpin the study of network or relational data emerging in any field of interest. Topics may include network representations, statistical network modeling, structural measures, node ranking and similarity, social network analysis, graph partitioning and community detection, large-scale networks, and diffusion processes.</td><td>GR</td><td>Lecture</td>
Fall 2017	CS7220	7220	Computability/Complexity	Computer Science	3	Fundamentals of computability theory. Undecidability. Time and space complexity. Cook's Theorem and NP completeness. Approximation strategies for intractable problems.<b> Department Managed Prerequisite(s): Undergraduate level CS 3200 Minimum Grade of D or Graduate level CS 5200 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	CS7230	7230	Information Theory	Computer Science	3	Course addresses the following questions that are fundamental to the design and evaluation of all information systems: What is information? How can we measure it? What are the fundamental limits on the extraction of information from the environment? What are the fundamental limits on the compression and refinement of information? How should devices be designed to approach these limits? How closely do existing devices approach these limits?</td><td>GR</td><td>Lecture</td>
Fall 2017	CS7600	7600	Trust Networks	Computer Science	3	This course will introduce the fundamental concepts relevant to trust and security, and explore trust management issues in the context of interpersonal, sensor, and social networks.</td><td>GR</td><td>Lecture</td>
Fall 2017	CS7700	7700	Adv. Database Systems	Computer Science	3	Introduction of design concepts, operating principles, current trends, and research issues in database systems.<b> Department Managed Prerequisite(s): Undergraduate level CS 4700 Minimum Grade of D or Graduate level CS 6700 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>

Fall 2017	CS7720	7720	Data Mining	Computer Science	3	Data mining is concerned with the extraction of novel and useful knowledge from large amounts of data. This course studies the fundamental and advanced concepts, principles, issues, tasks and techniques of data mining. Topics include data preparation, data mining for various knowledge types, data mining from various data types and applications, evaluation and validation, scalability.<b> Department Managed Prerequisite(s): Undergraduate level CS 4700 Minimum Grade of D or Graduate level CS 6700 Minimum Grade of D or Undergraduate level CS 4850 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	CS7800	7800	Information Retrieval	Computer Science	3	This course covers foundations of information retrieval systems. Specifically, it discusses models for information retrieval; techniques for indexing and searching; design, implementation, and evaluation of web search engine; and algorithms for classification and clustering.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS7810	7810	Knowledge Representation	Computer Science	3	The course provides an introduction to how to represent knowledge and how to use it for automated reasoning. Currently, the primary focus is on Knowledge Representation for the Semantic Web, and as such representation languages for Ontologies will be covered in depth.	GR	Lecture
Fall 2017	CS7820	7820	Semantic Web	Computer Science	3	This course is about the Semantic Web, a key enabler of Web 3.0. It goes beyond the recent language standards of RDF and OWL to understand new techniques, technologies and algorithms for making a broad variety of data meaningful and more amenable to processing by humans and machines (on the Web, as Web services, generated on social networks or generated by sensors and mobile devices). Topics covered include research in semantic search, browsing, integration, analysis and discovery.<b> Department Managed Prerequisite(s): Graduate level CS 7810 Minimum Grade of D or Graduate level CS 7800 Minimum Grade of D</b>	GR	Seminar
Fall 2017	CS7830	7830	Machine Learning	Computer Science	3	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.<b> Department Managed Prerequisite(s): Undergraduate level CS 4850 Minimum Grade of D or Graduate level CS 6850 Minimum Grade of D</b>	GR	Lecture

Fall 2017	CS7840	7840	Soft Computing	Computer Science	3	This course explores soft computing from a historical, theoretical, and an application viewpoint. Techniques including evolutionary computation, neural computation, fuzzy set theory and approximate reasoning applied to problems in control, optimization, and classification are presented.<b> Department Managed Prerequisite(s): Undergraduate level CS 3100 Minimum Grade of D or Graduate level CS 5100 Minimum Grade of D</b>	GR	Lecture
Fall 2017	CS7850	7850	Privacy Aware Computing	Computer Science	3	This course will introduce the fundamental problems with data privacy and security in large scale data intensive distributed computing, and the existing techniques used to protect data privacy and security. Students will be exposed to the latest research problems in this area	GR	Lecture
Fall 2017	CS7900	7900	Special Topics in CS	Computer Science	1	Special topics in computer science	GR	Lecture
Fall 2017	CS7910	7910	Advanced Proposal Writin	Computer Science	3	Emphasizes strategies for competitive research proposal writing in STEM fields, with a focus on communicating highly technical concepts at an appropriate level of complexity for a given audience and purpose. Includes evaluating requests for proposals, closely examining each section of research proposals, navigating the review process, and tailoring proposals to the major funding agencies	GR	Lecture
Fall 2017	CS7920	7920	Independent Study in CS	Computer Science	1	Independent study in computer science.	GR	Independent Study
Fall 2017	CS7950	7950	MSCS Thesis Research	Computer Science	1	Master's thesis research in computer science	GR	Independent Study
Fall 2017	CS7960	7960	Project - Cyber Security	Computer Science	1	Capstone Project Research in Cyber Security	GR	Independent Study
Fall 2017	CS7980	7980	Part-time CPT in CS	Computer Science	0	Practical work experience in graduate level Computer Science.	GR	Internship
Fall 2017	CS7990	7990	Full-time CPT in CS	Computer Science	0	Practical work experience in graduate level Computer Science.	GR	Internship
Fall 2017	CS8900	8900	Special Topics in CS	Computer Science	1	Special topics in computer science.	GR	Lecture
Fall 2017	CS8910	8910	PhD Seminar in CS	Computer Science	1	Seminar discussion of current research in computer science.	GR	Seminar
Fall 2017	CS8920	8920	Independent Study in CS	Computer Science	1	Independent study in computer science.	GR	Independent Study
Fall 2017	CS8930	8930	PhD Qualifying Exam	Computer Science	1	Examination that tests understanding of the fundamentals necessary to begin concentrated study in chosen Ph.D. research area.	GR	Independent Study
Fall 2017	CS8940	8940	Res Research in Comp Sci	Computer Science	1	Research on the Ph.D. dissertation topic taken in residence.	GR	Independent Study

Fall 2017	CS8950	8950	Dissertation Research	Computer Science	1	Research on the approved Ph.D. dissertation topic.	GR	Independent Study
Fall 2017	CS8960	8960	PhD Candidacy Exam	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.	GR	Independent Study
Fall 2017	CS8980	8980	Residency Research - CS	Computer Science	1	Research on the Ph.D. dissertation topic taken in residence.	GR	Independent Study
Fall 2017	CS8990	8990	Dissertation Defense	Computer Science	1	Examination on the Ph.D. dissertation. The written dissertation is submitted and must be successfully defended in the oral exam that is conducted by the dissertation committee and open to the public.	GR	Independent Study
Fall 2017	CSD2870	2870	CSD Practicum I	Community Services Development	1	Application of theory and practice in Community Development/Services settings. Individual supervised learning experiences and on-site seminars under the direction of instructor and site staff.	UG	Practicum
Fall 2017	CSD3210	3210	Intro Health Care Issues	Community Services Development	3	Broad functions, operations and tools of health care administration; topics such as managing in health services environments, managerial tools and techniques and managing relationships.	UG	Lecture
Fall 2017	CSD3220	3220	Legal Issues Health Care	Community Services Development	3	Legal principles covering sources of law, business, enterprises, government regulations, general health law, and managed care.	UG	Lecture
Fall 2017	CSD3230	3230	Health Care Finance Mgt	Community Services Development	3	Financial principles and concepts in health care management organizations.	UG	Lecture
Fall 2017	CSD3240	3240	Strategic Mgt Health Adm	Community Services Development	3	Strategic planning responsibilities of administrators in the health care industry. Includes business and functional plans, performance audits, organizational culture, gap analysis, values clarification. and decision making.	UG	Lecture
Fall 2017	CSD3870	3870	CSD Practicum II	Community Services Development	1	Individual supervised learning experiences and on-site seminars under the direction of instructor and site staff.<b> Department Managed Prerequisite(s): Undergraduate level CSD 2870 Minimum Grade of D</b>	UG	Practicum
Fall 2017	CSD4790	4790	CSD Special Topics	Community Services Development	1	Focused study in an area of interest in community services and development.	UG	Lecture
Fall 2017	CST2210	2210	Comp NW Environments	Comparative Studies	3	Human development and the impact of globalization on patterns of land use, population, economic activity, culture, settlements, and political systems in Asia, Africa, Latin America and the Middle East. Integrated Writing course.	UG	Lecture



Fall 2017	CST2310	2310	Comp Lit: Non-Western	Comparative Studies	3	Introduction to literature from the global South, including Asia, Africa, Latin America, and the Middle East, and development of critical vocabulary for the appreciation of issues relevant to the literature. Integrated Writing course.	UG	Lecture
Fall 2017	CST2320	2320	Nonwestern Religions	Comparative Studies	3	Introduction to the academic study of major nonWestern religious traditions of the world, examining their historical development, fundamental doctrines and beliefs, practices, institutions, and cultural expressions. Integrated Writing course.	UG	Lecture/Recitation Combination
Fall 2017	CST2410	2410	Comp Nonwest Cultures	Comparative Studies	3	Introduction to basic concepts, ideas, issues and debates in cultural anthropology, using examples from Asia, Africa, Latin America, Native North America and the Middle East. Explores diverse ways in which humans relate to one another, and reveals the cultural milieus, political configurations, ways of speaking and environments which people have used to shape their world. Integrated Writing course. Credit for CST 2410 will not be given to students who have completed ATH 2500.	UG	Lecture
Fall 2017	CST2420	2420	Comp NW Culture: Music	Comparative Studies	3	Introduction to the music and cultural diversity and uniqueness of selected areas of the globe. Study of indigenous folk music and instruments of Asia, India, Africa, North America, Central and southeast Europe. Integrated Writing course.	UG	Lecture
Fall 2017	CST2430	2430	Non-Western Art	Comparative Studies	3	Geographical and chronological survey of the art of non-western cultures. Develops and deepens skills of looking and visual thinking. Integrated Writing course.	UG	Lecture
Fall 2017	CST2510	2510	Comp NW Social Systems	Comparative Studies	3	Examines political processes as well as social and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary. Integrated Writing course.	UG	Lecture
Fall 2017	CTE4000	4000	Pre-Serv Wkshp for CTE	Career and Technical Education	6	For beginning CTE teachers with occupational experience and limited or no formal training in an education setting. Explores pedagogy, knowledge and skills required for CTE educators.	UG	Lecture
Fall 2017	CTE4100	4100	Learning Environment	Career and Technical Education	3	Examination, discussion, application and reporting of best practices for creating an environment conducive to learning and achievement.	UG	Lecture
Fall 2017	CTE4150	4150	CTE Practicum	Career and Technical Education	3	Teaching experience integrated with academic instruction; application of concepts to situations within the candidate's teaching field. Coordinated by a university faculty member who observes the candidate in a school setting.	UG	Practicum

Fall 2017	CTE4250	4250	Curriculum & Assessment	Career and Technical Education	3	Investigates ways in which schools approach curriculum, assessment and continuous improvement. Includes alignment of standards with curriculum, instruction and assessments, increased attention to student learning and increased faculty collaboration.	UG	Lecture
Fall 2017	CTE4350	4350	Global Engagement	Career and Technical Education	3	Strengthening partnerships, coordinating efforts and increasing interaction within and outside the CTE community rather than learning and working in seclusion. Enhancing students' abilities to engage in job-related problem solving and decision making in diverse cultures and environments. Integrated writing course.	UG	Lecture
Fall 2017	CTE4450	4450	Essentials of CTE	Career and Technical Education	3	Explores the development of CTE, Federal legislation, legal issues, special needs, professional and student organizations, current issues, and the philosophy of CTE. Integrated writing course.	UG	Lecture
Fall 2017	CTE4800	4800	Safe, Supportive Lng Env	Career and Technical Education	3	Strategies to enhance the safety and success of students and educators. Includes classroom/lab management, conflict resolution, safe work environments for minors, and development of a safety plan.	UG	Lecture
Fall 2017	CTE4810	4810	Teaching At-Risk Student	Career and Technical Education	3	At-risk students present distinctions in interests, abilities and temperament, which have implications for teaching and learning. Includes suggestions for adjusting the educational environment and decreasing the dropout rate.	UG	Lecture
Fall 2017	CTE4820	4820	Laws & Regs in Educ	Career and Technical Education	3	Fundamental knowledge of legislation, regulations and guidance. Includes an overview of educational acts and amendments, landmark cases, teacher responsibilities, professionalism, ethics and case studies.	UG	Lecture
Fall 2017	CTE4830	4830	Integrating Academ CTE	Career and Technical Education	3	Per state requirements, CTE educators must know how to incorporate academic standards into every day lessons. Includes techniques on integrating core academics into technical programming and instruction.	UG	Lecture
Fall 2017	CTE4900	4900	Independent Study CTE	Career and Technical Education	1	Independent study for CTE candidates. Topics vary.	UG	Independent Study
Fall 2017	CTE6000	6000	Pre-Serv Wkshp for CTE	Career and Technical Education	6	For beginning CTE teachers with occupational experience and limited or no formal training in an education setting. Explores teaching pedagogy, knowledge and skills required for new role as CTE educator.	GR	Lecture
Fall 2017	CTE6100	6100	Learning Environment	Career and Technical Education	3	Examination, discussion, application and reporting of best practices for creating an environment conducive to learning and achievement.	GR	Lecture

Fall 2017	CTE6150	6150	CTE Practicum - Grad	Career and Technical Education	3	Teaching experience integrated with academic instruction; application of learned concepts to practical situations within the candidates teaching field. Coordinated by a university faculty member who observes the candidate in a school setting	GR	Practicum
Fall 2017	CTE6250	6250	Curriculum & Assessment	Career and Technical Education	3	Investigates ways in which schools approach curriculum, assessment and continuous improvement. Includes alignment of standards with curriculum, instruction and assessments, increased attention to student learning and increased faculty collaboration	GR	Lecture
Fall 2017	CTE6350	6350	Global Engagement	Career and Technical Education	3	Strengthening partnerships, coordinating efforts and increasing interaction within and outside the CTE community versus learning and working in seclusion. Enhancing students abilities to engage in job-related problem-solving and decision-making in diverse cultures and environments	GR	Lecture
Fall 2017	CTE6450	6450	Essentials of CTE	Career and Technical Education	3	Explores a historical timeline from vocational apprentice to CTE, federal legislation, legal issues, special needs, professional and student organizations, current issues, and the philosophy of CTE	GR	Lecture
Fall 2017	CTE6900	6900	Independent Study	Career and Technical Education	1	Independent study for CTE candidates. Topics vary.	GR	Independent Study
Fall 2017	CTE7300	7300	Research in CTE	Career and Technical Education	3	Review of current and historical research articles, research writing and APA style. Candidates will develop and complete a masters inquiry project that will impact teaching, and undergo an exit exam	GR	Lecture
Fall 2017	DAG5010	5010	DAGSI Registration	DAGSI	0.5		GR	Lecture
Fall 2017	DAG5020	5020	DAGSI Registration	DAGSI	0.5		GR	Lecture
Fall 2017	DAG6010	6010	DAGSI Registration	DAGSI	0.5		GR	Lecture
Fall 2017	DAG7010	7010	DAGSI Registration	DAGSI	0.5		GR	Lecture
Fall 2017	DAG8010	8010	DAGSI Registration	DAGSI	0.5		GR	Lecture
Fall 2017	DAN1010	1010	Ballet I	Dance	3	Introduction to vocabulary, techniques, and theories of ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training	UG	Studio
Fall 2017	DAN1020	1020	Ballet I	Dance	3	Introduction to vocabulary, techniques, and theories of intermediate ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training	UG	Studio
Fall 2017	DAN1040	1040	Ballet Musical Th I	Dance	2	Group class introduces Musical Theatre majors to fundamentals of ballet technique.	UG	Studio

Fall 2017	DAN1070	1070	Ballet for the Actor I	Dance	2	Fundamental ballet technique for beginning non-dance majors to develop creative movement potential. Explores basic ballet vocabulary and steps.	UG	Studio
Fall 2017	DAN1080	1080	Ballet for the Actor II	Dance	2	Continues exploration of fundamental ballet technique for beginning non-dance majors to develop creative movement potential.	UG	Studio
Fall 2017	DAN1110	1110	Modern Dance I	Dance	3	Modern dance technique class for pre-professional dancers. Emphasis on helping students become strong, versatile dancers by expanding their body's range of motion while emphasizing alignment, coordination, strength and flexibility of the torso.	UG	Studio
Fall 2017	DAN1120	1120	Modern Dance I	Dance	3	Modern dance technique class for pre-professional dancers. Emphasis on helping students become strong, versatile dancers by expanding their body's range of motion while emphasizing alignment, coordination, strength and flexibility of the torso.	UG	Lecture/Lab Combination
Fall 2017	DAN1210	1210	Jazz for MT 1	Dance	1	Group class introducing Musical Theatre majors to fundamentals of jazz and modern dance techniques.	UG	Studio
Fall 2017	DAN1220	1220	Jazz for MT2	Dance	1	Group class introduces Musical Theatre majors to fundamentals of jazz and modern dance technique.	UG	Studio
Fall 2017	DAN1240	1240	Jazz for the Actor I	Dance	1	Designed to teach fundamental jazz dance technique to the non-dance major and to develop potential in creative movement, increase musical awareness, and improve professional audition skills for all theatre-related activities.	UG	Studio
Fall 2017	DAN1250	1250	Jazz Dance for Actor II	Dance	1	Continued exploration of fundamental jazz dance technique to develop potential in creative movement, increase musical awareness, and improve professional audition skills for theatre related activities. Designed for non-dance majors.	UG	Studio
Fall 2017	DAN1310	1310	Intermediate Jazz I	Dance	2	First-year intermediate jazz dance technique. Emphasis on technical proficiency and versatility and the development of intricate rhythms, syncopation, coordination, musicality, and variation of style. Focuses on increasing body strength, flexibility and kinesthetic awareness.	UG	Studio
Fall 2017	DAN1320	1320	Intermediate Jazz I	Dance	2	First-year intermediate jazz dance technique. Emphasis on technical proficiency and versatility and the development of intricate rhythms, syncopation, coordination, musicality, and variation of style. Focuses on increasing body strength, flexibility and kinesthetic awareness.	UG	Lab
Fall 2017	DAN2010	2010	Ballet II	Dance	3	Vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility.	UG	Studio
Fall 2017	DAN2020	2020	Ballet II	Dance	3	Vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility.	UG	Studio
Fall 2017	DAN2070	2070	Beginning Tap Dance I	Dance	1	Group class introduces students to fundamentals of tap dance technique.	UG	Studio

Fall 2017	DAN2080	2080	Beginning Tap Dance II	Dance	1	Group class continues to introduce students to fundamentals of tap dance techniques.	UG	Studio
Fall 2017	DAN2110	2110	Modern Dance II	Dance	3	Second-year intermediate modern dance technique class for pre-professional dancers. Emphasis on helping students become strong, versatile dancers by expanding their body's range of motion while emphasizing alignment, coordination, strength and flexibility of the torso.	UG	Studio
Fall 2017	DAN2120	2120	Modern Dance II	Dance	3	Second-year intermediate modern dance technique class for pre-professional dancers. Emphasis on helping students become strong, versatile dancers by expanding their body's range of motion while emphasizing alignment, coordination, strength and flexibility of the torso.	UG	Studio
Fall 2017	DAN2310	2310	Intermediate Jazz II	Dance	2	Second-year intermediate jazz dance technique. Focus on technical diversity, musicality, artistry, and performance and on increasing body strength, flexibility, and kinesthetic awareness.	UG	Studio
Fall 2017	DAN2320	2320	Intermediate Jazz II	Dance	2	Second-year intermediate jazz dance technique. Focus on technical diversity, musicality, artistry, and performance and on increasing body strength, flexibility, and kinesthetic awareness.	UG	Studio
Fall 2017	DAN2510	2510	Dance History I	Dance	1	Survey of Western theatrical dance from its roots in early cultures to the early twentieth century.	UG	Lecture/Lab Combination
Fall 2017	DAN2520	2520	Dance History II	Dance	1	Survey of Western theatrical dance of the twentieth and twenty-first centuries. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	DAN3010	3010	Ballet III	Dance	3	Vocabulary, techniques, and theory of advanced ballet. Emphasis on body alignment and flexibility.	UG	Studio
Fall 2017	DAN3020	3020	Ballet III	Dance	3	Vocabulary, techniques, and theory of advanced ballet. Emphasis on body alignment and flexibility.	UG	Studio
Fall 2017	DAN3040	3040	Ballet Musical Th III	Dance	2	Group classes continuing to introduce Musical Theatre majors to fundamentals of Ballet technique.	UG	Studio
Fall 2017	DAN3050	3050	Ballet Musical Th IV	Dance	2	Group class for musical theatre majors to develop more advanced ballet techniques.	UG	Studio
Fall 2017	DAN3070	3070	Intermed Tap Dance I	Dance	1	Group class exploring tap dance technique.	UG	Studio
Fall 2017	DAN3080	3080	Intermed Tap Dance II	Dance	1	Group classes exploring Tap Dance technique.	UG	Studio
Fall 2017	DAN3110	3110	Modern Dance III	Dance	3	Advanced modern technique class for pre-professional dancers. Principles and concepts of Horton technique with continued emphasis on flexibility, strength and coordination.	UG	Studio
Fall 2017	DAN3120	3120	Modern Dance III	Dance	3	Advanced modern technique class for pre-professional dancers. Principles and concepts of Horton technique with continued emphasis on flexibility, strength and coordination.	UG	Studio

Fall 2017	DAN3210	3210	Jazz/Theatre Dance III	Dance	2	Diversified styles and techniques of jazz/musical theatre dancing. Emphasis on continued development of intricate rhythms, sophisticated syncopation, complex coordination, musicality, and variation of style. Focus on increasing body strength, flexibility, and kinesthetic awareness within the jazz idiom.	UG	Lecture/Lab Combination
Fall 2017	DAN3220	3220	Jazz/Theatre Dance III	Dance	2	Diversified styles and techniques of jazz/musical theatre dancing. Emphasis on continued development of intricate rhythms, sophisticated syncopation, complex coordination, musicality, and variation of style. Focus on increasing body strength, flexibility, and kinesthetic awareness in the jazz idiom.	UG	Lecture/Lab Combination
Fall 2017	DAN3310	3310	Musical Theatre Dance I	Dance	3	Group class applies ballet, jazz, and modern dance techniques to Musical Theatre dance.	UG	Studio
Fall 2017	DAN3320	3320	Musical Theatre Dance II	Dance	3	Group class applies ballet, jazz, and modern dance techniques to Musical Theatre dance.	UG	Studio
Fall 2017	DAN3410	3410	Choreography I	Dance	2	Basic craft of choreography in dance. Particular attention paid to use of various stimuli to create dances as well as the act of improvisation and how it relates to the ongoing process of choreography. Self-evaluation and critical analysis of choreographic works.	UG	Studio
Fall 2017	DAN3420	3420	Choreography II	Dance	2	Application of compositional concepts and principles of choreography. Solo studies, small group choreography and improvisation culminating in a final choreographic junior piece. Emphasis on written and verbal analysis of the process of creating dance.	UG	Studio
Fall 2017	DAN3710	3710	Dance Kinesiology	Dance	1	Anatomical study of the muscles and bones of the human body for awareness of how the body kinesthetically moves in dance.	UG	Studio
Fall 2017	DAN3720	3720	Dance Pedagogy	Dance	1	Methods for teaching dance using an anatomical approach as the basis for sound training in all techniques.	UG	Studio
Fall 2017	DAN3990	3990	Studies Selected Subject	Dance	1	Problems, approaches, and topics in the field of dance. Topics vary.	UG	Lecture/Lab Combination
Fall 2017	DAN4010	4010	Ballet IV	Dance	3	Advanced work in classical ballet technique stressing the development of musicality and virtuosity.	UG	Studio
Fall 2017	DAN4020	4020	Ballet IV	Dance	3	Advanced work in classical ballet technique stressing the development of musicality and virtuosity.	UG	Studio
Fall 2017	DAN4040	4040	Music Theatre Dance III	Dance	3	Advanced group classes applying Ballet, Jazz and Modern Dance techniques to Musical Theatre Dance.	UG	Studio
Fall 2017	DAN4050	4050	Musical Theatre Dance IV	Dance	3	Advanced group classes applying Ballet, Jazz and Modern Dance techniques to Musical Theatre Dance, focusing on professional preparation.	UG	Studio
Fall 2017	DAN4070	4070	Advanced Tap Dance I	Dance	1	Group class exploring upper-level tap dance techniques.	UG	Studio

Fall 2017	DAN4080	4080	Advanced Tap Dance II	Dance	1	Group class exploring upper-level Tap Dance techniques.	UG	Studio
Fall 2017	DAN4110	4110	Modern Dance IV	Dance	3	Advanced work in various modern dance techniques and styles.	UG	Studio
Fall 2017	DAN4120	4120	Modern Dance IV	Dance	3	Advanced work in various modern dance techniques and styles.	UG	Studio
Fall 2017	DAN4210	4210	Jazz/Theatre Dance IV	Dance	2	Diversified styles and techniques of advanced jazz/musical theatre dancing. Emphasis on the continued development of advanced rhythms, syncopation, coordination, musicality, and variation of style.	UG	Studio
Fall 2017	DAN4220	4220	Jazz/Theatre Dance IV	Dance	2	Diversified styles and techniques of advanced jazz/musical theatre dancing. Emphasis on the continued development of advanced rhythms, syncopation, coordination, musicality, and variation of style.	UG	Studio
Fall 2017	DAN4310	4310	Pointe Class	Dance	1	Emphasizes pointe work for the female dancer to develop strength on pointe for classical ballet.	UG	Studio
Fall 2017	DAN4320	4320	Men's Ballet Class	Dance	1	Training for the male dancer to strengthen ballet technique with the emphasis on large jumps, turns, and tricks. Focus is on virtuosity and strength.	UG	Studio
Fall 2017	DAN4330	4330	Pas de Deux Class	Dance	1	Partnered dance from basic social dance, theatre partnering to contemporary and pointe partnering. Stresses cooperation, trust, and technique.	UG	Studio
Fall 2017	DAN4910	4910	Senior Dance Project	Dance	1	Advanced work in creative dance projects. Designed to showcase skills of graduating seniors with guidance and input of faculty. Involves choreography/performance of dance work in Festival Playhouse and writing a thesis.	UG	Studio
Fall 2017	DAN4920	4920	Senior Dance Project	Dance	1	Advanced work in creative dance projects. Showcases skills of graduating seniors with guidance and input of faculty. Involves choreography/performance of dance work performed in Festival Playhouse. Integrated Writing course.	UG	Lab
Fall 2017	DEV0280	0280	Found for Coll Algebra	Developmental Education	2	Continuation of DEV 0970 with intermediate algebra topics including: solving equations and inequalities, rational exponents, radicals, and quadratic equations. The content will be delivered to provide "just in time" remediation for MTH 1280	UG	Lecture/Lab Combination
Fall 2017	DEV0600	0600	Found for Stat Concepts	Developmental Education	2	Review of basic arithmetic and algebra concepts and skills including numbers and the number line, operations on numbers, sets, equations and inequalities, graphing points and lines in two dimensions, and reading tables and graphs and approximating areas. The context and examples will be from statistics. The content will be delivered to provide "just in time" remediation for STT 1600	UG	Lecture/Lab Combination

Fall 2017	DEV0920	0920	Found of Col Rdg & Writ	Developmental Education	3	Intensive instruction in reading, writing, and critical thinking. Emphasizes reflection, revision, collaboration, and self-assessment to prepare students for collegiate success. Graded pass/unsatisfactory.	UG	Lecture/Lab Combination
Fall 2017	DEV0950	0950	Elementary Algebra	Developmental Education	3	Review basic algebra concepts and skills including operations involving signed numbers and fractions; polynomials; exponents; solving systems of equations; and applications.	UG	Lecture/Lab Combination
Fall 2017	DEV0970	0970	Basic Algebra	Developmental Education	4	Review of arithmetic and basic algebra concepts and skills including operations involving signed numbers and fractions, factoring, polynomials, rational expressions and equations, exponents, solving systems of equations, radicals, quadratic equations, equations involving radicals or rational exponents, linear equations, and applications. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	DEV0990	0990	Basic Algebra Cont	Developmental Education	2	Continuation of DEV 0970 with intermediate algebra topics including: solving equations and inequalities, rational exponents, radicals, and quadratic equations. Grade of P in DEV 0970 and MPL of 23 or 24	UG	Lecture/Lab Combination
Fall 2017	DMV0500	0500	Pre-Algebra	DMV Consortium	4	Topics include whole numbers, mixed numbers, fractions, decimals, percentages, ratios and proportions, operations with the metric system, operations with integers, solving linear equations, solving literal equations, and solving linear inequalities.	UG	Lecture
Fall 2017	DMV1010	1010	DMV Registration	DMV Consortium	0.5		UG	Lecture
Fall 2017	DMV1010L	1010L	DMV Lab Registration	DMV Consortium	0		UG	Lab
Fall 2017	DMV1020	1020	DMV Registration	DMV Consortium	0.5		UG	Lecture
Fall 2017	DMV2010	2010	DMV Registration	DMV Consortium	0.5		UG	Lecture
Fall 2017	DMV2020	2020	DMV Registration	DMV Consortium	0.5		UG	Lecture
Fall 2017	DMV3010	3010	DMV Registration	DMV Consortium	0.5		UG	Lecture
Fall 2017	DMV4010	4010	DMV Registration	DMV Consortium	0.5		UG	Lecture
Fall 2017	DMV5010	5010	DMV Registration	DMV Consortium	0.5		GR	Lecture
Fall 2017	DMV5020	5020	DMV Registration	DMV Consortium	0.5		GR	Lecture
Fall 2017	DMV6010	6010	DMV Registration	DMV Consortium	0.5		GR	Lecture



Fall 2017	DMV7010	7010	DMV Registration	DMV Consortium	0.5		GR	Lecture
Fall 2017	DMV8010	8010	DMV Registration	DMV Consortium	0.5		GR	Lecture
Fall 2017	DMV999	999	For Administrative Use Only	DMV Consortium	0		UG	Other
Fall 2017	DMV999	999	For Administrative Use Only	DMV Consortium	0		GR	Other
Fall 2017	DMV9999	9999	For Administrative Use Only	DMV Consortium	0		PP	Other
Fall 2017	DMV9999	9999	For Administrative Use Only	DMV Consortium	0		UG	Other
Fall 2017	DMV9999	9999	For Administrative Use Only	DMV Consortium	0		MD	Other
Fall 2017	DMV9999	9999	For Administrative Use Only	DMV Consortium	0		GR	Other
Fall 2017	DOS9000	9000	Colloquium in Org Studs	Doctor Org Studies	1	Doctoral level seminar examining and synthesizing assumptions, concepts, theories, and methodologies that inform research in organizations.	GR	Seminar
Fall 2017	DOS9010	9010	History & Theory of Org	Doctor Org Studies	3	Survey of the field of organizational studies for understanding of patterns in theoretical arguments and research approaches across multiple perspectives that continue to frame scholarship. Emphasizes flexible forms of coordinated action taking place within, around, and among formal organizations.	GR	Seminar
Fall 2017	DOS9020	9020	Org Leadership Skills	Doctor Org Studies	3	Doctoral-level course study focusing on factors that influence leadership skills and motivation of leaders, employees, and networks in complex organizations, with concentration on communication, ethics, and instinctive aspects of leadership.	GR	Lecture
Fall 2017	DOS9030	9030	Systems Change Org Set	Doctor Org Studies	4	Doctoral level course in application of systems and theories of change, with a focus on leadership and policy implications in community, government, non-profit, and educational settings.	GR	Lecture
Fall 2017	DOS9040	9040	Org. in Global Environ.	Doctor Org Studies	4	Concepts, models and international linkages for understanding organizational performance in a global world are provided. Emphasis is placed on issues facing 21st century leaders and on preparation for effective management in an interconnected world.	GR	Seminar
Fall 2017	DOS9050	9050	Adv Rsrch Methods I	Doctor Org Studies	3	Individual and group study of ongoing social sciences research.	GR	Seminar
Fall 2017	DOS9060	9060	Adv Rsrch Methods II	Doctor Org Studies	3	Developing research techniques in basic and inferential statistics using statistical computing software and critical interpretation of social sciences research design and analysis.	GR	Lecture/Lab Combination

Fall 2017	DOS9070	9070	Multivariate Statistics	Doctor Org Studies	3	This course will develop most commonly used multivariate statistical techniques. The course includes the purpose, logic, benefits and limitations of applications of a multivariate technique to a data set.	GR	Lecture/Lab Combination
Fall 2017	DOS9080	9080	Struc Equation Modeling	Doctor Org Studies	3	This course will develop comprehension and skills for Structural Equation Modeling techniques. The course includes purpose, logic, applications, benefits and limitations of Structural Equation Modeling techniques.	GR	Seminar
Fall 2017	DOS9090	9090	Adv Qual Mthd Seminar	Doctor Org Studies	3	This course focuses on the qualitative research process from research topic, design, implementation, analyses, and findings. Included is emphasis on the researcher as the research instrument and exploration of theoretical frameworks.	GR	Seminar
Fall 2017	DOS9100	9100	Doc Indpt Stdy in Ldrshp	Doctor Org Studies	1	For doctoral students interested in a guided exploration of a specific topic in organizational studies.	GR	Independent Study
Fall 2017	DOS9200	9200	Doc Workshop in Ldrshp	Doctor Org Studies	1	Small group learning for doctoral students designed around a specific topic in organizational studies.	GR	Seminar
Fall 2017	DOS9800	9800	Internshp in Org Studies	Doctor Org Studies	1	An immersive learning experience that broadens and deepens the students knowledge, skills, and dispositions at the organizational executive level, while meeting doctoral program outcomes.	GR	Internship
Fall 2017	DOS9980	9980	OrgStud DissertationQual	Doctor Org Studies	2	Independent research and writing related to Qualifying Process for Doctoral Program in Organizational Studies.	GR	Independent Study
Fall 2017	DOS9990	9990	Org Studies Dissertation	Doctor Org Studies	0.5	Doctoral-level independent research and writing related to leadership and organizational studies.	GR	Independent Study
Fall 2017	EC1050	1050	Elem Mth EconBus ModMeth	Economics	4	Elementary mathematical models and methods with emphasis on applications in economic and business analyses and decision-making.	UG	Lecture
Fall 2017	EC2000	2000	Economic Life	Economics	3	Basic economic concepts such as resource allocation, costs, supply, demand, and public goods. Topics include American capitalism, market failures, unemployment, inflation, and taxation. Basic economic principles applied to modern society and the challenges presented by a globalized economy. Credit will not be given for EC 2000 Economic Life for students who have already successfully completed EC 2040 and EC 2050. Integrated Writing course.	UG	Lecture
Fall 2017	EC2040	2040	Principle Microeconomics	Economics	3	Fundamental principles of microeconomics as an aid in understanding modern society.	UG	Lecture
Fall 2017	EC2050	2050	Principle Macroeconomics	Economics	3	Fundamental principles of macroeconomics as an aid in understanding modern society.	UG	Lecture

Fall 2017	EC2100	2100	Econ State and Society	Economics	3	Compares consequences of individual control versus government control of resources. Examines the most important economic questions facing members of a democratic republic. With PHL 2100, part of a two-course Wright State Core cluster on government and society.	UG	Lecture
Fall 2017	EC2500	2500	Econ Sys of Glob South	Economics	3	Overview of the evolution of different mechanisms for organizing production, distribution, and consumption in Asia, Africa, Latin America, and the Middle East. Integrated Writing course.	UG	Lecture
Fall 2017	EC2900	2900	Global Econ Bus Social	Economics	3	Analyzes controversy and diversity of opinions regarding global economic, business, and social issues, including social security, health care, poverty, labor discrimination, pollution, and business ethics. Integrated Writing course.	UG	Lecture
Fall 2017	EC3010	3010	Econ of Global Money Mar	Economics	3	Analysis of behavior and significance of money, credit, debt, and the banking system.	UG	Lecture
Fall 2017	EC3100	3100	The Global Economy	Economics	3	Explores how the global economic environment affects business decisions and how these decisions affect the economy of host and source countries. Analyzes the impact of international trade, foreign direct investment, and global monetary systems.	UG	Lecture
Fall 2017	EC3150	3150	Intermed Microeconomics	Economics	3	Develops the analytical tools of microeconomics, stressing market behavior of firms, industries, and consumers. Examines the production process and the operation of market mechanisms. Policy implications are emphasized.	UG	Lecture
Fall 2017	EC3170	3170	Intermed Macroeconomics	Economics	3	Analysis of national economic problems including inflation, unemployment, interest rates, and economic stability. Emphasizes the impact of public policy. Integrated Writing course.	UG	Lecture
Fall 2017	EC3190	3190	Institutional Economics	Economics	3	Focuses on interrelationships between market and nonmarket forces, exploring contemporary social, technological, political, and other influences on resource allocation decisions and on economic change. Integrated Writing course.	UG	Lecture
Fall 2017	EC3210	3210	U.S. Economic History	Economics	3	Analysis of economic, political, social, and cultural changes resulting from industrial advancements and the control over industrial changes exercised by different societies.	UG	Lecture
Fall 2017	EC3260	3260	Econ Poverty & Discrim	Economics	3	Analysis of economic causes, effects, and cures for poverty and discrimination. Study of trends, economic explanations, and current programs and legislation.	UG	Lecture
Fall 2017	EC3280	3280	Socialist & Radical Econ	Economics	3	Examines the economic theories of Karl Marx, including the labor theory of value, capital and surplus value, production under capitalism, the falling rate of profit, capitalist crises and socialism. Marx's views are contrasted with neoclassical theory and the neo-Keynesian synthesis.	UG	Lecture

Fall 2017	EC3450	3450	Economics of Diversity	Economics	3	Uses economic theory to explore the implications of ethnic, racial, religious and other kinds of diversity in the U.S. and globally.	UG	Lecture
Fall 2017	EC3510	3510	Labor Economics	Economics	3	A study of labor market behavior and wage determination, addressing the impact of new technologies, global competition, and deindustrialization on American labor markets.	UG	Lecture
Fall 2017	EC3700	3700	Environ & Ecol Economics	Economics	3	Analyzes environmental quality from both microeconomic and systems frameworks. Emphasizes effectiveness of alternative approaches to environmental problems, including specific solutions to particular problems and general approaches to broad problems.	UG	Lecture
Fall 2017	EC4010	4010	Managerial Econ & Strat	Economics	3	Applies economic analysis to management decision making. Stresses practical methods and problems.	UG	Lecture
Fall 2017	EC4090	4090	Intro. to Econometrics	Economics	3	Applies statistics and economic theory to measurement, forecasting, and other economic problems.	UG	Lecture
Fall 2017	EC4100	4100	Math Models for Econ	Economics	3	Application of mathematical tools in the formulation of economic theory.	UG	Lecture
Fall 2017	EC4120	4120	Economic Forecasting	Economics	3	Techniques and theories used in forecasting. Stresses practical methods and problems.	UG	Lecture
Fall 2017	EC4190	4190	International Economics	Economics	3	Basic trade theories, commercial policy, and theories of international investment and migration, exchange rate determination and open macroeconomics. Special attention to international economic institutions and current financial crises.	UG	Lecture
Fall 2017	EC4200	4200	Law and Economics	Economics	3	Economic analysis of the law and legal institutions.	UG	Lecture
Fall 2017	EC4250	4250	Development of Ec Thought	Economics	3	Historical development of economic thought and philosophies.	UG	Lecture
Fall 2017	EC4310	4310	Public Finance	Economics	3	Develops a theoretical framework and working knowledge of the economic basis for government activity, government expenditures, programs, and policies, and the financing of government expenditures through taxation.	UG	Lecture
Fall 2017	EC4350	4350	Comparative Capital Inst	Economics	3	Compares institutions of various capitalist and socialist economies including economies in transition. Comparative analysis provides a basis for evaluating government policy.	UG	Lecture
Fall 2017	EC4360	4360	Industrial Organization	Economics	3	Analyzes business behavior under various industry structures and government policies. Emphasizes actual case studies.	UG	Lecture
Fall 2017	EC4400	4400	Regional and Urban Econs	Economics	3	Regional economic analysis in a policy and planning context. Interdisciplinary approach to analyze the economics of location, inter-regional trade, regional development, urban regions. and growth strategies.	UG	Lecture

Fall 2017	EC4440	4440	Problems in Ec Dev	Economics	3	Explores theories of economic development and underdevelopment and their relationship to poverty. Develops strategies for reducing world poverty from different perspectives.	UG	Lecture
Fall 2017	EC4450	4450	Political Econ of Women	Economics	3	Provides feminist understanding of women's economic roles and contributions in the context of globalization. Explores importance of social location - race, gender, class, nationality - in economic processes shaping family life, paid employment, and international market relations.	UG	Lecture
Fall 2017	EC4460	4460	Gender Econ Policy Intl	Economics	3	Overview of feminist analysis of economic policy in developing and developed nations. Topics include valuing women's unpaid work, gender bias in public spending, tax policy, property rights, population policy, and regulation of advertising.	UG	Lecture
Fall 2017	EC4600	4600	Economics of Sports	Economics	3	Applications of economic principles to professional and intercollegiate sports.	UG	Lecture
Fall 2017	EC4770	4770	Economic Studies	Economics	3	Examines special economic issues. Topics vary.	UG	Lecture
Fall 2017	EC4780	4780	Hon: Ind Study Economics	Economics	3	Research in economics for fulfillment of the Honors Program project requirement.	UG	Independent Study
Fall 2017	EC4810	4810	Independent Reading	Economics	1	Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.	UG	Independent Study
Fall 2017	EC4820	4820	Independent Reading	Economics	1	Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.	UG	Independent Study
Fall 2017	EC4830	4830	Independent Reading	Economics	1	Independent study in economics or allied disciplines.	UG	Independent Study
Fall 2017	EC5090	5090	Statistics for Economics	Economics	3	Elementary statistical concepts for economic applications.	GR	Lecture
Fall 2017	EC5100	5100	Math for Economics	Economics	3	Algebra and calculus preparation for economics applications.	GR	Lecture
Fall 2017	EC5210	5210	Grad Surv Prin of Micro	Economics	1.5	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 2017	EC5220	5220	Grad Surv Princ of Macro	Economics	1.5	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 2017	EC6350	6350	Comparative Capital Inst	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 2017	EC6440	6440	Prob in Ec Development	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 2017	EC6450	6450	Political Econ of Women	Economics	3	Provides feminist understanding of women's economic roles and contributions in the context of globalization. Explores importance of social location - race, gender, class, nationality - in economic processes shaping family life, paid employment, and international market relations	GR	Lecture
Fall 2017	EC6460	6460	Gender Econ Policy Intl	Economics	3	Overview of feminist analysis of economic policy in developing and developed nations. Topics include: valuing women's unpaid work, gender bias in public spending, tax policy, property rights, population policy, and regulation of advertising	GR	Lecture
Fall 2017	EC7090	7090	Applied Econometrics	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 2017	EC7100	7100	Math Methods for Econ	Economics	3	This course will introduce students to the major mathematical methods that are used to represent economic theories in modern economics, and how these methods are used to analyze problems posed in economics.	GR	Lecture
Fall 2017	EC7120	7120	Economic Forecasting	Economics	3	Techniques and theories used in forecasting. Practical methods and problems are stressed.	GR	Lecture
Fall 2017	EC7150	7150	Applied Microeconomics	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 2017	EC7170	7170	Applied Macroecon Analy	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 2017	EC7190	7190	International Economics	Economics	3	This course covers trade theories, commercial policy, and theories of international investment and migration, theories of exchange rate determination and open macroeconomics. Special attention is paid to international economic institutions and current financial crises	GR	Lecture
Fall 2017	EC7240	7240	Develmnt of Ec Thought	Economics	3	Historical development of economic thought and philosophies.	GR	Lecture

Fall 2017	EC7250	7250	Econ Social & Eco Sys	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 2017	EC7260	7260	Contemp Political Econ	Economics	3	A political, social and economic analysis that questions, critiques, and provides alternative perspectives to orthodox economic theory. Studies groups, their systematic interrelations, and their impact on political, economic and social structures, practices, and outcomes.	GR	Seminar
Fall 2017	EC7280	7280	Economics of Innovation	Economics	3	The course discusses the literature on technological change, economic growth, globalization and long wave cycles. Distortions in allocating resources to provide knowledge goods and innovations are discussed. Topics include entrepreneurship, intellectual property, network economics, and technology-clusters.	GR	Lecture
Fall 2017	EC7300	7300	Regional & Urban Econ	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 2017	EC7310	7310	Economics Public Finance	Economics	3	Develops a theoretical framework and working knowledge of the economic basis for government activities, government expenditures, programs, and policies, and the financing of government expenditures through taxation.	GR	Lecture
Fall 2017	EC7400	7400	Cost-Benefit Analysis	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 2017	EC7550	7550	Ec of Health & Health Po	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 2017	EC7770	7770	Economic Studies	Economics	3	An examination of special issues. Department-Managed Prerequisites: equivalent coursework or permission of instructor.	GR	Lecture
Fall 2017	EC7800	7800	Ec Problems Seminar	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	Seminar

Fall 2017	EC7810	7810	Research in Economics I	Economics	1	Titles vary. Intensive reading or research in selected fields of advanced economics.	GR	Independent Study
Fall 2017	EC7820	7820	Research in Economics II	Economics	1	Titles vary. Intensive reading or research in selected fields of economics.	GR	Independent Study
Fall 2017	EC7830	7830	Research in Econs III	Economics	1	Titles vary. Intensive reading or research in selected fields of economics.	GR	Independent Study
Fall 2017	EC7840	7840	Capstone Preparation	Economics	3	Techniques and theories used in preparing for the research practicum. Includes study of survey techniques; discussion of data collection, cleansing, and outlier identificaiton, and applied case studies employing econometrics and forecasting. Must have completed at least 6 courses in the MS in Social & Applied Econ. Prog.	GR	Lecture
Fall 2017	EC7890	7890	Continuing Registration	Economics	1		GR	Lecture
Fall 2017	ECE3000	3000	Dev Effective Phil & App	Early Childhood Education	3	Culturally responsive, developmentally and age appropriate practices based on a framework of theoretical research, current pedagogy for early childhood (birth-age-8) and alignment to state and national early childhood guidelines. Integrated Writing course	UG	Lecture
Fall 2017	ECE3100	3100	Reading Methods & Mat	Early Childhood Education	4	Formal reading instruction in early childhood classrooms; strategies and materials for teaching reading to young children based on IRA and Ohio Content Standards.	UG	Lecture
Fall 2017	ECE3150	3150	Literacy Meths: Reading	Early Childhood Education	3	Formal reading instruction in early childhood classrooms; strategies and materials for teaching reading to young children.	UG	Lecture
Fall 2017	ECE3200	3200	Soc Stud Methods in ECE	Early Childhood Education	3	Principles, resources, technology, critical thinking skills, and social science research for early childhood social studies, as well as the teaching of U.S. and Ohio history.	UG	Lecture
Fall 2017	ECE3210	3210	ECE Field Experience I	Early Childhood Education	1	Candidates, mentored by an early childhood educator, assist in the planning, organizing, delivering, and assessing of instruction in a 1st-3rd grade setting applying pedagogical content knowledge from early childhood methods courses.	UG	Practicum
Fall 2017	ECE3230	3230	ECE Field Experience II	Early Childhood Education	1	Candidates, mentored by an early childhood educator, assist in the planning, organizing, delivering, and assessing of instruction in a 1st-3rd grade setting increasingly applying pedagogical content knowledge from early childhood methods courses	UG	Practicum
Fall 2017	ECE3300	3300	Intro Child Development	Early Childhood Education	3	The physical, cognitive, language, social and emotional development (typical and atypical) of children birth through age eight.	UG	Lecture
Fall 2017	ECE3400	3400	Class Mgmt & Pos Guide	Early Childhood Education	3	Child guidance strategies to facilitate learning and promote social well-being in early childhood classrooms. Integrated Writing Course.	UG	Lecture



Fall 2017	ECE3500	3500	Fam, Comm, & Schools	Early Childhood Education	3	Early childhood educators collaborating with families and diverse backgrounds in the care and education of children, birth-age 8; building curriculum that addresses the needs of English Language Learners.	UG	Lecture
Fall 2017	ECE3600	3600	Phonics & Word Study	Early Childhood Education	3	An in-depth analysis of how children learn printed words and use this knowledge while reading and writing.	UG	Lecture
Fall 2017	ECE3650	3650	ECE Phonics & Word Study	Early Childhood Education	3	An in-depth analysis of how children learn phonics and word study, and use this knowledge while reading and writing.	UG	Lecture
Fall 2017	ECE3700	3700	Writing Methods & Mat	Early Childhood Education	4	Study of emerging writing in early childhood and the methods and materials needed to facilitate oral and written communication.	UG	Lecture
Fall 2017	ECE3750	3750	Writing Methods in ECE	Early Childhood Education	3	The study of writing development, writing theory, writing genres, writing assessment, instructional pedagogy, and materials in early childhood language arts program development, and the integration of literature and language arts across PK-3 grade curricula. Integrated Writing course.	UG	Lecture
Fall 2017	ECE3800	3800	Language Dev & ELL	Early Childhood Education	3	Language development, causes and effects of communication disorders, evaluations, interventions, second language acquisition, planning and implementing culturally responsive lessons and classroom environments.	UG	Lecture
Fall 2017	ECE3900	3900	Teaching Eng Lang Lrnrs	Early Childhood Education	2	Second language acquisition; planning and implementing culturally responsive lessons and classroom environments.	UG	Lecture
Fall 2017	ECE4000	4000	Curr. Design & Integ.	Early Childhood Education	3	Integration of content, philosophies, theories, and practical application in early childhood classrooms. Integrated Writing course.	UG	Lecture
Fall 2017	ECE4010	4010	ECE-Gen Prin/Pract/Learn	Early Childhood Education	3	Historical and underlying philosophy of the middle school concept based on the unique nature of pre-adolescents and adolescents. Current instructional and curricular practices are viewed in relation to this philosophy.	UG	Lecture
Fall 2017	ECE4020	4020	ECE-Gen Lang Arts & SS	Early Childhood Education	3	Pedagogy and content knowledge of content area reading through the study of grades 4 and 5 social studies.	UG	Lecture
Fall 2017	ECE4030	4030	ECE-Gen Effec Sci Instr	Early Childhood Education	3	Methods for teaching middle level science pertinent to the Ohio Learning Standards with emphasis on content, developmentally appropriate pedagogy, curricula, and materials suitable for teaching fourth and fifth grade science education.	UG	Lecture
Fall 2017	ECE4040	4040	ECE-Gen Math Instruction	Early Childhood Education	3	Methods for teaching middle level mathematics pertinent to the Ohio Learning Standards with emphasis on content, developmentally appropriate pedagogy, curricula and materials suitable for teaching fourth and fifth grade mathematics education.	UG	Lecture

Fall 2017	ECE4100	4100	Science Methods in ECE	Early Childhood Education	3	Curricula and materials for teaching early childhood science with emphasis on using an integrated constructivist approach to science teaching. Includes development of appropriate learning targets, planning, implementation, evaluation, and trends in science education	UG	Lecture
Fall 2017	ECE4200	4200	Math Methods in ECE	Early Childhood Education	3	Curricula and materials for teaching early childhood mathematics emphasizing conceptual math, growth mindset, integration, and interventions to meet the needs of diverse learners. Includes development and implementation of assessments, lessons, and appropriate modifications	UG	Lecture
Fall 2017	ECE4210	4210	ECE Intern Pt I: Methods	Early Childhood Education	1	Candidates, mentored by an early childhood educator, assume additional responsibilities in planning, organizing, delivering, and assessing of instruction in a 1st-3rd grade setting applying pedagogical content knowledge from early childhood methods courses	UG	Practicum
Fall 2017	ECE4300	4300	Differentiation & Collab	Early Childhood Education	3	An examination of modifications and teaching strategies necessary to facilitate the diverse learning needs of young students. Focus on developing and implementing differentiated lessons	UG	Lecture
Fall 2017	ECE4400	4400	Assess Methods in ECE	Early Childhood Education	3	Varying assessment techniques and strategies, both formal and informal, utilized in early childhood education. Various forms of assessments used to assess young students' learning in order to plan and implement effective lessons.	UG	Lecture
Fall 2017	ECE4500	4500	Independent Study in ECE	Early Childhood Education	0.5	Independent study in a selected area of Early Childhood Education	UG	Independent Study
Fall 2017	ECE4650	4650	Support Struggling Rdrs	Early Childhood Education	3	Study of assessments, reading strategies, reading materials and techniques needed to assist struggling readers.	UG	Lecture
Fall 2017	ECE4700	4700	Content Seminar: ECE	Early Childhood Education	2	Reflection on ECE theories, philosophies and content in preparation for entry into the ECE profession.	UG	Seminar
Fall 2017	ECE4800	4800	ECE Professional Seminar	Early Childhood Education	3	Seminar course prepares ECE teacher candidates for entering the field of teaching. Topics include: licensure, resume building, creating an interview portfolio, job search, interviewing techniques, teacher assessments, and dispositions and ethics surrounding teachers. Integrated Writing course	UG	Seminar
Fall 2017	ECE4900	4900	ECE Int Pt II: Std Teach	Early Childhood Education	9	Candidates, mentored by an early childhood educator, assist in the planning, organizing, delivering, and assessing of instruction in a 1st-3rd grade setting applying pedagogical content knowledge from early childhood methods courses.	UG	Internship
Fall 2017	ECE5010	5010	ECEG Prin, Pract & Learn	Early Childhood Education	3	Historical and underlying philosophy of the middle school concept based on the unique nature of pre-adolescents and adolescents. Current instructional and curricular practices are viewed in relation to this philosophy	GR	Lecture

Fall 2017	ECE5020	5020	ECEG Eff LA-SS Instr	Early Childhood Education	3	Pedagogy and content knowledge of content area reading through the study of grades 4 and 5 social studies.	GR	Lecture
Fall 2017	ECE5030	5030	ECEG Effective Sci Instr	Early Childhood Education	3	Methods for teaching middle level science pertinent to the Ohio Learning Standards with emphasis on content, developmentally appropriate pedagogy, curricula, and materials suitable for teaching fourth and fifth grade science education.	GR	Lecture
Fall 2017	ECE5040	5040	ECEG Math Instruction	Early Childhood Education	3	Methods for teaching middle level mathematics pertinent to the Ohio Learning Standards with emphasis on content, developmentally appropriate pedagogy, curricula and materials suitable for teaching fourth and fifth grade mathematics education.	GR	Lecture
Fall 2017	ECE6500	6500	Spec Studies in ECE	Early Childhood Education	0.5	Independent Study in a selected area of Early Childhood Education	GR	Independent Study
Fall 2017	ECE7200	7200	Adv Classroom Mgmt in EC	Early Childhood Education	3	Classroom management techniques within the framework of developmentally appropriate practices and constructivist education, identifying communication techniques that facilitate young children learning self-control.	GR	Lecture
Fall 2017	ECE7300	7300	Soc Dev and Play in ECE	Early Childhood Education	3	Social, cognitive, and emotional development theories as they relate to the play of young children.	GR	Lecture
Fall 2017	ECE7350	7350	Div in EC Classrooms	Early Childhood Education	3	Examination of sources of individual differences within the early childhood classroom: culture/ethnicity, race, language, wealth, learning style/ability, and gender.	GR	Lecture
Fall 2017	ECE7400	7400	Research in ECE Topics	Early Childhood Education	3	Research topics, issues and trends in Early Childhood Education using qualitative and action research methods.	GR	Lecture
Fall 2017	ECE7450	7450	Comp Theories of Ch Dev	Early Childhood Education	3	Comparative study of philosophies of child development and the practical application of these theories in ECE classrooms.	GR	Lecture
Fall 2017	ECE7500	7500	Dev App Assessment	Early Childhood Education	3	Assessment and evaluation of infants through age 8, and the use of assessment data to inform decision making.	GR	Lecture
Fall 2017	ECE7600	7600	Integ Lit & Express Art	Early Childhood Education	3	Planning literacy experiences that incorporate visual arts, poetry, music, and creative movement.	GR	Lecture
Fall 2017	ECE7700	7700	Lang Dev and Comm Disord	Early Childhood Education	3	Speech and language development, causes and effects of communication disorders, speech and language assessment and intervention strategies.	GR	Independent Study
Fall 2017	ECO5000	5000	Econ Study for Teachers	Center for Economic Educ.	1	Variable titled course for selected economic issues and topics and techniques for teaching them in the K-12 classroom. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5140	5140	Evry Consmer Know	Center for Economic Educ.	2	The course explores consumer economic topics while assisting K-12 teachers with methods to introduce and teach them to students. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination

Fall 2017	ECO5170	5170	Eco Applica Internet I	Center for Economic Educ.	2	Course teaches basic economic concepts/skills to K-12 teachers and how they may be applied to the classroom using resources available on the Internet. This course is an excellent foundation for teachers with little economic knowledge that desiring greater expertise. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5180	5180	Eco Applica Internet II	Center for Economic Educ.	2	This course is a continuation of Economic Applications Using the Internet I. Like 5170, this course teaches basic economic concepts/skills to K-12 teachers and how they may be applied to the classroom using resources available on the Internet. This course is an excellent foundation for teachers with little economic knowledge that desiring greater expertise. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5230	5230	Strech Your Buck	Center for Economic Educ.	2	Financial planning and personal finance topics geared toward the family, with emphasis on aspects teachable in the K-12 classroom. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5500	5500	Teach Econ Use Child Lit	Center for Economic Educ.	2	This course is designed to help teachers with little economic education learn how to teach economics using children's literature. Topics include scarcity, decision making, marginal cost/benefit, role of incentives, trade, money and entrepreneurship. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5520	5520	Entrepreneurship Basics	Center for Economic Educ.	2	K-12 teachers are provided with a basic foundation to teach entrepreneurship; it is designed for teachers with minimal requisite knowledge of economics, business and entrepreneurship. Topics include business plans, investing, picking the right business and others. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	ECO5540	5540	Eco and World Hist	Center for Economic Educ.	2	This course is designed to link world historical events and economic concepts. Questions like, Why do some economies grow and prosper while others remain stagnant or decline? and What causes people to make choices that help or hinder economic growth? are among the topics that will be explored. This course will assist teachers in grades 6-12 with integrating economic concepts into an existing world history curriculum. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination

Fall 2017	ECO5550	5550	ECO and US History	Center for Economic Educ.	2	This course is designed to link United States historical events and economic concepts. Activities are interactive, reflecting the belief that students learn best through active, highly personalized experiences with economics. Applications of economic understanding to real world situations and context dominate the lessons. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5560	5560	Intrntl ECO K-12 Teach	Center for Economic Educ.	2	This course is designed to provide teachers with little or no international economic education experience a road map to international economics. Available online resources will be explored for their use in providing a basic understanding of international economic concepts. This course will also aid teachers in presenting concepts covered on the state proficiency examinations. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5580	5580	ECO and Geography	Center for Economic Educ.	2	This course will focus on two specific geographic perspectivespatial and ecological-- to help students understand spatial patterns and processes and the interaction of living and nonliving elements in complex webs of relationships within nature and between nature and society. People look at the world from varying personal perspectives shaped by complex combinations of personal experience, occupational roles, self-interest, and community interest. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5690	5690	Insurance Basics Teachrs	Center for Economic Educ.	2	This course is designed for teachers with minimal knowledge of insurance principals and to provide middle and high school teachers with sufficient knowledge to teach basic property and casualty insurance principals. Topics include property damage, home owners insurance, and term life insurance. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	ECO5700	5700	Persnl Finance Ed Teach	Center for Economic Educ.	2	This course is designed to help teachers with little economic and financial literacy education discover resources and techniques available to teach children in grades 6-12. Topics include scarcity, decision making, budgeting, banking, credit, investing, and insurance. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination

Fall 2017	ECO5720	5720	Credit	Center for Economic Educ.	2	New legislation makes financial literacy relevant in today's society and mandates it be taught to school children. This course will provide relevant teaching materials to aid in teaching the topic of credit with an in-depth examination that will enhance your understanding, increasing your ability to articulate the material to your students. Topics covered will span from the basics of credit to bankruptcy, and even strategically foreclosing on one's home mortgage. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	ED1010	1010	Teaching Profession	Education	1	Overview of the teaching profession.	UG	Lecture
Fall 2017	ED1020	1020	Managing Personal Asst	Education	2	Assist students with severe physical disabilities in learning how to recruit, interview, screen, select, hire, train, schedule, manage, and fire personal assistants.	UG	Lecture
Fall 2017	ED1030	1030	Dev Peer Mentr w Disblty	Education	2	Assist students with disabilities in becoming a peer mentor for incoming first-year students with disabilities.	UG	Lecture
Fall 2017	ED1040	1040	Foundations in Learning	Education	2	Introduces first semester students to skills needed for successful transition to college, including self-determination and self-advocacy, goal-setting, strategic learning, metacognition, and laws protecting student with disabilities. Use of technology and campus resources to achieve academic success will be explored.	UG	Lecture
Fall 2017	ED1100	1100	Intro to MCE	Education	3	An introduction to middle level teaching. Topics include preparation of teachers, requirements for teacher licensure, professional organizations, middle school curricula, and effective practices. School visits will be part of the course.	UG	Lecture
Fall 2017	ED2100	2100	Education in a Democracy	Education	3	Explores role of education in a democracy and concepts of social justice, diversity and privilege, historical and current oppression, equitable access to knowledge, and development of respect between/among individuals and groups in a global society.	UG	Lecture
Fall 2017	ED2260	2260	MCE AYA Math PCK Seminar	Education	2	Teacher candidates will form a foundation for math pedagogical content knowledge. Readings, discussions, observations, and reflections on how students learn math and how best to teach it.	UG	Seminar
Fall 2017	ED2270	2270	MCE AYA Sci PCK Seminar	Education	2	Teacher candidates will form a foundation for science pedagogical content knowledge. Readings, discussions, observations, and reflections on how students learn science and how best to teach it.	UG	Seminar
Fall 2017	ED2600	2600	Intro to Education	Education	3	Orientation to the teaching profession and pluralistic American society as well as an awareness of the global community.	UG	Lecture

Fall 2017	ED2650	2650	Fld Exp I: Intro Ed Prof	Education	1	Introduces students to the educational process through participation in a classroom and through an examination of classroom dynamics within a natural setting. Must have at least a 2.0 GPA.	UG	Practicum
Fall 2017	ED2700	2700	Educational Psychology	Education	3	Understand how people learn, how to motivate, and assess preK-12 students based on theoretical principles from field of educational psychology.	UG	Lecture
Fall 2017	ED2750	2750	Fld Exp II: Intro Ed Psy	Education	1	Introduces students to the educational process through participation in a classroom and through an examination of classroom dynamics within a natural setting. Must have at least a 2.0 GPA.	UG	Practicum
Fall 2017	ED3020	3020	Prin Pract and Learn 4&5	Education	3	Development of the young child in pre-adolescence; developmentally appropriate pedagogical strategies and practices for effective teaching and learning	UG	Lecture
Fall 2017	ED3030	3030	LA and SS Grades 4&5	Education	3	Pedagogy and content knowledge of content area reading through the study of grades 4 and 5 social studies.	UG	Lecture
Fall 2017	ED3050	3050	Sci Instr Grades 4&5	Education	3	Curriculum and materials for teaching middle level science pertinent to the Ohio Academic Content Standards with emphasis on content, developmentally appropriate pedagogy, curriculum and materials suitable for teaching fourth and fifth grade science education	UG	Lecture
Fall 2017	ED3070	3070	Math Inst Grades 4&5	Education	3	Curriculum and materials for teaching middle level mathematics pertinent to the Ohio Academic Content Standards with emphasis on content, developmentally appropriate pedagogy, curriculum and materials suitable for teaching fourth and fifth grade mathematics education	UG	Lecture
Fall 2017	ED3100	3100	African Amer Exp in Ed	Education	3	Explores the diverse experiences of being African American and examines the effect of Blackness on students' and teachers' experiences. Facilitates examination of personal biases and effective methods for providing educational access for all	UG	Lecture
Fall 2017	ED3250	3250	Urban Youth	Education	3	Diverse experiences of urban youth and effect of urban experiences on students, teachers, schools, and communities. Methods for providing resource access for all.	UG	Lecture
Fall 2017	ED3700	3700	Comm Arts for Ed	Education	3	Study, design, and present speeches and media projects for a variety of purposes, occasions, and audiences.	UG	Lecture
Fall 2017	ED4000	4000	Ed Honors Project I	Education	2	An in-depth independent study, under the guidance of a TED faculty advisor, in which students pursuing Education Departmental Honors complete the research portion of their Honors projects.	UG	Independent Study
Fall 2017	ED4010	4010	Adv Rdg in Content Area	Education	3	Reading in the content area that includes instruction in organizing instruction, use of protocols for oral language development, strategies for word skill development, reading comprehension and assessment for instructional purposes.	UG	Lecture

Fall 2017	ED4060	4060	Reading and Literacy I	Education	3	Introduction to the content knowledge of the structure of literacy and reading/writing instruction. Candidates explore instructional strategies for reading and writing and the theory that supports scientifically based instruction.	UG	Lecture
Fall 2017	ED4070	4070	Reading and Literacy II	Education	3	Addresses more advanced levels of literacy including content reading and writing for research and extended response.	UG	Lecture/Lab Combination
Fall 2017	ED4080	4080	Phonics and Word Study	Education	3	How people learn printed words and how to assess that knowledge and deliver instructional procedures with appropriate materials. Candidates will implement learning outcomes in a co-requisite field placement course.	UG	Lecture
Fall 2017	ED4090	4090	Lit Assess Intervention	Education	3	Introduction to literacy assessment instruments to assess student reading and writing performance and how to determine best practices interventions to meet student needs.	UG	Lecture/Lab Combination
Fall 2017	ED4100	4100	Ed Honors Project II	Education	2	An in-depth independent study, under the guidance of a TED faculty advisor, in which students pursuing Education Departmental Honors present their completed Honors projects.	UG	Independent Study
Fall 2017	ED4210	4210	MCE Reading and Writing	Education	3	Engages teacher candidates in reading and writing across various literary genres and introduces them to reading and writing workshop methods. Integrated Writing Course.	UG	Lecture
Fall 2017	ED4220	4220	MCE Teach: Prnc/Prac/Lrn	Education	3	Focuses on the historical and underlying philosophy of the middle school concept based on the unique nature of pre-adolescents and adolescents. Current instructional and curricular practices are viewed in relation to this philosophy.	UG	Lecture
Fall 2017	ED4250	4250	Early Fld Exp III: MCE	Education	1	Mentored by a middle grades reading teacher, candidates will participate in a grades 4-9 reading classroom.	UG	Practicum
Fall 2017	ED4400	4400	Teacher Music Ed	Education	2	Teacher candidates will be provided the necessary knowledge and skills regarding issues affecting education to assist them in making a successful transition from being a teacher-candidate to becoming a professional educator.	UG	Seminar
Fall 2017	ED4500	4500	Independent Study in ED	Education	0.5	Independent study in a selected area of education.	UG	Independent Study
Fall 2017	ED4590	4590	Clsroom Mgt & Org	Education	3	An application of a variety of discipline and organizational models for use in diverse settings and discussion of recent research, practice, and innovation in the field of classroom management and organization. Integrated Writing course.	UG	Lecture
Fall 2017	ED4610	4610	Practicum in TESOL	Education	4	Candidates holding a valid teaching license, under direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades K-12 in Teaching English as a Second Language (TESOL).	UG	Practicum



Fall 2017	ED4900	4900	Student Teach: Music	Education	8	Under the direct supervision of an experienced classroom teacher, candidates are assigned to a school for intensive teaching experience in grades K-12 in music education.	UG	Internship
Fall 2017	ED4950	4950	Youth Voices	Education	3	Examines the pedagogies that encourage youth in developing the capacity to participate responsibly and effectively in the civic life of their communities. The seminar is centered on a field-based learning experience. Service Learning course.	UG	Seminar
Fall 2017	ED4990	4990	Afr Am Exper in Ed: Cap	Education	3	Synthesizes histories and experiences of African Americans and examines impacts on education. Implements reflection and synthesis to identify and mitigate personal and institutional bias. Discusses strategies that provide educational access for all students.	UG	Seminar
Fall 2017	ED6000	6000	Adolescent Dev for Eds	Education	3	Examination of developmental changes experienced during adolescence and their relationship to educational experiences.	GR	Lecture
Fall 2017	ED6010	6010	Adv Reading in the Conte	Education	3	Reading in the content area that includes instruction in organizing instruction, use of protocols for oral language development, strategies for word skill development, reading comprehension and assessment for instructional purposes.	GR	Lecture
Fall 2017	ED6020	6020	Read & Lit I: Int Spec	Education	3	Content knowledge of the structure of literacy and reading/writing instruction; instructional strategies for reading and writing and the theory that supports scientifically-based instruction.	GR	Lecture
Fall 2017	ED6030	6030	Read & Lit II: Int Spec	Education	3	Extends knowledge of literacy instruction and addresses more advanced levels of literacy including content reading and writing for research and extended response.	GR	Lecture
Fall 2017	ED6040	6040	Word St & Phon: Int Spec	Education	3	Knowledge of how people learn printed words, how to assess that knowledge and deliver the instructional procedures with appropriate materials.	GR	Lecture/Lab Combination
Fall 2017	ED6050	6050	Lit Asmt & Int: Int Spec	Education	3	Utilizing a range of literacy assessment instruments to assess student reading and writing performance and to determine best practices interventions in order to meet student needs.	GR	Lecture
Fall 2017	ED6060	6060	Reading and Literacy I	Education	3	Introduction to the content knowledge of the structure of literacy and reading/writing instruction. Candidates explore instructional strategies for reading and writing and the theory that supports scientifically based instruction.	GR	Lecture/Lab Combination
Fall 2017	ED6070	6070	Reading and Literacy II	Education	3	Extends knowledge of literacy instruction and addresses more advanced levels of literacy including content reading and writing for research and extended response. Candidates are expected to demonstrate instructional procedures within their field placement.	GR	Lecture/Lab Combination

Fall 2017	ED6080	6080	Phonics and Word Study	Education	3	This course is an introduction to the knowledge of how people learn printed words, how to assess that knowledge and deliver the instructional procedures with appropriate materials.	GR	Lecture/Lab Combination
Fall 2017	ED6090	6090	Assessment/Intervention	Education	3	Candidates will learn to use a range of literacy assessment instruments to assess student reading and writing performance and to determine best practices interventions in order to meet student needs.	GR	Lecture/Lab Combination
Fall 2017	ED6100	6100	Math Instr for IS	Education	3	An in-depth investigation of important elementary mathematical topics, focusing on content, pedagogy, and differentiation of instruction for all learners.	GR	Lecture
Fall 2017	ED6150	6150	Grad Field Experience	Education	1	Introduces students to the educational process through participation in a P-12 classroom and through an examination of classroom dynamics within a natural setting.	GR	Practicum
Fall 2017	ED6160	6160	Practicum: Anat for Ed	Education	1	Anatomy students, mentored/supervised by an Anatomy educator, shall assist in the planning, organizing, delivering, and assessing of instruction in an educational setting applying pedagogical content knowledge in the academic area of Anatomy.	GR	Internship
Fall 2017	ED6170	6170	Midle Lvl Inq & Act Rsch	Education	3	This course provides an introduction to teacher-based action research. Students will learn content related to: types of research, types of data, research methodologies, data analyses and data interpretation within the context of education.	GR	Lecture
Fall 2017	ED6180	6180	Assess Midle Lvl Eductrs	Education	3	This course focuses on varying assessment techniques and strategies (teacher-created and standardized) utilized in middle level education. Students will read, analyze and interpret assessment data to modify instruction and promote student success.	GR	Lecture
Fall 2017	ED6200	6200	Practicum: Multi-Age	Education	2	Educators with prior teaching license(s), under the direct supervision of an experienced classroom teacher, are assigned to a school for field experience in grades pK-12 and their concentration area(s).	GR	Internship
Fall 2017	ED6250	6250	MCE Intern Pt I: Methods	Education	1	Candidates, mentored by a middle grades teacher, shall assist in the planning, organizing, delivering, and assessing of instruction in a 4-9th grade setting applying pedagogical content knowledge from middle childhood content and methods courses.	GR	Practicum
Fall 2017	ED6250	6250	MCE Intern Pt I: Methods	Education	1	Candidates, mentored by a middle grades teacher, shall assist in the planning, organizing, delivering, and assessing of instruction in a 4-9th grade setting applying pedagogical content knowledge from middle childhood content and methods courses.	GR	Internship

Fall 2017	ED6300	6300	Practicum: AYA	Education	2	Educators with prior teaching license(s), under the direct supervision of an experienced classroom teacher, are assigned to a school for a field experience in grades 7-12 and their concentration area.	GR	Internship
Fall 2017	ED6330	6330	MCE Soc. Studies: C & M	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 2017	ED6340	6340	MCE LA Methods	Education	3	A developmental and integrated approach to teaching language arts (reading, writing, speaking & listening and language) in a middle level, grades 4-9, classroom.	GR	Lecture
Fall 2017	ED6350	6350	MCE: Math Cur & Meth	Education	3	A study of curriculum, materials, and methodology for teaching mathematics in the middle school, grades 4 through 9. This includes lesson planning, assessment, differentiation, technology, and pedagogical content knowledge.	GR	Lecture/Lab Combination
Fall 2017	ED6360	6360	MCE Science: Curr & Mthd	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 trends in science education.	GR	Lecture
Fall 2017	ED6400	6400	Practicum: MCE	Education	2	Educators with prior teaching license(s), under the direct supervision of an experienced classroom teacher, are assigned to a school for field experience in grades 4-9 and their concentration area.	GR	Internship
Fall 2017	ED6410	6410	MCE: Student Teaching	Education	8	Teacher candidates are assigned to a school for intensive teaching experience in grades 4-9 under the direct supervision of an experienced classroom teacher.	GR	Internship
Fall 2017	ED6420	6420	Professional Seminar:MCE	Education	3	Prepares candidates for their first year of teaching. Topics include: classroom management, collaboration with others, school policies and procedures, resident educator program resume building, licensure information, interviewing techniques, and creating a portfolio.	GR	Seminar
Fall 2017	ED6430	6430	AYA Intern Pt I: Mth ISS	Education	1	Candidates, mentored by a social studies educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a 7-12th grade setting applying pedagogical content knowledge from social studies content and methods courses.	GR	Internship
Fall 2017	ED6440	6440	AYA Intern Pt I: Mth ILA	Education	1	Candidates, mentored by a language arts educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a 7-12th grade setting applying pedagogical content knowledge from language arts content and methods courses.	GR	Internship

Fall 2017	ED6450	6450	AYA Intern Pt I: Mth IM	Education	1	Candidates, mentored by a mathematics educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a 7-12th grade setting applying pedagogical content knowledge from mathematics content and methods courses	GR	Internship
Fall 2017	ED6460	6460	AYA Intern Pt I: Mth IS	Education	1	Candidates, mentored by a science educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a 7-12th grade setting applying pedagogical content knowledge from science content and methods courses	GR	Internship
Fall 2017	ED6470	6470	MA Intern Pt I: Mth WL	Education	1	Candidates, mentored by a world languages educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a P-12th grade setting applying pedagogical content knowledge from world language content and methods courses	GR	Internship
Fall 2017	ED6475	6475	MA Intern Pt.1: Mth CIS	Education	1	Candidates, mentored by a Computer Information Science educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a K-12th grade setting applying pedagogical content knowledge from CIS methods courses.	GR	Internship
Fall 2017	ED6480	6480	Fld Exp II: MA/Vis Arts	Education	1	Candidates, mentored by a visual arts educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a P-12 grade setting applying pedagogical content knowledge from visual arts content and methods courses	GR	Practicum
Fall 2017	ED6490	6490	MCE Inquiry Project	Education	3	Students will be required to complete an inquiry project and the unit portfolio in order to partially fulfill the requirements for the Masters of Education Degree in Middle Childhood Education.	GR	Independent Study
Fall 2017	ED6500	6500	Specific Studies in Educ	Education	0.5	Provides developing professional educators instruction in current trends and issues in adolescence and young adult social studies.	GR	Independent Study
Fall 2017	ED6510	6510	Fld Exp II: Meth MA/CIS	Education	1	Candidates, mentored by a Computer Information Science educator, shall assist in the planning, organizing, delivering, and assessing of instruction in a K-12th grade setting applying pedagogical content knowledge from CIS methods courses.	GR	Internship
Fall 2017	ED6530	6530	AYA Int Pt II: Std T ISS	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades 7-12 in Integrated Social Studies.	GR	Internship

Fall 2017	ED6540	6540	AYA Int Pt II: Std T ILA	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades 7-12 in Integrated Language Arts.	GR	Internship
Fall 2017	ED6550	6550	AYA Int Pt II: Std T IM	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades 7-12 in Integrated Mathematics.	GR	Internship
Fall 2017	ED6560	6560	AYA Int Pt II: Std T IS	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades 7-12 in Integrated Science.	GR	Internship
Fall 2017	ED6570	6570	AYA Int Pt II: Std T WL	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades p-12 in Multi-Age World Languages.	GR	Internship
Fall 2017	ED6575	6575	MA Intern Pt.II: ST CIS	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades K-12: Computer Information Science classroom.	GR	Internship
Fall 2017	ED6580	6580	StdT Tchng: MA/Vis Arts	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience grades p-12 in Multi-Age Visual Arts.	GR	Internship
Fall 2017	ED6600	6600	Teach in the Amer Ed Sys	Education	3	Foundational analysis of the relationship between public education in a democracy and the critical social issues and forces impacting renewal efforts.	GR	Lecture
Fall 2017	ED6610	6610	Practicum: TESOL	Education	2	Educators with prior teaching license(s), under the direct supervision of an experienced classroom teacher, are assigned to a school for field experience in grades K-12 and Teaching English as a Second Language (TESOL).	GR	Internship
Fall 2017	ED6630	6630	AYA: Soc Studies: C&M I	Education	3	Course focuses on principles, resources, technology, critical thinking skills, historiography, and social science research for adolescence social studies. This course will also focus on teaching in the multicultural classroom.	GR	Lecture
Fall 2017	ED6640	6640	AYA: Int Lng Art: C&M I	Education	3	Focuses on theoretical issues and practical problems of teaching English at all levels, including developing media competence and teaching media literacy.	GR	Lecture
Fall 2017	ED6650	6650	AYA: Int Math: C&M I	Education	3	This course will examine curriculum, methods, and materials in the teaching of mathematics for grades 7-12. This includes lesson planning, assessment, differentiation, technology, and content for algebra and geometry courses.	GR	Lecture

Fall 2017	ED6660	6660	AYA: Int Science: C&M I	Education	3	Methods, curriculum, and materials for teaching adolescent school science: emphasis on philosophy, planning and implementation, evaluation, resources and facilities, and historical and contemporary curricular trends in science education.	GR	Lecture
Fall 2017	ED6670	6670	MA: World Lang: C&M I	Education	3	Presents world language curriculum and materials with emphasis on ACTFL Standards in order to plan and implement effective lessons and activities focused on pK-12 second language acquisition.	GR	Lecture
Fall 2017	ED6675	6675	MA:CIS Curr & Mth I	Education	3	This course explores computer information science as a discipline that encourages inquiry, equity and collaboration. This includes lesson planning, creation of a nurturing learning environment, media literacy, and content for computer science courses.	GR	Lecture
Fall 2017	ED6690	6690	Ed Psych for Educators	Education	3	Understand theories of learning, motivation and assessment in the context of preK-12 education.	GR	Lecture
Fall 2017	ED6700	6700	Student Learning & Motiv	Education	3	Understand theories of learning and motivation as well as appropriate preK-12 assessment in the context of principles from the field of educational psychology.	GR	Lecture
Fall 2017	ED6710	6710	Grad Field Experience	Education	1	Introduces students to the educational process through participation in a P-12 classroom and through an examination of classroom dynamics within a natural setting.	GR	Practicum
Fall 2017	ED6730	6730	AYA: Int Soc St: C&M II	Education	3	Provides developing professional educators instruction in current trends and issues in adolescence and young adult social studies.	GR	Lecture
Fall 2017	ED6740	6740	AYA: Int Lng Art: C&M II	Education	3	Provides developing professional educators with advanced discussion and practice in the teaching/learning of grades 7-12 language arts.	GR	Lecture
Fall 2017	ED6750	6750	AYA: Int Math: C&M II	Education	3	This course will examine curriculum, materials, and teaching methods for secondary mathematics teaching. This includes course development, assessment, differentiation, technology, and content for probability and statistics courses.	GR	Lecture
Fall 2017	ED6760	6760	AYA: Int Science C&M II	Education	3	Curriculum and materials concerned with issues at the interfaces of science, technology, and society (STS). Clinical experiences, methodology, literature, resources and rationale are emphasized.	GR	Lecture
Fall 2017	ED6770	6770	MA: World Lang: C&M II	Education	3	Presents world language curriculum with emphasis on standards. Focus on pK-5 first and second language acquisition. Emphasis on technology and assessment. Prepare teaching materials for the world language classroom.	GR	Lecture
Fall 2017	ED6775	6775	MA:CIS Curr & Mth II	Education	3	This course explores computer information science as a discipline that encourages inquiry, creativity and collaboration. This includes lesson planning, assessment, differentiation, technology and content for computer science courses.	GR	Lecture

Fall 2017	ED6800	6800	Class Manage & Organ	Education	3	The study and application of classroom management and organizational models for use in diverse settings as related to adolescent development, discussion of recent research, practice, and innovation in the field of classroom management	GR	Lecture
Fall 2017	ED6810	6810	Std't Tchng: MA/CIS	Education	8	Candidates, under the direct supervision of an experienced classroom teacher, are assigned to a school for intensive teaching experience in grades K-12: Computer Information Science classroom.	GR	Internship
Fall 2017	ED6830	6830	Resrch to Imp Class Inst	Education	2	Introduction to reading educational research, including applied and theoretical and qualitative and quantitative. Differentiation of quality/applicability of research articles. Understanding researchable questions and how questions determine the methodology. Searching for appropriate literature	GR	Seminar
Fall 2017	ED6840	6840	Meas & Assessment in ED	Education	3	The design and integration of traditional and alternative assessment in the classroom.	GR	Lecture
Fall 2017	ED6850	6850	Cult & Comm Comp for Edu	Education	3	Examines historical and current race/ethnic, gender, sexual orientation, ability, and social class stereotypes and biases as they relate to schooling and education. Students will identify personal preconceptions and learn ways of becoming culturally responsive educators.	GR	Lecture
Fall 2017	ED6890	6890	AYA/MA Capstone Research	Education	3	Initiation of a research project as a reflective investigation and progressive problem solving effort by individuals or groups to improve the quality of education in an AYA/MA educational environment.	GR	Independent Study
Fall 2017	ED6890	6890	AYA/MA Capstone Research	Education	3	Initiation of a research project as a reflective investigation and progressive problem solving effort by individuals or groups to improve the quality of education in an AYA/MA educational environment.	GR	Seminar
Fall 2017	ED6900	6900	Workshops in Education	Education	0.5	Workshops in selected areas of education taught through the Division of Professional Development (DPD)	GR	Lecture
Fall 2017	ED6920	6920	Prof Sem: AYA/MA	Education	1	Teacher candidates will be provided the necessary knowledge and skills regarding issues affecting education to assist them in making a successful transition from being a teacher-candidate to becoming a professional educator	GR	Seminar
Fall 2017	ED6930	6930	Cont Sem: AYA/Int Soc St	Education	3	Seminar accompanying Adolescent and Young Adult Internship focusing on pedagogical content knowledge in Integrated Social Studies, assessment of the National Council for the Social Studies (NCSS) standards and the completion of the CFHS professional portfolio	GR	Seminar

Fall 2017	ED6940	6940	Cont Sem: AYA/ILA	Education	3	Seminar accompanying Adolescent and Young Adult Internship focusing on pedagogical content knowledge in Integrated Language Arts, assessment of the National Council of Teachers of English (NCTE) standards and the completion of the professional portfolio	GR	Seminar
Fall 2017	ED6950	6950	Cont Sem: AYA/Int Math	Education	3	Seminar accompanying Adolescent and Young Adult Internship focusing on pedagogical content knowledge in Integrated Mathematics, assessment of the National Council of Teachers of Mathematics (NCTM) standards and the completion of the professional portfolio	GR	Seminar
Fall 2017	ED6960	6960	Cont Sem: AYA/Science	Education	3	Seminar accompanying Adolescent and Young Adult Internship focusing on pedagogical content knowledge in Integrated Science, assessment of the National Science Teachers Association (NSTA) standards and the completion of the professional portfolio	GR	Seminar
Fall 2017	ED6970	6970	Cont Sem: MA/Wrld Lang	Education	3	Seminar accompanying student teaching focusing on pedagogical content knowledge in World Languages, assessment of the American Council on the Teaching of Foreign Languages standards, completion of the professional portfolio and submission of the edTPA	GR	Seminar
Fall 2017	ED6975	6975	Cont Sem: MA/CIS	Education	3	Seminar accompanying Multi Age Internship focusing on pedagogical content knowledge in Computer Information Science, assessment of the International Society for Technology in Education standards and the completion of the professional portfolio	GR	Seminar
Fall 2017	ED6980	6980	Cont Sem: Multi-age/Vis	Education	3	Seminar accompanying Multi-Age Visual Arts Internship focusing on pedagogical content knowledge in Visual Arts, assessment based on the Ohio Multi-Age Visual Arts Standards and the completion of the professional portfolio	GR	Seminar
Fall 2017	ED6990	6990	AYA/MA Capstone Project	Education	1	Report on, dissemination of, or application of new learning based on completion of reflective investigation and progressive problem-solving effort to improve the quality of education in 7-12th grade educational environment	GR	Seminar
Fall 2017	ED7020	7020	Princ/Pract/Learn - 4-5	Education	3	This course expands the Early Childhood educator's understanding of the development of the young child in pre-adolescence and aligns developmentally appropriate pedagogical strategies and practices for effective teaching and learning	GR	Lecture
Fall 2017	ED7030	7030	LA and SS Grades 4/5	Education	3	Pedagogy and content knowledge of content area reading through the study of grades 4 and 5 social studies.	GR	Lecture



Fall 2017	ED7050	7050	Sci Instr Grades 4/5	Education	3	Curriculum and materials for teaching middle level science pertinent to the Ohio Academic Content Standards with emphasis on content, developmentally appropriate pedagogy, curriculum and materials suitable for teaching fourth and fifth grade science education	GR	Lecture
Fall 2017	ED7060	7060	Theory Found in Literacy	Education	3	Development of an understanding regarding the historical, linguistical, sociological and psychological/cognitive theories related to effective literacy instruction and education.	GR	Lecture
Fall 2017	ED7070	7070	Math Inst Grades 4-6	Education	3	Curriculum and materials for teaching middle level mathematics pertinent to the Ohio's New Learning Standards with emphasis on content, developmentally appropriate pedagogy, curriculum and materials suitable for teaching fourth, fifth and sixth grade mathematics education	GR	Lecture
Fall 2017	ED7120	7120	Lit Instr Div Learners	Education	3	Knowledge of children's literature as an instructional tool in a diverse culture.	GR	Lecture
Fall 2017	ED7120	7120	Lit Instr Div Learners	Education	3	Knowledge of children's literature as an instructional tool in a diverse culture.	GR	Lecture/Lab Combination
Fall 2017	ED7170	7170	Word Study and Phonics	Education	3	In-depth analysis of how people learn the printed word related to instructional procedures across the grade levels K-12. Students will apply knowledge through lesson design, delivery and analysis.	GR	Lecture/Lab Combination
Fall 2017	ED7220	7220	Teaching Writing K-12	Education	3	Study of writing methodologies and the processes of teaching writing in grades K-12. Includes research into the theories of writing acquisition and the reciprocity between writing and reading.	GR	Lecture
Fall 2017	ED7400	7400	MST Project Development	Education	1	Assists graduate students in the Master of Science in Teaching (Earth Science) program to choose, develop and finalize a MST project proposal, choosing a faculty project committee and completing midpoint TK20 assignment.	GR	Seminar
Fall 2017	ED7450	7450	Content Literacies K-12	Education	3	Exploration of content area learning with an emphasis on effective literacy strategies including: vocabulary/concept development, comprehension, writing, technology, and resources to enhance literacy learning for diverse learners in grades K-12.	GR	Lecture
Fall 2017	ED7450	7450	Content Literacies K-12	Education	3	Exploration of content area learning with an emphasis on effective literacy strategies including: vocabulary/concept development, comprehension, writing, technology, and resources to enhance literacy learning for diverse learners in grades K-12.	GR	Lecture/Lab Combination
Fall 2017	ED7470	7470	Reading Recovery I	Education	6	Teachers learn to apply Marie Clay's theory of literacy processing while teaching Reading Recovery students. Key concepts include targeted instruction through assessment, the reciprocity of reading and writing, and teaching for accelerated learning.	GR	Lecture/Lab Combination

Fall 2017	ED7480	7480	Reading Recovery II	Education	6	Teachers deepen their understanding of Clay's literacy processing theory through contingent instruction based on student data. Key concepts include teaching for phrased reading within fluent processing and flexible problem solving in reading and writing.	GR	Lecture/Lab Combination
Fall 2017	ED7500	7500	Literacy Assess and Eval	Education	3	Explore various literacy assessments to administer, analyze, and interpret the results of the assessment tools to enhance specific and targeted reading and writing instruction for K-12 learners.	GR	Lecture
Fall 2017	ED7560	7560	Diag & Intervention	Education	3	Tutoring a K-12 student identified as an at-risk or struggling reader/writer. Involves individual reading/writing assessments, developing learning objectives, implementing lesson plans to meet a student's learning goals, and making recommendations for future instruction.	GR	Lecture
Fall 2017	ED7600	7600	Topics & Issues in Lit	Education	3	Examines current issues and topics in literacy and how these impact teaching and learning in K-12 education.	GR	Lecture
Fall 2017	ED7610	7610	C and I for Learning	Education	3	Students will understand and create curriculum by analyzing Curriculum and Instruction Theory.	GR	Lecture
Fall 2017	ED7650	7650	Lit Ldrshp & Learning	Education	3	Plan, develop, and present a supervised professional development in literacy. Coaching and mentoring of an adult professional as a literacy leader. This course involves supervision.	GR	Seminar
Fall 2017	ED7800	7800	Literacy Research Frmwk	Education	3	Develop a knowledge and understanding of literacy research and research methods. Written literacy research project to include: introduction, research purpose and questions, review of literature, and methodology. Includes CITI training and IRB proposal submission.	GR	Lecture
Fall 2017	ED7810	7810	Literacy Resrch Seminar	Education	3	Conduct the literacy research project designed in ED 7800. Collect and analyze the data. Final written project includes: findings, discussion, and conclusion (including limitations and implications). This course involves supervision.	GR	Seminar
Fall 2017	ED7820	7820	Literacy Inquiry Project	Education	1	As a continuation of the individual research framed in ED 7800, candidates will complete a research project which includes: collecting, compiling, and analyzing data followed by a written report of the data in an action research inquiry project.	GR	Independent Study
Fall 2017	ED7830	7830	Adv Educational Psych	Education	3	Gain an advanced understanding of learning processes, student motivation, and educational assessment based on theoretical principles from the field of educational psychology.	GR	Lecture
Fall 2017	ED7840	7840	Inq to Foundations Educ	Education	3	An inquiry into the historical, philosophical, cultural, and social trends and issues in education in a democratic society.	GR	Lecture

Fall 2017	ED7850	7850	Act Research Adv Studies	Education	3	Course provides introduction to teacher-based action research. Students learn: types of research, types of data, research methodologies, data analyses, and data interpretation within the context of education.	GR	Lecture
Fall 2017	ED7860	7860	Assess & Eval for Instr	Education	3	This course provides students (teachers and leaders) with foundational background in the design and implementation of Project Based Learning (PBL) in a K-12 classroom.	GR	Lecture
Fall 2017	ED7870	7870	C&I DSGN FOR PBL	Education	3	This course provides students (teachers and leaders) with foundational background in the design and implementation of Project Based Learning (PBL) in a K-12 classroom.	GR	Lecture
Fall 2017	ED7970	7970	Learn	Education	3	This course guides implementation of individual Master's thesis projects in education. The course includes inquiry and data gathering through analysis and solution identification, writing of thesis, and formal presentation.	GR	Independent Study
Fall 2017	ED7990	7990	Adv Studies Seminar I	Education	1	Midpoint seminar will focus on applying knowledge of preK-12 classrooms, developing capstone project, and completing mid-point key assessments.	GR	Seminar
Fall 2017	ED8200	8200	Adv Stu Sem II: Capstone	Education	2	Seminar will focus on the master's capstone project and other program key assessments.	GR	Seminar
Fall 2017	ED8500	8500	Spec Studies in Learning	Education	1	Independent Study in a selected area of learning.	GR	Independent Study
Fall 2017	ED8800	8800	Theor Issue Lifespan Dev	Education	3	Focuses on theoretical views of lifespan human development, mechanisms underpinning development, and the influence of nature and nurture in human development.	GR	Lecture
Fall 2017	ED8810	8810	Theor Persp Action Rsrch	Education	3	This course will focus on the history, philosophy, methodologies, and methods of action research. Theoretical frameworks that support democratic inquiry and guide an action research paradigm will be emphasized.	GR	Lecture
Fall 2017	ED8830	8830	Theoretic Views Ed Psych	Education	3	Focuses on the principal theoretical frameworks that guide learning and motivation as well as the measurement and assessment processes in educational settings.	GR	Lecture
Fall 2017	ED9000	9000	Learning Thesis	Education	3	This course guides implementation of individual Masters thesis projects in education. The course includes inquiry and data gathering through analysis and solution identification, writing of thesis, and formal presentation.	GR	Independent Study
Fall 2017	EDL7100	7100	Tchr Ldr Mstr Sem: Entry	Educational Leadership	1	Examining belief systems, teaching styles, teachers as learners; intra- and interpersonal communication skills needed in leadership roles; and functioning in a multicultural/pluralistic society.	GR	Lecture
Fall 2017	EDL7110	7110	Tchr Ldr Sem: Midpoint	Educational Leadership	1	Developing leadership skills and abilities; and, investigating the dynamics of team functioning, including decision-making models and processes, problem-solving techniques, communication skills, conflict management, and self-improvement.	GR	Seminar

Fall 2017	EDL7120	7120	Philos & Curr Foundatns	Educational Leadership	3	Overview of past, present, and emerging curriculum trends. Examination of educational and curricular philosophy and how philosophy impacts school programs.	GR	Lecture
Fall 2017	EDL7130	7130	App Psych Learning Thery	Educational Leadership	3	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 2017	EDL7140	7140	Context of Education	Educational Leadership	3	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.	GR	Lecture
Fall 2017	EDL7200	7200	Analysis of Teaching	Educational Leadership	3	Analytic and practical approach to teaching methods and skills for inducing learning with attention to interaction analysis and cognitive science.	GR	Lecture
Fall 2017	EDL7210	7210	Curr Design for Tchr	Educational Leadership	3	Management and leadership skills as related to developing and organizing curriculum and materials relating to implementing the learning program with students.	GR	Lecture
Fall 2017	EDL7220	7220	Instruct Mgmt and Eval	Educational Leadership	3	Strategies for developing and maintaining continual improvement processes using systems planning, instructional data. Includes evaluation of improvement plans and communication of planning and improvement with all stakeholders.	GR	Lecture
Fall 2017	EDL7300	7300	Research Design Methods	Educational Leadership	3	Research method design for personal or professional goals; culminates in the analysis of existing research data.	GR	Lecture
Fall 2017	EDL7320	7320	Implmnt & Analyze Rsrch	Educational Leadership	1	Implement and analyze a research project.	GR	Lecture
Fall 2017	EDL7330	7330	Teacher Leadership	Educational Leadership	3	Review of published literature about classroom teachers as leaders. Critical and current issues relevant to the development of classroom teachers as leaders within the context of their roles.	GR	Seminar
Fall 2017	EDL7400	7400	Legal & Prof Issues	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 2017	EDL7410	7410	Instructional Design	Educational Leadership	3	Designing, organizing, managing, and evaluating learning experiences in physical and virtual environments.	GR	Lecture
Fall 2017	EDL7510	7510	Statistics and Research	Educational Leadership	3	Introduction to basic statistical methods and data analysis for research and evaluation.	GR	Lecture
Fall 2017	EDL7550	7550	Research Projects	Educational Leadership	1	Individual research to satisfy requirements of a program's research study.	GR	Lecture
Fall 2017	EDL7570	7570	Student Assessment	Educational Leadership	3	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 2017	EDL7700	7700	Ed Lead Schl Counselors	Educational Leadership	3 Provides foundational understandings of education in the United States from the historical, national, state, and local perspectives covering a variety of educational topics necessary for counselor leadership in today's schools.	GR	Seminar
Fall 2017	EDL7710	7710	Ldrshp Schl Improvement	Educational Leadership	3 Developing 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 2017	EDL7711	7711	Ldrshp Schl Imprvmt STEM	Educational Leadership	3 Develops strong base of understanding in organizational structure for skill building in leadership, communication, decision-making, and problem-solving. Educational renewal, sustainability leadership, political considerations, ethical behavior, professional development, and change processes included.	GR	Lecture
Fall 2017	EDL7720	7720	Ed Administrative Behav	Educational Leadership	3 Develops an understanding of the principles of educational administrative processes, formal school structures and organization, and an introduction to school administrative task areas.	GR	Lecture
Fall 2017	EDL7730	7730	Curriculum Analysis	Educational Leadership	3 Improve the school leader's ability to manage and lead the development and organization of curriculum, course planning, and materials.	GR	Lecture
Fall 2017	EDL7740	7740	Analysis of Teaching	Educational Leadership	3 Opportunities for analysis of teaching through the exploration of instructional methodologies, critical theory related to teaching, and strategies for continual improvement.	GR	Lecture
Fall 2017	EDL7750	7750	Instr Ldrshp & Change	Educational Leadership	3 Strategies for developing, maintaining continual improvement processes using systems planning, instructional data, evaluation of improvement plans and communication of planning and improvement with all stakeholders.	GR	Seminar
Fall 2017	EDL7751	7751	Instr Ldrshp Chng: STEM	Educational Leadership	3 Strategies for developing and maintaining continual improvement processes using systems planning and instructional data; evaluation of improvement plans; and, communicating planning and improvement with all stakeholders within various organizational contexts.	GR	Lecture
Fall 2017	EDL7760	7760	Sup of Instr & Personnel	Educational Leadership	3 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/Lab Combination
Fall 2017	EDL7770	7770	Educ Ldrshp Practicum	Educational Leadership	1 Focusing on the roles performed by practicing educational leaders. Students will observe, interact and draw conclusions from field experience by integrating the field experience with knowledge, skills, and dispositions gained in previous coursework.	GR	Internship

Fall 2017	EDL7800	7800	Ethics & Politics in Edu	Educational Leadership	3	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.	GR	Lecture
Fall 2017	EDL7810	7810	Schl Finance & Economics	Educational Leadership	1	The financing of public education and the economics of education. Guiding principles for developing financial programs and management procedures.	GR	Lecture
Fall 2017	EDL7820	7820	School Law	Educational Leadership	3	Examines the legal framework that all school personnel must function in. Emphasis on both legal precedents and statutory provisions.	GR	Lecture
Fall 2017	EDL7900	7900	Instruc Ldrshp Practicum	Educational Leadership	1	Focusing on the roles performed by practicing instructional leaders. Candidates observe, interact and draw conclusions from field experience by integrating the field experience with knowledge, skills, and dispositions gained in previous coursework	GR	Internship
Fall 2017	EDL7910	7910	Curr Design & Evaluation	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 2017	EDL7920	7920	Tchr Ldr Masters Exit	Educational Leadership	1	Focusing on understanding current teacher leadership within the context of the school organization.	GR	Seminar
Fall 2017	EDL7960	7960	Org and Admin Public Sch	Educational Leadership	3	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 2017	EDL8300	8300	Research on Teaching	Educational Leadership	3	Research method design and analysis for the classroom; culminates in the analysis of collected research data.	GR	Lecture
Fall 2017	EDL8320	8320	Action Resrch Practicum	Educational Leadership	1	Implement and analyze an action research project.	GR	Lecture/Lab Combination
Fall 2017	EDL8330	8330	Teacher Leader Seminar	Educational Leadership	3	Critical and current issues relevant to the development of classroom teachers as school leaders.	GR	Seminar
Fall 2017	EDL8340	8340	Coaching and Mentoring	Educational Leadership	3	Developing knowledge, skills, and dispositions necessary for school leaders to provide effective coaching and mentoring focused on improving teaching and learning for all students.	GR	Lecture/Lab Combination
Fall 2017	EDL8350	8350	Data Driven Decisions	Educational Leadership	1	Exploring the use of appropriate, meaningful data for making instructional, curricular, and assessment decisions as a normative professional standard.	GR	Lecture/Lab Combination
Fall 2017	EDL8510	8510	Adv Rsrch Design Analyisi	Educational Leadership	3	Individual and group study of ongoing applied educational research. <b> Department Managed Prerequisite(s): Graduate level EDL 8520 Minimum Grade of D</b>	GR	Seminar
Fall 2017	EDL8520	8520	Stat & Res Desig	Educational Leadership	3	Developing research techniques in basic and inferential statistics using statistical computing software and critical interpretation of educational research design and statistical analysis results.	GR	Lecture

Fall 2017	EDL8530	8530	Advanced Ed Statistics	Educational Leadership	3	Multivariate analysis including analysis of variance-factorial designs, repeated measures, analysis of covariance, multiple analysis of variance, multiple regression, and nonparametric techniques.<b> Department Managed Prerequisite(s): Graduate level EDL 7510 Minimum Grade of D and Graduate level EDL 8510 Minimum Grade of D and Graduate level EDL 8520 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EDL8580	8580	Advanced Ed Measurement	Educational Leadership	3	School district level interpretation of assessments, evaluation, accountability measures, standardization, validation, reliability, item analysis, norm setting, criterion referencing, standardized tests, and the development of district level long-range improvement and accountability systems	GR	Seminar
Fall 2017	EDL8610	8610	Principal Prog: Entry	Educational Leadership	1	Candidates investigate various contemporary educational leadership topics and issues: content knowledge, pedagogical content knowledge, diversity, technology, professionalism, emotional intelligence. and/or others.	GR	Seminar
Fall 2017	EDL8620	8620	Principal Prog: Midpoint	Educational Leadership	1	Candidates explore various educational leadership topics/issues and their relationship to praxis.	GR	Seminar
Fall 2017	EDL8630	8630	Principal Program Exit	Educational Leadership	1	Focusing on understanding current building-level leadership concepts, topics, and issues within the context of the school organization.	GR	Seminar
Fall 2017	EDL8700	8700	Practicum I: Principal	Educational Leadership	1	Provides experience in school administration. Candidates perform administrative tasks under the supervision of a licensed school administrator.	GR	Internship
Fall 2017	EDL8710	8710	Management of the School	Educational Leadership	3	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 2017	EDL8720	8720	Bldg-Level Leadership	Educational Leadership	3	Developing procedures of administering staff personnel aspects of school operation. Areas of recruitment, selection, induction, appraisal, development, compensation, and motivation are covered.	GR	Lecture/Lab Combination
Fall 2017	EDL8730	8730	Bldg Budget, Mgmt, SS	Educational Leadership	3	Leading the pupil personnel service aspects of school operation, including ethical considerations, special education requirements, student attendance and accounting, guidance, counseling, health and wellness, discipline, and extracurricular/co-curricular activities	GR	Lecture/Lab Combination
Fall 2017	EDL8740	8740	Sch Finance & Bus Mgt	Educational Leadership	3	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.	GR	Lecture
Fall 2017	EDL8760	8760	Suprvising Instr & Prsnl	Educational Leadership	3	The course content focuses on supervising and assessing curriculum, instruction, and personnel.	GR	Lecture/Lab Combination

Fall 2017	EDL8900	8900	Practicum II: Principal	Educational Leadership	1	Provides experience in school administration. Candidates perform administrative tasks under the supervision of a licensed school administrator.	GR	Internship
Fall 2017	EDL8950	8950	Principal Practicum	Educational Leadership	3	Provides experience in school leadership and administration at the building level. Candidates perform administrative tasks under the supervision of a licensed school building administrator.	GR	Internship
Fall 2017	EDL9130	9130	Adv Tchr Ldr Seminar	Educational Leadership	3	Advanced studies regarding critical topics and current issues relevant to the development of classroom teachers as school leaders.	GR	Seminar
Fall 2017	EDL9140	9140	Adv Coaching Mentoring	Educational Leadership	3	Advanced studies in developing school leaders' essential knowledge, skills, and dispositions for effective coaching and mentoring focused on improving teaching and learning.	GR	Lecture/Lab Combination
Fall 2017	EDL9150	9150	Adv Data Driven Decision	Educational Leadership	3	Advanced studies exploring the use of appropriate, meaningful data for making instructional, curricular, and assessment decisions as a normative professional standard.	GR	Lecture/Lab Combination
Fall 2017	EDL9300	9300	Practicum I: CIPD	Educational Leadership	1	The practicum provides significant opportunities for candidates to synthesize and apply the knowledge and skills identified in the district-level standards through substantial, sustained, standards-based work in real settings.	GR	Internship
Fall 2017	EDL9330	9330	Instructional Leadership	Educational Leadership	3	Provides opportunities to explore the topic of instruction in depth and to apply knowledge and strategies to the process of instructional improvement.	GR	Lecture
Fall 2017	EDL9410	9410	Planning Educ Futures	Educational Leadership	3	Focuses on adaptation to social, political, and educational change in the future of education. Strategic planning, systems theory, change theory and processes are explored in connection to forecasting potential economic, enrollment, and demographic futures.	GR	Lecture
Fall 2017	EDL9450	9450	Adv Curriculum Theory	Educational Leadership	3	Studying curriculum theories from original sources and relating those theories to philosophical presuppositions and social-cultural foundations. The course also focuses on the critical evaluation of curriculum theories and models.	GR	Lecture
Fall 2017	EDL9500	9500	Practicum II: CIPD	Educational Leadership	3	The practicum provides significant opportunities for candidates to synthesize and apply the knowledge and skills identified in the district-level standards through substantial, sustained, standards-based work in real settings.	GR	Internship
Fall 2017	EDL9555	9555	CIPD Practicum	Educational Leadership	3	Provides experience in school leadership and administration at the district level. Candidates perform administrative tasks under the supervision of a licensed school district administrator.	GR	Internship
Fall 2017	EDL9600	9600	Pol & Soc Contexts	Educational Leadership	3	The course is designed for current and aspiring district-level administrators exploring the political and social forces shaping educational policy, instructional leadership, and classroom practice.	GR	Seminar



Fall 2017	EDL9610	9610	Curr & Instruct Ldrshp	Educational Leadership	3	Emphasizes the roles of the curriculum, instructional, and professional development leader. Focuses on developing a strong base of understanding organizational structure and skill building in leadership, communication, decision-making, and problem solving.	GR	Seminar
Fall 2017	EDL9620	9620	Ldrshp Indiv Coll Change	Educational Leadership	3	Exploring theory, research, and practice related to leading and managing organizational environments requiring creating and sustaining personal, professional, and organizational change and adaptation.	GR	Seminar
Fall 2017	EDL9630	9630	Adv Curr Anlys & Account	Educational Leadership	3	Exploring curriculum development from a district-level perspective.	GR	Seminar
Fall 2017	EDL9700	9700	Practicum I: Supt	Educational Leadership	1	The practicum provides significant opportunities for candidates to synthesize and apply the knowledge and skills identified in the district-level standards through substantial, sustained, standards-based work in real settings.	GR	Internship
Fall 2017	EDL9710	9710	School Dist Leadership	Educational Leadership	3	Superintendent, staff, school board, unions, and community strategic roles, limits, and responsibilities in light of local, state, and federal regulations and political pressures.	GR	Lecture
Fall 2017	EDL9720	9720	Ideas in Education	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 2017	EDL9730	9730	Perspectives on Educ	Educational Leadership	3	Examines leadership, curriculum, and instruction in a rapidly evolving global and technological world from a district level perspective.	GR	Seminar
Fall 2017	EDL9740	9740	Ldr, Law, and Spec Pop	Educational Leadership	3	Emphasis will be on legal issues for special populations, including emerging trends on policies and procedures for exceptional learners. Laws that affect program administration will be addressed.	GR	Seminar
Fall 2017	EDL9750	9750	Directed Study	Educational Leadership	1	Designed for students enrolled in a program requiring a research study. Students and their assigned program advisors collaboratively determine the course requirements.	GR	Independent Study
Fall 2017	EDL9800	9800	Comm Relation & Process	Educational Leadership	3	The course examines relationships between schools and communities from demographic, political and marketing perspectives. The course focuses on school and community roles in delivering educational programs and services responsive to local needs.	GR	Seminar
Fall 2017	EDL9850	9850	Org Dynamics	Educational Leadership	3	Focuses on the individual and the organization. The respective needs and expectations of each are investigated. Emphasis is on interpersonal and organizational communication, group processes, conflict resolution, and collaboration for school improvement.	GR	Lecture

Fall 2017	EDL9860	9860	Organizational Behavior	Educational Leadership	3	Analyzing organizations and educational institutions in particular through a social systems orientation. Role theory, leadership theory and styles, ethical behavior, and decision-making theory and practice are addressed from an organizational perspective.	GR	Lecture
Fall 2017	EDL9870	9870	Admin Leadership in Comm	Educational Leadership	3	Focuses on the development of leadership skills in relationship to individual and organizational communications, group processes, conflict management, decision making, and problem solving. Participants study and practice the principles of change.	GR	Lecture
Fall 2017	EDL9880	9880	Research & Educ Leader	Educational Leadership	3	Practical applications and issues in research; research design and methodology, sampling techniques, instrument development, proposal writing, and the application of skills through a research project.	GR	Lecture
Fall 2017	EDL9900	9900	Practicum II: Supt	Educational Leadership	3	The practicum provides significant opportunities for candidates to synthesize and apply the knowledge and skills identified in the district-level standards through substantial, sustained, standards-based work in real settings.	GR	Internship
Fall 2017	EDL9910	9910	Dist Lvl Lic Prog: Entry	Educational Leadership	1	Candidates investigate various contemporary educational leadership topics and issues: content knowledge, pedagogical content knowledge, diversity, technology, professionalism, emotional intelligence, and/or others.	GR	Seminar
Fall 2017	EDL9920	9920	Schl Culture Prof Growth	Educational Leadership	3	Exploring the relationships between organizational change, professional growth, and leadership. Candidates engage in theoretical and research-based readings, discussions and activities regarding change, innovation, leadership, organizational culture, and professional development.	GR	Seminar
Fall 2017	EDL9930	9930	Sch Dist Finance Bus Mgt	Educational Leadership	3	Guiding principles for developing adequate district fiscal programs; study of local, state, and federal revenue sources; and, procedures in management of district funds.	GR	Lecture
Fall 2017	EDL9940	9940	Adv Sem for Ed Leaders	Educational Leadership	1	A synthesizing course reviewing the concepts, skills, emerging trends, and best practices relating to the field of educational leadership.	GR	Seminar
Fall 2017	EDL9950	9950	Dist Lvl Lic Prog: Mdpt	Educational Leadership	1	Candidates explore various educational leadership topics/issues and their relationship to praxis.	GR	Seminar
Fall 2017	EDL9955	9955	Superintendent Practicum	Educational Leadership	3	Provides experience in school leadership and administration at the district level. Candidates perform administrative tasks under the supervision of a licensed school district administrator.	GR	Internship
Fall 2017	EDL9970	9970	Dist Lvl Lic Prog Exit	Educational Leadership	1	Focusing on understanding current district-level leadership concepts, topics, and issues within the context of the school organization.	GR	Seminar
Fall 2017	EDL9990	9990	Thesis	Educational Leadership	1	Research for thesis in Educational Specialist Program.	GR	Independent Study

Fall 2017	EDS2700	2700	Cultural Exploration	Education_Special Education	1	Using tutoring experiences to explore community differences in language and culture and the impact of these on the growth of development of students with exceptional learning needs. Seminar discussions required.	UG	Seminar
Fall 2017	EDS2720	2720	Ev Basd Pracs: Ctr Expl	Education_Special Education	3	Evidence-based practices, transitions, environmental interventions; philosophy, policies, laws; community differences in language, culture, family regarding growth, development, characteristics in education of students with exceptional learning needs. Field experiences required.	UG	Lecture
Fall 2017	EDS2900	2900	Exceptionalities	Education_Special Education	3	Overview of historical and current legal, philosophical and education issues surrounding the definition, identification, causes/prevalence of specific exceptionalities, service delivery/placement options and multidisciplinary team process across education and community settings.	UG	Lecture
Fall 2017	EDS3320	3320	Teaching Strategies	Education_Special Education	3	Interpreting information for identification/placement of individuals with exceptional learning needs within the middle school curriculum. Organizing strategies/interventions based on student assessment. Field experiences required.	UG	Lecture
Fall 2017	EDS3400	3400	Curriculum & Materials	Education_Special Education	3	Foundations of developmentally responsive middle level programs and interdisciplinary connections for those with exceptional learning needs. Focusing on learning differences/issues of curriculum development, materials, instructional practice, language development, listening comprehension. Field experiences required.	UG	Lecture
Fall 2017	EDS3700	3700	Applied Interventions	Education_Special Education	1	Application of strategies and interventions learned with an appreciation of culture and family systems regarding growth, development, and characteristics of students with exceptional learning needs. Field experiences and seminars required.	UG	Seminar
Fall 2017	EDS4400	4400	Collab Differentiation	Education_Special Education	3	Co-teaching models with emphasis on differentiation, integration of academic instruction/behavior management; collaborative consultation and communication strategies to enhance instruction for those with exceptional learning needs. Field experiences required. Integrated Writing course.	UG	Lecture
Fall 2017	EDS4420	4420	Positive Learning Env	Education_Special Education	3	Using positive behavior supports; discussion of research, practice, classroom management innovations in field to prepare student interns to meet instructional/behavioral demands of working with those with exceptional learning needs. Field experiences required.	UG	Lecture
Fall 2017	EDS4460	4460	Impact Student Learn	Education_Special Education	3	Integrating assessment based intervention strategies within inclusion setting to impact the learning of students with exceptional learning needs. Field experiences required. Integrated Writing course.	UG	Lecture

Fall 2017	EDS4500	4500	Independent Study in IS	Education_Special Education	0.5	Independent study in a selected area of special education.	UG	Independent Study
Fall 2017	EDS4800	4800	Internship Phase I	Education_Special Education	1	Internship in a middle childhood school for supervised field experience in inclusive setting in one of the two licensure content areas while focusing on professionalism, student assessment, teaming, and collaboration. Cohort meetings required	UG	Internship
Fall 2017	EDS4820	4820	Internship Phase II	Education_Special Education	1	Internship in a middle childhood school for supervised field experience in inclusive setting while focusing on professional/ethical practice in collaborative/consultative role, research-validated practice, lifetime professional development. Cohort meetings required	UG	Internship
Fall 2017	EDS4900	4900	Student Teach Incl Set	Education_Special Education	8	Student teaching in a middle childhood school full-time for supervised field experience in inclusive setting with focus on professional/ethical practice, co-planning, local/national resources/networks, and advocacy. Cohort meetings required	UG	Internship
Fall 2017	EDS5900	5900	Dyslx	Education_Special Education	3	This introductory course will provide insight and in-depth knowledge regarding dyslexia: history, theory, brain-based research, appropriate methodologies, applied techniques including instructional strategies, effective instruction, assistive technology, and an overall holistic understanding of learners with dyslexia	GR	Lecture
Fall 2017	EDS5990	5990	Lng&Phnc for Lrnrs w/Dys	Education_Special Education	1	This course involves an in-depth understanding of how structured language and phonics impacts learners with dyslexia, phonics knowledge, and the use of research-supported instructional procedures and strategies in working with learners with dyslexia	GR	Lecture
Fall 2017	EDS6010	6010	Ident & Char Autism	Education_Special Education	3	Examines the psychological, physiological, social and educational characteristics of individuals with classic autism, pervasive developmental delay, Rett syndrome, Asperger's syndrome and childhood disintegrative disorder, including prevalence, diagnosis, underlying characteristics and strengths of these individuals	GR	Lecture/Lab Combination
Fall 2017	EDS6020	6020	Lang Dev/Syst Soc Skl	Education_Special Education	3	Examines communicative needs for individuals with Autism Spectrum Disorder (ASD). Assesses communicative and social norms to determine skill gaps to develop intervention targets. Explores evidence supporting prominent communication interventions for students with ASD	GR	Lecture/Lab Combination

Fall 2017	EDS6030	6030	Asmt Lrn Needs Aut	Education_Special Education	3	Explores how autism impacts classroom routines and learners. Examines educational environments and materials/strategies impacting regulatory needs of students including sensory and functional behavior assessments. Targets self-regulation, executive function, functional communication and emotional awareness strategies.	GR	Lecture/Lab Combination
Fall 2017	EDS6040	6040	Curr Methds Matrs Autism	Education_Special Education	3	Explores Least Restrictive Environment (LRE) options by using formal and informal measures to identify student learning and regulatory needs, and designing student-centered curricula, using research based methods and materials that match learner needs.	GR	Lecture/Lab Combination
Fall 2017	EDS6050	6050	ASD Practicum	Education_Special Education	3	Final Certificate program course. Students will develop and implement a research driven initiative that demonstrates their expanded knowledge in working with students with autism. Initiatives will vary depending on interest, setting and specialization.	GR	Internship
Fall 2017	EDS6090	6090	Assmt for Lrn with Dys	Education_Special Education	3	Explore various assessments to administer, analyze, and interpret specifically for learners with dyslexia. Apply assessment knowledge and skills to a struggling learner to create a case study assessment report and plan for specific classroom accommodations.	GR	Lecture
Fall 2017	EDS6095	6095	Assmt Dyslexia Pract I	Education_Special Education	2	Administration and interpretation of assessments to plan, implement, and communicate dyslexia remediation in a professional setting. Write professional case study integrating assessment and tutoring data. Required: 30 hours field experience required.	GR	Practicum
Fall 2017	EDS6100	6100	Science Cont Stds IS	Education_Special Education	3	Introduction to Ohio Department of Education K through 12th grade science content standards. Addresses science knowledge, pedagogy, and PRAXIS exam expectations.	GR	Lecture
Fall 2017	EDS6110	6110	SS Content Stands IS	Education_Special Education	3	Introduction to Ohio Department of Education K through 12th grade social studies content standards. Addresses social studies knowledge, pedagogy, and PRAXIS exam expectations.	GR	Lecture
Fall 2017	EDS6120	6120	Math Content Stands IS	Education_Special Education	3	Introduction to Ohio Department of Education K through 12th grade mathematics content standards. Addresses mathematics knowledge, pedagogy, and PRAXIS exam expectations.	GR	Lecture/Lab Combination
Fall 2017	EDS6190	6190	Intrvs for Dyslexia Lrn	Education_Special Education	3	Practices and procedures used in developing curricula for individuals with dyslexia and dyslexia tendencies. Clinical application, classroom accommodation, and development/implementation of the IEP. Required: 30 hours field experience required.	GR	Lecture

Fall 2017	EDS6195	6195	Intrvn Dyslexia Pract II	Education_Special Education	2	Use assessment data to plan and implement dyslexia remediation in a professional setting. Write professional case study integrating assessment and tutoring data. Required: 30 hours field experience required.	GR	Practicum
Fall 2017	EDS6200	6200	Prin & Prac ECIS & PKSN	Education_Special Education	3	Overview of historical foundations, laws, theories, philosophies, and models in early childhood special education and early intervention.	GR	Lecture
Fall 2017	EDS6220	6220	Est part w/fam ECIS/PKSN	Education_Special Education	3	Family partnerships and advocacy in early childhood special education and early intervention.	GR	Lecture
Fall 2017	EDS6240	6240	Cur meth mat ECIS & PKSN	Education_Special Education	3	Interventions, modifications and adaptations for children in early childhood special education or early intervention to access curriculum.	GR	Lecture
Fall 2017	EDS6260	6260	Practicum: ECIS	Education_Special Education	4	Educators with prior teaching licenses, under direct supervision of an experienced intervention specialist, are assigned for intensive teaching experience in grades preK-3rd special education – 4 weeks in PK-K and 4 weeks in 1st-3rd grades.	GR	Internship
Fall 2017	EDS6270	6270	Practicum: ECIS	Education_Special Education	4	Educators with prior teaching licenses, under the direct supervision of an experienced Intervention Specialist, are assigned to a school for intensive teaching experience in preK-3rd grade special education.	GR	Internship
Fall 2017	EDS6280	6280	StdT Tchng: ECIS	Education_Special Education	8	Candidates, under the direct supervision of an experienced intervention specialist, are assigned for intensive teaching experience in grades preK-3rd special education: 7 weeks in PK-K and 7-8 weeks in 1st-3rd grades.	GR	Internship
Fall 2017	EDS6281	6281	Prof Seminar: ECIS	Education_Special Education	0.5	Seminar focus will prepare candidates for state licensure requirements. Topics include: planning for instruction and assessment, instruction and engaging learners, assessing learning, and creating a portfolio.	GR	Seminar
Fall 2017	EDS6300	6300	Workshops in Education	Education_Special Education	0.5	Workshops in selected areas of education taught through the Division of Professional Development (DPD)	GR	Lecture
Fall 2017	EDS6400	6400	Chld w/Med/Phys/Sens/AU	Education_Special Education	3	Medical, physical, sensory, and autism spectrum needs of individuals with exceptionalities, birth-22. Collaboration of families and professionals, resources, accommodations, modifications, and methods. Direct work with appropriate aged individual with moderate/intensive needs required.	GR	Lecture
Fall 2017	EDS6420	6420	Curriculum Meth/Mat MI	Education_Special Education	3	Methods/materials for assessing/teaching individuals with moderate/intensive needs in multiple environments. Focus on research-based practices resulting in high quality of life. Thirty hours of field experience with individuals with moderate/intensive needs required.	GR	Lecture
Fall 2017	EDS6460	6460	Practicum: IS M/I	Education_Special Education	4	Candidates, under the direct supervision of an experienced Intervention Specialist, are assigned to a school for intensive teaching experience in grades K-12 special education.	GR	Internship

Fall 2017	EDS6480	6480	Std't Tchng: IS M/I	Education_Special Education	8	Candidates, under the direct supervision of an experienced intervention specialist, are assigned to a school for intensive teaching experience in grades K-12 special education for students with moderate/intensive needs.	GR	Internship
Fall 2017	EDS6481	6481	Professional Seminar: MI	Education_Special Education	0.5	Seminar focus will prepare candidates for state licensure requirements. Topics include: planning for instruction and assessment, instruction and engaging learners, assessing learning, and creating a portfolio.	GR	Seminar
Fall 2017	EDS6500	6500	Spec Studies in Spec Ed	Education_Special Education	0.5	Independent Study in a selected area of special education	GR	Independent Study
Fall 2017	EDS6510	6510	Found Spec Ed	Education_Special Education	3	Introduction to law, research, and history of special education.	GR	Lecture
Fall 2017	EDS6530	6530	Learners w/Exception	Education_Special Education	3	Cultural, social, emotional, and learning needs of students with exceptionalities. Teaching strategies, typical development and atypical development. Causes and effects of mild to intensive exceptionalities. Ten hours of field experience required.	GR	Lecture
Fall 2017	EDS6550	6550	Sp Ed Res & Analy	Education_Special Education	3	Familiarizes intervention specialist graduate students with WSU and Internet research resources, APA writing style, professional standards and quantitative and qualitative research methods and analysis.	GR	Lecture
Fall 2017	EDS6570	6570	Inst & Beh Man Skls	Education_Special Education	3	Prepares intervention specialists and other professionals to meet the instructional and behavioral management demands particular to working with individuals with exceptionalities, including those with severe emotional disturbance. Fifteen hours field experience required.	GR	Lecture
Fall 2017	EDS6590	6590	Assessment Skills for IS	Education_Special Education	3	Administration and interpretation of formal and informal educational assessment instruments and communication of assessment data to parents, students, and colleagues. Fifteen hours of field experience required.	GR	Lecture
Fall 2017	EDS6610	6610	Curr Meth Mat M/M Need	Education_Special Education	3	Practices and procedures used in developing elementary and secondary curricula for students with mild to moderate educational needs. Universal design, academic adaptations, and development/implementation of the IEP. Thirty hours of field experience required.	GR	Lecture
Fall 2017	EDS6630	6630	Intro Asst Tech/Aug Comm	Education_Special Education	3	Assessment, use, and application of adaptive technology for persons with exceptionalities in all educational settings. Etiology, problems and needs of non-speaking individuals. Hands-on experiences required with adaptive/augmentative aids/devices.	GR	Lecture
Fall 2017	EDS6650	6650	Transitions Stu w/Except	Education_Special Education	3	Role of intervention specialists in shaping transition for students with exceptionalities; Focus on high school/adult transition with consideration of transitions at earlier levels. Ten hours field experience with student age 14-22 required.	GR	Lecture

Fall 2017	EDS6670	6670	Collab for Inclusion	Education_Special Education	3	Co-teaching techniques with an emphasis on differentiation, as well as collaborative consultation and communication strategies to enhance instruction for diverse learners.	GR	Lecture
Fall 2017	EDS6690	6690	Clin Prac Remed	Education_Special Education	3	Use assessment data to plan and implement remediation in a school setting. Write professional case studies integrating assessment and tutoring data. Includes twenty hours in off-campus elementary school setting. <b> Department Managed Prerequisite(s): Graduate level EDS 6590 Minimum Grade of D and Graduate level EDS 6610 Minimum Grade of D and (Graduate level EDS 6420 Minimum Grade of D or Graduate level EDS 6240 Minimum Grade of D) and Graduate level ED 6020 Minimum Grade of D and Graduate level ED 6030 Minimum Grade of D and Graduate level ED 6040 Minimum Grade of D and Graduate level ED 6050 Minimum Grade of D.	GR	Lecture/Lab Combination
Fall 2017	EDS6710	6710	Practicum: IS M/M	Education_Special Education	4	Candidates with prior teaching license(s), under the direct supervision of an experienced intervention specialist, are assigned to a school for intensive teaching experience in K-12 special education for students with mild/moderate needs.	GR	Internship
Fall 2017	EDS6730	6730	StdT Tchng: IS M/M	Education_Special Education	8	Candidates, under the direct supervision of an experienced intervention specialist, are assigned to a school for intensive teaching experience in grades K-12 special education for students with mild/moderate needs.	GR	Internship
Fall 2017	EDS6731	6731	Professional Seminar: MM	Education_Special Education	0.5	Seminar focus will prepare candidates for state licensure requirements. Topics include: planning for instruction and assessment, instruction and engaging learners, assessing learning, and creating a portfolio.	GR	Seminar
Fall 2017	EDS6900	6900	Teach Indiv with Except.	Education_Special Education	3	Historical and current legal, philosophical and education issues surrounding the definition, identification, causes/prevalence of specific exceptionalities, service delivery/placement options and multidisciplinary team process across education and community settings.	GR	Lecture
Fall 2017	EDS6990	6990	Prof & Ethics in Sp Ed	Education_Special Education	3	Exploration of the Special Education Professional Practice Standards and ethical responsibilities of intervention specialists in relation to individuals with exceptionalities and their families as well as employment within the profession. <b> Department Managed Prerequisite(s): Graduate level EDS 6610 Minimum Grade of D and (Graduate level EDS 6420 Minimum Grade of D or Graduate level EDS 6240 Minimum Grade of D) and Graduate level EDS 6690 Minimum Grade of D.	GR	Seminar
Fall 2017	EDT1100	1100	Special Topics in E Lib	Educational Technology	1	Topics vary.	UG	Lecture



Fall 2017	EDT2800	2800	Educational Technology	Educational Technology	3	Use of computer-based technology in K-12 instruction. Focus is on selecting courseware and integrating it into lessons.	UG	Lecture
Fall 2017	EDT4700	4700	Workshop Ed Tech	Educational Technology	1	Study of selected areas in educational technology. Titles vary.	UG	Lecture
Fall 2017	EDT6700	6700	Workshop Ed Tech	Educational Technology	0.5	Intensive, practical study in a selected area of educational or applied technology and library media. Titles vary.	GR	Lecture/Lab Combination
Fall 2017	EDT6800	6800	Integrate TechLearning	Educational Technology	1	Types of educational software and applications, the cost of technology, software evaluation, curriculum development, trends and affordances, global educational views and lesson plan integration of technology in learning. Topics vary.	GR	Lecture/Lab Combination
Fall 2017	EDT7000	7000	Entry Seminar Ed Tech	Educational Technology	1	Introductory seminar for educational technology and library media programs. Students should take this class before or concurrently with their first educational technology or library media courses.	GR	Seminar
Fall 2017	EDT7120	7120	Gamification	Educational Technology	3	An introduction to gamification. Students will explore Game Theory and experience games to identify the factors and motivation in successful games. No technical knowledge is needed.<b> Department Managed Prerequisite(s): Graduate level EDT 7860 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	EDT7160	7160	Issues and Resp in DL	Educational Technology	3	Examines the issues and responsibilities of using digital technologies. Consideration of issues of intellectual property rights, ethics, managing online reputation, and professional responsibilities.<b> Department Managed Prerequisite(s): Graduate level EDT 7860 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EDT7200	7200	SLM Programs	Educational Technology	4	Focuses on the administration of school library programs including policies and procedures, facilities, budgeting, personnel, program evaluation, and marketing/advocacy. Includes field experience component.	GR	Lecture/Lab Combination
Fall 2017	EDT7210	7210	Org Data & Collections	Educational Technology	3	Students learn to establish standards bibliographic description, access points, classification, subject description and MARC format for automated library systems. Develop strategies to efficiently locate online information.	GR	Lecture/Lab Combination
Fall 2017	EDT7220	7220	SLM Resources for Child	Educational Technology	3	Developing school library collections for children. Introduction to childrens literature including major authors and illustrators. Selecting materials in different formats such as multimedia, e-books, and reference databases.	GR	Lecture/Lab Combination
Fall 2017	EDT7230	7230	SLM Resources for YA	Educational Technology	3	Developing school library collections for your adults. Introduction to young adult literature including major authors and illustrators. Selecting materials in different formats such as multimedia, e-books, and reference databases.	GR	Lecture/Lab Combination
Fall 2017	EDT7240	7240	Teach 21st Century Skill	Educational Technology	4	Teaching 21st century skills, collaborating with classroom teachers, standards alignment, and evidence-based practice. Includes field experience.	GR	Lecture/Lab Combination

Fall 2017	EDT7340	7340	SLM Internship	Educational Technology	1	Supervised field experience in school library for advanced track licensure candidates one week on-site all day.	GR	Internship
Fall 2017	EDT7510	7510	Media Literacy	Educational Technology	3	Use of communication competencies and critical thinking skills, including the ability to access, interpret, evaluate, and communicate information delivered in formats that use images, voice and sound.	GR	Lecture
Fall 2017	EDT7800	7800	ICT in Education	Educational Technology	3	Information and communication technology provides effective technology integration strategies to educators in the K-12 arena. Participants will be introduced to key technology skills and explore current and emerging practices in educational technologies.	GR	Lecture
Fall 2017	EDT7820	7820	Developing Multimedia	Educational Technology	3	Students use elements of instructional design and storyboarding techniques to translate instruction into various types of multimedia presentations.	GR	Lecture/Lab Combination
Fall 2017	EDT7860	7860	Ed Apps of Computers	Educational Technology	3	Explores types of educational software and applications, software evaluation, curriculum development, and lesson planning integrating computer courseware.	GR	Lecture/Lab Combination
Fall 2017	EDT7900	7900	SLM Practicum	Educational Technology	8	Supervised teaching experience in a school library for library media candidates pursuing an initial license.	GR	Internship
Fall 2017	EDT7990	7990	Exit Seminar Lib Media	Educational Technology	1	Individual and group study of problems related to educational technology. Should be taken near or at the completion of master degree program.	GR	Seminar
Fall 2017	EDT8110	8110	Lrng in a Digital World	Educational Technology	3	Instructor and course designers are introduced to the relationship between learning theory and teaching practices that incorporate digital technologies to enhance students learning. This course provides an introduction to the research and science of learning.	GR	Lecture
Fall 2017	EDT8120	8120	Inst Design Digital Lrng	Educational Technology	3	Participants will learn the basic concepts and elements of an instructional design model. The course teaches the backward design approach and alignment to ensure that courses design focus on the big ideas.	GR	Lecture
Fall 2017	EDT8130	8130	Online Crses Interactive	Educational Technology	3	Examines the theory and practices of using educational technologies to ensure online courses include ample interaction. Class will include the knowledge and skills necessary to utilize some of these educational technologies.	GR	Lecture
Fall 2017	EDT8140	8140	LMS & Evaluation	Educational Technology	3	Examines integrating curriculum with educational technologies such as learning management systems and the knowledge and skills necessary to evaluate the quality of online courses.	GR	Lecture
Fall 2017	EDT8150	8150	Digital PD	Educational Technology	3	Students will use elements of instructional design and storyboarding techniques to translate instruction into various types of multimedia professional development workshops.	GR	Lecture
Fall 2017	EDT8210	8210	App Psych Theory for DL	Educational Technology	3	Introduction to multimedia learning theory and how theory can be integrated into instructional design.	GR	Lecture

Fall 2017	EDT8220	8220	ID Concepts & Theories	Educational Technology	3	Students will explore a variety of instructional design concepts and theories, software applications, and how instructional design theory can be applied to practice.	GR	Lecture
Fall 2017	EDT8230	8230	Digital Teach: Res Meth	Educational Technology	3	Students will conceptually explore different research methodologies in relation to the scholarship of teaching and learning. Both qualitative and quantitative techniques will be discussed.	GR	Lecture
Fall 2017	EDT8240	8240	Digital Teach:Lit Review	Educational Technology	3	Students will explore techniques used for constructing a research-based literature review in the field of instructional technology.	GR	Lecture
Fall 2017	EDT8250	8250	Digital Citizenship	Educational Technology	3	Examines the issues and responsibilities of using digital technologies. Consideration of issues of intellectual property rights, ethics, managing online reputation, and professional responsibilities.	GR	Lecture
Fall 2017	EDT8390	8390	Inst Design Online Learn	Educational Technology	3	Use learning theory and instructional design principals develop high quality, engaging online instruction	GR	Lecture/Lab Combination
Fall 2017	EDT8490	8490	Online Crses Interactive	Educational Technology	3	Examines the theory and practices of using educational technologies to ensure online courses include ample interaction. Class will include the knowledge and skills necessary to utilize some of these educational technologies.	GR	Lecture
Fall 2017	EDT8590	8590	LMS & Evaluation	Educational Technology	3	Examines the issues with integrating curriculum with educational technologies such as learning management systems and the knowledge and skills necessary to evaluate the quality of online courses.	GR	Lecture
Fall 2017	EDT8610	8610	HPA Clinical Teaching	Educational Technology	1	Participants are introduced to educational technologies and teaching applications that are used in the health professional environment such as simulations, standard patients, team-based training, and active-learning strategies.	GR	Lecture/Lab Combination
Fall 2017	EDT8620	8620	Applied Res for HPA	Educational Technology	2	Participants research educational technologies used in the health professionals environment. Participants evaluate how the use of the educational technology has had an impact on the health professionals teaching environment.	GR	Lecture
Fall 2017	EDT8900	8900	Internship	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.	GR	Internship
Fall 2017	EDT8950	8950	Adm & Superv of Ed Tech	Educational Technology	3	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/Lab Combination
Fall 2017	EDT9990	9990	Thesis	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	Independent Study

Fall 2017	EE1000	1000	Intro to EE	Electrical Engineering	1	This course is designed to acquaint incoming Electrical Engineering and Engineering Physics students with the programs, expectations, goals and career paths. Outcome expectations are that the student will be more prepared in choosing an appropriate course of study and field of concentration.	UG	Lecture
Fall 2017	EE2000	2000	Digital Design with HDL	Electrical Engineering	3	Introduction to combinational and synchronous sequential digital system design and optimization. Use of structural hardware description language (HDL) with CAD tools for design and simulation in a field programmable gate array (FPGA) based laboratory environment. Design and testing of simple combinational and synchronous sequential circuits.	UG	Lecture
Fall 2017	EE2000L	2000L	Dig Design with HDL Lab	Electrical Engineering	1	Hands-on experience with CAD Tools, simulation of FPGA's and hardware description languages in a laboratory environment.<b> Department Managed Prerequisite(s): Undergraduate level MTH 1280 Minimum Grade of C or WSU Math Placement 05</b></h>	UG	Lab
Fall 2017	EE2010	2010	Circuit Analysis I	Electrical Engineering	3	Basic elements and laws, circuit analysis techniques and concepts, energy storage elements, first and second order circuits. sinusoidal steady state analysis.	UG	Lecture
Fall 2017	EE2010L	2010L	Circuit Analysis I Lab	Electrical Engineering	1	Computer-assisted analysis, RLC circuits, operational amplifiers and circuits, Thevenin and Norton equivalents, maximum power transfer, and AC networks.<b> Department Managed Prerequisite(s): Undergraduate level ENG 1100 Minimum Grade of C and Undergraduate level MTH 2310 Minimum Grade of C and Undergraduate level PHY 2410 Minimum Grade of C (PHY 2410 can be taken concurrently) and Undergraduate level PHY 2410L Minimum Grade of C (PHY 2410L can be taken concurrently) </b></h>	UG	Lab
Fall 2017	EE2020	2020	Intro to Mechatronics	Electrical Engineering	3	Learn to perform system level design integrated systems, program an embedded microcontroller, analyze and design basic sensor interface circuits, analyze and design driver circuits. and develop simple programs that control actuators.	UG	Lecture
Fall 2017	EE2020L	2020L	Intro to Mechatronic Lab	Electrical Engineering	1	Laboratory that assists with the students abilities to perform level design of integrated systems, program an embedded microcontroller, analyze and design basic sensor interface circuits, analyze and design driver circuits, and to develop simple programs that control actuators.	UG	Lab

Fall 2017	EE3000	3000	Solid State EE Materials	Electrical Engineering	3	Essential physical parameters of solids: elastic and thin-film properties (i.e. MEMS devices); electromechanical, piezoelectric and ferroelectric properties; paramagnetism and ferromagnetism; electron transport properties (metals and semiconductors); electronic bandgap and bandgap engineering; and the essential role of crystallinity in enhancing desired parameters (i.e. dielectric function in ferroelectrics or electron mobility in semiconductors)	UG	Lecture
Fall 2017	EE3030	3030	Circuit Analysis II	Electrical Engineering	3	Circuit review, alternating current concepts, computer-aided circuit analysis, two-port networks, power.	UG	Lecture
Fall 2017	EE3030L	3030L	Circuit Analysis II Lab	Electrical Engineering	1	Application of AC concepts, computer-aided circuit analysis, two-port networks, and power theory.<b> Department Managed Prerequisite(s): Undergraduate level EE 2010 Minimum Grade of D and Undergraduate level EE 2010L Minimum Grade of D</b>	UG	Lab
Fall 2017	EE3210	3210	Linear Systems I	Electrical Engineering	3	Continuous-time signals and systems, time domain analysis, Laplace transform, Fourier series, Fourier transform, Bode analysis. Various approaches to system and signal modeling.	UG	Lecture
Fall 2017	EE3260	3260	Random Signals and Noise	Electrical Engineering	3	Practical introduction to 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.	UG	Lecture
Fall 2017	EE3310	3310	Devices and Circuits	Electrical Engineering	3	Introduction to basic solid-state electronic devices for discrete and integrated circuits. Major topics include carrier flow in semi-conductors, p-n junction theory, semiconductor diodes, bipolar junction transistors, field effect transistors, biasing, introduction to amplifiers and frequency response	UG	Lecture
Fall 2017	EE3310L	3310L	Devices and Circuits Lab	Electrical Engineering	1	Laboratory supporting EE 3310 Electronic Devices and Circuits.<b> Department Managed Prerequisite(s): Undergraduate level EE 2010 Minimum Grade of C and Undergraduate level EE 2010L Minimum Grade of C and Undergraduate level MTH 2300 Minimum Grade of D</b>	UG	Lab
Fall 2017	EE3320	3320	Digital System Design	Electrical Engineering	4	Basics of digital computer hardware and design. Topics include switching algebra and switching functions, logic design of combinational and sequential circuits, storage elements, register-level design, and instrumentation.	UG	Lecture
Fall 2017	EE3320L	3320L	Digital System Design Lab	Electrical Engineering	0	Required laboratory for CEG 3320.	UG	Lab
Fall 2017	EE3450	3450	Intro Electromagnetics	Electrical Engineering	3	Electrostatics and magnetics; induced electro-motive force; Maxwell's equations and their physical interpretation and applications to transmission lines and antennas.	UG	Lecture

Fall 2017	EE3450L	3450L	Electromagnetics Lab	Electrical Engineering	1	Hands-on experience with electromagnetic devices, field measurements, and device characterization in a laboratory environment. <b> Department Managed Prerequisite(s): Undergraduate level EE 2010 Minimum Grade of C and Undergraduate level EE 2010L Minimum Grade of C and Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level PHY 2410 Minimum Grade of D and Undergraduate level PHY 2410L Minimum Grade of D</b>	UG	Lab
Fall 2017	EE3510	3510	Cont & Dis Linear System	Electrical Engineering	3	Students will learn the ability to develop models of physical systems, to classify systems, to apply Laplace transforms, z transforms, and Fourier transforms, understand sampling theory, Nyquist, and signal reconstruction, quantization, and analyze continuous and discrete-time linear systems	UG	Lecture
Fall 2017	EE3520	3520	Dig & Feedback Contr Sys	Electrical Engineering	3	Develop analog and digital models of physical systems, perform transform domain analysis of signals and systems, analyze system stability, apply Bode plots and root locus method. and to analyze and design PIP controllers.	UG	Lecture
Fall 2017	EE3520L	3520L	Dig & Fdbck Cont Sys Lab	Electrical Engineering	1	Laboratory to assist the students in the ability to develop analog and digital models of physical systems, perform transform domain analysis of signals and systems, analyze systems stability, apply Bode plots and root locus method, and to analyze and design PID Controllers	UG	Lab
Fall 2017	EE3810	3810	Prof Skills for EE	Electrical Engineering	2	Development of professional skills for electrical engineering: multidisciplinary teamwork, professional and ethical responsibilities, oral and written communication, life-long learning, and understanding of contemporary issues and the impact of engineering solutions	UG	Lecture
Fall 2017	EE4000	4000	Linear Systems II	Electrical Engineering	3	Discrete time signals and systems theory, the z-transform theory, input/output relationships, discrete Fourier transform, IIR and FIR filter design. and sampling.	UG	Lecture
Fall 2017	EE4100	4100	NANO/Micro Fabrication	Electrical Engineering	3	History, design, and fabrication of CMOS and micro-electro-mechanical systems (MEMS). CMOS front-end-of-line (FEOL), back-end-of-line (BEOL), surface micromachining and bulk micromachining. Typical VLSI devices and selected RF MEMS.	UG	Lecture
Fall 2017	EE4120	4120	Industrial Controls	Electrical Engineering	3	Wiring diagram creation, hardware selection, and programmable logic controller design and operation.	UG	Lecture
Fall 2017	EE4120L	4120L	Industrial Cntrls Lab	Electrical Engineering	1	Hands-on experience in Industrial Controls, Automated Controls systems, plant modeling and control system performance. <b> Department Managed Prerequisite(s): (Undergraduate level EE 3210 Minimum Grade of D and Undergraduate level CEG 2170 Minimum Grade of D) or (Undergraduate level ME 3210 Minimum Grade of D and Undergraduate level ME 1020 Minimum Grade of D)</b>	UG	Lab

Fall 2017	EE4130	4130	Cont Control Systems	Electrical Engineering	3	Introduction to continuous control systems. Block diagrams and signal-flow graphs, electromechanical modeling, time response, root locus, and design of PID controllers.	UG	Lecture
Fall 2017	EE4130L	4130L	Control Systems Lab	Electrical Engineering	1	Application and testing of control systems theory with electromechanical systems.<b> Department Managed Prerequisite(s): (Undergraduate level EE 3210 Minimum Grade of C or Undergraduate level ME 3210 Minimum Grade of C) and Undergraduate level MTH 2310 Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4170	4170	Digital Control Sys	Electrical Engineering	3	Samples spectra and aliasing, analysis and design of digital control systems using root locus and transform techniques; discrete equivalents of continuous controller and quantization effects.	UG	Lecture
Fall 2017	EE4170L	4170L	Digital Cont Sys Lab	Electrical Engineering	1	Application and testing of control systems theory with electromechanical systems.<b> Department Managed Prerequisite(s): Undergraduate level EE 4130 Minimum Grade of D and Undergraduate level EE 4130L Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4190	4190	Intelligent Control Sys	Electrical Engineering	3	Foundations of fuzzy set theory, system modeling using fuzzy rules, structure of fuzzy controllers and PID fuzzy controller design. Neural network foundations, single layered/multi-layered perceptions, learning rules, basics of adaptive controls and adaptive neural control	UG	Lecture
Fall 2017	EE4190L	4190L	Intelligent Control Lab	Electrical Engineering	1	Intelligent control strategies for systems and subsystems in industrial and engineering applications.<b> Department Managed Prerequisite(s): Undergraduate level EE 4130 Minimum Grade of D and Undergraduate level EE 4130L Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4210	4210	Digital Communication	Electrical Engineering	3	Introduction to digital communications: analog communication vs digital communication, source coding, pulse shaping, digital modulation/demodulation, signal detection and optimal receiver.	UG	Lecture
Fall 2017	EE4210L	4210L	Digital Comm Lab	Electrical Engineering	1	Hands-on experience with modulation/demodulation modules and experimentation with representative communication system.<b> Department Managed Prerequisite(s): Undergraduate level EE 4000 Minimum Grade of C</b>	UG	Lab
Fall 2017	EE4360	4360	Digital Signal Proc	Electrical Engineering	3	Principles and applications of digital signal processing (DSP) from the design and implementation perspective. Introduction to advanced digital signal processing design concepts. Focus on time and frequency domain algorithms. Methods include multirate signal processing, filter banks, time-frequency analysis, and wavelets	UG	Lecture

Fall 2017	EE4420	4420	Microwave Egr I	Electrical Engineering	3	Transmission line theory and application, wave propagation in rectangular waveguides, microwave network analysis, matching network, design of microwave filter and resonator, and introduction of electromagnetic compatibility.	UG	Lecture
Fall 2017	EE4420L	4420L	Microwave Egr I Lab	Electrical Engineering	1	Hands-on experience with microwave devices, microwave testing equipment and representative microwave systems.<b> Department Managed Prerequisite(s): Undergraduate level EE 3450 Minimum Grade of D and Undergraduate level EE 3450L Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4440	4440	Electronic Integ Systems	Electrical Engineering	3	Theory and applications of integrated circuits. Bipolar and field effect transistor amplifier analysis and design, multi-stage and feed back amplifiers, ideal and real operational amplifiers, frequency response and compensation, active filters, comparators, and waveform generators.	UG	Lecture
Fall 2017	EE4440L	4440L	Electronic Integ Lab	Electrical Engineering	1	Hands-on experience with Electronic Integrated components, subsystems and systems.<b> Department Managed Prerequisite(s): Undergraduate level EE 3210 Minimum Grade of D and Undergraduate level EE 3310 Minimum Grade of D and Undergraduate level EE 3310L Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4460	4460	Microwave Egr II	Electrical Engineering	3	Fundamental of RF active components: modeling of RF active components; design impedance matching network; microwave transistor amplifier design; microwave transistor oscillator and mixer design; introduction to microwave system.	UG	Lecture
Fall 2017	EE4460L	4460L	Microwave Egr II Lab	Electrical Engineering	1	Hands-on experience with active component microwave devices, subsystems, and systems.<b> Department Managed Prerequisite(s): Undergraduate level EE 4420 Minimum Grade of D and Undergraduate level EE 4420L Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4470	4470	Antenna Theory & Design	Electrical Engineering	3	Linear dipole antennas, antenna arrays, thin-wire antennas, moment method analysis examples (vee dipole, folded dipole, etc.), and broadband and frequency-independent antennas. Computer-aided design and analysis of wire antennas, feed networks, and antenna arrays using antenna CAD software.	UG	Lecture
Fall 2017	EE4470L	4470L	Antenna Thry Design Lab	Electrical Engineering	1	Hands-on experience and fabrication of antenna elements with evaluation of antenna performance.<b> Department Managed Prerequisite(s): Undergraduate level EE 4420 Minimum Grade of D and Undergraduate level EE 4420L Minimum Grade of D</b>	UG	Lab



Fall 2017	EE4480	4480	Remote Sensing Det & Sys	Electrical Engineering	4	Learn to analyze and design electro-optic (EO), infrared (IR), and microwave (radar) detection systems commonly used in remote sensing. Topics include remote sensing applications, electromagnetic wave theory, black body radiation, optics and imaging systems, EO, IR and radar detector design specifications, basic detection and estimation theory, and basic laboratory measurements with EO, IR and radar detectors.	UG	Lecture/Lab Combination
Fall 2017	EE4540	4540	VLSI Design	Electrical Engineering	3	Introduction to VLSI system and subsystem design: CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, basic system subcomponents (adders, subtractors, ALUs, and others), system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.	UG	Lecture
Fall 2017	EE4540L	4540L	VLSI Design Lab	Electrical Engineering	1	Work-station-based experience designing ASIC devices for evaluation and testing. Department Managed Prerequisite(s): Undergraduate level EE 2000 Minimum Grade of D and Undergraduate level EE 2000L Minimum Grade of D	UG	Lab
Fall 2017	EE4560	4560	Intro Robotics	Electrical Engineering	3	Introduces the mathematics of robots with emphasis on coordinate systems and transformations, manipulator kinematics and inverse kinematics, Jacobian, trajectory planning, dynamics and control.	UG	Lecture
Fall 2017	EE4560L	4560L	Intro Robotics Lab	Electrical Engineering	1	Laboratory introducing plant modeling and controller design.	UG	Lab
Fall 2017	EE4600	4600	UAV Flight Control	Electrical Engineering	3	Introductory course of UAV autopilot design. Major topics include quadrotor dynamics and modeling, UAV sensors, stabilization and control of altitude, pitch/roll, and yaw, position navigation using orientation angles, waypoint navigation, integration and practical issues.	UG	Lecture
Fall 2017	EE4600L	4600L	UAV Flight Control Lab	Electrical Engineering	1	Laboratory supporting EE 4600/6600. Students will experience hands on learning in lab environment. Designing, implementing, and testing autonomous UAV flight control systems. Department Managed Prerequisite(s): Undergraduate level EE 4130 Minimum Grade of D and Undergraduate level EE 4130L Minimum Grade of D and (Undergraduate level CEG 1160 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D)	UG	Lab

Fall 2017	EE4620	4620	Digital Circuit Design	Electrical Engineering	3	Digital design with behavioral level VHDL; application of VHDL to the design, analysis, and synthesis of digital integrated circuits; field programmable gate arrays (FPGAs) and design and application of digital integrated circuits using FPGA's. CAD tools, devices and boards will be used in the lab portion of the course. Topics include registers, counters, memory devices, register-level design, microcomputer system organization. Students must show competency in design of digital systems.	UG	Lecture
Fall 2017	EE4620L	4620L	Dig Integ Ckt Design Lab	Electrical Engineering	1	Realizations, testing and evaluation of digital integrated circuits with particular emphasis on programmable logic devices. <b> Department Managed Prerequisite(s): (Undergraduate level EE 2000 Minimum Grade of C and Undergraduate level EE 2000L Minimum Grade of C and Undergraduate level EE 3210 Minimum Grade of C) or Undergraduate level CEG 3320 Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4700	4700	Introduction to MEMS	Electrical Engineering	3	Overview of basic sensor technology including operating principles, electronics and measurement principles.	UG	Lecture
Fall 2017	EE4700L	4700L	Introduction to MEMS Lab	Electrical Engineering	1	Experimental design, realization and testing of MEMS devices with emphasis on sensing applications. <b> Department Managed Prerequisite(s): Undergraduate level EE 4100 Minimum Grade of D or Undergraduate level PHY 3150 Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4730	4730	Wireless Comm	Electrical Engineering	3	Overview of wireless communication: cellular network concept, wireless communication channel and multi-path fading, digital modulation/demodulation techniques for wireless communication, performance analysis, equalization, diversity and RAKE receiver, spreading spectrum technology and CDMA, cognitive radio and dynamic spectrum access, and wireless communication system simulation	UG	Lecture
Fall 2017	EE4730L	4730L	Wireless Comm Lab	Electrical Engineering	1	Application-rich environment that realizes the important modulation, demodulation and decision schemes that are the foundation of wireless communication. <b> Department Managed Prerequisite(s): Undergraduate level EE 3260 Minimum Grade of D and Undergraduate level EE 4210 Minimum Grade of D</b>	UG	Lab
Fall 2017	EE4750	4750	Intro to Radar Systems	Electrical Engineering	3	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, side lobe clutter, synthetic arrays, and pulse compression techniques	UG	Lecture

Fall 2017	EE4780	4780	Coding Theory	Electrical Engineering	3	Essentials of error-correcting codes, including methods for efficient and accurate transfer of information. Perfect and related codes, linear and cyclic codes, BCH codes, Reed-Muller codes, Reed-Solomon codes, Self-dual codes, weight enumerators and bounds	UG	Lecture
Fall 2017	EE4800	4800	UG Special Topics in EE	Electrical Engineering	1	Undergraduate special topics in electrical engineering. Topics vary.	UG	Lecture
Fall 2017	EE4800L	4800L	Special Topics in EE Lab	Electrical Engineering	1	Special topics in electrical engineering lab.	UG	Lab
Fall 2017	EE4810	4810	Full-Time CPT in EE	Electrical Engineering	1	Practical work experience in undergraduate level electrical engineering.	UG	Internship
Fall 2017	EE4820	4820	Part-Time CPT in EE	Electrical Engineering	1	Practical work experience in undergraduate level electrical engineering.	UG	Internship
Fall 2017	EE4830	4830	Internship in EE	Electrical Engineering	1	Practical work experience in undergraduate level electrical engineering.	UG	Internship
Fall 2017	EE4840	4840	Intro Machine Learning	Electrical Engineering	3	Introduction to the field of probabilistic machine learning. Examples are drawn from sensor signal exploitation, biology, text processing, computer vision, and robotics. Key techniques are demonstrated and implemented in MATLAB.	UG	Lecture
Fall 2017	EE4910	4910	Elec Egr Senior Des I	Electrical Engineering	3	A project-oriented design course integrating design methodology with the principles of major electrical engineering disciplines. Students from working groups, define design projects and select faculty advisors according to their interests, needs and knowledge bases. Integrated Writing course	UG	Lecture
Fall 2017	EE4920	4920	Elec Egr Senior Des II	Electrical Engineering	3	A project-oriented design course integrating design methodology with the principles of major electrical engineering disciplines: project planning and management, design specifications, implementation, testing and evaluations, electronic documentation, written and oral reports. Integrated Writing course	UG	Lecture
Fall 2017	EE4990	4990	Special Problems in EE	Electrical Engineering	1	Special problems in advanced engineering. Topics vary.	UG	Independent Study
Fall 2017	EE5000	5000	Solid State EE Materials	Electrical Engineering	3	Focuses on the essential physical parameters of solids that make devices so important: elastic and thin-film properties (i.e. MEMS devices); electromechanical, piezoelectric and ferroelectric properties; paramagnetism and ferromagnetism; electron transport properties (metals and semiconductors); electronic bandgap and bandgap-engineering; and the essential role of crystallinity in enhancing desired parameters (i.e. dielectric function in ferroelectrics or electron mobility in semiconductors)	GR	Lecture

Fall 2017	EE5010	5010	Circuit Analysis I	Electrical Engineering	3	The student will have the ability to apply Kirchhoff's laws, an understanding and ability to apply Thevenin and Norton's theorems, analyze and design circuits with operational amplifiers, analyze 1st and 2nd order circuits, apply linear differential equation techniques, and have an understanding of sinusoidal steady state analysis	GR	Lecture
Fall 2017	EE5010L	5010L	Circuit Analysis I Lab	Electrical Engineering	1	To assist students with learning to apply Kirchhoff's laws, to have an understanding of and an ability to apply Thevenin and Norton's theorems, to analyze and design circuits, to analyze 1st and 2nd order circuits, to apply linear differential equation techniques, and to have an understanding of sinusoidal steady state analysis	GR	Lab
Fall 2017	EE5030	5030	Circuit Analysis II	Electrical Engineering	3	Circuit review, alternating current concepts, computer-aided circuit analysis, two-port networks, power.	GR	Lecture
Fall 2017	EE5030L	5030L	Circuit Analysis II Lab	Electrical Engineering	1	Application of AC concepts, computer-aided circuit analysis, two-port networks, and power theory.	GR	Lab
Fall 2017	EE5210	5210	Linear Systems I	Electrical Engineering	3	Continuous-time signals and systems, time domain analysis, Laplace transform, Fourier series, Fourier transform, Bode analysis. Various approaches to system and signal modeling are also discussed.	GR	Lecture
Fall 2017	EE5260	5260	Random Signals and Noise	Electrical Engineering	3	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.	GR	Lecture
Fall 2017	EE5310	5310	Devices and Circuits	Electrical Engineering	3	Introduction to, theory of and application of basic solid-state electron devices for discrete and integrated circuits. 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, introduction to amplifiers, and frequency response.	GR	Lecture
Fall 2017	EE5310L	5310L	Devices and Circuits Lab	Electrical Engineering	1	Applications of diodes and transistors in analog circuits, design of bias circuits transistors.	GR	Lab
Fall 2017	EE5320	5320	Digital System Design	Electrical Engineering	4	Basics of Digital Computer Hardware and Design. Topics include switching algebra and switching functions, logic design of combinational and sequential circuits, storage elements, register-level design, and instrumentation.	GR	Lecture
Fall 2017	EE5320L	5320L	Digital System Design Lab	Electrical Engineering	0	Required laboratory for CEG 5320.	GR	Lab
Fall 2017	EE5450	5450	Intro Electromagnetics	Electrical Engineering	3	Electrostatics and magnetics; induced electro-motive force; Maxwell equations and their physical interpretation; Transmission lines: Radiation and antennas	GR	Lecture

Fall 2017	EE5450L	5450L	Electromagnetics Lab	Electrical Engineering	1	Laboratory supporting EE 5450. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	EE6000	6000	Linear Systems II	Electrical Engineering	3	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 2017	EE6100	6100	Nano/Micro Fabrication	Electrical Engineering	3	This course covers the history, design, and fabrication of CMOS and micro-electro-mechanical systems (MEMS). Typical fabrication methods cover CMOS, front-end-of-line (FEOL), back-end-of-line (BEOL), surface and bulk micromachining. Typical VLSI devices and selected RF MEMS are covered.	GR	Lecture
Fall 2017	EE6120	6120	Industrial Controls	Electrical Engineering	3	For each student to gain a working knowledge of industrial controls and automation. Focus is on developing an understanding of wiring diagram creation, hardware selection, and programmable logic controller design and operation.	GR	Lecture
Fall 2017	EE6120L	6120L	Industrial Cntrls Lab	Electrical Engineering	1	Laboratory supporting EE 6120. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	EE6130	6130	Cont Control Systems	Electrical Engineering	3	Introductory course providing students with a general control background. Major topics include block diagrams and signal-flow graphs, electromechanical modeling, time response, root locus. and design of PID controllers.	GR	Lecture
Fall 2017	EE6130L	6130L	Control Systems Lab	Electrical Engineering	1	Laboratory supporting EE 6130. Students will experience hands on learning in lab environment. Application and testing of control systems theory with electromechanical systems.	GR	Lab
Fall 2017	EE6170	6170	Digital Cont Sys	Electrical Engineering	3	Samples spectra and aliasing, analysis and design of digital control systems using root locus and transform techniques, discrete equivalents of continuous controller and quantization effects.	GR	Lecture
Fall 2017	EE6170L	6170L	Digital Cont Sys Lab	Electrical Engineering	1	Laboratory supporting EE 6170. Students will experience hands on learning in lab environment. Application and testing of control systems theory with electromechanical systems.	GR	Lab
Fall 2017	EE6190	6190	Intelligent Control Sys	Electrical Engineering	3	Foundations of fuzzy set theory, system modeling using fuzzy rules, structure of fuzzy controllers and PID fuzzy controller design. Also included are neural network foundations, single layered/multi-layered perceptions, learning rules, basics of adaptive controls and adaptive neural control	GR	Lecture
Fall 2017	EE6190L	6190L	Intelligent Control Lab	Electrical Engineering	1	Laboratory supporting EE 6190. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	EE6210	6210	Digital Communication	Electrical Engineering	3	This course provides an introduction to digital communications. Topics include: analog communication vs digital communication, source coding, pulse shaping, digital modulation/demodulation, signal detection and optimal receiver, simulation of digital communication system is an integral part of this course	GR	Lecture

Fall 2017	EE6210L	6210L	Digital Comm Lab	Electrical Engineering	1	Laboratory supporting EE 6210. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	EE6360	6360	Digital Signal Proc	Electrical Engineering	3	Introduces principles and applications of digital signal processing (DSP) from the design and implementation perspective. Introduction to advanced digital signal processing design concepts. Focus on time and frequency domain algorithms. Methods include multirate signal processing. Filter banks, time-frequency analysis, and wavelets.	GR	Lecture
Fall 2017	EE6400	6400	Nanosci. and Nanotech.	Electrical Engineering	3	Introduction to nanoengineering, nanoscience and nanotechnology. Topics include introduction to quantum mechanics, fabrication, characterization, materials, electronic properties, optical properties, magnetic properties, devices, MFMS. NFMS.	GR	Lecture/Lab Combination
Fall 2017	EE6420	6420	Microwave Egr I	Electrical Engineering	3	Transmission line theory and application wave propagation in rectangular waveguides, microwave network analysis, matching network, design of microwave filter and resonator, and introduction of electromagnetic compatibility.	GR	Lecture
Fall 2017	EE6420L	6420L	Microwave EGR I Lab	Electrical Engineering	1	Laboratory supporting EE 6420. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	EE6440	6440	Electronic Integ Systems	Electrical Engineering	3	Theory and applications of linear integrated circuits. Topics include bipolar and field effect transistor analysis and design, multi-stage and feedback amplifiers, ideal and real operational amplifiers, frequency response and compensation, active filters, comparators, and waveform generators.	GR	Lecture
Fall 2017	EE6440L	6440L	Electronic Integ Lab	Electrical Engineering	1	Laboratory supporting EE 6440. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	EE6460	6460	Microwave Egr II	Electrical Engineering	3	Fundamental of RF active components; Design impedance matching network; microwave transistor amplifier design; Microwave transistor oscillator and mixer design; Introduction to microwave systems.	GR	Lecture
Fall 2017	EE6460L	6460L	Microwave Egr II Lab	Electrical Engineering	1	Required laboratory for EE 6460.	GR	Lab
Fall 2017	EE6470	6470	Antenna Theory & Design	Electrical Engineering	3	Linear dipole antennas, antenna arrays, thin-wire antennas, moment method analysis examples (vee dipole, folded dipole, etc.), and broadband and frequency-independent antennas. Computer-aided design and analysis of wire antennas, feed networks, and antenna arrays using antenna CAD software.	GR	Lecture
Fall 2017	EE6470L	6470L	Antenna Thry Design Lab	Electrical Engineering	1	Required laboratory for EE 6470.	GR	Lab

Fall 2017	EE6480	6480	Remote Sensing Det & Sys	Electrical Engineering	4	Learn to analyze and design electro-optic (EO), infrared (IR), and microwave (radar) detection systems commonly used in remote sensing. Topics include remote sensing applications, electromagnetic wave theory, black body radiation, optics and imaging systems, EO, IR and radar detector design specifications, basic detection and estimation theory, and basic laboratory measurements with EO, IR and radar detectors.	GR	Lecture/Lab Combination
Fall 2017	EE6540	6540	VLSI Design	Electrical Engineering	3	(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 2017	EE6540L	6540L	VLSI Design Lab	Electrical Engineering	1	Work station based experience designing asic devices for evaluation and testing.	GR	Lab
Fall 2017	EE6560	6560	Intro Robotics	Electrical Engineering	3	An introduction to the mathematics of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, Jacobians, dynamic and trajectory planning.	GR	Lecture
Fall 2017	EE6560L	6560L	Intro Robotics Lab	Electrical Engineering	1	Laboratory supporting EE 6560. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	EE6600	6600	UAV Flight Control	Electrical Engineering	3	Introductory course of UAV autopilot design. Major topics include quadrotor dynamics and modeling, UAV sensors, stabilization and control of altitude, pitch/roll, and yaw, position navigation using orientation angles, waypoint navigation, integration and practical issues.<b> Department Managed Prerequisite(s): Graduate level EE 6130 Minimum Grade of D and Graduate level EE 6130L Minimum Grade of D and Graduate level EE 6130L Minimum Grade of D.</b></h>	GR	Lecture
Fall 2017	EE6600L	6600L	UAV Flight Control Lab	Electrical Engineering	1	Laboratory supporting EE 4600/6600. Students will experience hands on learning in lab environment. Designing, implementing, and testing autonomous UAV flight control systems.<b> Department Managed Prerequisite(s): Graduate level EE 6130 Minimum Grade of D and Graduate level EE 6130L Minimum Grade of D.</b></h>	GR	Lab

Fall 2017	EE6620	6620	Digital Circuit Design	Electrical Engineering	3	Digital design with behavioral level VHDL; application of VHDL to the design, analysis, and synthesis of digital integrated circuits; field programmable gate arrays (FPGAs); and design and application of digital integrated circuits using FPGAs. CAD tools, devices, and boards will be used in lab portion of the course. Topics include registers, counters, memory devices, register-level design, microcomputer system organization. Students must show competency in the design of digital systems.	GR	Lecture
Fall 2017	EE6620L	6620L	Dig Integ Ckt Design Lab	Electrical Engineering	1	Realizations, testing and evaluation of digital integrated circuits with particular emphasis on programmable logic devices.	GR	Lab
Fall 2017	EE6700	6700	Introduction to MEMS	Electrical Engineering	3	This course offers an overview of basic sensor technology to provide the engineering student with practical working knowledge of sensors. Course will include basic operating principles, basic electronics and measurement principles.	GR	Lecture
Fall 2017	EE6700L	6700L	Introduction to MEMS Lab	Electrical Engineering	1	Experimental design, realization and testing of MEMS devices with emphasis on sensing applications.	GR	Lab
Fall 2017	EE6730	6730	Wireless Comm	Electrical Engineering	3	This course provides an overview on various topics of wireless communication. Topics include cellular network concept, wireless communication channel and multi-path fading, digital modulation/demodulation techniques for wireless communication, performance analysis, equalization, diversity, and RAKE receiver, spreading spectrum technology and CDMA, cognitive radio and dynamic spectrum access, and wireless communication system simulation.	GR	Lecture
Fall 2017	EE6730L	6730L	Wireless Comm Lab	Electrical Engineering	1	Required laboratory for EE 6730.	GR	Lab
Fall 2017	EE6750	6750	Intro to Radar Systems	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 2017	EE6800	6800	Grad Special Topics EE	Electrical Engineering	1	Graduate special topics in electrical engineering. Topics vary.	GR	Lecture
Fall 2017	EE6800L	6800L	Special Topics in EE Lab	Electrical Engineering	1	Laboratory for EE 6800.	GR	Lab
Fall 2017	EE6840	6840	Intro Machine Learning	Electrical Engineering	3	This course offers an introduction to the field of probabilistic machine learning. Examples are drawn from sensor signal exploitation, biology, text processing, computer vision, and robotics. Key techniques are demonstrated and implemented in MATLAB.	GR	Lecture
Fall 2017	EE7010	7010	Linear Systems	Electrical Engineering	3	Graduate level linear engineering methods in finite and infinite dimensions.	GR	Lecture



Fall 2017	EE7020	7020	Modern Control I	Electrical Engineering	3	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.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4310 Minimum Grade of D and Undergraduate level EE 4310L Minimum Grade of D) or (Graduate level EE 6130 Minimum Grade of D and Graduate level EE 6130L Minimum Grade of D)</b>	GR	Lecture
Fall 2017	EE7080	7080	Advanced MEMS	Electrical Engineering	3	Classical and advanced micro-sensing and actuation methods. Analytical and finite element methods utilized in investigating MEMS with computed results compared to published experimental data findings. Topics covered include bio-MEMS and microfluidics.<b> Department Managed Prerequisite(s): Undergraduate level EE 4000 Minimum Grade of D or Graduate level EE 6000 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7150	7150	Digital Image Processing	Electrical Engineering	3	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 2017	EE7160	7160	Multisensor Info Fusion	Electrical Engineering	3	Sensor characteristics, sensor information processing, management, modeling, and coordination. Statistical, Bayesian and Fisher, weighted least-square, dynamic distributed and centralized, rule-based and adaptive sensor fusion. Dempster-Shafer technique. Fusion by Markov random fields. Multiresolutional sensor fusion. Fusion with out-of-sequence measurements.<b> Department Managed Prerequisite(s): Graduate level EE 7610 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7170	7170	Tgt Tracking Data Assoc	Electrical Engineering	3	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.<b> Department Managed Prerequisite(s): Graduate level EE 7610 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7200	7200	Modern Control II	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.<b> Department Managed Prerequisite(s): Graduate level EE 7020 Minimum Grade of D</b>	GR	Lecture

Fall 2017	EE7260	7260	Autonomous Unmanned Syst	Electrical Engineering	3 Understand quadrotor dynamics and construct state space models, conduct system identification using least squares, understand LQR theory and apply it for designing state feedback control laws for quadrotor attitude and position control, and understand extended Kalman filter theory and apply it to quadrotor state estimation	GR	Lecture/Lab Combination
Fall 2017	EE7270	7270	Adaptive Control	Electrical Engineering	3 The goal of this course is to provide a rigorous introduction to the exciting world of adaptive/self-tuning systems and the application of adaptive techniques to control of dynamic systems with parametric uncertainty. Students will develop first-hand experience in the use of adaptive control techniques via computer simulations.<b> Department Managed Prerequisite(s): Graduate level EE 7020 Minimum Grade of D+ /b>	GR	Lecture
Fall 2017	EE7280	7280	Intelligent Control	Electrical Engineering	3 The course focuses on providing an introduction to the emerging area of intelligent control methods and their applications to the control and health monitoring of uncertain, complex dynamical systems. An additional goal is the development of the foundational tools needed for pursuing independent research, giving oral presentations, and producing written reports.<b> Department Managed Prerequisite(s): Graduate level EE 7020 Minimum Grade of D+ /b>	GR	Lecture
Fall 2017	EE7330	7330	Modern Radar Theory	Electrical Engineering	3 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.<b> Department Managed Prerequisite(s): Undergraduate level EE 4750 Minimum Grade of C or Graduate level EE 6750 Minimum Grade of C+ /b>	GR	Lecture

Fall 2017	EE7350	7350	Wireless Comm Techniques	Electrical Engineering	3	The goal of this course is to provide students with a comprehensive and in-depth understanding of the frontier of modern wireless communication technologies. Topics include: uniqueness and difficulty of wireless communication system design, wireless communication channel and propagation model, modulation and demodulation techniques for mobile communication, multiple access technologies, wireless communication system simulation, etc.<b> Department Managed Prerequisite(s): Graduate level EE 7610 Minimum Grade of D and ((Undergraduate level EE 4210 Minimum Grade of D and Undergraduate level EE 4210L Minimum Grade of D) or (Graduate level EE 6210 Minimum Grade of D and Graduate level EE 6210L Minimum Grade of D))</b>	GR	Lecture
Fall 2017	EE7360	7360	Adv Wireless Comm Tech	Electrical Engineering	3	Fading Counteraction including ISI mitigation and Adaptive Equalization, Diversity, Coding and Interleaving for error correction, Speech Coding, Multiplexing and Multiple Access techniques including TDMA, FDMA, and CDMA; OFDM, CDMA, Wireless Networking, Packet Radio, Wireless LAN's including Bluetooth.<b> Department Managed Prerequisite(s): Graduate level EE 7350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7370	7370	Adv Electronic Warfare	Electrical Engineering	3	Understand electronic warfare system architecture, understand and evaluate electronic warfare processing, understand and analyze low probability of intercept signals, perform second order cyclostationary analysis on RF signals, and simulate electronic warfare systems and operations.	GR	Lecture
Fall 2017	EE7400	7400	Information Theory	Electrical Engineering	3	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 covered.<b> Department Managed Prerequisite(s): Undergraduate level EE 3260 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7410	7410	Power Electronics I	Electrical Engineering	3	Silicon and silicon carbide power devices; Fast-recovery, ultra-fast-recovery, and p-n junctions and Schottky power diodes; performance parameters; Power MOSFETs and IGBTs; static and dynamic characteristics; voltage and current stress; Pulse-width modulated (PWM) DC-DC power converters: topologies of power stages of power converters, such buck-boost, flyback, forward, half bridge, full-bridge, and push-pull power stages.<b> Department Managed Prerequisite(s): Graduate level EE 5310 Minimum Grade of D</b>	GR	Lecture

Fall 2017	EE7410L	7410L	Power Electronics I Lab	Electrical Engineering	1	Silicon and silicon-carbide p-n-junction and Schottky power diodes, power MOSFETs, maximum current and breakdown voltage, power stages of PWM converters<b> Department Managed Prerequisite(s): Graduate level EE 5310 Minimum Grade of D</b>	GR	Lab
Fall 2017	EE7420	7420	Power Electronics II	Electrical Engineering	3	Modeling, linearization, and control of open-loop power stages of PWM DC-DC power converters, voltage-mode and current mode control techniques of PWM power converters, DC and AC, steady-state, and transient performance of open-loop and closed-loop power converters.<b> Department Managed Prerequisite(s): Graduate level EE 5310 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7420L	7420L	Power Electronics II Lab	Electrical Engineering	1	Simulation of models of power stages of DC-DC PWM power converts, open-loop performance of power converters, closed loop power converters.<b> Department Managed Prerequisite(s): Graduate level EE 5310 Minimum Grade of D</b>	GR	Lab
Fall 2017	EE7430	7430	HF Magnetic Components	Electrical Engineering	3	This course will cover topics in the area of high-frequency power magnetic components, such as inductors and transformers. Concepts that will be studied: such as complex permeability, eddy currents, skin effect, proximity effect, winding losses, Dowells equation, core losses, self-capacitance, area-product method, core-geometry method, integrated inductors. Optimization of conductor dimensions will be performed. Design procedures of high-frequency inductors and transformers will be presented.	GR	Lecture
Fall 2017	EE7430L	7430L	HF Mag Components Lab	Electrical Engineering	1	Laboratory exercises related to the fundamental concepts of high-frequency power magnetic components will be covered in this course. Computer simulations of magnetic field, current density, and power loss density distributions due to skin and proximity effects in inductor and transformer winding conductors at high frequencies will be performed. Simulations of hysteresis and eddy current losses in magnetic cores will done. Evaluations of performance of integrated inductors will be performed.	GR	Lab
Fall 2017	EE7440	7440	RF Power Amplifiers	Electrical Engineering	3	The course covers the fundamental theory of radio frequency (RF) power amplifiers and their applications in wireless communications, radars, and radio and TV broadcasting. RF power passive and active devices are discussed.	GR	Lecture
Fall 2017	EE7440L	7440L	RF Power Amplifiers Lab	Electrical Engineering	1	Required lab for EE 7440	GR	Lab

Fall 2017	EE7460	7460	Adv Electromagnetics Eng	Electrical Engineering	3	Understand the physical and engineering principles of electromagnetic wave propagation, radiation and scattering; understand electro-dynamic forms of Maxwell's equations and the associated mathematical models and analysis methods; understand application of Maxwell's equations to engineering problems in radiation and scattering.<b> Department Managed Prerequisite(s): Graduate level EE 5450 Minimum Grade of D or Graduate level PHY 6330 Minimum Grade of B- or better.	GR	Lecture
Fall 2017	EE7470	7470	EM Simulation Methods	Electrical Engineering	3	Direct solution of Maxwell's differential equations in the time domain using the finite-difference time-domain (FDTD) 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. Wave equation and integral implementation. Application of one-and two-dimensional EM problems. Comparison with the finite element method.<b> Department Managed Prerequisite(s): Graduate level EE 5450 Minimum Grade of B and (Graduate level MTH 5330 Minimum Grade of B or Graduate level MTH 6810 Minimum Grade of B or Graduate level PHY 6730 Minimum Grade of B- or better).	GR	Lecture
Fall 2017	EE7480	7480	Adv Microwave Eng	Electrical Engineering	3	Concepts and fundamental principles of advanced high speed electronic devices operating at frequencies greater than 1 GHz, including MESFET, HEMT, RF MOSFET, HBT, and carbon electronics. Models and discussions of semiconductor devices fabricated in a variety of material systems, such as strained Si, III-V compound semiconductors, Si-Ge, CNT and graphene. A description of advanced optoelectronic devices including light-emitting diodes, semiconductor lasers and photovoltaic systems (solar cell).<b> Department Managed Prerequisite(s): (Undergraduate level EE 4420 Minimum Grade of D and Undergraduate level EE 4420L Minimum Grade of D) or (Graduate level EE 6420 Minimum Grade of D and Graduate level EE 6420L Minimum Grade of D- or better).	GR	Lecture
Fall 2017	EE7490	7490	Antenna Theory & Design	Electrical Engineering	3	The course introduces the fundamental principles of antenna theory, covering radiation integrals, auxiliary potential functions, fundamental parameters of antennas, linear wire antennas, loop antennas, antenna arrays, microstrip antennas, and traveling wave antennas. Antenna teaching lab will be developed to assist students to learn the design, fabrication, and characterization of various types antenna.	GR	Lecture
Fall 2017	EE7490L	7490L	Antenna Theory & Design Lab	Electrical Engineering	0	Required laboratory for EE 7490.	GR	Lab

Fall 2017	EE7510	7510	Dig. Wideband Rec. Desig	Electrical Engineering	3	The course material is designed at an undergraduate senior or the first year graduate level. In this course digital design techniques applicable to wideband signal detection are discussed. Several digital wideband receiver designs are studied. New laboratory components using Matlab/Simulink, Xilinx System Generator, Xilinx ISE and FPGA will be developed to engage students in the learning process and give them hands-on examples to connect with the theory aspects throughout the course.	GR	Lecture
Fall 2017	EE7510L	7510L	Dig Wideband Rec Des Lab	Electrical Engineering	1	New laboratory components using Matlab/Simulink, Xilinx System Generator, Xilinx ISE and FPGA will be developed to engage students in the learning process and give them hands-on examples to connect with the theory aspects.	GR	Lab
Fall 2017	EE7520	7520	Low Pwr VLSI Sys Des	Electrical Engineering	3	CMOS VLSI subsystems and low-power subsystems design. Includes data path operators for FIR and IIR filter design: counters, high-speed adders, multipliers, and memory elements.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b>	GR	Lecture
Fall 2017	EE7520L	7520L	Low Pwr VLSI Sys Des Lab	Electrical Engineering	1	Required lab for EE 7520.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Undergraduate level EE 6540 Minimum Grade of D and Undergraduate level EE 6540L Minimum Grade of D)</b>	GR	Lab
Fall 2017	EE7530	7530	VLSI Des Synth Optim	Electrical Engineering	3	VLSI Synthesis and optimization including data path synthesis, glue logic synthesis control-unit synthesis, and resource sharing. Covers behavioral level to layout level synthesis and corresponding algorithms.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4620 Minimum Grade of D and Undergraduate level EE 4620L Minimum Grade of D) or (Graduate level EE 6620 Minimum Grade of D and Graduate level EE 6620L Minimum Grade of D)</b>	GR	Lecture
Fall 2017	EE7530L	7530L	VLSI Des Synth Optim Lab	Electrical Engineering	1	Required laboratory for EE 7530.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4620 Minimum Grade of D and Undergraduate level EE 4620L Minimum Grade of D) or (Graduate level EE 6620 Minimum Grade of D and Graduate level EE 6620L Minimum Grade of D)</b>	GR	Lab

Fall 2017	EE7540	7540	VLSI Testing Design	Electrical Engineering	3	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; and test for mixed-signal systems and systems-on-a-chip (SOC).<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	EE7540L	7540L	VLSI Testing Design Lab	Electrical Engineering	1	Required laboratory for EE 7540.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b></h>	GR	Lab
Fall 2017	EE7550	7550	Trust Integ Ckt Design	Electrical Engineering	3	This course will cover topics in "Trust for Integrated Circuit Design." We will explore the problem of Trust at each level of the Integrated Circuit design process, from high level simulation all the way to layout, fabrication, and packaging.<b> Department Managed Prerequisite(s): (Graduate level EE 6620 Minimum Grade of D and Graduate level EE 6620L Minimum Grade of D) or (Undergraduate level EE 4620 Minimum Grade of D and Undergraduate level EE 4620L Minimum Grade of D) or Undergraduate level CEG 3320 Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	EE7560	7560	Advanced Robotics	Electrical Engineering	3	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. Sensors, low-level and higher level vision techniques, task planning including obstacle avoidance and artificial intelligence and expert systems as applied to robotic systems.<b> Department Managed Prerequisite(s): (Graduate level EE 6560 Minimum Grade of D and Graduate level EE 6560L Minimum Grade of D) or (Undergraduate level EE 4560 Minimum Grade of D and Undergraduate level EE 4560L Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	EE7560L	7560L	Advanced Robotics Lab	Electrical Engineering	1	Required laboratory for EE 7560.<b> Department Managed Prerequisite(s): (Graduate level EE 6560 Minimum Grade of D and Graduate level EE 6560L Minimum Grade of D) or (Undergraduate level EE 4560 Minimum Grade of D and Undergraduate level EE 4560L Minimum Grade of D)</b></h>	GR	Lab

Fall 2017	EE7580	7580	CMOS Mxd Sig IC Des	Electrical Engineering	3	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, CMOS comparators, and CMOS Op Amps, CMOS Analog to Digital Converters, and CMOS Digital to Analog Converters, and Switched Capacitor Circuits.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b>	GR	Lecture
Fall 2017	EE7580L	7580L	CMOS Mxd Sig IC Des Lab	Electrical Engineering	1	Required lab for EE 7580.<b> Department Managed Prerequisite(s): (Undergraduate level EE 4540 Minimum Grade of D and Undergraduate level EE 4540L Minimum Grade of D) or (Graduate level EE 6540 Minimum Grade of D and Graduate level EE 6540L Minimum Grade of D)</b>	GR	Lab
Fall 2017	EE7590	7590	CMOS RF IC Design	Electrical Engineering	3	Introduction to the design of Radio Frequency Integrated Circuits using CMOS technology. Topics include S-parameters, noise sources in RF Integrated Circuits, low noise RF amplifiers, RF mixers, RF oscillators and synthesizers, phase lock loops and phase noise.<b> Department Managed Prerequisite(s): Graduate level EE 7580 Minimum Grade of D and Graduate level EE 7580L Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7590L	7590L	CMOS RF IC Design Lab	Electrical Engineering	1	Required lab for EE 7590.<b> Department Managed Prerequisite(s): Graduate level EE 7580 Minimum Grade of D and Graduate level EE 7580L Minimum Grade of D</b>	GR	Lab
Fall 2017	EE7610	7610	Random Processes	Electrical Engineering	3	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 2017	EE7620	7620	Det Est Opt Filt Theory	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.<b> Department Managed Prerequisite(s): Graduate level EE 7610 Minimum Grade of D</b>	GR	Lecture



Fall 2017	EE7630	7630	Stochastic Signal Proc	Electrical Engineering	3	Processing, techniques for stochastic signals. Parametric and nonparametric spectral estimation. Introduction to adaptive systems, to adaptation with stationary signals, and to adaptive algorithms and structures. <b> Department Managed Prerequisite(s): Graduate level EE 7610 Minimum Grade of D</b>	GR	Lecture
Fall 2017	EE7810	7810	Embedded Systems	Electrical Engineering	3	Study special-purpose computing systems. Topics include system architecture, embedded processors, field programmable gate arrays, hardware software co-design, real-time scheduling, and real-time operating systems.	GR	Lecture
Fall 2017	EE7820	7820	Pattern Recognition	Electrical Engineering	3	Supervised and unsupervised classification are covered, including feature extraction, feature selection, distance measures, sequential clustering, hierarchical clustering, Bayesian decision theory, parameter estimation, and applications of pattern recognition.	GR	Lecture
Fall 2017	EE7830	7830	Machine Learning	Electrical Engineering	3	Reviews the development of machine learning paradigms. Introductory topics include parameter adjustment methods, signature tables, and the application of genetic algorithms to artificial intelligence problems domains.	GR	Lecture
Fall 2017	EE7840	7840	Computer Vision	Electrical Engineering	3	Algorithms for low- and mid-level vision, including noise filtering, edge detection, image segmentation, texture analysis, feature extraction, stereo depth perception, camera calibration. 3-D reconstruction. shape from shading.	GR	Lecture
Fall 2017	EE7900	7900	Independent Study in EE	Electrical Engineering	1	Individual studies in advanced engineering topics. Titles vary.	GR	Independent Study
Fall 2017	EE7910	7910	Full-Time CPT in EE	Electrical Engineering	1	Practical work experience in graduate level electrical engineering.	GR	Internship
Fall 2017	EE7920	7920	Part-Time CPT in EE	Electrical Engineering	1	Practical work experience in graduate level electrical engineering.	GR	Internship
Fall 2017	EE7990	7990	Thesis	Electrical Engineering	1	Graded pass/unsatisfactory.	GR	Independent Study
Fall 2017	EE8000	8000	Select Topics in EE	Electrical Engineering	1	Recent developments in Electrical Engineering and related fields. Titles vary.	GR	Lecture
Fall 2017	EE8000L	8000L	Select Topics in EE Lab	Electrical Engineering	1	Laboratory for EE 8000.	GR	Lab
Fall 2017	EE8990	8990	PhD Dissertation	Electrical Engineering	1	Research on the Ph.D. dissertation topic. Graded pass/unsatisfactory.	GR	Independent Study
Fall 2017	EES1030	1030	Paleobiology Dinosaurs	Earth & Environmental Sciences	4	Multidisciplinary investigation into the morphology, classification and identification of the dinosaurs. Environmental, climatic, and geographic conditions on earth during the time of the dinosaurs. Biological principles involved in understanding the origin, evolution, and extinction of the dinosaurs.	UG	Lecture

Fall 2017	EES1030 L	1030L	Paleobiology Dinosaurs Lab	Earth & Environmental Sciences	0	Required laboratory for EES 1030.	UG	Lab
Fall 2017	EES1050	1050	Dynamic Earth	Earth & Environmental Sciences	4	Processes that have shaped the earth from its origin until the present. Origin and evolution of life. Focuses on understanding the nature of science by examining earth materials (minerals, rocks, fossils) and features (represented by geologic and topographic maps) and what these reveal about the past and present.	UG	Lecture
Fall 2017	EES1050 L	1050L	Dynamic Earth Lab	Earth & Environmental Sciences	0	Required laboratory for EES 1050.	UG	Lab
Fall 2017	EES1070	1070	Sustainable Earth	Earth & Environmental Sciences	4	Earth and environmental processes focusing on issues related to the mutual interaction of human society and the planet. Both human and environmental sustainability will be emphasized by exploring current topics.	UG	Lecture
Fall 2017	EES1070 L	1070L	Sustainable Earth Lab	Earth & Environmental Sciences	0	Required laboratory for EES 1070.	UG	Lab
Fall 2017	EES1990	1990	Directed Studies	Earth & Environmental Sciences	0.5	Course topics designed for undergraduate students at the freshman or sophomore level. May be taken for a letter grade or pass/unsatisfactory.	UG	Independent Study
Fall 2017	EES2010	2010	Hydrology Water Resource	Earth & Environmental Sciences	3	Hydrology and the distribution and availability of water resources; natural and anthropogenic processes that influence water quantity and quality; water quality and contamination issues; water resources and water-rights conflicts.	UG	Lecture
Fall 2017	EES2150	2150	Global Change	Earth & Environmental Sciences	4	Introduction to Earth systems, using modules that are based on environmental events such as volcanic eruptions, hurricanes, and climate change. An online laboratory component allows students to see how scientists use real time data sets to understand Earth systems.	UG	Lecture/Lab Combination
Fall 2017	EES2510	2510	Earth Systems	Earth & Environmental Sciences	4	Comprehensive treatment of earth materials and the external and internal geologic processes that shape the earth. Water systems are also discussed.	UG	Lecture
Fall 2017	EES2510 L	2510L	Earth Systems Lab	Earth & Environmental Sciences	0	Required laboratory for EES 2510.	UG	Lab

Fall 2017	EES2550	2550	Earth History	Earth & Environmental Sciences	4	Comprehensive treatment of the earth's past as interpreted through the study of rocks and fossils. Basic concepts include geologic time and age dating, and the physical, chemical, and organic evolution during geologic time periods. The history of plate movements and mountain building events, especially in North America. Three hours lecture, two hours lab.	UG	Lecture
Fall 2017	EES2550 L	2550L	Earth History Lab	Earth & Environmental Sciences	0	Required laboratory for EES 2550.	UG	Lab
Fall 2017	EES2600	2600	Environmental Sci & Soc	Earth & Environmental Sciences	3	Presents environmental problems and the ethical, social, political, and technological bases for their solution, using examples from diverse countries and cultures.	UG	Lecture
Fall 2017	EES3100	3100	Earth Science Research	Earth & Environmental Sciences	3	Research experience for prospective high-school science teachers, who will use laboratory and library research to give quantitative explanations of natural phenomena.	UG	Lab
Fall 2017	EES3120	3120	Earth Materials	Earth & Environmental Sciences	4	The minerals and rocks that make up the solid earth, their significance and uses. Based upon the "rock cycle" the materials studied include the rock-forming minerals as well as their weathered products. The laboratory focuses upon the identification and classification of minerals and rocks in hand specimen	UG	Lecture/Lab Combination
Fall 2017	EES3140	3140	Sedimentary Petrology	Earth & Environmental Sciences	4	Optical properties of common minerals. Survey of sedimentary rocks in hand sample, thin section and field occurrence.	UG	Lecture/Lab Combination
Fall 2017	EES3160	3160	Stratigraphy & Sediment	Earth & Environmental Sciences	4	Clastic and carbonate sedimentary rocks, their mineralogy, texture, provenance, and classification. Principles, rules, and geologic and geophysical correlation techniques. Fluid flow sediment transport and deposition, sedimentary structures, and depositional environments	UG	Lecture
Fall 2017	EES3160 L	3160L	Stratigraphy & Sediment Lab	Earth & Environmental Sciences	0	Required laboratory for EES 3160.	UG	Lab
Fall 2017	EES3170	3170	Coastal Processes	Earth & Environmental Sciences	2	Introduction to the seashore and ocean system intended for educators. Topics include the origin of ocean basins, sediment, the chemistry and physics of water, tides, the biology of selected sub-environments and oceans, and the Earth system. The course is organized around a four-day field trip and a pre- and post-trip class meetings	UG	Lecture/Lab Combination

Fall 2017	EES3180	3180	Water & the Environment	Earth & Environmental Sciences	3	Hydrology and the distribution and availability of water resources. Natural and anthropogenic processes that influence water quantity and quality. Water quality and contamination Issues of water resources. Water resources and water-right conflicts. Hands-on analysis of water quality.	UG	Lecture
Fall 2017	EES3180 L	3180L	Water & the Environment Lab	Earth & Environmental Sciences	0	Required laboratory for EES 3180.	UG	Lab
Fall 2017	EES3230	3230	Intro to the Ocean	Earth & Environmental Sciences	3	Fundamental principles and processes of oceanography for students with background in geology. Emphasizes topics of interest to Earth Science teachers.	UG	Lecture
Fall 2017	EES3250	3250	Climate Change	Earth & Environmental Sciences	3	Temperature and precipitation patterns over tens to millions of years. Factors studied include air pollution, orbital and solar variation, and plate tectonics. Nature of evidence for previous climatic conditions and the bases for predictions of future climate change	UG	Lecture
Fall 2017	EES3450	3450	Concepts EES I ECE/MCE	Earth & Environmental Sciences	3.5	Introductory survey of geoscience. Rocks and minerals, plate tectonics, geologic time, oceanography and meteorology, planetary science. Lecture is interspersed with hands-on activities intended to reinforce concepts and to provide the students with ideas for teaching their own classes. Students will develop lesson plans on several topics	UG	Lecture/Lab Combination
Fall 2017	EES3460	3460	Concepts EES II MCE	Earth & Environmental Sciences	4	Processes that impact the Earth system such as volcanic eruptions, global climate change and ice ages, and the resulting interactions between air, land, water and life in the Earth svstem.	UG	Lecture/Lab Combination
Fall 2017	EES3600	3600	Water and Solid Waste	Earth & Environmental Sciences	4	Relationship of physical and biotic environments to design and operation of systems and procedures employed in maintenance and promotion of a quality environment. Emphasizes water quality control and methods and management of waste disposal	UG	Lecture
Fall 2017	EES3620	3620	General Environ Health	Earth & Environmental Sciences	3	Relationship of physical/chemical/biotic environments to design and operation of systems and procedures employed to maintain and promote healthful human environments. Emphasizes food sanitation, solid waste, institutional/ housing/recreational sanitation, and vector control.	UG	Lecture
Fall 2017	EES3660	3660	Env Hlth Sci Internship	Earth & Environmental Sciences	6	Internship in an environmental or public health agency or industrial organization, supervised by faculty and a professional environmentalist. Reports and specific assignments determined in cooperation with internship director	UG	Internship

Fall 2017	EES3680	3680	Hazardous Waste	Earth & Environmental Sciences	3	Managing hazardous materials and emergency response in the workplace, at spills, or at hazardous waste sites. Satisfies OSHA training requirement 29 CFR 1910.120.	UG	Lecture
Fall 2017	EES3700	3700	HAZWOPER Refresher	Earth & Environmental Sciences	1	Refresher training covering management of hazardous materials and emergency response in the workplace, at spills, or at hazardous waste sites. Satisfies the requirements for 8 hours of refresher training specified under OSHA 29 CFR 1910.120.	UG	Lecture
Fall 2017	EES3990	3990	Problems Earth & Env Sci	Earth & Environmental Sciences	0.5	Research and problems designed for undergraduate students at the junior level. May be taken for a letter grade or pass/unsatisfactory.	UG	Independent Study
Fall 2017	EES4010	4010	Topics Earth & Env Sci	Earth & Environmental Sciences	0.5	Advanced topics of current interest in the earth and environmental sciences. Topics vary but are expected to be appropriate for undergraduate students at the junior or senior level. May be taken for a letter grade or pass/unsatisfactory.	UG	Lecture
Fall 2017	EES4130	4130	Map Design with GIS	Earth & Environmental Sciences	2	Theory and applications of Geographic Information Systems (GIS) and how to utilize the GIS functions to process field data for the production of a professional map. Geologic mapping will be the primary study case.	UG	Lecture/Lab Combination
Fall 2017	EES4190	4190	Paleobiology	Earth & Environmental Sciences	3	Origin of higher taxa, speciation, genealogical relatedness of all life, transformation of species, and macroevolutionary trends, as well as the response over geological time of Earth's biota to environmental, ecological, and geographical changes. Role of fossil organisms in reconstructing past environments and global paleogeography.	UG	Lecture
Fall 2017	EES4190 L	4190L	Paleobiology Lab	Earth & Environmental Sciences	0	Required laboratory for EES 4190.	UG	Lab
Fall 2017	EES4200	4200	Micropaleontology	Earth & Environmental Sciences	4	Origin, evolution, and diversity of microfossil organisms. Use of microfossils as biostratigraphic indicators, and their role in interpreting the geologic history of the Earth. Paleocological and paleoenvironmental reconstruction using specific microfossil organisms. Microfossils as indicators of metamorphism and their use in locating geologically derived energy resources. Integrated Writing course.	UG	Lecture
Fall 2017	EES4200 L	4200L	Micropaleontology Lab	Earth & Environmental Sciences	0	Required laboratory for EES 4200.	UG	Lab

Fall 2017	EES4210	4210	Struct Geology Tectonics	Earth & Environmental Sciences	4	Study of the three-dimensional distribution of rock units. Deformational structures such as folds, faults, joints, cleavage, foliation, and lineation and their superposition are used to unravel the history of deformation, and to understand the stress fields that produced the observed strain and structures. Tectonics is the structural evolution of regional patterns of deformation at the scale of mountain ranges.	UG	Lecture/Lab Combination
Fall 2017	EES4220	4220	Intro to Geophysics	Earth & Environmental Sciences	4	Methods and concepts of practical exploration geophysics. Seismic refraction, seismic reflection, gravity methods, electrical methods, and magnetic methods. Requires Saturday field work in the vicinity of the campus.	UG	Lecture/Lab Combination
Fall 2017	EES4240	4240	Oceanography	Earth & Environmental Sciences	3	Introduction to the interrelated geology, physics, chemistry, and biology of the ocean.	UG	Lecture
Fall 2017	EES4250	4250	Diagenesis Sed Rocks	Earth & Environmental Sciences	4	Diagenesis of ancient and modern sedimentary rocks. Theory and application of petrographic techniques with emphasis on porosity development and interpretation of diagenetic environments.	UG	Lecture/Lab Combination
Fall 2017	EES4260	4260	Earth & Env Sci Seminar	Earth & Environmental Sciences	0.5	Research topics in earth and environmental sciences. Occasional lectures by faculty or invited researchers. Students may give presentations prepared for professional meetings to the seminar for feedback and evaluation. Students present their work in progress.	UG	Seminar
Fall 2017	EES4270	4270	Process Geomorphology	Earth & Environmental Sciences	3	Study of the processes that create and modify landforms. Classifications of landforms and what they reveal of past geologic processes and climates.	UG	Lecture
Fall 2017	EES4280	4280	EES Colloquium	Earth & Environmental Sciences	0.5	Weekly seminar in which research scientists from within and from outside the Department of Earth and Environmental Sciences present their research.	UG	Seminar
Fall 2017	EES4290	4290	Remote Sensing of Earth	Earth & Environmental Sciences	3	Remote sensing from an earth science perspective. Students learn to interpret various types of images including stereo air photos, airborne multi-spectral digital images and satellite images. Hands-on digital image processing using industry standard software.	UG	Lecture/Lab Combination
Fall 2017	EES4300	4300	Env Applications of GIS	Earth & Environmental Sciences	4	Concepts, terminology, data models, and analytical functions of Geographic Information Systems. Availability and processing of digital data, application of GIS as a mapping tool, spatial analysis of environmental and geologic problems. Hands-on exercises and a guided mapping project.	UG	Lecture/Lab Combination

Fall 2017	EES4310	4310	Biogeochemical Analysis	Earth & Environmental Sciences	2	Principles and practices of analytical procedures and instrumentations critical to biogeochemical research. QA/QC procedures. Use and maintenance of field and laboratory instruments including multi-parameter sonde, spectrophotometer, ion chromatograph, and gas chromatograph.	UG	Lecture/Lab Combination
Fall 2017	EES4320	4320	Env Microbiology	Earth & Environmental Sciences	3	Examines interactions of microorganisms with abiotic resources to affect natural and human-created systems, drawing on tools from microbiology, aquatic chemistry, soil science, limnology and oceanography, analytical chemistry, ecology, geology, and biochemistry.	UG	Lecture
Fall 2017	EES4330	4330	Global Biogeochem Cycles	Earth & Environmental Sciences	3	Examines how elements cycle through and between the biosphere, hydrosphere, lithosphere, and atmosphere, and related environmental issues such as global change, aquatic nutrient pollution, and acid rain.	UG	Lecture
Fall 2017	EES4340	4340	Mapping Methods	Earth & Environmental Sciences	2	Basic skills of mapping and measurement with a Brunton compass as applied to field studies in the earth and environmental sciences. Key skills include pace and compass traverse mapping, triangulation, bearing and reverse bearings, measurement of lines and planes.	UG	Lecture/Lab Combination
Fall 2017	EES4350	4350	Field Mapping	Earth & Environmental Sciences	2	Geologic phenomena studied and mapped in the field. Mapping techniques are utilized in a series of exercises of increasing complexity. Standard methods are utilized for observing, describing, interpreting and mapping rock units and their structure.	UG	Lecture/Lab Combination
Fall 2017	EES4360	4360	Environ Field Techniques	Earth & Environmental Sciences	2	Principles of monitoring environmental water quality, including lake, river, groundwater, and related issues. Field experiences, include monitoring system design, well design for various monitoring purposes, sampling protocol, sample preservation, and monitoring and sampling at field sites.	UG	Lecture/Lab Combination
Fall 2017	EES4370	4370	Seismic Processing	Earth & Environmental Sciences	4	Theory and practice of computer processing of seismic reflection data. Deals with seismic data formats, seismic data manipulation, filtering, velocity analysis, stacking and migration, all in both land and marine contexts. Hands-on experience with industry-standard software packages.	UG	Lecture/Lab Combination
Fall 2017	EES4380	4380	Seismic Interpretation	Earth & Environmental Sciences	4	Principles of seismic reflection data interpretation, as well as pitfalls, are examined in the context of both structural styles and stratigraphic settings. The student will use industry-standard software packages.	UG	Lecture/Lab Combination
Fall 2017	EES4400	4400	Glacial Landforms	Earth & Environmental Sciences	2	Field trip to the Finger Lakes (New York) to examine the landforms, processes, and deposits associated with Pleistocene continental glaciation, as well as subsequent post-glacial modifications.	UG	Lecture/Lab Combination

Fall 2017	EES4410	4410	Phy Geol Nat Hist Ohio	Earth & Environmental Sciences	2	Field trip course examining the landforms, processes, and deposits associated with Pleistocene continental glaciation, as well as subsequent post-glacial terrain modification. The course involves 1 day of lecture/lab and 4 one-day thematic field trips.	UG	Lecture/Lab Combination
Fall 2017	EES4420	4420	Paleozoic Vertebr/Plants	Earth & Environmental Sciences	3	The rise and evolution of Paleozoic vertebrate and plant groups emphasizing the evolution of jawed fishes, early tetrapods, and the terrestrialization of Earth. Phylogenetic and molecular analysis.	UG	Lecture/Lab Combination
Fall 2017	EES4430	4430	Analy & Pred Complex Sys	Earth & Environmental Sciences	3	Quantitative analysis and probabilistic forecasting of the behavior of complex nonlinear natural and human systems. Methods of analysis include fractals to quantify spatial, size, and temporal scaling and chaos to study sensitivity to initial conditions and feedback. Modeling includes self-organization and cellular automata. Systems studied include seismology, chemistry, biochemistry, hydrology, medicine, geography, and coupled human and natural systems.	UG	Lecture
Fall 2017	EES4440	4440	Well Log Analysis	Earth & Environmental Sciences	3	Theory, application, and interpretation of geophysical logs emphasizing their use in correlation and determination of porosity, permeability, and fluid content of subsurface formations.	UG	Lecture
Fall 2017	EES4450	4450	Petroleum Geology	Earth & Environmental Sciences	3	History and legal aspects of the petroleum business including lease acquisition, assignment of working interests, overriding royalties, etc. Petroleum geology, oil and gas exploration techniques, geology of oil producing regions, well drilling, well log interpretation, enhanced oil and gas recovery, CO2 sequestration, production equipment, oil and gas sales and marketing.	UG	Lecture
Fall 2017	EES4460	4460	Sequence Stratigraphy	Earth & Environmental Sciences	3	Examines the mechanisms that produce sea-level change, how sediments respond to changes in sea-level, and how the architecture of basins may be assessed using the sequence stratigraphic model. Topics include the scales of stratigraphic cycles, seismic applications and outcrop scale high resolution sequence stratigraphy.	UG	Lecture
Fall 2017	EES4470	4470	Astronomy for K-12 Tchrs	Earth & Environmental Sciences	2	Introduction to astronomy and the space sciences from the viewpoint of the amateur astronomer. Emphasizes both aesthetic and scientific aspects, and the amateur's enthusiasm for the subject.	UG	Lecture
Fall 2017	EES4480	4480	Plate Tectonics	Earth & Environmental Sciences	3	History and development of the theory of plate tectonics with an emphasis upon the particular needs of the educator.	UG	Lecture/Lab Combination



Fall 2017	EES4500	4500	Carbonate Sediment/Petro	Earth & Environmental Sciences	4	Origin, composition, and diagenesis of ancient and modern carbonate rocks. Macroscopic and microscopic identification of rock constituents. Survey of depositional models for modern carbonate environments, emphasizing Floridian and Bahamian carbonates facies	UG	Lecture/Lab Combination
Fall 2017	EES4510	4510	Scientific Communication	Earth & Environmental Sciences	3	Fundamentals of effective scientific communication in written and conference presentation formats. Basics of good scientific prose, manuscript and figure preparation and submission, poster and platform presentations, job interviews, research proposals, and communication with non-scientists.	UG	Lecture
Fall 2017	EES4530	4530	Diagenesis of Sed Rocks	Earth & Environmental Sciences	4	An introduction to the diagenesis of ancient and modern sedimentary rocks. Topics include the theory and application of petrographic techniques with emphasis on porosity development and interpretation of diagenetic environments.	UG	Lecture/Lab Combination
Fall 2017	EES4540	4540	Subsurface Fluid Flow	Earth & Environmental Sciences	3	Physical processes underlying the movement of fluids through the porous subsurface. Transport of particulates and solutes, including contaminants within ground water flow regimes, and the flow of oil, gas and brine in georeservoirs. Emphasis on quantitative problem solving. 3 hours lecture/ 2 hours lab.	UG	Lecture
Fall 2017	EES4540 L	4540L	Subsurface Fluid Flow Lab	Earth & Environmental Sciences	0	Required laboratory for EES 4540.	UG	Lab
Fall 2017	EES4550	4550	Aqueous Environ Geochem	Earth & Environmental Sciences	3	Interactions between natural fresh waters and their geologic environments. Includes chemical equilibrium, modeling using PHREEQC, carbonate system, water-rock interactions, sorption isotherms, redox reactions, biologic influences on aqueous geochemistry, and applications of environmental isotopes.	UG	Lecture
Fall 2017	EES4560	4560	Groundwater Contam	Earth & Environmental Sciences	3	Common anthropogenic contaminant distribution in the groundwater as investigated in recent decades. Emphasizes contaminant degradation mechanisms in detail by physical, chemical and microbial processes, which directly affects the mobility and fate of the contaminants in soil and water.	UG	Lecture/Lab Combination
Fall 2017	EES4570	4570	Site Remed & Management	Earth & Environmental Sciences	3	Physical, chemical, and biological methods used to remediate contamination in soils and groundwater, emphasizing practical applications. Strategies and technologies to address contamination, including the natural attenuation, containment techniques, pump-and-treat, and in situ technologies. Sufficient technical detail so the student can apply basic engineering design equations	UG	Lecture

Fall 2017	EES4590	4590	Adv Aquatic Geochem	Earth & Environmental Sciences	3	Fundamentals of biogeochemistry in aquatic systems, emphasizing physical, geological, chemical, and biological interactions in marine and lacustrine environments. Biogeochemical cycling of nutrients, trace metals, gases, energy, and chemical equilibria and rates in natural waters.	UG	Lecture
Fall 2017	EES4610	4610	Near-Surface Geophysics	Earth & Environmental Sciences	3	Electrical and geophysical methods most used for near-surface studies, including ground penetrating radar, resistivity, and electromagnetics. Focuses on data acquisition methods, data processing and analysis, as well as report preparation.	UG	Lecture/Lab Combination
Fall 2017	EES4620	4620	Environmental Toxicology	Earth & Environmental Sciences	3	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 environmental toxicity.	UG	Lecture
Fall 2017	EES4640	4640	Risk Assessment & Comm	Earth & Environmental Sciences	3	Determination of quantitative risk to humans and the environment. Current regulatory activities, including hazard identification, sampling, data evaluation, exposure assessment, toxicity assessment, and risk characterization.	UG	Lecture
Fall 2017	EES4660	4660	OSHA Compliance	Earth & Environmental Sciences	1	Practical application of the theories of safety and health law. Intended for persons having management responsibility for occupational safety and health.	UG	Lecture
Fall 2017	EES4680	4680	Env Law for Scientists	Earth & Environmental Sciences	3	Common law principles, environmental statutes, implementing regulations, and enforcement.	UG	Lecture
Fall 2017	EES4700	4700	Intern Career Analysis	Earth & Environmental Sciences	1	Environmental internship, followed by group projects to evaluate current and near-future career opportunities within environmental health science.	UG	Lecture
Fall 2017	EES4720	4720	Epidem & Community Hlth	Earth & Environmental Sciences	3	Communicable and occupational diseases of contemporary importance. Epidemiological investigation, environmental considerations, and control procedures.	UG	Lecture
Fall 2017	EES4740	4740	Fund Occup Hlth & Safety	Earth & Environmental Sciences	3	Accident recognition, evaluation, and control in the work environment regarding hands-on equipment use. Emphasizes methods of inspection, accident investigation, and evaluation of accident programs.	UG	Lecture/Lab Combination
Fall 2017	EES4750	4750	Biological Safety	Earth & Environmental Sciences	2	Identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	UG	Lecture
Fall 2017	EES4760	4760	Air Quality Management	Earth & Environmental Sciences	3	Atmospheric pollutants, dispersion, health and welfare effects, air-quality monitoring, source control, regulation, and indoor air pollution.	UG	Lecture
Fall 2017	EES4780	4780	Env Sciences Seminar	Earth & Environmental Sciences	1	Examination of environmental issues and presentation of findings to the class.	UG	Seminar

Fall 2017	EES4960	4960	Senior Thesis Research	Earth & Environmental Sciences	0.5	In consultation with a faculty research advisor, students design a research problem that involves data collection and analysis. Students write a senior thesis in the style of a professional scientific journal. May be taken for a letter grade or pass/unsatisfactory. Integrated Writing course	UG	Independent Study
Fall 2017	EES4990	4990	Problems Earth & Env Sci	Earth & Environmental Sciences	0.5	Research and problems designed for undergraduate students at the senior level. May be taken for a letter grade or pass/unsatisfactory.	UG	Independent Study
Fall 2017	EES5600	5600	Water and Solid Waste	Earth & Environmental Sciences	4	Relationship of physical and biotic environments to design and operation of systems and procedures employed in maintenance and promotion of a quality, healthful human environment. Emphasis on water quality control and methods and management of waste disposal. Topics covered include regulatory history, regulatory processes, environmental audits, requirements for water and waste generators, transporters, treatment/storage/disposal facilities, and pollution prevention concepts.	GR	Lecture
Fall 2017	EES5620	5620	General Environ Health	Earth & Environmental Sciences	3	Relationship of physical/chemical/biotic environments to design/operation of systems and procedures employed in maintenance/promotion of quality, healthful human environments. Emphasized: food/dairy sanitation; solid waste; institutional/ housing/recreational sanitation; and vector control.	GR	Lecture
Fall 2017	EES5680	5680	Hazardous Waste	Earth & Environmental Sciences	3	Covers the operation of managing hazardous materials and emergency response in the workplace or at spills or hazardous waste sites. Satisfies OSHA training requirements No. 29 CFR 1910.120.	GR	Lecture
Fall 2017	EES5700	5700	HAZWOPER Refresher	Earth & Environmental Sciences	1	Refresher training covering management of hazardous materials and emergency response in the workplace or at spills or hazardous waste sites. This course satisfies the requirements for 8 hours of refresher training specified under OSHA 29 CFR 1910.120	GR	Lecture
Fall 2017	EES5990	5990	Spec Probs Earth Env Sci	Earth & Environmental Sciences	0.5	Research and problems designed for specific needs and talents of students at the graduate level. May be taken for a letter grade or pass/unsatisfactory.	GR	Independent Study
Fall 2017	EES6010	6010	Topics Earth & Env Sci	Earth & Environmental Sciences	0.5	Advanced topics of current interest in the earth and environmental sciences presented in lecture format. Topics vary but are expected to be appropriate for graduate students. May be taken for a letter grade or pass/unsatisfactory.	GR	Lecture

Fall 2017	EES6050	6050	Earth Sci Concept for Ed	Earth & Environmental Sciences	3.5	This course is an introductory survey of the earth sciences, from rocks and minerals, through plate tectonics, geologic time, oceanography and meteorology, to planetary science. Lecture is interspersed with hands-on activities intended to reinforce concepts and to provide the students with ideas for teaching their own classes. Students will also develop lesson plans on several topics.	GR	Lecture/Lab Combination
Fall 2017	EES6060	6060	Earth Sys for Educators	Earth & Environmental Sciences	3.5	The course investigates the processes that impact the Earth system such as volcanic eruptions, global climate change and ice ages and the resulting interactions between air, land, water and life in the Earth system.	GR	Lecture/Lab Combination
Fall 2017	EES6100	6100	Earth Science Research	Earth & Environmental Sciences	3	Provides research experience to prospective high-school science teachers. Students will use laboratory and library research to give quantitative explanations of natural phenomena.	GR	Lab
Fall 2017	EES6120	6120	Earth Materials	Earth & Environmental Sciences	4	This course provides an understanding of the minerals and rocks that make up the solid earth, their significance and uses. Based upon the 'rock cycle' the materials studied include the rock-forming minerals as well as their weathered products. The laboratory focuses upon the identification and classification of minerals and rocks in hand specimen.	GR	Lecture/Lab Combination
Fall 2017	EES6140	6140	Sedimentary Petrology	Earth & Environmental Sciences	4	Optical properties of common minerals. Survey of sedimentary rocks in hand sample, thin section and field occurrence.	GR	Lecture/Lab Combination
Fall 2017	EES6150	6150	Global Change for Tchrs	Earth & Environmental Sciences	3	Introduction to Earth systems, using modules that are based on environmental events such as volcanic eruptions, hurricanes, and climate change. An online laboratory component allows students to see how scientists use real time data sets to understand Earth systems.	GR	Lecture/Lab Combination
Fall 2017	EES6160	6160	Stratigraphy & Sed.	Earth & Environmental Sciences	4	Clastic and carbonate sedimentary rocks, their mineralogy, texture, provenance, and classification. Principles, rules, and geologic and geophysical correlation techniques. Fluid flow sediment transport and deposition, sedimentary structures, and depositional environments. Three hours lecture, two hours lab.	GR	Lecture
Fall 2017	EES6160 L	6160L	Stratigraphy & Sed. Lab	Earth & Environmental Sciences	0	Required laboratory for EES 6160.	GR	Lab

Fall 2017	EES6170	6170	Coastal Processes	Earth & Environmental Sciences	2	The course is primarily designed for in-service educators. It serves as an introduction to the seashore and ocean system, and the range of possibilities for teaching inquiry-based science that this venue offers. Topics include: the origin of ocean basins, sediment, the chemistry and physics of water, tides, the biology of selected sub-environments and oceans and the Earth system. The course is organized around a four-day field trip and a pre and post trip class meeting.	GR	Lab
Fall 2017	EES6190	6190	Paleobiology	Earth & Environmental Sciences	3	Paleobiology emphasizes fossils as organisms that provide information; on the origin of higher taxa, speciation, genealogical relatedness of all life, transformation of species, and macroevolutionary trends, as well as the response, over geological time, of Earth's biota to environmental, ecological, and geographical changes. Paleobiology also emphasizes the role that fossil organisms play in reconstructing past environments and global paleogeography.	GR	Lecture
Fall 2017	EES6190 L	6190L	Paleobiology Laboratory	Earth & Environmental Sciences	0	Required laboratory for EES 6190.	GR	Lab
Fall 2017	EES6200	6200	Micropaleontology	Earth & Environmental Sciences	3	Understand the origination, evolution, and diversity of microfossil organisms. The utilization of microfossils as biostratigraphic indicators, and their role in interpreting the geologic history of the Earth. Paleoenvironmental reconstruction using specific microfossil organisms. Microfossils as indicators of metamorphism.	GR	Lab
Fall 2017	EES6210	6210	Struct Geol & Tectonics	Earth & Environmental Sciences	4	Study of the three-dimensional distribution of rock units. Deformational structures such as folds, faults, joints, cleavage, foliation, and lineation and their superposition are used to unravel the history of deformation, and ultimately to understand the stress fields that produced the observed strain and structures. Tectonics is the structural evolution of regional patterns of deformation at the scale of mountain ranges. Lecture/lab combined: 4 credit hours.	GR	Lecture/Lab Combination
Fall 2017	EES6220	6220	Intro to Geophysics	Earth & Environmental Sciences	4	In Introduction to Geophysics students learn the methods and concepts of practical exploration geophysics. We deal with the five main methods of exploration: seismic refraction, seismic reflection, gravity methods, electrical methods, and magnetic methods. The lectures are put into practice during Saturday field work in the vicinity of the campus to characterize the near surface.	GR	Lecture/Lab Combination

Fall 2017	EES6230	6230	Intro to the Ocean	Earth & Environmental Sciences	3	This course covers the fundamental principles and processes of oceanography for students with background in geology but not oceanography. The content is general but the emphasis is toward the needs of Earth Science teachers. The student will need to be able to use the Internet and some basic computer tools such as Word and Excel.	GR	Lecture
Fall 2017	EES6240	6240	Oceanography	Earth & Environmental Sciences	3	Introduction to the interrelated geology, physics, chemistry, and biology of the ocean.	GR	Lecture
Fall 2017	EES6250	6250	Climate Change	Earth & Environmental Sciences	3	This lecture course deals with the causes and variations of temperature and precipitation patterns over tens to millions of years, the mechanisms that drive them: air pollution, orbital and solar variation, plate tectonics, etc. It includes the nature of evidence for previous climatic conditions and the bases for predictions of future climate change.	GR	Lecture
Fall 2017	EES6260	6260	EES Seminar	Earth & Environmental Sciences	0.5	Exposes students to selected research topics by reading and discussing, as a group, journal articles, book chapters, and research abstracts in earth and environmental sciences. Occasional lectures are presented by faculty or invited researchers. Students may give presentations prepared for professional meetings to the seminar for feedback and evaluation. Students conducting research may present their work in progress.	GR	Seminar
Fall 2017	EES6270	6270	Process Geomorphology	Earth & Environmental Sciences	3	Study of the processes that create and modify landforms. Classifications of landforms and what they reveal of past geologic processes and climates.	GR	Lecture
Fall 2017	EES6280	6280	EES Colloquium	Earth & Environmental Sciences	0.5	A weekly seminar in which research scientists from within and from outside the Department of Earth and Environmental Sciences present their research. Class normally meets once a week for one hour.	GR	Seminar
Fall 2017	EES6290	6290	Remote Sensing of Earth	Earth & Environmental Sciences	3	In Remote Sensing and Digital Image Processing students learn the methods and concepts of remote sensing from an Earth Sciences perspective. Students learn to interpret various types of images including stereo air photos, airborne multi-spectral digital images and satellite images. Hands-on digital image processing is conducted using industry standard software.	GR	Lab

Fall 2017	EES6300	6300	Environ Apps of GIS	Earth & Environmental Sciences	4	Study of the concepts, terminology, data models, and analytical functions of Geographic Information System; availability and processing of digital data; application of GIS as a mapping tool; spatial analysis of environmental and geologic problems. ESRI's ArcGIS is used for hands-on exercises and an independent mapping project with comprehensive coverage. Three hours lecture and two hours lab are combined.	GR	Lecture/Lab Combination
Fall 2017	EES6310	6310	Biogeochemical Analysis	Earth & Environmental Sciences	2	Principles and practices of analytical procedures and instruments critical to biogeochemical research. QA/QC procedures. Use and maintenance of field and laboratory instruments including multi-parameter sonde, spectrophotometer, ion chromatograph, and gas chromatograph.	GR	Lecture/Lab Combination
Fall 2017	EES6320	6320	Env Microbiology	Earth & Environmental Sciences	3	Examines how microorganisms interact with abiotic resources to affect natural and human-created systems, using a multidisciplinary approach drawing on tools from microbiology, aquatic chemistry, soil science, limnology and oceanography, analytical chemistry, ecology, geology, and oceanography.	GR	Lecture
Fall 2017	EES6330	6330	Global Biogeochem Cycles	Earth & Environmental Sciences	3	Examines how elements cycle through and between the biosphere, hydrosphere, lithosphere, and atmosphere, and related environmental issues such as global change, aquatic nutrient pollution, and acid rain.	GR	Lecture
Fall 2017	EES6340	6340	Mapping Methods	Earth & Environmental Sciences	2	This course teaches the key basic skills of mapping and measurement with a Brunton compass as applied to field studies in the earth and environmental sciences. Key skills include pace & compass traverse mapping, triangulation, bearing and reverse bearings, measurement of lines and planes.	GR	Lecture/Lab Combination
Fall 2017	EES6350	6350	Field Mapping	Earth & Environmental Sciences	2	Geologic phenomena studied and mapped in the field. Mapping techniques are utilized in a series of areas of increasing complexity. Standard methods are utilized for observing, describing, interpreting and mapping rock units and their structure.	GR	Lecture/Lab Combination
Fall 2017	EES6360	6360	Env Field Tech	Earth & Environmental Sciences	2	A lecture and field practice course examining the principles of monitoring environmental water quality, including lake, river, groundwater, and related issues. Theoretical considerations are lectured before field practices, which include monitoring system design, well design for various monitoring purposes, sampling protocol, and sample preservation, and monitoring and sampling at field sites, which include groundwater, lake, and river.	GR	Lab

Fall 2017	EES6370	6370	Seismic Processing	Earth & Environmental Sciences	4	Students learn the theory and practice of computer processing of seismic reflection data. Every step in this technology is taught including seismic data formats, seismic data manipulation, filtering, velocity analysis, stacking and migration. We deal with both land and marine data. The student has hands-on experience with industry-standard software packages.	GR	Lecture
Fall 2017	EES6380	6380	Seismic Interpretation	Earth & Environmental Sciences	4	Students learn the theory and practice of seismic reflection data interpretation. Principles of seismic reflection data interpretation, as well as pitfalls, are examined in the context of both structural styles and stratigraphic settings. The student will gain hands-on experience with industry standard software packages.	GR	Lecture/Lab Combination
Fall 2017	EES6400	6400	Glacial Landforms	Earth & Environmental Sciences	2	This is a field trip course examining the landforms, processes, and deposits associated with Pleistocene continental glaciation, as well as subsequent post-glacial modifications. The trip traverses from Dayton, Ohio, to the Fingerlakes region of central New York.	GR	Lecture/Lab Combination
Fall 2017	EES6410	6410	Phy Geol Nat Hist Ohio	Earth & Environmental Sciences	2	This is a field trip course examining the landforms, processes, and deposits associated with Pleistocene continental glaciation, as well as subsequent post-glacial terrain modification. The course involves 1 day of lecture/lab and 4 one-day thematic field trips.	GR	Lecture/Lab Combination
Fall 2017	EES6420	6420	Paleo of Vert/Plants	Earth & Environmental Sciences	3	The rise and evolution of Paleozoic vertebrate and plant groups with an emphasis on the evolution of jawed fishes, early tetrapods, and the terrestrialization of Earth. Phylogenetic and molecular analysis, and recent discoveries in the field of Evo-Devo will be employed to determine the origin and diversification of major vertebrate groups, and uncover connections between macroevolutionary trends and paleoenvironmental changes.	GR	Lab
Fall 2017	EES6430	6430	Analy & Pred Complex Sys	Earth & Environmental Sciences	3	Explores quantitative analysis and probabilistic forecasting of the behavior of complex nonlinear natural and human systems. Methods of analysis include fractals to quantify spatial, size, and temporal scaling and chaos to study sensitivity to initial conditions and feedback. Modeling includes self-organization and cellular automata. Systems studied include seismology, chemistry, biochemistry, hydrology, medicine, geography, and coupled human and natural systems.	GR	Lecture
Fall 2017	EES6440	6440	Geophys Well Log Analy	Earth & Environmental Sciences	3	Theory, application, and interpretation of geophysical logs with emphasis on their use in correlation and determination of porosity, permeability, and fluid content of subsurface formations. Three hours lecture.	GR	Lecture



Fall 2017	EES6450	6450	Petroleum Geology	Earth & Environmental Sciences	3	The course will cover background issues such as the history and legal aspects of the business (lease acquisition, assignment of working interests, overriding royalties). Most of the course will focus on the basics of petroleum geology, including oil and gas exploration techniques, geology of oil producing regions, well drilling, completion, well-log interpretation, enhanced oil and gas recovery, CO2 sequestration, production equipment, oil and gas sales, and marketing.	GR	Lecture
Fall 2017	EES6460	6460	Sequence Stratigraphy	Earth & Environmental Sciences	3	Examines the mechanisms that produce sea-level change, how sediments respond to changes in sea-level, and how the architecture of basins may be assessed using the sequence stratigraphic model. Topics include the scales of stratigraphic cycles, seismic applications and outcrop scale high resolution sequence stratigraphy.	GR	Lecture
Fall 2017	EES6470	6470	Astronomy K-12 Teachers	Earth & Environmental Sciences	2	Introduction to astronomy and the space sciences from the viewpoint of the amateur astronomer. Emphasizes both aesthetic and scientific aspects, and the amateur's enthusiasm for the subject.	GR	Lecture
Fall 2017	EES6480	6480	Plate Tectonics for Edu	Earth & Environmental Sciences	3	This course explores the history and development of the theory of plate tectonics with an emphasis upon the particular needs of the educator. A required text provides the topical core, supplemented by abundant web-based resources and information.	GR	Lecture/Lab Combination
Fall 2017	EES6500	6500	Carbonate Sed & Petrolog	Earth & Environmental Sciences	4	An introduction to the origin, composition, and diagenesis of ancient and modern carbonate rocks. Topics include the macroscopic and microscopic identification of rock constituents and a survey of depositional models for modern carbonate environments, with an emphasis on Floridian and Bahamian carbonates facies. Four hours lecture/lab combination.	GR	Lecture/Lab Combination
Fall 2017	EES6510	6510	Scientific Communication	Earth & Environmental Sciences	3	Fundamentals of effective scientific communication in written and conference presentation formats. Basics of good scientific prose, manuscript and figure preparation and submission, poster and platform presentations, job interviews, research proposals, and communication with non-scientists.	GR	Lecture
Fall 2017	EES6530	6530	Diagenesis of Sed Rocks	Earth & Environmental Sciences	4	An introduction to the diagenesis of ancient and modern sedimentary rocks. Topics include the theory and application of petrographic techniques with emphasis on porosity development and interpretation of diagenetic environments. Four hours lecture/lab combination.	GR	Lecture/Lab Combination

Fall 2017	EES6540	6540	Subsurface Fluid Flow	Earth & Environmental Sciences	4	Principles of the physical processes underlying the movement of fluids through the porous subsurface. Subjects include the transport of particulates and solutes, including contaminants within ground water flow regimes, and the flow of oil, gas and brine in georeservoirs. Emphasis on quantitative problem solving. (3 hours lecture, 2 hours lab)	GR	Lecture
Fall 2017	EES6540 L	6540L	Subsurface Fluid Flow Lab	Earth & Environmental Sciences	0	Required laboratory for EES 6540.	GR	Lab
Fall 2017	EES6550	6550	Aqueous Env Geochemistry	Earth & Environmental Sciences	3	Study of the interactions between natural fresh waters and their geologic environments. Included topics are chemical equilibrium concept, Modeling using PHREEQC, carbonate system, water-rock interactions, sorption isotherms, redox reactions, biologic influences on aqueous geochemistry, and applications of environmental isotopes. An independent term project is required. Three hours lecture. 2.0 Credit hours	GR	Lecture
Fall 2017	EES6560	6560	Groundwater Contam	Earth & Environmental Sciences	3	Common anthropogenic contaminant distribution in the groundwater as investigated in recent decades. Emphasizes contaminant degradation mechanisms in detail by physical, chemical and microbial processes, which directly affects the mobility and fate of the contaminants in soil and water	GR	Lecture/Lab Combination
Fall 2017	EES6570	6570	Site Remed & Management	Earth & Environmental Sciences	3	This course addresses the physical, chemical, and biological methods used to remediate contamination in soils and groundwater. Emphasis is on practical applications. Strategies and technologies to address contamination, including the natural attenuation, containment techniques, pump-and-treat, and in situ technologies, will be reviewed in sufficient technical detail so the student can apply basic engineering design equations.	GR	Lecture
Fall 2017	EES6590	6590	Adv Aquatic Geochem	Earth & Environmental Sciences	3	Fundamentals of biogeochemistry in aquatic systems, emphasizing physical, geological, chemical, and biological interactions in marine and lacustrine environments. Topics include the biogeochemical cycling of nutrients, trace metals, gases, energy, and chemical equilibria and rates in natural waters.	GR	Lecture
Fall 2017	EES6600	6600	Biological Safety	Earth & Environmental Sciences	2	The basic principles and practices of biosafety are examined. This course teaches the identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	GR	Lecture

Fall 2017	EES6610	6610	Near-Surface Geophysics	Earth & Environmental Sciences	3	This course teaches the electrical geophysical methods most used for near surface studies, and include GPR (ground penetrating radar), Resistivity, and EM (electro-magnetics). The course includes theory, but especially focuses on data acquisition methods, data processing and analysis, as well as report preparation.	GR	Lecture/Lab Combination
Fall 2017	EES6620	6620	Environmental Toxicology	Earth & Environmental Sciences	3	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 environmental toxicity are presented.	GR	Lecture
Fall 2017	EES6640	6640	Risk Assessment & Comm	Earth & Environmental Sciences	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 2017	EES6660	6660	OSHA Compliance	Earth & Environmental Sciences	1	Intended for persons having management responsibility for occupational safety and health; this course provides practical application of the theories of safety and health law, and suggestions for their real world application.	GR	Lecture
Fall 2017	EES6680	6680	Environ Law Scientists	Earth & Environmental Sciences	3	Geared to environmental sciences students, the course discusses applicable common law principles before focusing on the variety of environmental statutes, implementing regulations and enforcement.	GR	Lecture
Fall 2017	EES6720	6720	Epidem & Community Hlth	Earth & Environmental Sciences	3	Study of communicable and occupational diseases of contemporary importance; includes epidemiological investigation, environmental considerations, and control procedures.	GR	Lecture
Fall 2017	EES6740	6740	Fund Occup Hlth & Safety	Earth & Environmental Sciences	3	Introduction to accident recognition, evaluation, and control in the work environment by hands-on equipment use. Emphasis on methods of hazard recognition and control management. Methods of inspection, accident investigation, and evaluation of accident programs are stressed.	GR	Lecture/Lab Combination
Fall 2017	EES6750	6750	Biological Safety	Earth & Environmental Sciences	2	Identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	GR	Lecture
Fall 2017	EES6760	6760	Air Quality Management	Earth & Environmental Sciences	3	Designed to provide a broad overview of the science of air quality and its management: includes atmospheric pollutants, dispersion, health and welfare effects, air-quality monitoring, source control, regulation, and indoor air pollution.	GR	Lecture
Fall 2017	EES6780	6780	Environ Sciences Seminar	Earth & Environmental Sciences	1	Students examine a range environmental issues using readings both pro and con. They also explore several issues in greater depth and present their findings to the class.	GR	Lecture

Fall 2017	EES6990	6990	Spec Probs Earth Env Sci	Earth & Environmental Sciences	0.5	Research and problems designed for specific needs and talents of students at the graduate level. May be taken for a letter grade or pass/unsatisfactory.	GR	Independent Study
Fall 2017	EES7000	7000	Prin Instruction in EES	Earth & Environmental Sciences	1	A survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction. For graduate teaching assistants only. One hour lecture.	GR	Lecture
Fall 2017	EES7100	7100	Complex in Env. Systems	Earth & Environmental Sciences	4	This interdisciplinary course explores mathematical methods for quantitative analysis and modeling of complex nonlinear environmental systems. The course introduces the concepts and tools for analyzing and modeling: scaling in space and time, feedback, and self-organization in environmental systems including: ecology, hydrology, global climate change, and geodynamical systems.	GR	Lecture/Lab Combination
Fall 2017	EES7200	7200	Apps Isotopes in Env Sci	Earth & Environmental Sciences	3	Theories of isotope fractionation and applications of light isotopes to solving environmental and hydrologic problems. Lecture topics cover both stable light isotopes (H, O, C, N, S) and radioactive nuclides (H-3, Cl-36, C-14) but with primary emphasis on stable isotopes. Both biological and abiological processes will be discussed. Three hours lecture.	GR	Lecture
Fall 2017	EES7480	7480	Subsurface Hydraulics	Earth & Environmental Sciences	2	Evaluating, analyzing, and interpreting hydraulic data, with particular emphasis on data from pumping tests. Students are presented with a new data set each week, and lectures outline an appropriate method/model to apply to each data set. Students use expert-tool software on each project.	GR	Lecture/Lab Combination
Fall 2017	EES7490	7490	Modeling Sub Fluid Flow	Earth & Environmental Sciences	3	Applications of models for simulating subsurface flow and mass transport in aquifers and oil/gas reservoirs. The emphasis will be on developing the dimensionality, the spatial and temporal discretization, the initial and boundary conditions, and the parameterization needed in formulating a model from field data.	GR	Lecture/Lab Combination
Fall 2017	EES7800	7800	MST Research	Earth & Environmental Sciences	0.5	Research designed for specific needs and talents of students at the graduate level in the MST program. May be taken for a letter grade or pass/unsatisfactory.	GR	Independent Study
Fall 2017	EES7810	7810	MST Project	Earth & Environmental Sciences	3	Students develop an independent capstone science or education research project.	GR	Independent Study
Fall 2017	EES8990	8990	Thesis	Earth & Environmental Sciences	0.5	Supervised research and writing for a Master of Science thesis.	GR	Independent Study

Fall 2017	EGR1010	1010	Intro Math for Egr Appl	Engineering	4	Math topics most heavily used in first and second-year engineering courses. Topics include engineering applications of algebra, trigonometry, vectors, complex numbers, sinusoids and signals, systems of equations and matrices, derivatives, integrals and differential equations. Integrated Writing course.	UG	Lecture
Fall 2017	EGR1010 L	1010L	Intr Math Egr Appl Lab	Engineering	0	Required laboratory for EGR 1010.	UG	Lab
Fall 2017	EGR1010 R	1010R	Intr Math for Egr Applies Rec	Engineering	0	Required recitation for EGR 1010.	UG	Recitation
Fall 2017	EGR1900	1900	Explore Engr Internships	Engineering	1	Prepares individuals for the engineering internship and job search process through the enhancement of job seeking skills and increased awareness of career development resources.	UG	Seminar
Fall 2017	EGR1980	1980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Lecture
Fall 2017	EGR1980	1980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Recitation
Fall 2017	EGR1980	1980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Combination
Fall 2017	EGR1980 R	1980R	Special Topics in EGR Rec	Engineering	0	Required recitation for EGR 1980.	UG	Recitation
Fall 2017	EGR2940	2940	Internship I	Engineering	1	First internship course. Students are supervised via weekly seminars and regular feedback from employers.<b>Department Managed Prerequisite(s): Undergraduate level EGR 1900 Minimum Grade of D</b>	UG	Internship
Fall 2017	EGR2980	2980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Lecture
Fall 2017	EGR2980 L	2980L	Special Topics in EGR Lab	Engineering	0	Required laboratory for EGR 2980.	UG	Lab
Fall 2017	EGR2980 R	2980R	Special Topics in EGR Rec	Engineering	0	Required recitation for EGR 2980.	UG	Recitation
Fall 2017	EGR3350	3350	Tech Comm for EGR & CS	Engineering	3	A modular approach to oral and written communication of complex technical information to an expert audience. Includes describing technical mechanisms and processes; designing and using tables, graphs, charts, and figures; producing technical proposals, progress reports, feasibility reports, and formal reports; and doing technical briefings.	UG	Lecture
Fall 2017	EGR3940	3940	Internship II	Engineering	1	Second internship course. Students are supervised via weekly seminars and regular feedback from employers.	UG	Internship
Fall 2017	EGR3980	3980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Lecture
Fall 2017	EGR3980 L	3980L	Special Topics in EGR Lab	Engineering	0	Required laboratory for EGR 2980.	UG	Lab

Fall 2017	EGR3980 R	3980R	Special Topics In EGR Rec	Engineering	0	Required recitation for EGR 3980.	UG	Recitation
Fall 2017	EGR4610	4610	Clinical Engr Dev World	Engineering	3	Students will be exposed to the culture of a developing country; learn how to live and interact with the local people; gain an appreciation for a culture different from their own and of the limited technical resources of educational and healthcare facilities in a developing country; learn how to install and repair medical and other technical equipment with simple tools.<b> Department Managed Prerequisite(s): Undergraduate level PHY 2410 Minimum Grade of D</b>	UG	Practicum
Fall 2017	EGR4940	4940	Internship III	Engineering	1	Third internship course. Students are supervised via weekly seminars and regular feedback from employers.	UG	Internship
Fall 2017	EGR4980	4980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Lab
Fall 2017	EGR4980	4980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Lecture
Fall 2017	EGR4980	4980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Recitation
Fall 2017	EGR4980	4980	Special Topics in EGR	Engineering	1	Special topics in Engineering and Computer Science.	UG	Combination
Fall 2017	EGR4980 L	4980L	Special Topics in EGR Lab	Engineering	0	Required laboratory for EGR 4980.	UG	Lab
Fall 2017	EGR4980 R	4980R	Special Topics in EGR Rec	Engineering	0	Required recitation for EGR 4980.	UG	Recitation
Fall 2017	EGR5350	5350	Tech Comm for EGR & CS	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 2017	EGR6610	6610	Clinical Engr Dev World	Engineering	3	Students will be exposed to the culture of a developing country; learn how to live and interact with the local people; gain an appreciation for a culture different from their own and of the limited technical resources of educational and healthcare facilities in a developing country; learn how to install and repair medical and other technical equipment with simple tools.<b> Department Managed Prerequisite(s): Undergraduate level PHY 2410 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	EGR6940	6940	Internship	Engineering	1	Graduate internship	GR	Internship
Fall 2017	EGR7010	7010	Linear Systems	Engineering	3	Graduate level linear engineering methods in finite and infinite dimensions.	GR	Lecture

Fall 2017	EGR7020	7020	Systems Engrg & Analysis	Engineering	3	Exposes students to the design of systems and tools for the analysis of complex technological systems.<b> Department Managed Prerequisite(s): (Undergraduate level STT 3630 Minimum Grade of D or Graduate level IHE 6120 Minimum Grade of D) and Undergraduate level MTH 2310 Minimum Grade of D.</b>	GR	Lecture
Fall 2017	EGR7030	7030	Computation Egr Analysis	Engineering	3	Students will learn practical and efficient computational techniques that are routinely encountered in modeling, simulation and analysis of engineering problems.	GR	Lecture
Fall 2017	EGR7040	7040	Design Optimization	Engineering	3	Concepts of minima and maxima; linear, dynamic, integer and nonlinear programming; variational methods. Interdisciplinary engineering applications are emphasized.	GR	Lecture
Fall 2017	EGR7050	7050	Des Analys Engr Exper	Engineering	3	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.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2350 Minimum Grade of D and (Undergraduate level STT 3630 Minimum Grade of D or Graduate level IHE 6020 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	EGR7910	7910	MEIE Team Project I	Engineering	3	First semester of team project for Master in Engineering Innovation and Entrepreneurship program. Students identify, assess and prioritize innovation and entrepreneurship opportunities; form diverse multi-cultural teams with engineering and business expertise; interact with entrepreneurs; gain technical expertise; expand their understanding of the business environment.	GR	Lecture
Fall 2017	EGR7920	7920	MEIE Team Project II	Engineering	3	Second semester of team project for Master in Engineering Innovation and Entrepreneurship program. Students work in teams to support the development of a new technology-based organization in concert with local businesses, researchers, inventors and entrepreneurial resources. Factors considered include technology, customers, feasibility, competition, financing and cost.<b> Department Managed Prerequisite(s): Graduate level EGR 7910 Minimum Grade of D or Graduate level IHE 7910 Minimum Grade of D.</b>	GR	Practicum
Fall 2017	EGR7980	7980	Special Topics in EGR	Engineering	1	Special topics in engineering. Prerequisite: instructor approval.	GR	Lecture
Fall 2017	EGR8910	8910	PhD Seminar	Engineering	1	Ph.D. seminar course required of all students seeking the Ph.D. in Engineering. Graded pass/unsatisfactory.	GR	Seminar
Fall 2017	EGR8950	8950	Dissertation	Engineering	1	Graded pass/unsatisfactory.	GR	Independent Study
Fall 2017	EGR8980	8980	Special Topics in EGR	Engineering	1		GR	Lecture

Fall 2017	ENG1010	1010	Basic Acad Spk Lstn ESL	English	3	Basic course in spoken English, both production and comprehension. Open only to non-native speakers of English.	UG	Lecture
Fall 2017	ENG1020	1020	Basic Writing: ESL	English	3	Basic course in written communication with an emphasis on grammatical structures and sentence and paragraph development. For non-native speakers of English only.	UG	Lecture
Fall 2017	ENG1030	1030	Advanced Writing: ESL	English	3	Advanced course in written communication with an emphasis on grammatical structures, sentence structure and essay organization, and topic development. For non-native speakers of English only. Placement by writing diagnostic.	UG	Lecture
Fall 2017	ENG1050	1050	Classrm Comm for ITAs	English	2	Introduction to effective communication skills for the classroom, emphasizing oral proficiency, teaching skills, and culture of the American classroom. Placement based on performance on the Wright State Oral Proficiency Test for International Teaching Assistants	UG	Lecture
Fall 2017	ENG1100	1100	Acad. Writing & Reading	English	3	Introduces students to principles of effective written communication and critical reading. Stresses invention, drafting, revising, editing, and self-assessment, along with effective critiquing and collaborating. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 1100, ENG 1110, ENG 1130, or ENG 1140.	UG	Lecture
Fall 2017	ENG1110	1110	Acad Writing&Read Repeat	English	3	Repeat course for students who earned grades of D or F in their first attempt at ENG 1100. Special curriculum offers strategies for addressing issues that cause students to be unsuccessful in ENG 1100. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 1100, ENG 1110, ENG 1130, or ENG 1140.	UG	Lecture
Fall 2017	ENG1120	1120	Ac. Writ/Read Workshop	English	3	Introduces students to effective written communication and critical reading, preparing them for ENG 1130, which satisfies the Core Element 1 First-Year Writing course requirement.	UG	Lecture
Fall 2017	ENG1130	1130	Acad Writing & Reading	English	3	Introduces students to principles of effective written communication and critical reading. Stresses invention, drafting, revising, editing, and self-assessment, along with effective critiquing and collaborating. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 1100, ENG 1110, ENG 1130, or ENG 1140.	UG	Lecture



Fall 2017	ENG1140	1140	Acad Writing & Reading	English	4	Introduces students needing additional instruction in writing to principles of effective written communication and critical reading. Stresses invention, drafting, revising, editing, and self-assessment, along with effective critiquing and collaborating. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 1100, ENG 1110, ENG 1120, or ENG 1140.	UG	Lecture
Fall 2017	ENG2010	2010	Topics in Reading	English	3	Exploration of topics of interest in Literature with focus on knowledge, enjoyment, and informed critical reading.	UG	Lecture
Fall 2017	ENG2020	2020	Topics in Writing	English	3	Exploration of topics and approaches in the field of Writing with focus on developing mastery and enjoyment of the writing process.	UG	Lecture
Fall 2017	ENG2040	2040	Great Books: Literature	English	3	Introduction to interpreting literature, using works from various periods and cultures, viewed in their social and historical contexts and read for their enduring interest. Integrated Writing course.	UG	Lecture
Fall 2017	ENG2050	2050	African-American Lit	English	3	Focuses on the oral and written African-American literary tradition in a variety of genres from the 18th century to the present. Integrated Writing course.	UG	Lecture
Fall 2017	ENG2100	2100	Res Writing&Argument	English	3	Adapts principles introduced in ENG 1100 to typical university writing tasks. Stresses communicating effectively within disciplinary contexts, reading critically, and using source materials effectively in argumentative and research writing. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 2100, ENG 2110, ENG 2120, ENG 2130, or ENG 2140.	UG	Lecture
Fall 2017	ENG2110	2110	Research and Argument	English	3	Adapts principles introduced in ENG 1100 to writing for educators. Emphasizes audience awareness, reflection, analysis, argument, research, and effective use of supporting source materials. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 2100, ENG 2110, ENG 2120, ENG 2130, or ENG 2140.	UG	Lecture
Fall 2017	ENG2120	2120	Research and Argument	English	3	Adapts principles introduced in ENG 1100 and equivalents to writing for professional audiences in the health sciences and lay readers. Stresses argument, research, and effective use of source materials. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 2100, ENG 2110, ENG 2120, ENG 2130, or ENG 2140.	UG	Lecture

Fall 2017	ENG2130	2130	Research and Argument	English	3	Adapts principles introduced in ENG 1100 and equivalents to writing for professional audiences in the sciences and lay readers. Stresses argument, research, and effective use of source materials. Students may use any of the following courses to satisfy the requirements of the Core, but only one may count: ENG 2100, ENG 2110, ENG 2120, ENG 2130, ENG 2140.	UG	Lecture
Fall 2017	ENG2140	2140	Research & Argument	English	3	Adapts principles introduced in ENG 1100 and equivalents to writing for professional audiences in engineering and computer science and lay readers. Stresses argument, research, and effective use of source materials.	UG	Lecture
Fall 2017	ENG2310	2310	Comp Lit: Non-Western	English	3	Introduction to literature from the global South, including Asia, Africa, Latin America, and the Middle East, and development of critical vocabulary for the appreciation of issues relevant to the literature. Credit will not be given for ENG 2310 to students who have already successfully completed CST 2310. Integrated Writing course.	UG	Lecture
Fall 2017	ENG2320	2320	Amer Acad Culture	English	3	Unique cultural norms within American higher education through critical analysis of the social, political, and economic factors which have influenced their development and continuous evolution.	UG	Lecture
Fall 2017	ENG2510	2510	Textual Analysis MCE	English	3	Understanding strategies for reading, interpreting, and analyzing informational, persuasive, and literary texts.	UG	Lecture
Fall 2017	ENG2560	2560	Basic Media Writing	English	3	Introduction to writing for media. Includes structure and organization of media copy. Requires reporting in the field. Integrated Writing course. <b> Department Managed Prerequisite(s): Undergraduate level COM 1520 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ENG2800	2800	Intro Creative Writing	English	3	Fundamental techniques and strategies of poetry and short fiction; analysis of anthologized poems and stories; group discussion of manuscripts.	UG	Lecture
Fall 2017	ENG3000	3000	Business Writing	English	3	Written business and organizational communication; rhetorical demands of writing in professional settings; attention to various forms including short reports and informal oral presentations.	UG	Lecture
Fall 2017	ENG3010	3010	Topics in Reading	English	3	Approaches and topics in the field of Literary Study.	UG	Lecture
Fall 2017	ENG3020	3020	Topics in Writing	English	3	Approaches and topics in the field of Writing.	UG	Lecture
Fall 2017	ENG3050	3050	Intro Literary Study I	English	3	Introduction to the discipline of English, with a focus on the study of poetry and drama, with a primary focus on poetry, and the writing of critical papers on literary topics. Integrated Writing course.	UG	Lecture

Fall 2017	ENG3060	3060	Intro Literary Study	English	3	Introduction to the discipline of English, with a focus on verse, narrative, textual analysis, literary theory, and integration of secondary sources in analytical arguments. Integrated Writing course.	UG	Lecture
Fall 2017	ENG3210	3210	British Texts: to 1660	English	3	Representative works of major English writers of the medieval period and the 16th and 17th centuries.	UG	Lecture
Fall 2017	ENG3220	3220	British Texts: to 1870	English	3	Representative works of major British writers of the later 17th to later 19th centuries.	UG	Lecture
Fall 2017	ENG3230	3230	British Texts: to 21st C	English	3	Representative works of major British writers from the middle of the 19th century through the beginning of the 21st century.	UG	Lecture
Fall 2017	ENG3310	3310	American Texts: to 1890	English	3	Representative works of American writers from the colonial era until 1890.	UG	Lecture
Fall 2017	ENG3320	3320	American Txs: to 21st C	English	3	Representative American writings from the late nineteenth century through the 21st century.	UG	Lecture
Fall 2017	ENG3400	3400	Studies in African Lit	English	3	Representative works of established and emerging African writers.	UG	Lecture
Fall 2017	ENG3420	3420	Post-Colonial Texts	English	3	Representative works of established and emerging writers from the post-colonial world and the diaspora.	UG	Lecture
Fall 2017	ENG3430	3430	Women and Literature	English	3	Representative works by and about women of diverse backgrounds across major literary periods. Examines traditions in women's writing, pervasive representations of women in literature, and the mutually constitutive relationship between literature and identity.	UG	Lecture
Fall 2017	ENG3440	3440	Black Lit. and Culture	English	3	Representative works in English from the Black diaspora.	UG	Lecture
Fall 2017	ENG3500	3500	Language for Teachers	English	3	Introduction to language acquisition, linguistics, language diversity, grammar, and sentence structure with an emphasis on pedagogy.	UG	Lecture
Fall 2017	ENG3510	3510	Content Writing Pedagogy	English	3	Introduction to teaching writing process strategies for middle childhood majors. Department Managed Prerequisite(s): Undergraduate level ENG 2100 Minimum Grade of C	UG	Lecture
Fall 2017	ENG3520	3520	Writing Pedagogy for ILA	English	3	Introduction to writing pedagogy for Integrated Language Arts in grades 4-12 with an emphasis on writing processes and improving writing skills.	UG	Lecture
Fall 2017	ENG3530	3530	Young Adult Literature	English	3	Introduction to various genres of young adult literature with an emphasis on the selection and analysis of books for adolescents.	UG	Lecture
Fall 2017	ENG3540	3540	Multigenre Writing	English	3	Advanced strategies for writing in multiple and mixed genres.	UG	Lecture
Fall 2017	ENG3550	3550	Teaching Shakespeare	English	3	Survey and discussion of plays by Shakespeare in the context of his times and with attention to teaching Shakespeare in high school. Topics include Shakespeare's texts and their performance in film and theater.	UG	Lecture

Fall 2017	ENG3560	3560	Writing Workshop	English	3	Advanced strategies for teaching writing to adolescent and middle school students with an emphasis on genres and workshop pedagogy.	UG	Lecture
Fall 2017	ENG3570	3570	Reading Workshop	English	3	Advanced strategies for teaching reading to middle school and adolescent students with an emphasis on literary response and workshop pedagogy.	UG	Lecture
Fall 2017	ENG3610	3610	Technical Writing	English	3	Concepts and skills used in scientific and technical writing.	UG	Lecture
Fall 2017	ENG3620	3620	Desktop Publishing ILA	English	3	Introduction to computer applications for a variety of both print and online publications, including page design and layout, writing and editing.	UG	Lecture
Fall 2017	ENG3650	3650	Writing Nonfiction	English	3	Advanced strategies for writing nonfiction for non-academic purposes and audiences in various styles, genres, and media.	UG	Lecture
Fall 2017	ENG3810	3810	Antioch Writers Workshop	English	3	Participation in the one-week summer Antioch Writers' Workshop and preparation of a portfolio of polished creative writing.	UG	Lecture
Fall 2017	ENG3820	3820	Intro to Poetry Writing	English	3	Fundamentals of poetry writing; practice in traditional and contemporary concepts of poetic form; reading and discussion of a wide spectrum of traditional and modern poetry; and group discussions of student's poems.	UG	Lecture
Fall 2017	ENG3830	3830	Intro to Fiction Writing	English	3	Theory and practice of writing fiction, including critical reading of contemporary fiction and group discussion of student-written fiction.	UG	Lecture
Fall 2017	ENG3840	3840	Intro to Dramatic Wrtg	English	3	Techniques of dramatic writing emphasizing writing of original plays.	UG	Lecture
Fall 2017	ENG4020	4020	Topics: Advanced Writing	English	3	Advanced study of specialized topics and problems in writing.	UG	Lecture
Fall 2017	ENG4110	4110	Literature Practicum	English	3	Opportunities to use and refine the skills of Literary Study in specific applied contexts.	UG	Practicum
Fall 2017	ENG4190	4190	Internship in Literature	English	3	Supervised professional application of Literary Study skills in a workplace setting.	UG	Internship
Fall 2017	ENG4200	4200	Studies in British Lit	English	3	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 authors life, literary production, and historical background. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4300	4300	Studies in American Lit	English	3	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, and historical background. Integrated Writing course.	UG	Lecture

Fall 2017	ENG4430	4430	Studies in Gender/Sex	English	3	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. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4440	4440	Studies Ethnic/Reg Lit	English	3	Intensive study of literature in English from different regions of the Americas 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. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4450	4450	Studies in Lit Theory	English	3	Intensive study of literary theory in order to develop an understanding of critical questions and approaches. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4460	4460	Studies Lit Genre/Theme	English	3	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. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4470	4470	Post-Colonial Lit	English	3	Intensive study of post-colonial literature from diverse regions of the global South. Intended to develop critical perspectives on historical periods, genres, language use, thematic concerns, and global trends. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4560	4560	ILA Capstone	English	3	Integration and pedagogy of reading, writing, listening, speaking, viewing, and visually representing with an emphasis on literary response and analysis. Integrated Writing course.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3520 Minimum Grade of C and Undergraduate level ENG 3530 Minimum Grade of C and Undergraduate level ENG 3560 Minimum Grade of C and Undergraduate level ENG 3570 Minimum Grade of C)</b>	UG	Lecture
Fall 2017	ENG4610	4610	Rhetoric, Culture	English	3	Rhetorical approaches to analyzing language and persuasion. Topics include the role of metaphor, language, and thought; how language operates as discourse within texts, groups and situations; first-hand research of culture and persuasion.	UG	Lecture
Fall 2017	ENG4620	4620	Document Design	English	3	Instruction and experience in designing effective print and online documents. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ENG 3610 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ENG4640	4640	TopicsTech/Prof Writing	English	3	Courses, seminars, or workshops in specialized topics relating to business, technical, and professional writing.<b> Department Managed Prerequisite(s): Undergraduate level ENG 3610 Minimum Grade of D</b>	UG	Lecture

Fall 2017	ENG4650	4650	Professional Editing	English	3	Instruction and experience in editing technical and professional documents, including both print and online publications. Covers types of editing, the production process, and issues in editing.<b> Department Managed Prerequisite(s): Undergraduate level ENG 3610 Minimum Grade of D</b></td><td>UG</td><td>Lecture</td>
Fall 2017	ENG4700	4700	TEFL Theory and Culture	English	3	Builds awareness of cultural similarities and differences and addresses the impact of cultural and personal variables on English language learning in an international setting. Provides an understanding of the language acquisition process.<b> Department Managed Prerequisite(s): Undergraduate level ENG 4710 Minimum Grade of D (ENG 4710 can be taken concurrently)</b></td><td>UG</td><td>Lecture</td>
Fall 2017	ENG4710	4710	Intro to Linguistics	English	3	A survey of the scientific study of language. Focuses on describing and explaining languages in their natural environment, including phonetics, phonology, morphology, syntax, semantics, pragmatics, sociolinguistics, and the history of the English language.</td><td>UG</td><td>Lecture</td>
Fall 2017	ENG4720	4720	History of Engl Language	English	3	Study of the ancestry and early growth of the English language, 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.</td><td>UG</td><td>Lecture</td>
Fall 2017	ENG4730	4730	TESOL Theory and Culture	English	3	Presents a theoretical foundation for the study of second language acquisition, including awareness of first language acquisition. Builds awareness of cultural similarities and differences and addresses the impact of cultural and personal variables on English language learning. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ENG 2100 Minimum Grade of D</b></td><td>UG</td><td>Lecture</td>
Fall 2017	ENG4735	4735	TESOL Theory and Culture	English	3	Presents a theoretical foundation for the study of second language acquisition, including awareness of first language acquisition. Builds awareness of cultural similarities and differences and addresses the impact of cultural and personal variables on English language learning. Integrated Writing course. This course is designed for students in the combined BA/MA program in TESOL.<b> Department Managed Prerequisite(s): Undergraduate level ENG 2100 Minimum Grade of D</b></td><td>UG</td><td>Lecture</td>

Fall 2017	ENG4740	4740	TESOL Practice/Material	English	3	Develops skills in designing curricula through creating and adapting appropriate materials and activities, as well as evaluating and effectively using existing practices and materials available to the teacher of ESL/EFL.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 4710 Minimum Grade of D or Undergraduate level ENG 3500 Minimum Grade of D)</b></h>	UG	Lecture
Fall 2017	ENG4750	4750	TESOL Grammar	English	3	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.<b> Department Managed Prerequisite(s): Undergraduate level ENG 4710 Minimum Grade of D</b></h>	UG	Lecture
Fall 2017	ENG4760	4760	TESOL Assessment	English	3	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.<b> Department Managed Prerequisite(s): Undergraduate level ENG 2100 Minimum Grade of D</b></h>	UG	Lecture
Fall 2017	ENG4770	4770	ESL: Pre-K-12	English	3	Focuses on ESL education in the U.S. and Ohio. Examines historical and legal precedents. Emphasizes components necessary for successful programs, including curricula, assessment, classroom dynamics, and parental involvement.	UG	Lecture
Fall 2017	ENG4780	4780	Studies TESOL Education	English	3	Focus on theoretical issues and practical problems of teaching English to speakers of other languages (TESOL).<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3400 Minimum Grade of D or Undergraduate level ENG 4710 Minimum Grade of D)</b></h>	UG	Lecture
Fall 2017	ENG4790	4790	TEFL Practice & Material	English	3	Identifies the diverse needs of students learning English as a foreign language and the most effective curriculum development, resources, and teaching techniques to address these needs.<b> Department Managed Prerequisite(s): Undergraduate level ENG 4710 Minimum Grade of D (ENG 4710 can be taken concurrently)</b></h>	UG	Lecture
Fall 2017	ENG4810	4810	Internship: Creat. Writing	English	1	Supervised professional experience in the Creative Writing field.	UG	Internship
Fall 2017	ENG4820	4820	Adv Poetry Wrtg Seminar	English	3	Advanced practice in writing and revising poems, refining craft and style, with the aim of producing poetry of superior merit; group discussion of manuscripts; and reading and discussion of modern poetry and poetics. Integrated Writing course.	UG	Seminar

Fall 2017	ENG4830	4830	Adv Fiction Wrtg Seminar	English	3	Advanced practice in writing and revising fiction, refining craft and style, with the aim of producing fiction of superior merit; group discussion of manuscripts, and reading and discussion of contemporary fiction. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4850	4850	Sp Topics Creative Wrtg	English	3	Specialized courses in genres, modes, styles, practices, creative processes, and the craft of fiction, creative non-fiction, poetry, or playwriting. Integrated Writing course.	UG	Lecture
Fall 2017	ENG4870	4870	Poetry Writing Capstone	English	3	Students will produce a portfolio integrating knowledge, skills, and principles regarding the writing and revision of original poetry.	UG	Seminar
Fall 2017	ENG4880	4880	Fiction Writing Capstone	English	3	Students will produce a portfolio integrating knowledge, skills, and principles regarding the writing and revision of original fiction.	UG	Seminar
Fall 2017	ENG4910	4910	Directed Reading	English	3	Supervised reading in special areas of American, English, or world literature in translation, and English language and linguistics not available through course structure. Limited to senior English majors with a 3.0 cumulative average. <b> Department Managed Prerequisite(s): Undergraduate level ENG 3060 Minimum Grade of C</b>	UG	Independent Study
Fall 2017	ENG4920	4920	Internship in Writing	English	3	Supervised professional writing in workplace setting. Integrated Writing course.	UG	Internship
Fall 2017	ENG4930	4930	Internship in Teaching	English	3	Supervised college-level teaching or tutoring.	UG	Internship
Fall 2017	ENG4940	4940	TESOL Internship	English	3	Supervision of students teaching English to speakers of other languages.	UG	Internship
Fall 2017	ENG4950	4950	TEFL Workshop	English	3	Intensive study of selected special topics or problems to meet the particular needs of participating students. Titles vary. <b> Department Managed Prerequisite(s): Undergraduate level ENG 2100 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ENG4980	4980	English Honors Tutorial	English	1	Two-semester sequence for senior English majors who are doing an English honors project. <b> Department Managed Prerequisite(s): Undergraduate level ENG 3060 Minimum Grade of C</b>	UG	Independent Study
Fall 2017	ENG4990	4990	English Honors Tutorial	English	2	Second in a two-semester sequence for senior English majors who are doing an English honors project. <b> Department Managed Prerequisite(s): Undergraduate level ENG 4980 Minimum Grade of D</b>	UG	Independent Study
Fall 2017	ENG5000	5000	Business Writing	English	3	Written business and organizational communication; rhetorical demands of writing in professional settings; attention to various forms including short reports and informal oral presentations.	GR	Lecture
Fall 2017	ENG5010	5010	Selected Subjects	English	3	Problems, approaches, and topics in the field of English. Topics vary.	GR	Lecture



Fall 2017	ENG5020	5020	TA Practicum I	English	1	For English teaching assistants only. Continuing TAs are assigned to an instructional class that focuses on the teaching of writing in ENG 1100 for a supervised practicum experience.	GR	Practicum
Fall 2017	ENG5030	5030	TA Practicum II	English	1	For English teaching assistants only. Students are assigned to an instructional class that focuses on the teaching of writing in ENG 2100 for a supervised practicum experience.	GR	Practicum
Fall 2017	ENG5520	5520	Writing Pedagogy for ILA	English	3	Introduction to writing pedagogy for Integrated Language Arts in grades 4-12 with an emphasis on writing processes and improving writing skills.	GR	Lecture
Fall 2017	ENG5530	5530	Young Adult Literature	English	3	Introduction to various genres of young adult literature with an emphasis on the selection and analysis of books for adolescents.	GR	Lecture
Fall 2017	ENG5560	5560	Writing Workshop	English	3	Advanced strategies for teaching writing to adolescent and middle school students with an emphasis on genres and workshop pedagogy.	GR	Lecture
Fall 2017	ENG5570	5570	Reading Workshop	English	3	Advanced strategies for teaching reading to middle school and adolescent students with an emphasis on literary response and workshop pedagogy.	GR	Lecture
Fall 2017	ENG5610	5610	Technical Writing	English	3	Concepts and skills used in scientific and technical writing.	GR	Lecture
Fall 2017	ENG5620	5620	Desktop Publishing ILA	English	3	Introduction to computer applications for a variety of both print and online publications, including page design and layout, writing and editing.	GR	Lecture
Fall 2017	ENG5650	5650	Writing Nonfiction	English	3	Advanced strategies for writing nonfiction for non-academic purposes and audiences in various styles, genres, and media.	GR	Lecture
Fall 2017	ENG5800	5800	Enhancing Creativity	English	3	Cultural mythology about artists often blocks our creativity. This course helps students confront these myths, clear away blocks, and discover and recover their creativity.	GR	Lecture
Fall 2017	ENG6200	6200	Studies in British Lit	English	3	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 authors life, literary production, and historical background.	GR	Lecture
Fall 2017	ENG6300	6300	Studies in American Lit	English	3	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 authors life, literary production, and historical background.	GR	Lecture
Fall 2017	ENG6430	6430	Studies in Gender/Sex	English	3	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 2017	ENG6440	6440	Studies Ethnic/Reg Lit	English	3	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 appropriation	GR	Lecture
Fall 2017	ENG6450	6450	Studies in Lit Theory	English	3	Intensive study of literary theory in order to develop an understanding of critical questions and approaches.	GR	Lecture
Fall 2017	ENG6460	6460	Studies Lit Genre/Theme	English	3	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 2017	ENG6470	6470	Post-Colonial Lit	English	3	Intensive study of post-colonial literature from diverse regions of the global South. Intended to develop critical perspectives on historical periods, genres, language use, thematic concerns, and global trends.	GR	Lecture
Fall 2017	ENG6560	6560	ILA Capstone	English	3	Study of the integration and pedagogy of reading, writing, listening, speaking, viewing, and visually representing. Emphasis on responding to literature and introduction to interdisciplinary and thematic units.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3520 Minimum Grade of C or Graduate level ENG 6520 Minimum Grade of C) and (Undergraduate level ENG 3530 Minimum Grade of C or Graduate level ENG 6530 Minimum Grade of C) and Undergraduate level ENG 3560 Minimum Grade of C and (Undergraduate level ENG 3570 Minimum Grade of C or Graduate level ENG 6570 Minimum Grade of C) /b>	GR	Lecture
Fall 2017	ENG6620	6620	Document Design	English	3	Instruction and experience in designing effective print and online documents.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3610 Minimum Grade of D or Graduate level ENG 5610 Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	ENG6640	6640	TopicsTech/Prof Writing	English	3	Courses, seminars, or workshops in specialized topics relating to business, technical, and professional writing.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3610 Minimum Grade of D or Graduate level ENG 5610 Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	ENG6650	6650	Professional Editing	English	3	Instruction and experience in editing technical and professional documents, including both print and online publications. Covers types of editing, the production process, and issues in editing.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3610 Minimum Grade of D or Graduate level ENG 5610 Minimum Grade of D)</b></h>	GR	Lecture

Fall 2017	ENG6690	6690	Tech Writ & Skills Intl	English	3	Written and spoken communication in science and engineering with an emphasis on the various forms of technical documents and oral presentations. For non-native speakers of English only.	GR	Lecture
Fall 2017	ENG6700	6700	TEFL Theory and Culture	English	3	Builds awareness of cultural similarities and differences and addresses the impact of cultural and personal variables on English language learning in an international setting. Provides an understanding of the language acquisition process.<b> Department Managed Prerequisite(s): Undergraduate level ENG 4710 Minimum Grade of D or Graduate level ENG 6710 Minimum Grade of D (ENG 6710 can be taken concurrently)</b></h>	GR	Lecture
Fall 2017	ENG6710	6710	Intro to Linguistics	English	3	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 2017	ENG6720	6720	History of Engl Language	English	3	Study of the ancestry and early growth of the English language, 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 2017	ENG6730	6730	TESOL Theory and Culture	English	3	Presents a theoretical foundation for the study of second language acquisition, including awareness of first language acquisition. Builds awareness of cultural similarities and differences and addresses the impact of cultural and personal variables on English language learning.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 4710 Minimum Grade of D or Graduate level ENG 6710 Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	ENG6740	6740	TESOL Practice/Material	English	3	Develops skills in designing curricula through creating and adapting appropriate materials and activities, as well as evaluating and effectively using existing practices and materials available to the teacher of ESL /EFL	GR	Lecture
Fall 2017	ENG6750	6750	TESOL Grammar	English	3	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.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 4710 Minimum Grade of D or Graduate level ENG 6710 Minimum Grade of D)</b></h>	GR	Lecture

Fall 2017	ENG6760	6760	TESOL Assessment	English	3	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 2017	ENG6770	6770	ESL: Pre-K-12	English	3	Focuses on ESL education in the U.S. and Ohio. Examines historical and legal precedents. Emphasizes components necessary for successful programs, including curricula, assessment, classroom dynamics, and parental involvement.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3400 Minimum Grade of D or Undergraduate level ENG 4710 Minimum Grade of D or Graduate level ENG 6710 Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	ENG6780	6780	Studies TESOL Education	English	3	Focus on theoretical issues and practical problems of teaching English to speakers of other languages (TESOL).<b> Department Managed Prerequisite(s): (Undergraduate level ENG 3500 Minimum Grade of D or Graduate level ENG 4710 Minimum Grade of D or Graduate level ENG 6710 Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	ENG6790	6790	TEFL Practice & Material	English	3	Identifies the diverse needs of students learning English as a foreign language and the most effective curriculum development, resources, and teaching techniques to address these needs.<b> Department Managed Prerequisite(s): Undergraduate level ENG 4710 Minimum Grade of D or Undergraduate level ENG 6710 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	ENG6820	6820	Adv Poetry Wrtg Seminar	English	3	Advanced practice in writing and revising poems, refining craft and style, with the aim of producing poetry of superior merit; group discussion of manuscripts; and reading and discussion of modern poetry and poetics.	GR	Seminar
Fall 2017	ENG6830	6830	Adv Fiction Wrtg Seminar	English	3	Advanced practice in writing and revising fiction, refining craft and style, with the aim of producing fiction of superior merit; group discussion of manuscripts, and reading and discussion of contemporary fiction.	GR	Seminar
Fall 2017	ENG6850	6850	Sp Topics Creative Wrtg	English	3	Specialized courses in genres, modes, styles, practices, creative processes, and the craft of fiction, creative non-fiction, poetry, or playwriting.	GR	Lecture
Fall 2017	ENG6920	6920	Internship in Writing	English	3	Supervised professional writing in workplace setting.	GR	Internship
Fall 2017	ENG6930	6930	Internship in Teaching	English	3	Supervised college-level teaching or tutoring.	GR	Internship

Fall 2017	ENG6940	6940	TESOL Internship	English	3	Supervision of students teaching English to speakers of other languages.<b> Department Managed Prerequisite(s): (Undergraduate level ENG 4740 Minimum Grade of B or Graduate level ENG 6740 Minimum Grade of B or Undergraduate level ENG 4745 Minimum Grade of B or Graduate level ENG 6745 Minimum Grade of B or Undergraduate level ENG 4760 Minimum Grade of B or Graduate level ENG 66760 Minimum Grade of B) </b>	GR	Internship
Fall 2017	ENG6950	6950	TEFL Workshop	English	3	Intensive study of selected special topics or problems to meet the particular needs of participating students. Titles vary.	GR	Lecture
Fall 2017	ENG7010	7010	Meth & Mat: Literature	English	3	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 2017	ENG7020	7020	Meth & Mat: Rhet/Writ	English	3	Introduction to research in the field of composition and rhetoric. Emphasis on finding and using library resources, surveying research designs, and understanding and reporting research in the human sciences.	GR	Lecture
Fall 2017	ENG7030	7030	Meth & Mat: TESOL	English	3	Introduction to research in language and the TESOL field. Emphasis on finding and using library resources, surveying research designs, and understanding and reporting research in the human sciences.	GR	Lecture
Fall 2017	ENG7110	7110	Literary Theory	English	3	Examines current theoretical underpinnings of literary criticism and scholarship. 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 2017	ENG7120	7120	Rhetoric	English	3	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 2017	ENG7130	7130	Discourse Analysis	English	3	Introduction to the linguistic study of spoken and written language beyond the sentence level.	GR	Lecture
Fall 2017	ENG7140	7140	WMS: Theory & Literature	English	3	Explores gender and other variables of identity (e.g. ethnicity, class, sexuality, religious affiliation, disability) and their relationship to the production/consumption of texts. Readings include literary texts and feminist theory.	GR	Seminar
Fall 2017	ENG7200	7200	Teaching College Comp I	English	3	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 2017	ENG7210	7210	Teaching College Comp II	English	2	Introduction to the theory and pedagogy of research writing and argumentation and the teaching of ENG 2100. Requires concurrent teaching or tutorial experience.<b> Department Managed Prerequisite(s): Graduate level ENG 7200 Minimum Grade of B</b>	GR	Lecture
Fall 2017	ENG7220	7220	Creative Process	English	3	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 2017	ENG7230	7230	The Study of Writing	English	3	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.	GR	Lecture
Fall 2017	ENG7240	7240	Professional Writing	English	3	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 2017	ENG7320	7320	Sem in Lit/Gender	English	3	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 varv.	GR	Seminar
Fall 2017	ENG7330	7330	Seminar: Major Writers	English	3	Reading, research, reports, and discussion on topics dealing with a single writer or a small group of writers either of the same milieu or linked by a common theme, style, or subject matter.	GR	Seminar
Fall 2017	ENG7340	7340	Seminar: Literary Genres	English	3	Reading, research, reports, and discussion on topics dealing with a single literary genre (e.g., epic, novel, tragedy, lyric poetry, or historical drama).	GR	Seminar
Fall 2017	ENG7350	7350	Sem: Cultural Periods	English	3	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, Romanticism, or Postmodernism).<b> Department Managed Prerequisite(s): (Graduate level ENG 7010 Minimum Grade of C or Graduate level ENG 7020 Minimum Grade of C or Graduate level ENG 7030 Minimum Grade of C or Graduate level HUM 7000 Minimum Grade of C)</b>	GR	Seminar
Fall 2017	ENG7360	7360	Sem: Literary Problems	English	3	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	Seminar
Fall 2017	ENG7410	7410	Seminar: Comp Pedagogy	English	3	Reading, research, and discussion on topics dealing with theories and practices of teaching composition, such as historical contexts of composition programs, design of assignments, and teaching materials.	GR	Seminar

Fall 2017	ENG7420	7420	Seminar: Wtg Practices	English	3	Reading, practice, research and discussion of writing practices in academic and non-academic genres for pedagogical purposes. Focus on topics such as ethnography, multi-genre writing, new media literacies.	GR	Seminar
Fall 2017	ENG7430	7430	Seminar: Comp. Theories	English	3	Reading, research and discussion of current theories in the field of composition and rhetoric focusing on topics such as composition studies, literacy studies, social nature of language, and politics of assessment.	GR	Seminar
Fall 2017	ENG7500	7500	Seminar in TESOL	English	3	Reading, research, reports, projects, and discussion on English linguistic/TESOL topics, including phonetics, phonology, morphology, syntax, semantics, pragmatics, discourse analysis, text linguistics, sociolinguistics, psycholinguistics, language acquisition, historical linguistics, and TESOL pedagogy.	GR	Seminar
Fall 2017	ENG7510	7510	TESOL: Speak/Listen	English	3	Understanding and further developing the theory and practice of teaching listening and speaking, including issues of pronunciation, to speakers of English as a second, foreign, or international language.<b> Department Managed Prerequisite(s): (Graduate level ENG 7030 Minimum Grade of C or Graduate level ENG 7020 Minimum Grade of C or Graduate level ENG 7010 Minimum Grade of C or Graduate level HUM 7000 Minimum Grade of C) and (Undergraduate level ENG 4710 Minimum Grade of C or Graduate level ENG 4710 Minimum Grade of C) </b>	GR	Seminar
Fall 2017	ENG7520	7520	TESOL: Read/Write	English	3	Reading, research, reports, and discussion on topics dealing with TESOL reading and writing. Emphasis placed on examining the relationships between language and writing theory and practices in TESOL reading and writing.<b> Department Managed Prerequisite(s): (Graduate level ENG 7030 Minimum Grade of C or Graduate level ENG 7020 Minimum Grade of C or Graduate level ENG 7010 Minimum Grade of C or Graduate level HUM 7000 Minimum Grade of C) and (Undergraduate level ENG 4710 Minimum Grade of C or Graduate level ENG 4710 Minimum Grade of C) </b>	GR	Seminar
Fall 2017	ENG7550	7550	Study of World Englishes	English	3	Reading, research, reports, and discussion on topics dealing with the spread of World Englishes. Emphasis placed on studying the various forms English is taking throughout the world and the importance of English in international communication.<b> Department Managed Prerequisite(s): (Graduate level ENG 7030 Minimum Grade of C or Graduate level ENG 7020 Minimum Grade of C or Graduate level ENG 7010 Minimum Grade of C or Graduate level HUM 7000 Minimum Grade of C) </b>	GR	Seminar

Fall 2017	ENG7610	7610	Seminar in ILA	English	3	Advanced study of theory and pedagogy of the language arts: reading, writing, listening, speaking, viewing, and/or visually representing. Department Managed Prerequisite(s): (Graduate level ENG 7010 Minimum Grade of D or Graduate level ENG 7020 Minimum Grade of D or Graduate level ENG 7030 Minimum Grade of D or Graduate level HUM 7000 Minimum Grade of D)	GR	Seminar
Fall 2017	ENG7900	7900	Continuing Registration	English	1	Limited to students who have completed coursework toward the degree but who must maintain registered status, e.g. in any quarter prior to graduation in which the department is affording some service, such as advising toward and evaluating the graduate portfolio, reading a thesis, or giving advice on the thesis after completion of all other requirements of course work and research.	GR	Independent Study
Fall 2017	ENG7910	7910	Independent Study	English	3	Faculty-directed independent study in literature or language usually requiring reports and conferences with the instructor. A maximum of three credits may be applied to the M.A. degree.	GR	Independent Study
Fall 2017	ENG7990	7990	Thesis	English	3	To be arranged with the Director of Graduate Studies. Students will be allowed a maximum of three hours thesis credit toward the degree.	GR	Independent Study
Fall 2017	EP5220	5220	Optics	Engineering Physics	3	Study of optics using geometric and physical optics. Theory and applications of interferometry and light detection devices. Study of optical instruments. Brief introduction to lasers and holography.	GR	Lecture
Fall 2017	EP6000	6000	Semiconductor Physics	Engineering Physics	3	Study of crystal structure, electronic band structure, charge carriers in semiconductors, generation, recombination, and motion of charge carriers, electrical and optical properties. Covers structure and characteristics of p-n junctions, bipolar transistors, field effect transistors, and other selected devices. Design and computer modeling of devices.	GR	Lecture
Fall 2017	ES7010	7010	Sel Topics in Env Sci	Environmental Sciences	1	New or existing courses for which a formal ES course designation does not yet exist, but for which an ES course designation may be warranted on a case by case basis.	GR	Lecture/Recitation Combination
Fall 2017	ES7020	7020	Biogeochemical Cycles	Environmental Sciences	3	This course examines the how components of Earth (biosphere, hydrosphere, lithosphere, atmosphere)combine to affect how elements cycle through and between these components. This understanding forms the basis of the field of biogeochemistry. Topics include feedback loops, weathering, biological redox processes, nutrient cycling, gas fluxes, and how humans have modified Earth's biogeochemistry.	GR	Lecture



Fall 2017	ES7030	7030	Env Resource Sustain	Environmental Sciences	3	This course will help students construct a framework for developing sustainable solutions to environmental problems. Potential technological, economic, and policy-related approaches to sustainability will be discussed for a variety of environmental problems.	GR	Lecture
Fall 2017	ES7090	7090	Perspectives in Env Sci	Environmental Sciences	1	Explores current topics and contemporary research programs and ideas in Environmental Sciences.	GR	Seminar
Fall 2017	ES7120	7120	Env Bio Genes Org & Eco	Environmental Sciences	3	Graduate level introduction to environmental biology at multiple levels of biological organization including molecular biology, organismal physiology and evolutionary biology, and community and ecosystem ecology.	GR	Lecture
Fall 2017	ES7140	7140	Environmental Statistics	Environmental Sciences	3	Statistical techniques for the modeling and analysis of environmental data including advanced regression techniques, generalized linear models, and random effects. Also modeling of spatial and time-series environmental data, including spatio-temporal analysis, using appropriate software. Applications and case studies.	GR	Lecture
Fall 2017	ES7160	7160	Complexity in Env System	Environmental Sciences	4	This interdisciplinary course explores mathematical methods for quantitative analysis and modeling of complex nonlinear environmental systems. The course introduces the concepts and tools for analyzing and modeling: scaling in space and time, feedback, and self-organization in environmental systems including: ecology, hydrology, global climate change, and geodynamical systems. Two hours lecture and two hours lab are combined.	GR	Lecture
Fall 2017	ES7180	7180	Chem Processes in Envir	Environmental Sciences	3	Skills are developed to predict behavior and movement of chemical contaminants in atmospheric, aquatic and soil systems. Physical and chemical properties of contaminants and environmental interactions are evaluated to determine their ultimate fate.	GR	Lecture
Fall 2017	ES7650	7650	Comp Tools/Strategies	Environmental Sciences	4	This is a survey course of modern computational tools and strategies used in sequence, 3-D structure and functional analysis of biomolecules. Students will gain hands on "laboratory" experience with key software and strategies.	GR	Lecture
Fall 2017	ES7990	7990	Indep Topics & Research	Environmental Sciences	1	Research and problems designed for specific needs and talents of the students.	GR	Independent Study
Fall 2017	ES8080	8080	Internship Option	Environmental Sciences	5	The internship option is available to second year PhD students wishing to gain experience with an environmental professional in an approved interdisciplinary job setting and providing opportunity to formulate a dissertation research topic.	GR	Internship

Fall 2017	ES8130	8130	Dissertation Research	Environmental Sciences	1	Planning and execution of scholarly original research of a quality that is publishable in a refereed scientific journal. Research must be communicated to the Supervisory Committee in written form and defended by public oral examination	GR	Independent Study
Fall 2017	EXB3520	3520	Human Biomechanics	Exercise Biology	4	Analysis of muscular interrelationships in basic body movements; analysis of principles of mechanics as they relate to fundamental and complex motor skills.	UG	Lecture
Fall 2017	EXB3520 L	3520L	Human Biomechanics Lab	Exercise Biology	0	Required laboratory for EXB 3520.	UG	Lab
Fall 2017	EXB3530	3530	Exercise Physiology	Exercise Biology	4	Acute and chronic metabolic and physiological responses of the human body to exercise in health and disease. Exercise physiology as applied to fitness and performance. Includes programs that distinguish between health-related fitness and physiology of maximal performance	UG	Lecture
Fall 2017	EXB3530 L	3530L	Exercise Physiology Lab	Exercise Biology	0	Required laboratory for EXB 3530.	UG	Lab
Fall 2017	EXB4500	4500	Clin Exercise Phys	Exercise Biology	5	Use of exercise as it relates to the prevention of disease specific risk factors, the prevention of occurrence or reoccurrence of a disease-specific event.	UG	Lecture
Fall 2017	EXB4500 L	4500L	Clin Exercise Phys Lab	Exercise Biology	0	Required laboratory for EXB 4500.	UG	Lab
Fall 2017	EXB4520	4520	Exercise Pharmacology	Exercise Biology	3	The effect of exercise on the therapeutic actions of commonly used prescription and over-the-counter drugs. The effect of drugs on athletic performance is also emphasized.	UG	Lecture
Fall 2017	EXB4660	4660	Internship Exercise Bio	Exercise Biology	2	A capstone practicum experience involving work site training or a research project.	UG	Internship
Fall 2017	EXB6500 L	6500L	Clinical Exercise Phys Lab	Exercise Biology	0	Required laboratory for EXB 6500.	GR	Lab
Fall 2017	EXB6530 L	6530L	Exercise Physiology Lab	Exercise Biology	0	Required laboratory for BIO 4430.	GR	Lab
Fall 2017	FAS1010	1010	Agricultural Society	Food and Agricultural Systems	3	Introductory analysis of rural community capital, rural change, and current issues relevant to rural agricultural society.	UG	Lecture/Lab Combination
Fall 2017	FAS1050	1050	Amish Society	Food and Agricultural Systems	3	Introduces the history, culture and social organization of the Amish, with emphasis on the the cultural and social differences between Amish society and modern western cultures.	UG	Lecture
Fall 2017	FAS2000	2000	Intro to Food Science	Food and Agricultural Svstems	3	Overview of the food processing industry and basic concepts in food processing operations such as food components, chemistry and functionalitv. nutrition and quality.	UG	Lecture

Fall 2017	FAS2010	2010	Agricultural Economics	Food and Agricultural Systems	3	Fundamentals of economic issues relevant to the agricultural industry. Topics include agricultural production and distribution, markets, international trade, entitlement programs, and commodity contracts/trading.	UG	Lecture/Lab Combination
Fall 2017	FAS2030	2030	Intro Animal Science	Food and Agricultural Systems	3	Fundamentals of livestock production, including feeding and nutrition, reproductive physiology, selective breeding, health, management, and marketing of major and minor species.	UG	Lecture/Lab Combination
Fall 2017	FAS2040	2040	Intro Agronomy	Food and Agricultural Systems	3	Fundamentals of agronomic crop production, including crop biology and management, soils and soil water management, tillage seeding, plant breeding, seed and grain quality, and pest management.	UG	Lecture/Lab Combination
Fall 2017	FAS2050	2050	Intro to Horticulture	Food and Agricultural Systems	3	Designing, maintaining, and cultivating vegetable gardens. Topics include soil amendments, nutrients, integrated pest management, plant selection, garden layout, harvesting and produce care.	UG	Lecture/Lab Combination
Fall 2017	FAS2060	2060	Agriculture Study Tour	Food and Agricultural Systems	1	Exploration of economic, cultural, social, and agricultural production issues in a region (or regions) of the United States or abroad. Tours include agriculture business operations, farms/ranches, community/government tours, and cultural or historical components of significance.	UG	Lecture/Lab Combination
Fall 2017	FAS2100	2100	Farm Business Management	Food and Agricultural Systems	3	Fundamentals of farm business management. Principles of management, cost analysis, agricultural enterprise budgets, farm budgets, cash flow analysis, and organizational structure and planning in agricultural operations.	UG	Lecture/Lab Combination
Fall 2017	FAS2110	2110	Food Processing Unit Op	Food and Agricultural Systems	3	Food properties and principles of ambient temperature and post-processing operations. Department Managed Prerequisite(s): Undergraduate level FAS 2000 Minimum Grade of D and Undergraduate level MTH 1280 Minimum Grade of D and Undergraduate level CHM 1020 Minimum Grade of D	UG	Lecture
Fall 2017	FAS2120	2120	Food Proc Unit Op Lab	Food and Agricultural Systems	1	Introduction to basic food quality. Processing effects on food quality characteristics based on ambient temperature and post-processing techniques.	UG	Lab
Fall 2017	FAS2150	2150	Princ Food Process Eng	Food and Agricultural Systems	3	Principles of process engineering including mass and energy balances, fluid flow, mass and heat transfer, and their relation to food equipment design, process design, and food quality. Department Managed Prerequisite(s): Undergraduate level PHY 1110 Minimum Grade of D and Undergraduate level PHY 1110L Minimum Grade of D and Undergraduate level MTH 2300 Minimum Grade of D	UG	Lecture
Fall 2017	FAS2160	2160	Princ Food Proc Eng Lab	Food and Agricultural Systems	1	Application of food process engineering principles to solve technical problems in food processing.	UG	Lab

Fall 2017	FAS2200	2200	Adv Food Process Unit Op	Food and Agricultural Systems	3	Food processing by application and removal of heat.<b> Department Managed Prerequisite(s): Undergraduate level FAS 2110 Minimum Grade of D and Undergraduate level FAS 2120 Minimum Grade of D and Undergraduate level FAS 2150 Minimum Grade of D and Undergraduate level FAS 2160 Minimum Grade of D</b>	UG	Lecture
Fall 2017	FAS2210	2210	Adv Fd Proc Unit Op Lab	Food and Agricultural Systems	1	Thermal effects on food properties and quality characteristics.	UG	Lab
Fall 2017	FAS2300	2300	Food Plant San and HACCP	Food and Agricultural Systems	3	Principles and practices required to keep the food plant free from potential hazards to human health. Students will learn how to develop and maintain a food safety hazard analysis and critical control points (HACCP) plan.<b> Department Managed Prerequisite(s): Undergraduate level FAS 2000 Minimum Grade of D</b>	UG	Lecture
Fall 2017	FAS2400	2400	Food Microbiology	Food and Agricultural Systems	3	Microorganisms of importance to the food industry: their characteristics, utilization and control.<b> Department Managed Prerequisite(s): Undergraduate level BIO 1120 Minimum Grade of D and Undergraduate level BIO 1120L Minimum Grade of D</b>	UG	Lecture
Fall 2017	FAS2410	2410	Food Microbiology Lab	Food and Agricultural Systems	1	Microorganisms of importance to the food industry: characteristics, utilization and control.	UG	Lab
Fall 2017	FAS2500	2500	Food Chem and Analysis	Food and Agricultural Systems	3	Chemistry of various food components, and methods of analysis.<b> Department Managed Prerequisite(s): Undergraduate level CHM 2110 Minimum Grade of D and Undergraduate level CHM 2110L Minimum Grade of D</b>	UG	Lecture
Fall 2017	FAS2510	2510	Food Chem Analysis Lab	Food and Agricultural Systems	1	Scientific measurements of food components and important chemical reactions in foods.	UG	Lab
Fall 2017	FAS2610	2610	Livestock Management	Food and Agricultural Systems	3	Evaluation of livestock management systems based on animal welfare, environment protection, worker safety and food safety. Topics include proper animal treatment, safe handling of animals, biosecurity, medication, livestock records, facility management, workplace safety, and environmental stewardship	UG	Lecture/Lab Combination
Fall 2017	FAS2690	2690	Ag Science Topics	Food and Agricultural Systems	1	Focused study in an area of interest in agricultural science.	UG	Lecture/Lab Combination

Fall 2017	FAS2700	2700	Intro Int Pest Manage	Food and Agricultural Systems	3	Identification and management of diseases, insects, and weeds in crop production systems. Topics include pesticide safety, pesticide characteristics, pesticide handling, environmental stewardship, application methods, equipment calibration, laws and regulations, pest monitoring, and pest identification.	UG	Lecture/Lab Combination
Fall 2017	FAS2720	2720	Clim Weather Crop Growth	Food and Agricultural Systems	3	Impacts of weather and climate on agriculture crop production. Topics include growing degree days, weather systems, risk management tools for crop production, plant disease issues, and the principles of weather and climate.	UG	Lecture/Lab Combination
Fall 2017	FAS2730	2730	Nutrient Management	Food and Agricultural Systems	3	Fundamental concepts of soil sampling, soil test interpretation, and development of nutrient recommendations for crop production. Topics include common fertilizers and other nutrient sources, application rates to satisfy crop production requirements, and application methods and timing of nutrients in various forms.	UG	Lecture/Lab Combination
Fall 2017	FAS2790	2790	Ag Business Topics	Food and Agricultural Systems	1	Focused study in an area of interest in Agricultural Business.	UG	Lecture/Lab Combination
Fall 2017	FAS2810	2810	Intro Precision Ag	Food and Agricultural Systems	3	Introduction to precision agriculture. Topics include rate controllers, monitors, weather modeling software, GPS, WAAS, RTK, variable rate fertilizer, variable rate planting, variable rate nitrogen, SST software, and development of variable rate product recommendations.	UG	Lecture/Lab Combination
Fall 2017	FAS2870	2870	Practicum I	Food and Agricultural Systems	1	Individual supervised learning experiences and on-site seminars under the direction of instructor and site staff.	UG	Practicum
Fall 2017	FAS3100	3100	Agriculture Finance	Food and Agricultural Systems	3	Agriculture finance tools and resources utilized in modern agricultural business operations. Topics include insurance, legal contracts, commodity markets, USDA farm bill programs, taxation, and lending programs. <b> Department Managed Prerequisite(s): Undergraduate level FAS 2100 Minimum Grade of D</b>	UG	Lecture
Fall 2017	FAS3110	3110	Agriculture Marketing	Food and Agricultural Systems	3	Marketing of grain and livestock along with the products derived from them. Fundamentals and practical applications on marketing agricultural commodities. Topics include futures, basis, commodity trading, and marketing strategies.	UG	Lecture/Lab Combination
Fall 2017	FAS3120	3120	Agriculture Laws	Food and Agricultural Systems	3	Study of the U.S. legal system and areas of law that relate to agriculture and agribusiness. Topics include contracts, torts and civil liability, property, business organizations, environmental issues, and other relevant topics.	UG	Lecture

Fall 2017	FAS3310	3310	Animal Science Industry	Food and Agricultural Systems	3	Fundamentals of livestock production, including feeding and nutrition, reproductive physiology, selective breeding, health, management, and marketing of major and minor species. Current and projected business developments in the livestock industry.	UG	Lecture
Fall 2017	FAS3320	3320	Agronomic Industry & Bus	Food and Agricultural Systems	3	Fundamentals of agronomic crop production, including crop biology and management, soils and soil water management, tillage and seeding, plant breeding, seed and grain quality, pest management, agricultural sustainability, and future developments.	UG	Lecture
Fall 2017	FAS3500	3500	Animal Nutrition	Food and Agricultural Systems	3	Introduction to animal nutrition covering all aspects of nutrition for domestic animals from fundamentals of nutrition through feeds and feeding (digestion, absorption, assimilation, and utilization of nutrients, basic balancing of rations, and identification of feedstuffs).	UG	Lecture/Lab Combination
Fall 2017	FAS3510	3510	Intro Animal Health Phys	Food and Agricultural Systems	3	Introduction to basic fundamentals of animal health and physiology in livestock including terminology, disease identification, response, management, prevention, and animal care.	UG	Lecture/Lab Combination
Fall 2017	FAS3520	3520	Livestock Breed Reproduc	Food and Agricultural Systems	3	Comparative anatomy and physiology of the male and female reproductive systems of domestic animals, endocrinology of reproduction, gestation and parturition.	UG	Lecture/Lab Combination
Fall 2017	FAS3870	3870	Practicum II	Food and Agricultural Systems	1	Individualized, supervised learning experience including on-site seminars under the direction of the instructor and on-site staff. <b> Department Managed Prerequisite(s): Undergraduate level FAS 2870 Minimum Grade of D</b>	UG	Practicum
Fall 2017	FAS4000	4000	Cereal Technology	Food and Agricultural Systems	3	Cereal grains, their quality attributes, common processing technologies and end product utilization. <b> Department Managed Prerequisite(s): Undergraduate level FAS 2500 Minimum Grade of D</b>	UG	Lecture
Fall 2017	FAS4100	4100	Food Laws and Regulation	Food and Agricultural Systems	3	Laws governing food processing in the United States and other major regions in the world.	UG	Lecture
Fall 2017	FAS4200	4200	Food Product Development	Food and Agricultural Systems	3	A capstone project using food science knowledge and skills to develop a new food product.	UG	Lecture/Lab Combination
Fall 2017	FAS4300	4300	Lean Six Sigma Proc Food	Food and Agricultural Systems	3	Lean/Six Sigma principles and practices and implementation of Lean/Six Sigma initiatives in a food manufacturing environment.	UG	Lecture
Fall 2017	FAS4790	4790	Special Topics	Food and Agricultural Systems	1	Focused study in an area of interest in food and agricultural systems.	UG	Lecture

Fall 2017	FIN2050	2050	Personal Fin Decision	Finance	3	This course provides an overview of the theories, concepts, and principles of personal financial management, with an emphasis on daily financial decision-making. The course emphasizes 1) goal setting and everyday financial decision-making as they influence long-term goals, and 2) understanding macro-economics and financial systems as they influence individuals lives. Topics covered include personal financial statements, consumer debt management, insurance and retirement and estate planning.	UG	Lecture
Fall 2017	FIN2210	2210	Financial Management I	Finance	3	Introduces basic concepts, principles, and analytical techniques of financial management. Topics include financial planning and analysis, risk and return, time value of money, cost of capital, capital budgeting, and capital structure.	UG	Lecture
Fall 2017	FIN3110	3110	Financial Management II	Finance	3	Emphasizes financial decisions. Topics include dividend policy, current asset management and financing, derivatives and risk management, international finance, hybrid forms of financing, and mergers and acquisitions.	UG	Lecture
Fall 2017	FIN3120	3120	Investing in Securities	Finance	3	Introduction to the theory and practice of investing in stocks, bonds, and other securities.	UG	Lecture
Fall 2017	FIN3160	3160	Foundations of Fin Plan	Finance	3	Basic concepts and techniques of financial planning from the perspective of a professional financial planner.	UG	Lecture
Fall 2017	FIN3210	3210	International Fin Mgt	Finance	3	Study of the international aspects of financial management. Topics include foreign exchange management, international capital budgeting, international financing, tax planning, and working capital management.	UG	Lecture
Fall 2017	FIN3220	3220	Intro Quantitative Fin	Finance	3	Introduction to algorithmic trading and Direct Market Access (DMA) trading strategies. Class participants will analyze market microstructure, order placement and execution tactics used in trading financial assets. Quantitative trading strategies will be discussed in detail. Excel will be used extensively in this course. A background in programming is recommended.	UG	Lecture/Lab Combination
Fall 2017	FIN3240	3240	Real Estate Prin&Pract	Finance	3	Introduction to the principles and practices of real estate. Topics include the real estate profession and industry, real estate contracts, market analysis, valuation approaches, financing techniques, investment analysis, and home ownership. Successful completion of this course meets part of the licensing requirements for real estate salespeople in Ohio.	UG	Lecture
Fall 2017	FIN3260	3260	Risk and Insurance	Finance	3	Introduction to principles and practices of personal risk management and insurance. Topics include property and liability insurance, life insurance, disability insurance, health insurance, and social security.	UG	Lecture

Fall 2017	FIN3280	3280	Entrepreneurial Finance	Finance	3	Financing of small and medium sized businesses from the perspective of both the entrepreneur and investors. Study how the financing decisions of small and medium sized private companies differ from those of public firms. They will also see how the valuation methods used in Financial Management I are applied in practice.	UG	Lecture
Fall 2017	FIN4020	4020	Real Money Investing	Finance	3	Provides hands-on experience in managing an investment portfolio using real money from the University Foundation. The course helps students learn about asset valuation and allocation, and portfolio management.	UG	Lecture
Fall 2017	FIN4120	4120	Fixed Income Securities	Finance	3	Introduction to the valuation of fixed income securities and the management of fixed income investment portfolios.	UG	Lecture
Fall 2017	FIN4130	4130	Financial Derivatives	Finance	3	Provide students with an understanding of futures, options, and swaps.	UG	Lecture
Fall 2017	FIN4140	4140	Real Estate Law	Finance	3	Includes all areas of law commonly concerned with the typical real estate practitioner and investor-consumer. Topics include the law of agency as applied to real estate brokers and salespeople, law of fixtures, estates (including leases), conveyancing of real estate, real estate managers, zoning, cooperatives, condominiums, and license laws of Ohio. Successful completion of this course meets part of the licensing requirements for real estate salespeople in Ohio.	UG	Lecture
Fall 2017	FIN4150	4150	Real Estate Fin & App	Finance	3	In-depth study of real estate finance and the theory and practice of appraising real estate. Successful completion of this course meets part of the licensing requirements for real estate sales people in Ohio. Integrated Writing course.	UG	Lecture
Fall 2017	FIN4160	4160	Retirement Planning	Finance	3	Retirement planning and employee benefits and the application of these concepts to overall financial planning for individuals and small businesses.	UG	Lecture
Fall 2017	FIN4210	4210	Financial Management III	Finance	3	Applies financial concepts and analytical techniques to financial decision making. Extensive use of cases.	UG	Lecture
Fall 2017	FIN4220	4220	Analysis Corp Fin Info	Finance	3	Analysis of corporate financial information from an investment analyst perspective. Integrated Writing course.	UG	Lecture
Fall 2017	FIN4240	4240	Investing in Real Estate	Finance	3	Explores the theory and practice of real estate investment analysis as it relates to personal financial planning objectives.	UG	Lecture
Fall 2017	FIN4260	4260	Estate Planning	Finance	3	Theoretical and practical approach to estate planning. Includes estate and gift taxes, wills, trusts, and estate planning techniques.	UG	Lecture
Fall 2017	FIN4270	4270	Practicum in Fin Plan	Finance	3	Financial planning laboratories and workshops on interviewing techniques, data gathering, plan preparation, and computerized planning models. Integrated Writing course.	UG	Lecture
Fall 2017	FIN4770	4770	Independent Study in Fin	Finance	1	Independent study in selected areas of finance or financial services.	UG	Independent Study



Fall 2017	FIN4780	4780	Hon: Ind Study in Finance	Finance	1	Research in finance for fulfillment of the Honors program project requirement.	UG	Independent Study
Fall 2017	FIN4800	4800	Special Topics in Fin	Finance	3	Seminar in a finance topic of current and timely interest. Topics vary.	UG	Seminar
Fall 2017	FIN4810	4810	Internship in Finance	Finance	1	Faculty-supervised internship in finance. Students work in a firm or public agency, participate in seminars, and submit reports. Topics vary.	UG	Internship
Fall 2017	FIN4860	4860	Internship in FIN Serv.	Finance	1	One-semester faculty-supervised internship in financial services. Students work in a firm or public agency, participate in seminars, and submit reports. Topics vary. Organized by week (14 week academic calendar and final exam) or other defined schedules.	UG	Internship
Fall 2017	FIN6120	6120	Fixed Income Sec. Analys	Finance	3	Introduction to the valuation of fixed income securities and the management of fixed income investment portfolios.	GR	Lecture
Fall 2017	FIN6130	6130	Derivatives	Finance	3	Provides students with an understanding of futures, options, and swaps.	GR	Lecture
Fall 2017	FIN6220	6220	Analysis Corp. Fin. Info	Finance	3	This course analyzes corporate financial information from an investment analyst perspective.	GR	Lecture
Fall 2017	FIN7120	7120	Investing in Securities	Finance	3	Concepts, theories, and techniques underlying the development of investment policies and strategies.	GR	Lecture
Fall 2017	FIN7240	7240	Sem in Corp. Finance	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	Seminar
Fall 2017	FIN7250	7250	Sem Interntl Fin Mnqt.	Finance	3	Advanced treatment of the concepts and techniques of international financial management.	GR	Seminar
Fall 2017	FIN7500	7500	Fin Mgt Health Care Org	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 2017	FIN7810	7810	Special Studies Fin	Finance	1	Intensive reading or research in a selected field of advanced finance.	GR	Independent Study
Fall 2017	FMS1310	1310	Intro to Film Studies	Film and Media Studies	3	Examines critical approaches of authorship, genre, presentation, and narrative, with an emphasis on the language of cinema, basic film concepts, techniques, and terminology. Topics include spectatorship, ideology, social and political context, celebrity culture, ambits of meaning, and modes of criticism.	UG	Lecture
Fall 2017	FMS2300	2300	Interdisc Film Studies	Film and Media Studies	3	Examination of films related to specific disciplines—for instance, films adapted from literature or depicting literary figures, depicting historical periods or figures, illustrating psychological concepts, etc. Can be repeated on different topics. <b> Department Managed Prerequisite(s): Undergraduate level FMS 1310 Minimum Grade of D</b>	UG	Lecture

Fall 2017	FR1010	1010	Beginning French I	French	3	Communicative introduction to French structures and vocabulary and to French and Francophone cultures. Practice in speaking, listening, reading and writing. Taught in French.	UG	Lecture
Fall 2017	FR1020	1020	Beginning French II	French	3	Communicative introduction to French structures and vocabulary and to French and Francophone cultures. Practice in speaking, listening, reading and writing. Taught in French.	UG	Lecture
Fall 2017	FR2010	2010	Intermediate French I	French	3	Grammar review, reading, and discussion of selected texts and film shorts, with practice in speaking and writing the language. Taught in French.	UG	Lecture
Fall 2017	FR2020	2020	Intermediate French II	French	3	Grammar review, reading, and discussion of selected texts and film shorts, with practice in speaking and writing the language. Taught in French.	UG	Lecture
Fall 2017	FR2500	2500	Int Fr II Study Abroad	French	3	Intermediate French course taught in context of instructor-led study abroad program. Intensive, exclusive use of target language in class and in daily exchanges with native speakers. Focus on communicative skills, aural reception, oral production, comparative culture, and etiquette.	UG	Lecture
Fall 2017	FR3110	3110	French Conversation	French	3	Practice in oral use of French emphasizing the culture of the French-speaking world. Taught in French.	UG	Lecture
Fall 2017	FR3120	3120	French Conv and Society	French	3	Practice in oral use of French emphasizing the culture of the French-speaking world. Taught in French.	UG	Lecture
Fall 2017	FR3210	3210	Writing in French	French	3	Writing techniques and grammar review; emphasis on storytelling. Taught in French. Integrated Writing course.	UG	Lecture
Fall 2017	FR3220	3220	Adv Writing in French	French	3	Writing techniques and grammar review; literary and film analysis incorporating grammar points. Taught in French. Integrated Writing course.	UG	Lecture
Fall 2017	FR3250	3250	Business French	French	3	An introduction to the language and practices of business French with insight into France's place in the global economy. Taught in French.	UG	Lecture
Fall 2017	FR3310	3310	Survey of French Literat	French	3	Middle Ages to the present. An overview of trends, thought, and style. Taught in French.	UG	Lecture
Fall 2017	FR3320	3320	Francophone Culture	French	3	Introduction to the culture and literature from one or more regions of the French-speaking world. Taught in French. Integrated writing in major course.	UG	Lecture
Fall 2017	FR3500	3500	French Ambassador Prog	French	3	Professor-led study abroad program in a French speaking country, such as France, Canada (Québec or Acadia), a Francophone Caribbean or African country. Taught in French.	UG	Lecture
Fall 2017	FR3510	3510	French Civilization	French	3	Study of the main currents of French civilization with emphasis on historical aspects. Conducted in French.	UG	Lecture

Fall 2017	FR3550	3550	French Service Learning	French	3	Students engage in an international service learning project in teaching, translation or interpreting in a Francophone country. Student must be enrolled in a Wright State sponsored Ambassador Program to a French-speaking country, such as France, Canada (Quebec), or Senegal.	UG	Practicum
Fall 2017	FR3610	3610	French Phonetics	French	3	Pronunciation, diction, rhythm, and intonation. Transcription exercises and oral production. Taught in French.	UG	Lecture
Fall 2017	FR3700	3700	Internship in French	French	3	Supervised use of French in workplace settings. Must complete an application available from the Department of Modern Languages. Minimum time commitment 135 hours a semester, including a minimum of 120 hours of on-site work. Senior standing and advisor permission required.	UG	Internship
Fall 2017	FR3810	3810	Applied Elem Fr Instruct	French	1	French majors and minors assist FR 1010 or FR 1020 course instructors in conducting classes. Taught in French.	UG	Independent Study
Fall 2017	FR3820	3820	Applied Elem Fr Instruct	French	1	French majors and minors assist FR 1010 or FR 1020 course instructors in conducting classes. Taught in French.	UG	Independent Study
Fall 2017	FR3830	3830	Applied Elem Fr Instruct	French	1	French majors or minors assist FR 1010 or FR 1020 instructors in conducting classes. Taught in French.	UG	Independent Study
Fall 2017	FR3980	3980	Studies in Selec Subj	French	1	Individual research project approved and supervised by a full-time faculty member. Taught in French.	UG	Lecture
Fall 2017	FR3990	3990	Studies Selected Subject	French	1	Individual research project approved and supervised by a full-time faculty member. Taught in French.	UG	Independent Study
Fall 2017	FR4030	4030	Adv Studies:Lang Civiliz	French	3	Advanced level course on French or Francophone literature, culture or film. Topics vary. Taught in French.	UG	Lecture
Fall 2017	FR4210	4210	Literature of Middle Age	French	3	Selected medieval texts: epic poems, romances, and plays. Taught in French.	UG	Lecture
Fall 2017	FR4420	4420	17th & 20th Cent Theatre	French	3	Themes of destiny and divinity in 17th- and 20th-century French drama. Analysis of plays and their socio-historical context. Playwrites such as Corneille, Racine, Molière, Giraudoux, Sartre, Beckett, and Ionesco. Taught in French. Integrated Writing course.	UG	Lecture
Fall 2017	FR4500	4500	Senior Honors Project	French	1	Capstone project for French majors involving independent research, service learning, or a creative project. Topics vary. Taught in French.	UG	Independent Study
Fall 2017	FR4530	4530	Post Revolution Poetry	French	3	Romantics, symbolists, decadents, and surrealists, including Baudelaire, Rimbaud, Verlaine, Mallarmé, Apollinaire and Prévert. Taught in French. Integrated Writing course.	UG	Lecture
Fall 2017	FR4540	4540	19th Century Short Story	French	3	Study of short stories by such authors as Mérimée, Gautier, Balzac, Daudet, Flaubert, Stendhal, Maupassant, and Villiers de l'Isle Adam. Taught in French.	UG	Lecture
Fall 2017	FR4630	4630	20th Cent Lit: Drama	French	3	Study of contemporary plays by playwrights such as Anouilh, Beckett, Césaire, Duras, Genet, Ionesco and Sartre. Taught in French.	UG	Lecture

Fall 2017	FR4640	4640	FR Canadian Lit & Film	French	3	French Canadian literature and film in its socio-historical context, with focus on works of Acadian and Quebecois poets, novelists and playwrights (such as Maillet, Tremblay, Thériault) and filmmakers (such as Forest, Chiasson, Bélanger, Mitrani, Saia, and Filiatrault). Taught in French.	UG	Lecture
Fall 2017	FR4650	4650	French/Francophone Lit	French	3	Selected topics in French and Francophone literature and film that investigate various themes, myths, genres, literary movements, or characters. Titles vary.	UG	Lecture
Fall 2017	FR4810	4810	Independent Study	French	3	Topics vary.	UG	Independent Study
Fall 2017	FR4820	4820	Independent Reading	French	3	Topics vary.	UG	Independent Study
Fall 2017	FR4910	4910	History of French Film	French	3	Survey of the main movements of French cinema from 1895 to the present, featuring works by directors such as Vigo, Renoir, Carné, Cocteau, Tati, Bresson, Truffaut, Godard, Resnais, Varda, etc. Taught in French. Integrated Writing course.	UG	Lecture
Fall 2017	FR4920	4920	Occupation Cinema	French	3	Analysis of films made during and after the Occupation of France, such as L'Oeil de Vichy, Le Dernier Métro, Lacombe Lucien, L'Armée des Ombres, Au revoir les enfants, etc. Integrated Writing course.	UG	Lecture
Fall 2017	FR4930	4930	Franco-American Films	French	3	This course will examine the Americanization of selected French language films as a powerful tool for cross-cultural comparison. Film pairs analyzed may include Breathless and À Bout de souffle, Les Visiteurs and Just Visiting, La Femme infidèle and Unfaithful, etc. Taught in French. Integrated Writing course.	UG	Lecture
Fall 2017	FR4940	4940	Cuisine et Film	French	3	Study of traditional French gastronomy, from the way it is portrayed in film to the way it is prepared, served and enjoyed. Hands on cooking classes complement film and cultural analysis.	UG	Lecture
Fall 2017	FR5110	5110	French Conversation	French	3	Practice in oral use of French emphasizing the culture of the French-speaking world. Taught in French.	GR	Lecture
Fall 2017	FR5120	5120	Oral Proficiency French	French	3	Practice in oral use of French emphasizing the culture of the French-speaking world. Taught in French.	GR	Lecture
Fall 2017	FR5210	5210	Writing in French	French	3	Writing techniques and grammar review; written stylistic analyses.	GR	Lecture
Fall 2017	FR5220	5220	Adv Writing in French	French	3	Writing techniques and grammar review; literary and film analysis incorporating grammar points. Taught in French.	GR	Lecture
Fall 2017	FR5250	5250	Business French	French	3	An introduction to the language and practices of business French with insight into France's place in the global economy. Taught in French.	GR	Lecture
Fall 2017	FR5310	5310	Survey of French Lit	French	3	Middle Ages to the present. An overview of trends, thoughts and style. Taught in French.	GR	Lecture

Fall 2017	FR5320	5320	Survey of Francophone Li	French	3	Introduction to the culture and literature from one or more regions of the French speaking world. Topics vary. Taught in French.	GR	Lecture
Fall 2017	FR5510	5510	French Civilization	French	3	Study of the main currents of French civilization with emphasis on historical aspects. Conducted in French.	GR	Lecture
Fall 2017	FR5610	5610	French Phonetics	French	3	Pronunciation, diction, rhythm, and intonation. Transcription exercises and oral production. Taught in French.	GR	Lecture
Fall 2017	FR5810	5810	Applied Elem Fr Instr	French	1	Graduate students assist FR 1010 or FR 1020 course instructors in conducting French classes. Taught in French.	GR	Internship
Fall 2017	FR5820	5820	Applied Elementary Lang	French	1	Graduate students assist FR 1010 or 1020 course instructors in conducting classes. Taught in French.	GR	Lecture
Fall 2017	FR5830	5830	Applied Elementary Lang	French	1	Graduate students assist FR 1010 or FR 1020 course instructors in conducting class. Taught in French.	GR	Lecture
Fall 2017	FR5900	5900	Foreign Lang Institute	French	1	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	Independent Study
Fall 2017	FR5990	5990	Studies in Selected Subj	French	1	Graduate level research and writing in the field of French. Topics vary. Taught in French.	GR	Lecture
Fall 2017	FR6030	6030	Adv Studies: Lang Civili	French	3	Course content will vary. Topic chosen by instructor. Conducted in French.	GR	Lecture
Fall 2017	FR6110	6110	FR Instruc Practicum I	French	1	Peer teachers observe elementary and/or intermediate level classes, interacting with students, teaching mini-units on culture, language, and literature, incorporating into lessons the principles of the Proficiency Method and the National Standards for Language Teaching	GR	Practicum
Fall 2017	FR6120	6120	FR Instruc Practicum II	French	1	Peer teachers observe elementary and/or intermediate level classes, continuation of practicum from FR 6110.	GR	Practicum
Fall 2017	FR6130	6130	FR Instruc Practicum III	French	1	Peer teachers observe elementary and/or intermediate level classes. Continuation of practicum from FR 6120.	GR	Practicum
Fall 2017	FR6210	6210	Lit of the Middle Ages	French	3	Selected medieval texts: epic poems, romances, and plays. Taught in French.	GR	Lecture
Fall 2017	FR6420	6420	17th & 20th Cent Theatre	French	3	Themes of destiny and divinity in 17th and 20th century French drama. Analysis of plays and their socio-historical context. Playwrites such as Corneille, Racine, Molière, Giraudoux. Sartre. Beckett. and Ionesco. Taught in French.	GR	Lecture
Fall 2017	FR6500	6500	Grad Capstone Project	French	1	Capstone project involving independent research with written and oral final presentations. Topics vary. Taught in French.	GR	Independent Study
Fall 2017	FR6530	6530	Post Revolution Poetry	French	3	Romantics, symbolists, decadents, and surrealists, including Baudelaire, Rimbaud, Verlaine, Mallarmé, Apollinaire and Prévert. Taught in French.	GR	Lecture

Fall 2017	FR6540	6540	19th Century Short Story	French	3	Study of short stories by such authors as Mérimée, Gautier, Balzac, Daudet, Flaubert, Stendhal, Maupassant, Huysmans and Villiers de l'Isle Adam. Taught in French.	GR	Lecture
Fall 2017	FR6630	6630	20th Cent Lit: Drama	French	3	Study of modern French theatre including: Cocteau, Giraudoux, Anouilh, Beckett, Ionesco, Césaire, Duras, Genet and Sartre. Taught in French.	GR	Lecture
Fall 2017	FR6640	6640	FR Canadian Lit & Film	French	3	French Canadian literature and film in its socio-historical context, with focus on works of Acadian and Québécois poets, novelists and playwrights (such as Maillet, Tremblay, Thériault) and filmmakers (such as Forest, Chiasson, Bélanger, Mitrani, Saia and Filiatrault). Taught in French.	GR	Lecture
Fall 2017	FR6650	6650	Topics in FR Lit & Film	French	3	Examination of selected topics in French literature and film. Investigation of various themes, myths, genres, literary movements or characters. Titles varv. Taught in French.	GR	Lecture
Fall 2017	FR6810	6810	Ind Read for Grad Studen	French	3	Independent reading for graduate students. Taught in French.	GR	Independent Study
Fall 2017	FR6820	6820	Ind Read for Grad Studen	French	3	Independent reading for graduate students. Taught in French.	GR	Independent Study
Fall 2017	FR6910	6910	History of French Film	French	3	Survey of the main movements of French cinema from 1895 to the present, featuring works by directors such as Vigo, Renoir, Carné, Cocteau, Tati, Bresson, Truffaut, Resnais, Godard, Varda, etc. Taught in French.	GR	Lecture
Fall 2017	FR6920	6920	Fren Occupation Films	French	3	Analysis of films made during and after the Occupation of France, such as L'Oeil de Vichy, Le Dernier Métro, Lacombe Lucien, L'Armée des Ombres, Au revoir les enfants, etc.	GR	Lecture
Fall 2017	FR6930	6930	Franco-American Films	French	3	This course will examine the Americanization of selected French language films as a powerful tool for cross-cultural comparison. Film pairs analyzed will include Breathless and À Bout de souffle, Les Visiteurs and Just Visiting, La Femme infidèle and Unfaithful, etc. Taught in French.	GR	Lecture
Fall 2017	FR6940	6940	Cuisine et Film	French	3	How does French cuisine relate to the French psyche? This course offers a profound study of traditional French gastronomy, from the way it is portrayed in film to the way it is prepared, served and enjoyed. Hands on cooking classes compliment film and cultural analysis.	GR	Lecture
Fall 2017	GEO2100	2100	Physical Geography	Geography	3	Human natural environment at regional and global scales including the intersections of climate, soils, vegetation, landscapes, and people.	UG	Lecture
Fall 2017	GEO2200	2200	Human Geography	Geography	3	Spatial characteristics of human activities. Examination of settlement, population, religion and language patterns.	UG	Lecture

Fall 2017	GEO2210	2210	NW Human Environments	Geography	3	Human development and the impact of globalization on patterns of land use, population, economic activity, culture, settlements, and political systems in Asia, Africa, Latin America and the Middle East. Credit will not be given for GEO 2210 Nonwestern Human Environments to students who have already successfully completed CST 2210 Comparative Nonwestern Environments. Integrated Writing course.	UG	Lecture
Fall 2017	GEO2300	2300	Global Awareness	Geography	3	Introduction to maps and using maps as means of developing global awareness.	UG	Lecture
Fall 2017	GEO3100	3100	Economic Geography	Geography	3	Geographic factors that influence human economic activities and explain patterns of production, consumption of goods and services, and location change.	UG	Lecture
Fall 2017	GEO3200	3200	Comm/Regional Planning I	Geography	3	Development of city planning as a professional discipline that has significantly shaped urban spaces. Planning practices and theories related to spatial patterns and design, including location theory and democratic processes.	UG	Lecture
Fall 2017	GEO3300	3300	World Regional Geography	Geography	3	Spatial characteristics that comprise world regions and connections between world regions utilizing environmental, cultural, political and economic factors.	UG	Lecture
Fall 2017	GEO3400	3400	Urban Geography	Geography	3	Spatial development of urban areas in United States and selected urban areas globally. Examines scale, characteristics, and interconnectedness of urban areas using location quotients, technology development, and population migration concepts.	UG	Lecture
Fall 2017	GEO3500	3500	Environmental Geography	Geography	3	Economic and spatial examination of resources with an emphasis upon and analysis of supply, consumption and sustainability. Conservation presented as a principal strategy to manage resources for future generations. Integrated Writing course.	UG	Lecture
Fall 2017	GEO3600	3600	Geo-Spatial Mapping	Geography	3	Study of geo-spatial concepts to analyze data. Utilizes freeware to map and interpret social, economic, political, and demographic data. Designed for majors and future professionals in education, planning, marketing, and other fields.	UG	Lecture
Fall 2017	GEO3700	3700	Regional Geography	Geography	3	Major and minor regions around the world. Physical and cultural factors used to compare and contrast selected regions.	UG	Lecture
Fall 2017	GEO4000	4000	Climate Meteorology	Geography	3	Principles of climatic classification and the atmospheric system. Observation, measurement, and analysis of climatic elements and the atmosphere at rest and in motion.	UG	Lecture
Fall 2017	GEO4100	4100	Remote Sensing	Geography	3	Survey of remote sensing spatial analysis. Applications, technology, and spatial measurements used to interpret remote sensed images.	UG	Lecture

Fall 2017	GEO4200	4200	Remote Sensing Apps	Geography	3	Application of geographic methodology to social, political and environmental problems utilizing remote sensed images. Development of capacity to interpret remote sensed data and complete an analysis of data.	UG	Lecture
Fall 2017	GEO4400	4400	Comm/Reg. Planning II	Geography	3	Planning structures, developing plans, and preparing analytical studies needed to make planning decisions. Solving social and economic problems using planning tools.	UG	Lecture
Fall 2017	GEO4410	4410	Cartography	Geography	4	Basic concepts of cartography, including components of maps, coordinate system, spatial projections, and map design. Special emphasis on data, computational methods and ethical cartographic practices.	UG	Lecture
Fall 2017	GEO4430	4430	Geographic Info Systems	Geography	4	Principles, structure and application of macro and micro spatial analytical techniques. Use of state-of-the art software to create map layers that can be stacked and interpreted.	UG	Lecture
Fall 2017	GEO4440	4440	Advanced GIS Apps	Geography	4	Advanced geo-spatial analysis techniques using ArcView and ArcGIS software. Use of GIS analysis and technology to describe spatial elements of public and private sector development issues and forecast change.	UG	Lecture
Fall 2017	GEO4460	4460	Transport Principles	Geography	3	Principles related to developing and managing public and human service transportation systems. Role of public and human service transportation in society; history and geography of public transportation; and spatial, funding, organizational, cost benefit, labor, and customer service issues.	UG	Lecture
Fall 2017	GEO4500	4500	Sem. in Urban Geography	Geography	3	Geographic perspectives of urban development. Topics vary from current issues to advances in theory and methods.	UG	Seminar
Fall 2017	GEO4840	4840	Biogeography	Geography	3	Introduction to the factors affecting the distribution of plants and animals.	UG	Lecture
Fall 2017	GEO4860	4860	Foundations of Geography	Geography	3	Theories and methods comprising the field of geography. Development of the profession and paradigms and traditions of geographical study and analysis. Integrated Writing course.	UG	Lecture
Fall 2017	GEO4890	4890	Special Topics	Geography	1	Projects involve spatial analyses of economic, social and cultural phenomena.	UG	Lecture
Fall 2017	GEO4900	4900	Honors Project in Geo	Geography	3	Independent advanced work on an approved honors project.	UG	Independent Study
Fall 2017	GEO4950	4950	Geography Internship	Geography	3	Application of theory to practice in the nonprofit, private, or public sector. Requires 300 hours of work for an agency.	UG	Internship
Fall 2017	GEO4980	4980	Special Topics	Geography	1	Projects involve analysis of economic, social and cultural phenomena.	UG	Lecture
Fall 2017	GEO4990	4990	Applied Research Project	Geography	3	Involves students in the process of researching and writing a senior seminar paper. Integrated Writing course.	UG	Seminar



Fall 2017	GEO6000	6000	Climate Meteorology	Geography	3	Principles of climatic classification and the atmospheric system. Observation, measurement, and analysis of climatic elements and the atmosphere at rest and in motion.	GR	Lecture
Fall 2017	GEO6100	6100	Remote Sensing	Geography	3	Survey of remote sensing spatial analysis. Applications, technology, and spatial measurements used to interpret remote sensed images.	GR	Lecture
Fall 2017	GEO6200	6200	Remote Sensing Apps	Geography	3	Application of geographic methodology to social, political and environmental problems utilizing remote sensed images. Development of capacity to interpret remote sensed data and complete an analysis of data.	GR	Lecture
Fall 2017	GEO6410	6410	Cartography	Geography	4	Study of the basic concepts of cartography, including components of maps, coordinate system, spatial projections, and map design. Special emphasis placed on data, computational methods and ethical cartographic practices.	GR	Lecture/Lab Combination
Fall 2017	GEO6430	6430	Geographic Info Sci Prin	Geography	4	Study of the principles, structure and application of macro and micro spatial analytical techniques. Utilizes state-of-the art software to create map layers that can be stacked and interpreted.	GR	Lecture
Fall 2017	GEO6440	6440	Adv GIS Applications	Geography	4	Study of advanced geo-spatial analysis techniques using ArcView and ArcGIS software. GIS analysis and technology used to describe spatial elements of public and private sector development issues and to forecast change.	GR	Lecture
Fall 2017	GEO6460	6460	Transportation Principle	Geography	3	Overview of principles related to developing and managing public and human service transportation systems. Examines role of public and human service transportation in society, the history and geography of public transportation, and spatial, funding, organizational, cost benefit, labor, and customer service issues.	GR	Lecture
Fall 2017	GER1010	1010	Beginning German I	German	3	Communicative introduction to German structures and vocabulary and to Germanic culture. Practice in speaking, listening, reading and writing.	UG	Lecture
Fall 2017	GER1020	1020	Beginning German II	German	3	Communicative introduction to German structures and vocabulary and to Germanic culture. Practice in speaking, listening, reading, and writing.	UG	Lecture
Fall 2017	GER1150	1150	German for Read Knowledg	German	3	Introduction to all main points of grammar; practice in recognizing grammatical constructions and using a dictionary; and selected readings of adult-level texts from various fields. May be taken for letter grade or pass/unsatisfactory.	UG	Lecture
Fall 2017	GER2010	2010	Intermediate German I	German	3	Grammar review, reading, and discussion of selected texts with practice speaking and writing the language.	UG	Lecture
Fall 2017	GER2020	2020	Intermediate German II	German	3	Grammar review, reading, and discussion of selected texts with practice speaking and writing the language.	UG	Lecture
Fall 2017	GER2150	2150	Scientific German	German	3	Intensive reading in all areas of expository and technical German.	UG	Lecture

Fall 2017	GER3110	3110	German Conversation I	German	3	Emphasis on the culture of the German-speaking world.	UG	Lecture
Fall 2017	GER3120	3120	German Conversation II	German	3	Practice in oral use of German emphasizing the culture of the German-speaking world. 3.0 Credit hours	UG	Lecture
Fall 2017	GER3210	3210	Writing in German	German	3	Oral and written composition in German. Writing techniques and grammar review. Taught in German. Integrated Writing course.	UG	Lecture
Fall 2017	GER3220	3220	Adv Writing in German	German	3	Writing techniques and grammar review; literary and/or film analysis incorporating targeted grammar, vocabulary, and stylistic devices; taught in German. Integrated Writing course.	UG	Lecture
Fall 2017	GER3250	3250	Business German I	German	3	An introduction to the language of business German with insight into Germany's place in the global economy. Taught in German. Integrated Writing course.	UG	Lecture
Fall 2017	GER3260	3260	Business German II	German	3	Study of the business culture behind German. Development of communication skills and intercultural understanding. Use of German in international business. Taught in German. Integrated Writing course.	UG	Lecture
Fall 2017	GER3310	3310	Survey of German Lit	German	3	Historical survey of German literature from its beginning to the present. 331: Literature of the Middle Ages, Renaissance, Reformation, Enlightenment, and Storm and Stress. 332: Classicism, Romanticism, Poetic Realism, and Modern Period.	UG	Lecture
Fall 2017	GER3320	3320	Survey of German Lit II	German	3	Historical survey of German literature from its beginning to the present, including Classicism, Romanticism, Poetic Realism, and Modern Period. Taught in German.	UG	Lecture
Fall 2017	GER3510	3510	German Civilization	German	3	Survey of the contribution of German-speaking people to world culture in art, music, science, education, philosophy, and religion. Taught in German.	UG	Lecture
Fall 2017	GER3610	3610	German Phonetics	German	3	Pronunciation, diction, rhythm and intonation. Transcription exercises and oral production. Taught in German.	UG	Lecture
Fall 2017	GER3700	3700	Internship in German	German	3	Supervised use of German in workplace settings. Must complete an application available from the Department of Modern Languages. Minimum time commitment 135 hours a semester, including a minimum of 120 hours of on-site work. Senior standing and advisor permission required.	UG	Internship
Fall 2017	GER3810	3810	Applied Elem Ger Instruc	German	1	German majors and minors assist GER 1010 or GER 1020 course instructors in conducting classes. Taught in German.	UG	Lecture
Fall 2017	GER3820	3820	Applied Elem Ger Instr.	German	1	German majors and minors assist GER 1010 or GER 1020 course instructors in conducting classes. Taught in German.	UG	Independent Study
Fall 2017	GER3830	3830	Applied Elem Ger Instr.	German	1	German majors and minors assist GER 1010 or GER 1020 course instructors in conducting classes. Taught in German.	UG	Independent Study

Fall 2017	GER3980	3980	Studies in Selec Subj	German	1	Individual research project approved and supervised by a full-time faculty member. Taught in German.	UG	Lecture
Fall 2017	GER3990	3990	Studies in Selected Subj	German	1	Individual research project approved and supervised by a full-time faculty member. Taught in German.	UG	Independent Study
Fall 2017	GER4030	4030	Adv Studies: Lang & Civ	German	3	Advanced course on German or German-American literature, culture or film. Topics vary. Taught in German.	UG	Lecture
Fall 2017	GER4050	4050	Early German Lit	German	3	German literature from the earliest times to the Reformation.	UG	Lecture
Fall 2017	GER4060	4060	Renaissance & Reformatio	German	3	Representative German authors of the period.	UG	Lecture
Fall 2017	GER4100	4100	Baroque German Lit.	German	3	Representative German authors of the period.	UG	Lecture
Fall 2017	GER4150	4150	German Lit 18th Cent	German	3	Representative authors in Rococo, Enlightenment, and Storm and Stress.	UG	Lecture
Fall 2017	GER4160	4160	German Lit 18th Cent	German	3	Representative works of Goethe and Schiller.	UG	Lecture
Fall 2017	GER4170	4170	German Romanticism	German	3	Study of the romantic movement with representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others.	UG	Lecture
Fall 2017	GER4180	4180	Goethe's Faust	German	3	Intensive study of Faust I and Faust II.	UG	Lecture
Fall 2017	GER4250	4250	19th Cent German Prose	German	3	Readings and reports in 19th-century literature. Representative works of Eichendorff, Hoffmann, Keller, Meyer, Storm, Fontane, and others.	UG	Lecture
Fall 2017	GER4260	4260	19th Cent German Drama	German	3	Readings and reports in 19th-century drama. Representative works of Tieck, Kleist, Grillparzer, Hebbel, Buchner, and others.	UG	Lecture
Fall 2017	GER4270	4270	19th Cent German Poetry	German	3	Readings and reports in 19th-century poetry. Representative works of Heine, Droste-Hulshoff, Morike, Dehmel, Liliencron, and others.	UG	Lecture
Fall 2017	GER4310	4310	20th Cent German Prose	German	3	Readings and reports in 20th-century prose. Representative works of Hesse, Mann, Kafka, and others.	UG	Lecture
Fall 2017	GER4320	4320	20th Cent German Drama	German	3	Readings and reports in 20th-century drama. Representative works of Schnitzler, Hofmannsthal, Kaiser, Toller, Brecht, and others.	UG	Lecture
Fall 2017	GER4330	4330	20th Cent German Poetry	German	3	Readings and reports in 20th-century poetry. Representative works of Rilke, George, Trakl, Benn, and others.	UG	Lecture
Fall 2017	GER4340	4340	Thomas Mann	German	3	Studies of the writings of Thomas Mann.	UG	Lecture
Fall 2017	GER4420	4420	Hst German Lang	German	3	History of the German language from the age of migration to the present. Linguistic and social history of the German language and Swiss and Austrian variations.	UG	Lecture
Fall 2017	GER4500	4500	Senior Honors Project	German	1	Capstone project for German majors involving independent research, creative projects.	UG	Independent Study
Fall 2017	GER4810	4810	Independent Rdg Adv Stu	German	3	Topics vary.	UG	Independent Study

Fall 2017	GER5110	5110	German Conversation I	German	3	Emphasis on the culture of the German-speaking world.	GR	Lecture
Fall 2017	GER5120	5120	German Conversation II	German	3	Emphasis on the culture of the German-speaking world.	GR	Lecture
Fall 2017	GER5210	5210	Writing in German	German	3	Oral and written composition in German; translations from English into German. Further grammar study.	GR	Lecture
Fall 2017	GER5220	5220	Adv. Writing in German	German	3	Oral and written composition in German; translations from English into German.	GR	Lecture
Fall 2017	GER5250	5250	Business German I	German	3	An introduction to the language of business with insight into Germany's place in the global economy.	GR	Lecture
Fall 2017	GER5260	5260	Business German II	German	3	An advanced study of the language of business German with insight into Germany's place in the global economy.	GR	Lecture
Fall 2017	GER5310	5310	Survey of German Lit	German	3	Historical survey of German literature from its beginning to the present. 331: Literature of the Middle Ages, Renaissance, Reformation, Enlightenment, and Storm and Stress. 332: Classicism, Romanticism, Poetic Realism, and Modern Period.	GR	Lecture
Fall 2017	GER5320	5320	Survey of German Lit II	German	3	Historical survey of German literature. Classicism, Romanticism, Poetic Realism and Modern Period.	GR	Lecture
Fall 2017	GER5510	5510	German Culture and Civil	German	3	Survey of the contribution of German-speaking people to world culture in art, music, science, education, philosophy, and religion.	GR	Lecture
Fall 2017	GER5810	5810	Applied Elem Ger Instr.	German	1	Assist GER 1010 or GER 1020 course instructors in conducting classes. Taught in German. Instructor Permission required.	GR	Lecture
Fall 2017	GER5820	5820	Applied Elem Ger Instr.	German	1	Observe elementary classes and practice teaching mini-lessons. Taught in German.	GR	Independent Study
Fall 2017	GER5830	5830	Applied Elem Ger Instr.	German	1	Graduate student assist GER 1010 or GER 1020 instructors in conducting classes. Taught in German.	GR	Independent Study
Fall 2017	GER5900	5900	Foreign Lang Institute	German	1	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 2017	GER5990	5990	Studies in Selected Subj	German	1	Problems, approaches, and topics in the field of German. Variable topics.	GR	Independent Study
Fall 2017	GER6030	6030	Adv. Studies: Lang & Civ	German	3	Advanced level course on German or German-American literature, culture or film. Topics and Title vary. Taught in German.	GR	Lecture
Fall 2017	GER6810	6810	Ind Read for Grad Stud	German	3	Independent reading for graduate students. Taught in German.	GR	Independent Study
Fall 2017	GR1010	1010	Beginning Greek I	Greek	3	Essentials of the Greek language.	UG	Lecture
Fall 2017	GR1020	1020	Beginning Greek II	Greek	3	Essentials of the Greek language.	UG	Lecture

Fall 2017	GR2010	2010	Intermediate Greek I	Greek	3	Review of essentials and reading for comprehension in selected authors.	UG	Lecture
Fall 2017	GR2020	2020	Intermediate Greek II	Greek	3	Review of essentials and reading for comprehension in selected authors.	UG	Lecture
Fall 2017	GR3510	3510	Readings in Greek Drama	Greek	3	Aeschylus, Sophocles, Euripides, Aristophanes, and Menander. Study of at least one play in Greek. Topics include origin and development of tragedy, drama as a reflection of contemporary events, and development of new comedy.	UG	Lecture
Fall 2017	GR3530	3530	Readings in Greek Poetry	Greek	3	Select readings in Greek epic and lyric poetry. Topics include structure and technique of oral epic, the didactic tradition, lyric and epic meters and diction, and the development of pastoral poetry.	UG	Lecture
Fall 2017	GR4510	4510	Reading Greek Philosophy	Greek	3	Plato, Xenophon, Aristotle, Epicurus, Epictetus, and Marcus Aurelius. Topics include pre-Socratics and the development of philosophical vocabulary, the sophistic movement, the Cynic tradition, and the development of popular philosophy. Titles vary.	UG	Lecture
Fall 2017	GR4530	4530	Readings Greek Hist Biog	Greek	3	Herodotus, Thucydides, Xenophon, Polybius, and Plutarch. Topics include methods of composition, influences on historiography from the sophists and philosophers, the development of Greek historical writing, and supplemental evidence from inscriptions and nonliterary sources. Titles vary.	UG	Lecture
Fall 2017	GR4550	4550	Readings Greek Politics	Greek	3	Lysias, Demosthenes, Isocrates, Old Oligarch, Plato, Xenophon, and Aristotle. Topics include development of political ideas and vocabulary, nonliterary sources for our knowledge of Greek civil life, and influences on Roman theories and practices.	UG	Lecture
Fall 2017	GR4570	4570	Readings in Greek Prose	Greek	3	Prose narrative in Greek. Authors may include the Hippocratic Corpus, Strabo, Pausanias, Athenaeus and Lucian.	UG	Lecture
Fall 2017	GR4810	4810	Independent Reading	Greek	1	Topics vary.	UG	Independent Study
Fall 2017	GR5510	5510	Readings in Greek Drama	Greek	3	Aeschylus, Sophocles, Euripides, Aristophanes, and Meander. Study of at least one play in Greek. Topics include origin and development of tragedy, drama as a reflection of contemporary events, and development of new comedy. Titles vary.	GR	Lecture
Fall 2017	GR5530	5530	Readings in Greek Poetry	Greek	3	Select readings in Greek epic and lyric poetry. Topics include structure and technique of oral epic, the didactic tradition, lyric and epic meters and diction, and selected development of pastoral poetry. Titles vary.	GR	Lecture

Fall 2017	GR6510	6510	Readings in Greek Philos	Greek	3	Plato, Xenophon, Aristotle, Epicurus, Epictetus, and Marcus Aurelius. Topics include pre-Socratics and the development of philosophical vocabulary, the sophistic movement, the Cynic tradition, and the development of popular philosophy. Titles vary.	GR	Lecture
Fall 2017	GR6530	6530	Greek History & Biograph	Greek	3	Herodotus, Thucydides, Xenophon, Polybius, and Plutarch. Topics include methods of composition, influences on historiography from the sophists and philosophers, the development of Greek historical writing, and supplemental evidence from inscriptions and nonliterary sources. Titles vary.	GR	Lecture
Fall 2017	GR6550	6550	Readings Greek Politics	Greek	3	Lysias, Demosthenes, Isocrates, Old Oligarch, Plato, Xenophon, and Aristotle. Topics include development of political ideas and vocabulary, nonliterary sources for our knowledge of Greek civil life, and influences on Roman theories and practices. Titles vary.	GR	Lecture
Fall 2017	GR6570	6570	Readings in Greek Prose	Greek	3	Prose narrative in Greek. Authors may include Hippocratic Corpus, Strabo, Pausanias, Athenaeus, and Lucian. Titles vary.	GR	Lecture
Fall 2017	GR6810	6810	Ind Reading in Greek	Greek	1	Reading and discussion of selected works of Greek literature with emphasis on grammatical, rhetorical, literary, and cultural analysis and criticism. Topics vary.	GR	Independent Study
Fall 2017	GTW0010	0010	Clark State Gateway Pathway	Gateway	0		UG	Lecture
Fall 2017	HEA9200	9200	Hst & Phil High Ed U.S.	Higher Education Admin	3	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 2017	HEA9210	9210	Curriculum in Higher Ed	Higher Education Admin	3	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.	GR	Lecture
Fall 2017	HEA9220	9220	Law of Higher Education	Higher Education Admin	3	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.	GR	Lecture
Fall 2017	HEA9230	9230	Instruction in Higher Ed	Higher Education Admin	3	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.	GR	Lecture

Fall 2017	HEA9240	9240	Infus Sys Thinking HI ED	Higher Education Admin	3	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.	GR	Lecture
Fall 2017	HEA9260	9260	The Community College	Higher Education Admin	3	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 2017	HEA9280	9280	Internship in Higher Ed	Higher Education Admin	3	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	Internship
Fall 2017	HEA9290	9290	Athl High Ed	Higher Education Admin	3	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 2017	HED1230	1230	Personal Health	Health Education	3	Basic concepts and skills needed to adopt and maintain a healthy lifestyle.	UG	Lecture
Fall 2017	HED2320	2320	Core Public Health	Health Education	3	Public health infrastructure, including resources, agencies, and determinants of health that influence the health status of individuals and communities.	UG	Lecture
Fall 2017	HED2330	2330	Human Sexuality for Educ	Health Education	3	Develops a depth of sexuality knowledge and related teaching competencies of K-12 teachers. Emphasis is placed on the biological, psychological, and sociological aspects of adolescent and young adult sexuality and application of the National Health Education Standards.	UG	Lecture
Fall 2017	HED2340	2340	Health Behaviors	Health Education	3	Addresses the theories of health behavior and health behavior change. Students develop a theory-based logic map for one risk behavior or protective health behavior.	UG	Lecture
Fall 2017	HED2850	2850	Comp School Health Ed	Health Education	3	Elements of K-12 health education: core content; relationship to Coordinated School Health/Whole School, Whole Community, Whole Child; controversy management, and guidelines for classroom applications and practice.	UG	Lecture
Fall 2017	HED3310	3310	Hlth & Phys Educ for ECE	Health Education	3	Curriculum teaching methods and materials, for pre-K to 5th grades, promoting a positive lifestyle. Comprehensive school health program, activity for optimal growth and controversial issues will be covered.	UG	Lecture

Fall 2017	HED3320	3320	Diverse Needs in Health	Health Education	3	Addresses the diverse needs of students related to health status and health education. Topics include diabetes, asthma, grief, sexuality in individuals with disabilities, ESL, reading, and individualized education plans.	UG	Lecture
Fall 2017	HED3350	3350	Health Communications	Health Education	3	Explores the applications of social marketing and communication theory as they relate to the development of strategies designed to enhance health education and promotion programs. Students will be introduced to basic perspective of public health education, particularly the fundamental skills of communicating health information.	UG	Lecture
Fall 2017	HED3760	3760	Methods Pub Health Ed	Health Education	3	Comprehensive overview of the practical tools and skills commonly used by public health education specialists in a variety of settings.	UG	Lecture
Fall 2017	HED3850	3850	Foundation Teach Health	Health Education	3	Prepares the pre-service teacher for the classroom by presenting concepts and skills of health education. Explore Coordinated School Health Programs, the national Health Education Standards, the Centers for Disease Control's Risk Behaviors for Teens, health literacy, and basics of lesson planning and unit planning. Students will examine a plethora of health education resources.	UG	Lecture
Fall 2017	HED4430	4430	Hlth Progr Planning Eval	Health Education	3	Knowledge and skills for planning, implementing, and evaluating school and community health education programs. Integrated Writing course.	UG	Lecture
Fall 2017	HED4560	4560	Sem Pub Health Ed	Health Education	2	Students will share experiences while in their Practicum II, discuss skills needed in professional climates, prepare their resumes, practice interviewing, and review competencies in preparation for the Certified Health Education Specialist (CHES) exam.	UG	Seminar
Fall 2017	HED4570	4570	Hlth Fit Chronic Disease	Health Education	3	Health and fitness management for all populations, including apparently healthy, increased risk, and those diagnosed with chronic diseases and disorders. Integrated Writing course.	UG	Lecture
Fall 2017	HED4850	4850	Foundations Hlth Ed II	Health Education	3	During this culminating health methods experience, students apply health education pedagogical skills through the development of a comprehensive health education unit and health education resource plan. Integrated Writing Course.	UG	Lecture/Lab Combination
Fall 2017	HED7700	7700	Social Behavior Health	Health Education	3	This course addresses the social-ecological and behavioral determinants of health status and the role of theory-based interventions in altering health behavior and status.	GR	Lecture
Fall 2017	HED7750	7750	Application Research HPR	Health Education	3	This seminar course addresses the public health priorities for the nation and current health promotion initiatives to alter health behaviors, health status and health disparities.	GR	Lecture



Fall 2017	HLT3400	3400	Concepts of Pharmacology	Health	3	Fundamental pharmacologic principles of physiological responses to drugs, therapeutic outcomes, and potential drug interactions. Prepares for critical thinking in application of pharmacotherapy principles.	UG	Lecture
Fall 2017	HLT7001	7001	Intro Multivar Bio Stats	Health	3	This course examines multivariate statistical procedures commonly used in health care literature. The focus is on understanding appropriate use of statistical procedures and interpretation of findings.	GR	Lecture
Fall 2017	HLT7121	7121	Hmn Gen for Hlth Profls	Health	2	This course focuses on the advanced study of human genetics and genomics with implications for health care professionals. Description of mechanisms of inheritance and genetic diseases are described so that health professionals can recognize possible genetic or genomic abnormalities. They can make appropriate referrals, participate in genetic counseling and consider ethical and legal implications.	GR	Lecture
Fall 2017	HPR2020	2020	Teaching Fitness in PE	Health Phy Educ & Recreation	3	Develops fitness knowledge, skills and teaching strategies in future physical education teachers to enhance fitness and physical activity levels in Pre K-12 students. Students are required to demonstrate competency in fitness-related skills and a minimum level of health-related fitness.	UG	Lecture/Lab Combination
Fall 2017	HPR2040	2040	Adventure Education	Health Phy Educ & Recreation	3	Develops knowledge, skills and dispositions to successfully implement Adventure Education curriculum in pre K-12 physical education programs.	UG	Lecture/Lab Combination
Fall 2017	HPR2120	2120	Adapted Phys Education	Health Phy Educ & Recreation	3	Introduction to sport, leisure and physical education for persons with special needs across school, community or clinical based programs.	UG	Lecture/Lab Combination
Fall 2017	HPR2430	2430	Motor Dev & Learning	Health Phy Educ & Recreation	4	Examination of the factors influencing the development, performance and learning of motor skills.	UG	Lecture
Fall 2017	HPR2600	2600	Intro to Education	Health Phy Educ & Recreation	3	Orientation to the teaching profession and pluralistic American society as well as an awareness of the global community.	UG	Lecture
Fall 2017	HPR2700	2700	Educational Psychology	Health Phy Educ & Recreation	3	Understand how people learn, how to motivate, and assess preK-12 students based on theoretical principles from field of educational psychology.	UG	Lecture
Fall 2017	HPR2810	2810	Physical & Hlth Ed MCE	Health Phy Educ & Recreation	3	Curriculum teaching methods and materials, for 4th -9th grades, promoting a positive lifestyle. Comprehensive school health program, activity for optimal growth and controversial issues will be covered.	UG	Lecture
Fall 2017	HPR2900	2900	Exceptionalities	Health Phy Educ & Recreation	3	Overview of historical and current legal, philosophical and education issues surrounding the definition, identification, causes/prevalence of specific exceptionalities, service delivery/placement options and multidisciplinary team process across education and community settings.	UG	Lecture

Fall 2017	HPR3010	3010	Teaching Invasion Games	Health Phy Educ & Recreation	3	Models best teaching practices in invasion games such as basketball, soccer, softball, and flag football. Students are required to demonstrate proficiency in sports skills.	UG	Lecture/Lab Combination
Fall 2017	HPR3030	3030	Teaching Net/Wall Games	Health Phy Educ & Recreation	3	Models best teaching practices in net/wall games such as badminton, tennis and volleyball. Students are required to demonstrate skill proficiency.	UG	Lecture/Lab Combination
Fall 2017	HPR3100	3100	Practicum I: HPR	Health Phy Educ & Recreation	1	Candidates, mentored by a classroom teacher, participate in the educational process, assist with classroom duties, and participate in the classroom while examining the dynamics of the classroom.	UG	Practicum
Fall 2017	HPR3560	3560	Assessment in HPE	Health Phy Educ & Recreation	3	Introduction to the construction, evaluation, and interpretation of assessments utilized in K-12 health and physical education. Emphasis on standards-based assessments and analysis of data to inform instruction. Integrated Writing course	UG	Lecture
Fall 2017	HPR3850	3850	Teaching Elementary PE	Health Phy Educ & Recreation	3	Applies teaching and management strategies that have been linked to student learning, the design of instructional materials and techniques, and strategies working with a diversity of learners in grades K-5.	UG	Lecture
Fall 2017	HPR4100	4100	Practicum II: HPR	Health Phy Educ & Recreation	1	Mentored by a classroom teacher, candidates learn about the educational process, assist with classroom duties, and participate in the classroom while examining the dynamics of the classroom.	UG	Practicum
Fall 2017	HPR4290	4290	K-12 Practicum: HPR	Health Phy Educ & Recreation	12	Supervised full-time student teaching in a K-12 school setting.	UG	Practicum
Fall 2017	HPR4450	4450	Checkpoint 3	Health Phy Educ & Recreation	1	Monitors and supports the professional progress of health and physical education licensure students. Enhances the HPR teacher candidate's preparation for Praxis II exam, student teaching and career development.	UG	Lecture
Fall 2017	HPR4850	4850	Teaching MS/HS PE	Health Phy Educ & Recreation	3	Students apply teaching and management strategies that have been linked to student learning, the design of instructional materials and techniques, and strategies for working with a diversity of learners in middle and high school.	UG	Lecture
Fall 2017	HST1100	1100	West. Civ. to 1500	History	3	Examination of the character of the pre-modern world from prehistory through the 15th century with special attention to those aspects of ancient and medieval life that had the greatest effect on the development of Western society, politics, and culture.	UG	Lecture
Fall 2017	HST1200	1200	West & World since 1500	History	3	Examination of the modern Western world emphasizing the revolutions in economics, politics, religion and other phenomena that have shaped the Western world in our own time.	UG	Lecture

Fall 2017	HST2110	2110	American History to 1877	History	3	Thematic survey of events, forces, groups, and individuals that contributed to and helped to shape an American civilization on the North American continent. Colonial foundations to 1877.	UG	Lecture
Fall 2017	HST2120	2120	American Hist Since 1877	History	3	Thematic survey of events, forces, groups, and individuals that contributed to and helped to shape an American civilization on the North American continent. 1877 to the present.	UG	Lecture
Fall 2017	HST3000	3000	Intro Hist Analysis	History	3	Explores the historian's craft by studying different historical approaches and genres. Integrated Writing course.	UG	Lecture
Fall 2017	HST3100	3100	Survey European History	History	3	Surveys of European history. Topics vary.	UG	Lecture
Fall 2017	HST3120	3120	Studies Russian/Soviet	History	3	Studies in Russian or Soviet history, for example a survey of a sub-field or a specific topic. Topics vary.	UG	Lecture
Fall 2017	HST3300	3300	Survey African History	History	3	Survey of a sub-field or a specific topic in African history. Topics vary.	UG	Lecture
Fall 2017	HST3400	3400	Studies Asian History	History	3	Studies in Asian history, for example a survey of a sub-field or a specific topic. Topics vary.	UG	Lecture
Fall 2017	HST3450	3450	Middle Eastern History	History	3	Studies in Middle Eastern history, for example a survey of a sub-field or a specific topic. Topics vary.	UG	Lecture
Fall 2017	HST3500	3500	Topics Latin Amer Hist	History	3	Studies in region-wide Latin American history. Topics vary.	UG	Lecture
Fall 2017	HST3600	3600	Surveys of American Hist	History	3	Studies in American history, for example a survey of a sub-field or a specific topic. Topics vary.	UG	Lecture
Fall 2017	HST3650	3650	Ohio History	History	3	Survey of Ohio history from its Native-American origins to Ohio in the Post-Industrial Age.	UG	Lecture
Fall 2017	HST3700	3700	Af-Am History, 1619-Pres	History	3	Survey of black people in American society from colonial slave trade to the present.	UG	Lecture
Fall 2017	HST3800	3800	Intro to Gender History	History	3	Special topics in gender history, such as masculinity, femininity, sexuality, family, and women's history. Focus may be on one nation, region, or a comparative perspective.	UG	Lecture
Fall 2017	HST3900	3900	Global Encounters	History	3	Examination of the social, cultural, economic, religious and/or political interactions between Western Europe and the non-Western world since 1500. Topics vary.	UG	Lecture
Fall 2017	HST4000	4000	Ancient History	History	3	Selected problems in Greek or Roman history to the death of Constantine in A.D. 337. Integrated Writing course.	UG	Lecture
Fall 2017	HST4050	4050	Medieval History	History	3	Examines the period following the decline of the Roman Empire to ca. 1450. Topics vary and can include European, Islamic, and Byzantine civilizations. Integrated Writing course.	UG	Lecture
Fall 2017	HST4100	4100	Early Modern Europe	History	3	Examines selected problems in European history from the late Middle Ages through the Counter-Reformation. Topics may include the Renaissance and Reformation. Topics vary. Integrated Writing course.	UG	Lecture

Fall 2017	HST4150	4150	Modern Europe	History	3	Examines a variety of countries, topics and periods in European history from the Enlightenment to the present. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4210	4210	British History	History	3	Examines particular periods of British history (e.g., modern Britain) or topics (e.g., British constitutional history). Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4220	4220	Russian/Soviet History	History	3	Examines particular periods of Russian and Soviet history (e.g., the Soviet Union under Stalin) or topics (e.g., the Russian Revolution). Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4300	4300	African History	History	3	Examines particular periods, regions, or countries in African history. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4400	4400	Asian History	History	3	Examines various periods of Chinese, Japanese, and other Asian histories. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4450	4450	Middle Eastern History	History	3	Examines the Middle East from the 7th century to the present. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4500	4500	Latin American History	History	3	Examines selected Latin American nations and regions (e.g., Mexico, Argentina) and particular topics (e.g., Authoritarianism) in detail. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4550	4550	U.S. Foreign Relations	History	3	Examines main currents, prominent issues, key individuals and major events in the history of U.S. relations with other countries and regions. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4600	4600	Early American History	History	3	Examines Colonial, Revolutionary, and early Republic periods of American history. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4650	4650	19th-Century US History	History	3	Examines distinct periods in the 19th century (e.g., Civil War and reconstruction) and major topics such as slavery. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4700	4700	20th-century US History	History	3	Examines particular stages of the 20th-century American experience (e.g., the Progressive Era) or selected topics (e.g., the Civil Rights Movement). Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4750	4750	21st-Century History	History	3	Examines particular stages of the 21st-century American experience or selected topics. Integrated Writing course.	UG	Lecture
Fall 2017	HST4800	4800	Comparative History	History	3	Compares developments or movements in different parts of the world and/or different times in history such as revolutions, slave systems, religious movements, or other human experiences that transcend a particular time or place. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4810	4810	African-American History	History	3	Examines topics drawing from the African-American experience; may include black ideology and leadership, racial tension in urban society, and the civil rights movement. Topics vary. Integrated Writing course.	UG	Lecture

Fall 2017	HST4820	4820	Military History	History	3	Intensive analysis of topics in the history of military affairs in the world since the late 15th century. Will examine main currents, principal themes, prominent issues and major historiographic debates in the field. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4830	4830	Topics in Gender History	History	3	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 comparative perspective. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4840	4840	Religious History	History	3	Examines topics in the history of religion. May cover any historical period or region of the world or may be comparative. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	HST4850	4850	Approaches to History	History	3	Examines approaches to the study of history and historical methodology. Topics vary (e.g. History and Theory). Integrated Writing course.	UG	Lecture
Fall 2017	HST4860	4860	History and New Media	History	3	Examines the impact of new media on access to primary sources, public programs, history education, scholarship, and the ways in which historians engage with each other. Presents productions in a variety of media. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	HST4870	4870	Special Topics in Hist	History	3	Examines special topics in the advanced study of history. Integrated Writing course.	UG	Lecture
Fall 2017	HST4900	4900	Research Seminar	History	3	Tools and techniques for preparing a significant research paper in conformity with contemporary standards. Integrated Writing course.	UG	Seminar
Fall 2017	HST4950	4950	Independent Readings	History	1	Faculty-directed readings in a field of students' choice.	UG	Independent Study
Fall 2017	HST4980	4980	History Honors Project	History	3	May range from library research to field training.	UG	Independent Study
Fall 2017	HST6000	6000	Ancient History	History	3	Examines selected problems in Greek or Roman history to the death of Constantine in A.D. 337. Topics vary.	GR	Lecture
Fall 2017	HST6050	6050	The Middle Ages	History	3	Examines the period following the decline of the Roman Empire to ca.1450 and can include European, Islamic, and Byzantine civilizations. Topics vary.	GR	Lecture
Fall 2017	HST6100	6100	Early Modern Europe	History	3	Examines selected problems in European history from the late Middle Ages through the Counter-Reformation. Topics vary.	GR	Lecture
Fall 2017	HST6150	6150	Studies in Modern Europe	History	3	Examines a variety of countries, topics and periods in European history from the Enlightenment to the present. Topics vary.	GR	Lecture
Fall 2017	HST6210	6210	British History	History	3	Examines particular periods of British history (e.g., modern Britain) or topics (e.g., British constitutional history). Topics vary.	GR	Lecture

Fall 2017	HST6220	6220	Russian/Soviet History	History	3	Examines particular periods of Russian and Soviet history (e.g., the Soviet Union under Stalin) or topics (e.g., the Russian Revolution). Topics vary.	GR	Lecture
Fall 2017	HST6300	6300	African History	History	3	Examines particular periods, regions, or countries in African history.	GR	Lecture
Fall 2017	HST6400	6400	Asian History	History	3	Examines various periods of Chinese, Japanese, and other Asian histories. Topics vary.	GR	Lecture
Fall 2017	HST6450	6450	Middle Eastern History	History	3	Examines the Middle East from the 7th century to the present. Topics vary.	GR	Lecture
Fall 2017	HST6500	6500	Latin American History	History	3	Examines selected Latin American nations and regions (e.g., Mexico, Argentina) and particular topics (e.g., authoritarianism) in detail. Topics vary.	GR	Lecture
Fall 2017	HST6550	6550	U.S. Foreign Relations	History	3	Examines main currents, prominent issues, key individuals and major events in the history of U.S. relations with other countries and regions. Topics vary.	GR	Lecture
Fall 2017	HST6600	6600	Early American History	History	3	Examines Colonial, Revolutionary, and early Republic periods of American history. Topics vary.	GR	Lecture
Fall 2017	HST6650	6650	19th-Century US History	History	3	Examines distinct periods in the 19th century (e.g., Civil War and reconstruction) and major topics such as slavery. Topics vary.	GR	Lecture
Fall 2017	HST6700	6700	20th-Century US History	History	3	Examines particular stages of the 20th-Century American experience (e.g., the Progressive Era) or selected topics (e.g., the Civil Rights Movement). Topics vary.	GR	Lecture
Fall 2017	HST6750	6750	21st-Century History	History	3	Examines particular stages of the 21st-century American experience or selected topics (e.g., the Iraq war). Topics vary.	GR	Lecture
Fall 2017	HST6800	6800	Comparative History	History	3	Compares developments or movements in different parts of the world and/or different times in history such as revolutions, slave systems, religious movements, genocide, or other human experiences that transcend a particular time or place. Topics vary.	GR	Lecture
Fall 2017	HST6810	6810	African-American History	History	3	Examines topics drawing from the African-American experience; may include black ideology and leadership, racial tension in urban society, and the civil rights movement. Topics vary.	GR	Lecture
Fall 2017	HST6820	6820	Military History	History	3	Intensive analysis of topics in the history of military affairs in the world since the late 15th century. Will examine main currents, principal themes, prominent issues and major historiographic debates in the field. Topics vary.	GR	Lecture
Fall 2017	HST6830	6830	Topics in Gender History	History	3	Intensive analysis of subjects in gender history. Topics may include masculinity, femininity, sexuality, family and womens history. Focus may be on one nation, region or comparative perspective. Topics vary.	GR	Lecture

Fall 2017	HST6840	6840	Religious History	History	3	Examines topics in the history of religion. May cover any historical period or region of the world or may be comparative. Topics vary.	GR	Lecture
Fall 2017	HST6850	6850	Approaches to History	History	3	Examines approaches to the study of history and historical methodology. Topics vary.	GR	Lecture
Fall 2017	HST6860	6860	History and New Media	History	3	Examines the impact of new media on access to primary sources, public programs, history education, scholarship, and the ways in which historians engage with each other.	GR	Lecture
Fall 2017	HST6870	6870	Special Topics in Hst	History	3	Examines special topics in the advanced study of history. Topics vary.	GR	Lecture
Fall 2017	HST7000	7000	Historical Methods	History	3	Intensive training in the research methods and materials of history.	GR	Lecture
Fall 2017	HST7100	7100	Seminar US to 1865	History	3	Examines United States history through the Civil War. Topics vary and may include the following periods: Colonial, Revolutionary, early Republic, antebellum, Civil War.	GR	Lecture
Fall 2017	HST7110	7110	Seminar US since 1865	History	3	Examines United States history since the Civil War. Topics vary and may include Reconstruction, the Progressive Era, and the rise of the United States as a world power.	GR	Seminar
Fall 2017	HST7120	7120	Seminar in Af-Am History	History	3	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	Seminar
Fall 2017	HST7130	7130	Seminar US Foreign Rel	History	3	Examines history of United States public and private relations with the rest of the world from the mid-18th century to the present. Topics vary, and may include aspects of early republic, imperial, Cold War, and contemporary U.S. history.	GR	Seminar
Fall 2017	HST7200	7200	Seminar in Ancient Hist	History	3	Examines selected problems in Greek or Roman history to the death of Constantine in A.D. 337. Topics vary.	GR	Seminar
Fall 2017	HST7210	7210	Seminar Medieval History	History	3	Examines the period following the decline of the Roman Empire to ca. 1450. Topics vary and may include aspects of European, Islamic, or Byzantine civilizations.	GR	Seminar
Fall 2017	HST7220	7220	Sem Early Mod Eur Hst	History	3	Examines facets of European history from the Renaissance and Reformation through the French Revolution. Topics vary.	GR	Seminar
Fall 2017	HST7230	7230	Sem Modern Eur Hst	History	3	Examines aspects of European history from the Enlightenment to the present. Topics vary.	GR	Seminar
Fall 2017	HST7300	7300	Seminar Latin Amer Hist	History	3	Examines selected Latin American nations and regions (e.g., Mexico, Argentina) and particular topics (e.g., Authoritarianism) in detail. Topics vary.	GR	Seminar
Fall 2017	HST7310	7310	Seminar in Asian History	History	3	Examines topics from various periods of Chinese, Japanese, and other Asian histories. Topics vary.	GR	Seminar
Fall 2017	HST7320	7320	Seminar African History	History	3	Examines particular periods, regions, or countries in African history. Topics vary.	GR	Seminar

Fall 2017	HST7330	7330	Seminar Middle East Hst	History	3	Examines aspects of the history of the Middle East from the 7th century to the present. Topics vary.	GR	Seminar
Fall 2017	HST7400	7400	Special Topics Seminar	History	3	Examines special topics in the advanced study of history. Topics vary.	GR	Seminar
Fall 2017	HST7450	7450	Seminar Gender History	History	3	Gender as a tool of historical analysis. Topics may include masculinity, femininity, sexuality, family and womens history. Focus may be on one nation or region or on a comparative perspective. Topics varv.	GR	Seminar
Fall 2017	HST7460	7460	Seminar Mod Military Hst	History	3	Examines aspects of the history of military affairs in Europe, the United States, and/or the wider world from the 16th century to the present. Topics vary.	GR	Seminar
Fall 2017	HST7500	7500	Intro to Public History	History	3	Introduce students to the theory, methods, and practice of public history. Explores challenges of historical work in historic sites, museums, archives, and other public history settings. Introduction to career choices in the field of public history, along with issues of ethics, interpretation, and public memory.	GR	Lecture
Fall 2017	HST7600	7600	Intro Archives Manuscrip	History	3	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 2017	HST7650	7650	Museum Admin Collections	History	3	Introduction to museums and their management and to collections theory and practice. Includes collections policies; accessioning, deaccessioning and loans; management, care, and the conservation of museum collections; and collections use in exhibition and education. Hands-on experience working with actual objects.	GR	Lecture
Fall 2017	HST7700	7700	Research in Local Hist	History	3	Defines and discusses the origin and development of local history. Identification, location and use of primary and secondary sources on a variety of local history topics.	GR	Lecture
Fall 2017	HST7750	7750	Interpretation & Exhibit	History	3	Examines interpretation theory and practice. Design and construction of a museum exhibit including budgeting, research, artifact selection, media relations, educational programming and opening reception.	GR	Lecture
Fall 2017	HST7800	7800	Adv Probs Archival Work	History	3	Theories and concepts associated with appraisal and acquisition, arrangement and description, reference, and preservation of archival materials. Includes practical experience in processing and preserving an archival collection.	GR	Lecture
Fall 2017	HST7810	7810	Public Hist Internship	History	1	Practical training in various aspects of public history and historical administration. Completion of a 300-clock-hour internship and preparation of a report on the experience.	GR	Internship



Fall 2017	HST7815	7815	Information Management	History	3	Examines traditional and emerging concepts, practices, and methodologies related to the management of records and information in a variety of institutional settings.	GR	Lecture
Fall 2017	HST7820	7820	Practical Archives Museum	History	1	Practical training in the techniques and skills of archive and museum work, including artifact and archival preservation, documentary film making, exhibit design technology, archival technology, documenting the built environment, field study, and outreach. Titles vary.	GR	Lecture
Fall 2017	HST7825	7825	Exhibit Design Technology	History	3	Teaches principles of museum exhibit design using design software and culminating in the development of small-scale exhibit plans.	GR	Lecture
Fall 2017	HST7830	7830	Topics in Public History	History	3	Intensive analysis of topics related to the theory and practice of public history such as decorative arts, material culture, history of photography, history of technology, historic site interpretation, ethics and laws for archives and museums, family history, American studies, non culture, and outreach. Topics vary.	GR	Lecture
Fall 2017	HST7850	7850	Archival Preservation	History	3	An introduction to the basics of archival preservation. Topics include components of a preservation program, factors affecting preservation, archival environments, handling and use of materials, appropriate housing and storage, reformatting options, exhibit and display considerations, disaster preparedness, and security guidelines.	GR	Lecture
Fall 2017	HST7860	7860	Historic Preservation	History	3	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 2017	HST7870	7870	History of Architecture	History	3	Introduces students to the history and evolution of North American architecture, with a focus on the social and cultural origins of our historic built environment.	GR	Lecture
Fall 2017	HST7880	7880	Artifact Preservation	History	3	Provides students with the theoretical underpinnings of basic artifact conservation through lecture, demonstration, and a conservation tour of museum galleries, and a hands-on opportunity to work with museum objects in a local museum setting. Course material, lectures, and hands-on activity are designed for the non-specialist.	GR	Lecture
Fall 2017	HST7890	7890	Independent Study History	History	1	Explores various facets of history under direct supervision of a faculty member. Requires approval of the supervising faculty member and the Director of Graduate Studies prior to registration. May not be taken on a topic currently offered in the graduate course catalog. May not be repeated for credit.	GR	Independent Study

Fall 2017	HST7900	7900	Capstone Project	History	1	Capstone project that demonstrates achievement and is a significant contribution to the field (historical editing, exhibit design and creation, public program, documentary film, oral history, advanced processing, etc.).	GR	Independent Study
Fall 2017	HST7910	7910	History Internship	History	1	Applies skills learned in coursework to work and/or study outside the academy, in ways that benefit a student's educational experience. Approved and supervised by the Director of Graduate Studies, and ranges from 100 to 300 hours of work. May be repeated for a total of 3 credit hours.	GR	Internship
Fall 2017	HST7930	7930	Continuing Registration Thesis	History	1	Continuing registration.	GR	Independent Study
Fall 2017	HST7950	7950		History	1	Independent work leading to a master's thesis.	GR	Independent Study
Fall 2017	HUM7000	7000	Grad Res Methods in Hum	Humanities	3	An introduction to graduate research in the humanities with primary emphasis on research writing.	GR	Seminar
Fall 2017	HUM7100	7100	Seminar in Humanities	Humanities	3	Exploration of a single topic or problem from the perspective of a number of disciplines in the humanities.	GR	Seminar
Fall 2017	HUM7300	7300	Humanities Project	Humanities	1	Capstone project under the direction of a three-member faculty committee.	GR	Independent Study
Fall 2017	HUM7400	7400	Humanities Thesis	Humanities	1	Master's thesis under the direction of a three-member faculty committee.	GR	Independent Study
Fall 2017	HUM7800	7800	Independent Study	Humanities	1	Individual study in the humanities under the direction of a faculty supervisor. Generally requires regular conferences with supervisor and research writing.	GR	Independent Study
Fall 2017	HUM7900	7900	Continuing Registration	Humanities	1	Limited to students who have completed coursework toward the Master of Humanities degree and must maintain registered status.	GR	Independent Study
Fall 2017	IB2010	2010	Int'l Business and Trade	International Business	3	Characteristics, trends, history, strategic principles, and tactics for success in conducting international business. Non-business majors only.	UG	Lecture
Fall 2017	IB4770	4770	Indep Study: Int'l Bus	International Business	1	Individualized program of study, agreed to between sponsoring faculty member and student and approved by the department chair.	UG	Independent Study
Fall 2017	IB4780	4780	Hon: Ind Study in IB	International Business	3	Explores an area of particular interest in international business. Student, faculty member, chair, and Director of University Honors will agree on course objectives, methodology, timeline, output medium, and evaluation criteria.	UG	Independent Study
Fall 2017	IB4810	4810	Intl Business Practicum	International Business	3	The purpose of the course is for students to gain applied experience in a cross-cultural context to refine skills that can be used in the conduct of international business. Must be enrolled in one of the following Degrees: BS in Business or International Business Minor.	UG	Practicum

Fall 2017	IB4820	4820	Int'l Business Abroad	International Business	3	Short or long term study abroad course led by a Wright State professor. Pre-departure orientation sessions, on-site lectures, and cultural connections. Target language development. Post-travel project.	UG	Independent Study
Fall 2017	IB4860	4860	Intl Trade Management	International Business	3	Concepts and principles required to develop an import/export strategy and conduct import/export operations. Application of international trade policies, competitive strategies, U.S. and foreign government trade promotion resources to selected country and product for importing/exporting. Integrated Writing course.	UG	Lecture
Fall 2017	IB4960	4960	Intl Business Intern	International Business	3	Internship focused on helping a company improve it's existing international business operations, international business strategies or evaluate a new opportunity in international trade or international business expansion.	UG	Lecture
Fall 2017	IE4000	4000	International Education	International Education	1	Placeholder for students studying abroad on Wright State University Education Abroad Programs. Course placeholder will be replaced with Wright State courses when student returns from abroad.	UG	Independent Study
Fall 2017	IE7000	7000	International Education	International Education	3	Placeholder for students studying abroad on Wright State University Education Abroad Programs. Course placeholder will be replaced with Wright State courses when student returns from abroad.	GR	Independent Study
Fall 2017	IHE6010	6010	Ethics in Engineering	Industrial & Hum Fac Engr	1	Introduce new engineering graduate students to ethics of engineering, scientific research, and technical writing. Additional topics include active reading, active listening, effective presentation, faculty-advisor relationships and the thesis/dissertation process.	GR	Lecture
Fall 2017	IHE6120	6120	Prob for Engr	Industrial & Hum Fac Engr	3	Presentation of probability concepts and techniques as applied to engineering applications. Introduces and applies probability distributions, measures of association, inferences on responses, and basic experimental design. Emphasis is on application of statistical tools.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2300 Minimum Grade of D or Undergraduate level EGR 1010 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE6130	6130	Statistics for EGR	Industrial & Hum Fac Engr	3	Focus 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 2017	IHE6300	6300	Fund of HFE	Industrial & Hum Fac Engr	3 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 2017	IHE6310	6310	Ergonomics	Industrial & Hum Fac Engr	3 Introduction to the application of ergonomic principles to the industrial environment. Includes ergonomic planning and implementation, the work environment, NIOSH work factors, work measurement and work-station and equipment design.<b> Department Managed Prerequisite(s): Graduate level IHE 6120 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE6320	6320	Hum-Sys Int & Usab Engr	Industrial & Hum Fac Engr	3 User-centered design and usability testing for product development with an emphasis on human-computer interfaces.<b> Department Managed Prerequisite(s): Graduate level IHE 6300 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE6330	6330	Egr in Occup Sfty & Hlth	Industrial & Hum Fac Engr	3 Discusses and demonstrates the role and responsibility of engineers in occupational safety and health related issues. Focuses on human factors engineering design principles as a proactive approach for controlling occupational injuries.	GR	Lecture
Fall 2017	IHE6350	6350	Comp Neuroerg & Hlth App	Industrial & Hum Fac Engr	3 Principles and application of computational methods and technologies to neuroergonomics and neuroengineering; analysis of applications related to brain-system interface and augmented sensory perception; articulation of various methods of non-invasive neuroscience measurements	GR	Lecture
Fall 2017	IHE6400	6400	Engr Econ	Industrial & Hum Fac Engr	3 Introduction to analytical methods and techniques for optimizing the economic outcome of technical and managerial decisions. Includes time value of money, annual costs, present worth, future value, capitalized cost break-even analysis, and valuation and depreciation.<b> Department Managed Prerequisite(s): Undergraduate level EGR 1010 Minimum Grade of D or Undergraduate level MTH 2300 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE6410	6410	Tech Based Vent	Industrial & Hum Fac Engr	3 Train students on methods to develop breakthrough products with an entrepreneurial perspective and managerial outlook. Topics include advanced product development, protecting intellectual property, fostering strategic and creative thinking, effectively leading technology-driven teams	GR	Lecture
Fall 2017	IHE6420	6420	Innov & Entrep Sem	Industrial & Hum Fac Engr	1 Seminars meet once a week. Guest lecturers from high-tech companies provide insight on entrepreneurship and innovation. Students gain an understanding of the associated challenges, as well as the resources available within the community	GR	Seminar

Fall 2017	IHE6510	6510	Comp Appl in IHE	Industrial & Hum Fac Engr	4	Design and implement IHE-focused decision support systems built on existing computational modules. Includes applications of operations research methods and discrete event simulation in decision support roles.<b> Department Managed Prerequisite(s): Graduate level IHE 6711 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	IHE6510L	6510L	Comp Appl in IHE Lab	Industrial & Hum Fac Engr	0	Required laboratory for IHE 6510.	GR	Lab
Fall 2017	IHE6711	6711	Optimiz Meth	Industrial & Hum Fac Engr	4	Introductory course on deterministic models in operation research and their applications in Industrial and Human Systems Engineering. Students will formulate appropriate models, and obtain and interpret results in the context of IHE problems.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2350 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	IHE6711L	6711L	Optimiz Meth Lab	Industrial & Hum Fac Engr	0	Required laboratory for IHE 6711.	GR	Lab
Fall 2017	IHE6712	6712	Sim & Stoch Models	Industrial & Hum Fac Engr	4	Study of 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.<b> Department Managed Prerequisite(s): (Undergraduate level ISE 2212 Minimum Grade of D or Graduate level IHE 6120 Minimum Grade of D) and (Undergraduate level ISE 3540 Minimum Grade of D or Undergraduate level CEC 3170 Minimum Grade of D)</b></h>	GR	Lecture
Fall 2017	IHE6712L	6712L	Sim & Stoch Models Lab	Industrial & Hum Fac Engr	0	Required laboratory for IHE 6712.	GR	Lab
Fall 2017	IHE6810	6810	Prod & Serv Sys	Industrial & Hum Fac Engr	3	Explores quantitative techniques as applied to planning and control of systems in production and service industries. Applications include inventory control, scheduling, waiting time & variability management and production/workforce planning.<b> Department Managed Prerequisite(s): Graduate level IHE 6120 Minimum Grade of D and Graduate level IHE 6711 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	IHE6820	6820	Supp Ch Analy & Des	Industrial & Hum Fac Engr	3	Provides fundamental understanding of supply chain systems and their structure. Techniques for analysis and design of the components and interactions including forecasting, inventory, warehouse operations & location, transportation and contemporary issues.<b> Department Managed Prerequisite(s): Graduate level IHE 6711 Minimum Grade of D</b></h>	GR	Lecture

Fall 2017	IHE6850	6850	Six Sigma for Engr	Industrial & Hum Fac Engr	3	Introduction to the practical application of Six Sigma tools in production and service contexts. Includes videos and case studies of real world applications.<b> Department Managed Prerequisite(s): Graduate level IHE 6120 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE6980	6980	Special Topics in IHE I	Industrial & Hum Fac Engr	1	Graduate special topics in advanced industrial and human factors engineering. Topics vary.	GR	Lecture
Fall 2017	IHE6990	6990	Independ Stdy in IHE I	Industrial & Hum Fac Engr	1	Graduate independent studies in advanced industrial and human factors engineering. Topics vary.	GR	Independent Study
Fall 2017	IHE7010	7010	Hum Dec Mak	Industrial & Hum Fac Engr	3	Methods, concepts, theories and practice of decision analysis and its role in providing decision-making assistance to human decision makers. Applications-oriented issues are emphasized.<b> Department Managed Prerequisite(s): Graduate level IHE 6120 Minimum Grade of D or Undergraduate level ISE 2211 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7300	7300	Res Meth in HFE	Industrial & Hum Fac Engr	3	Introduction to research methods available to human factors engineers. Topics include experimental ethics, experimental methods, non-experimental methods, data analysis, and writing research papers. Students are required to conduct and analyze an experiment.<b> Department Managed Prerequisite(s): Graduate level IHE 6130 Minimum Grade of D or Graduate level EGP 7050 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7310	7310	Adv Ergon	Industrial & Hum Fac Engr	3	Design of workstations and hand-tools using physiology and biomechanics approach. Ergonomic analysis of assembly, machining and manual material handling operations. Practical solutions and real world case studies to improve productivity and reduce workers compensation costs.<b> Department Managed Prerequisite(s): Graduate level IHE 6310 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7315	7315	Ergon Engr	Industrial & Hum Fac 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 2017	IHE7320	7320	HF in Virtual Env	Industrial & Hum Fac Engr	3	Techniques for effectively incorporating human factors considerations in the design and development of virtual environments. Includes coverage of input devices, head-mounted displays, health-related issues and measurement of human performance.<b> Department Managed Prerequisite(s): Undergraduate level CEG 2170 Minimum Grade of D or Undergraduate level ISE 3540 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7331	7331	Quant Workload Analysis	Industrial & Hum Fac Engr	3	Physiological and mathematical methods needed to accomplish a workload analysis as a requisite to a system design or a redesign of an ergonomic system.	GR	Lecture

Fall 2017	IHE7335	7335	Ergon Biodyn	Industrial & Hum Fac 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 2017	IHE7340	7340	Hum Factors Mobile Comp	Industrial & Hum Fac Engr	3	Human factors and user experience concepts related to mobile computing. Application of mobile computing to domains such as consumer electronics, education, healthcare, and military will be covered, as well as an overview of several industry practices. Students will learn to use mobile application frameworks, design for the mobile environment, and become comfortable developing simple applications and interactions in the Android mobile development environment.<b> Department Managed Prerequisite(s): Graduate level IHE 6300 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7360	7360	Cognitive Systems Egr	Industrial & Hum Fac Engr	3	Students will acquire knowledge and experience that will aid them in developing quantitative means of modeling, analyzing, and predicting the performance of human-machine systems. Topics include human-system integration, automation, cognitive engineering, discrete control modeling, cognitive field research, information processing, decision theory, heuristics and biases, and expert and analytical reasoning	GR	Lecture
Fall 2017	IHE7370	7370	Medical Devices	Industrial & Hum Fac Engr	3	For students who are interested in acquiring a broad-based knowledge in the human factors of medical instrumentation and devices. Approaches the design and implementation of medical technology from the perspective of patient safety and product usability. Topics to be covered will range from design guideline considerations, tools for usability analysis, and emerging trends and technologies.<b> Department Managed Prerequisite(s): Graduate level IHE 6300 Minimum Grade of D or Undergraduate level ISE 4300 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7371	7371	Fail Analysis Med Device	Industrial & Hum Fac Engr	3	Failure modes of medical devices. Common medical devices such as total joint replacement implants, fixation plates and screws, intermedullary nails, pace makers, other implantable products. Procedures to conduct failure cause investigations within the guidelines developed by regulatory agencies.	GR	Lecture
Fall 2017	IHE7430	7430	Manual Control	Industrial & Hum Fac Engr	3	Description of human control processes and their models. Analyses of human skills and skill typology.	GR	Lecture

Fall 2017	IHE7510	7510	Data Mining	Industrial & Hum Fac Engr	3	Concepts, techniques, and applications of data mining. In addition, students will get hands-on data mining experience through projects.<b> Department Managed Prerequisite(s): Graduate level IHE 6130 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7711	7711	Int Opt & Heur	Industrial & Hum Fac Engr	3	Theory, formulation and solution algorithms for integer programs. Formulations for applications of integer optimization in industry drawn from diverse areas. Advanced optimization and heuristic techniques including random, evolutionary and systematic search.<b> Department Managed Prerequisite(s): Graduate level IHE 6711 Minimum Grade of D or Undergraduate level ISE 4711 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7712	7712	Disc Ev Mod & Analy	Industrial & Hum Fac Engr	3	Modeling of systems using discrete event techniques. Structures to support discrete event models with experience in building and verifying models. Analysis of simulation output data and creating model input from data using statistical techniques.<b> Department Managed Prerequisite(s): Graduate level IHE 6120 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7713	7713	Stoch Mod for Engr	Industrial & Hum Fac Engr	3	Theory and methods for the analysis and design of probabilistic systems. Topics include conditional probability, Poisson processes, properties of exponential models, Markov chains, and queuing theory.<b> Department Managed Prerequisite(s): Graduate level HFE 6120 Minimum Grade of D or Graduate level IHE 6711 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7810	7810	Engr Health Sys	Industrial & Hum Fac Engr	3	Applications of quality improvement, reliability and human factors techniques in modern, technology-driven health-care systems. Focuses on issues related to patient safety and overall system performance.	GR	Lecture
Fall 2017	IHE7820	7820	Engr Supply Chain Sys	Industrial & Hum Fac Engr	3	Advanced topics in the design of supply chain systems and planning for their operations. Emphasis on model development and solution using operations research techniques. Applications in forecasting, facility location, warehouse design, and integrated distribution planning.<b> Department Managed Prerequisite(s): Graduate level IHE 6711 Minimum Grade of D</b>	GR	Lecture
Fall 2017	IHE7850	7850	Lean Proc Imp for Engr	Industrial & Hum Fac Engr	3	Introduction to the practical application of lean manufacturing and kaizen techniques in multiple environments. Includes case studies and team projects based on real world problems and solutions.<b> Department Managed Prerequisite(s): Graduate level IHE 6310 Minimum Grade of D</b>	GR	Lecture



Fall 2017	IHE7910	7910	MEIE Team Project I	Industrial & Hum Fac Engr	3	First semester of team project for Master in Engineering Innovation and Entrepreneurship program. Students identify, assess and prioritize innovation and entrepreneurship opportunities; form diverse multi-cultural teams with engineering and business expertise; interact with entrepreneurs; gain technical expertise; expand their understanding of the business environment	GR	Lecture
Fall 2017	IHE7920	7920	MEIE Team Project II	Industrial & Hum Fac Engr	3	Second semester of team project for Master in Engineering Innovation and Entrepreneurship program. Students work in teams to support the development of a new technology-based organization in concert with local businesses, researchers, inventors and entrepreneurial resources. Students will consider factors including technology, customers, feasibility, competition, financing and cost. <b> Department Managed Prerequisite(s): Graduate level IHE 7910 Minimum Grade of D or Graduate level EGR 7910 Minimum Grade of D</b>	GR	Practicum
Fall 2017	IHE7930	7930	Non-Thesis Resrch in IHE	Industrial & Hum Fac Engr	1	M.S. Non-Thesis Research in Industrial and Human Factors Engineering	GR	Independent Study
Fall 2017	IHE7950	7950	Thesis Research in IHE	Industrial & Hum Fac Engr	1	M.S. Thesis Research in Industrial and Human Factors Engineering	GR	Independent Study
Fall 2017	IHE7980	7980	Special Topics in IHE II	Industrial & Hum Fac Engr	1	Graduate special topics in advanced industrial and human factors engineering. Topics vary.	GR	Lecture
Fall 2017	IHE7990	7990	Independ Stdy in IHE II	Industrial & Hum Fac Engr	1	Graduate independent studies in advanced industrial and human factors engineering. Topics vary.	GR	Independent Study
Fall 2017	IHE8930	8930	Non-Dissrt Resrch in IHE	Industrial & Hum Fac Engr	1	Ph.D. Non-Dissertation Research in Industrial and Human Factors Engineering	GR	Independent Study
Fall 2017	IHE8950	8950	Dissertation Resrch IHE	Industrial & Hum Fac Engr	1	Ph.D. Dissertation Research in Industrial and Human Factors Engineering	GR	Independent Study
Fall 2017	ISE1110	1110	Fundamentals of BIE	Industrial & Systems Engr	1	Introduction to the disciplines of Biomedical, Industrial & Systems and Human Factors Engineering. Provides an overview of how engineers design, develop, implement, and improve integrated systems that include people, materials, information, equipment, and energy. Consists of lecture classes and computer-based instrumentation lab sessions; includes freshman design experience with emphasis on teamwork and problem solving. Department faculty provide interesting insights in their areas of expertise	UG	Lecture/Lab Combination

Fall 2017	ISE1110	1110	Fundamentals of BIE	Industrial & Systems Engr	1	Introduction to the disciplines of Biomedical, Industrial & Systems and Human Factors Engineering. Provides an overview of how engineers design, develop, implement, and improve integrated systems that include people, materials, information, equipment, and energy. Consists of lecture classes and computer-based instrumentation lab sessions; includes freshman design experience with emphasis on teamwork and problem solving. Department faculty provide interesting insights in their areas of expertise.	UG	Lecture
Fall 2017	ISE1110L	1110L	Fundamentals of BIE Lab	Industrial & Systems Engr	0	Required laboratory for ISE 1110.	UG	Lab
Fall 2017	ISE1950	1950	Undergrad Resrch ISE I	Industrial & Systems Engr	1	Undergraduate research in Industrial and Systems Engineering. Topics vary.	UG	Independent Study
Fall 2017	ISE1980	1980	Special Topics in ISE I	Industrial & Systems Engr	1	Undergraduate special topics in industrial and systems engineering. Topics vary.	UG	Lecture
Fall 2017	ISE1990	1990	Independ Stdy in ISE I	Industrial & Systems Engr	1	Undergraduate independent studies in Industrial and System Engineering. Topics vary.	UG	Independent Study
Fall 2017	ISE2211	2211	Statistics for Engineers	Industrial & Systems Engr	3	Application of statistical techniques to engineering testing, development, and manufacturing. Basic principles of data collection and descriptive statistics; axioms of probability; discrete/continuous random variables and probability distributions; sampling theory; statistical inference; correlation/regression; analysis of variance.	UG	Lecture
Fall 2017	ISE3211	3211	Human Biomechanics I	Industrial & Systems Engr	4	Biostatic considerations, human systems and mechanics.	UG	Lecture
Fall 2017	ISE3211R	3211R	Human Biomechanics I Rec	Industrial & Systems Engr	0	Required recitation for ISE 3211.	UG	Recitation
Fall 2017	ISE3212	3212	Human Biomechanics II	Industrial & Systems Engr	3	Linear and angular kinematics and kinetics applied to human performance. Other topics include human systems analysis with work-energy methods and injury biomechanics utilizing impulse-momentum methods.	UG	Lecture
Fall 2017	ISE3221	3221	Adv Stats for Engineers	Industrial & Systems Engr	3	Continuation of ISE 2211 engineering statistics as applied to testing, development, and manufacturing and quality assurance. Expands on the concepts of sampling theory, design of experiments, hypothesis testing and statistical inference, simple and multiple linear regression, non-parametric analysis, analysis of variance, and process improvement (statistical process control and six sigma techniques). The use of an interactive statistics and graphics application software is emphasized.	UG	Lecture

Fall 2017	ISE3511	3511	Bioelectronics I	Industrial & Systems Engr	4	Electronic theory applied to biomedical/human systems (physiological measurements, medical devices, prosthetics, medical imaging). Passive components, voltage/current sources, switches/relays. Circuit/network analysis using law/theorems (Ohm, Joules, Kirchhoff, Thevenin/Norton). Hands-on laboratory component reinforces an understanding of biomedical electronic systems and devices using function generators, multi-meters, oscilloscopes to measure voltage, current, impedance, frequency.	UG	Lecture
Fall 2017	ISE3511L	3511L	Bioelectronics I Lab	Industrial & Systems Engr	0	Required Laboratory for ISE 3511.	UG	Lab
Fall 2017	ISE3512	3512	Bioelectronics II	Industrial & Systems Engr	4	Modern electronic devices/circuits applied to human systems/biomedical applications, instrumentation, data collection. Reactive components, filters, semiconductors, op-amps, digital logic circuits in biomedical applications and devices. Hands-on laboratory component provides experience in designing, assembling, testing, and employing amplifiers, filters, digital logic circuits used for collecting and analyzing data related to biomedical engineering applications.	UG	Lecture
Fall 2017	ISE3512L	3512L	Bioelectronics II Lab	Industrial & Systems Engr	0	Required laboratory for ISE 3512.	UG	Lab
Fall 2017	ISE3540	3540	Intro to Comp for ISE	Industrial & Systems Engr	3	Digital computer applications in ISE related fields. Use of MatLab to solve ISE problems and display the results.	UG	Lecture/Lab Combination
Fall 2017	ISE3540L	3540L	Intro to Comp for ISE Lab	Industrial & Systems Engr	0	Required laboratory for ISE 3540.	UG	Lab
Fall 2017	ISE4300	4300	Fund of Human Fact Egr	Industrial & Systems Engr	3	Analysis and design of human-machine interactions focusing on information processing. Topics include task analysis, human perception and performance, and interface design.	UG	Lecture
Fall 2017	ISE4310	4310	Ergonomics	Industrial & Systems Engr	3	Introduction to the application of ergonomic principles to the industrial environment. Includes ergonomic planning and implementation, the work environment, NIOSH work factors, work measurement and work-station and equipment design.	UG	Lecture
Fall 2017	ISE4320	4320	Hum-Sys Int & Usab Engrg	Industrial & Systems Engr	3	Theoretical paradigms in human-system interaction and their application to interface design. Advanced interface technologies, such as multimodal input/output, hypertext, and knowledge-based systems.	UG	Lecture
Fall 2017	ISE4330	4330	Egr in Occup Sfty & Hlth	Industrial & Systems Engr	3	Discusses and demonstrates the role and responsibility of engineers in occupational safety and health related issues. Focuses on human factors engineering design principles as a proactive approach for controlling occupational injuries.	UG	Lecture

Fall 2017	ISE4350	4350	Comp Neuroerg & Hlth App	Industrial & Systems Engr	3	Principles and application of computational methods and technologies to neuroergonomics and neuroengineering; analysis of applications related to brain-system interface and augmented sensory perception; articulation of various methods of non-invasive neuroscience measurements	UG	Lecture
Fall 2017	ISE4400	4400	Engineering Economy	Industrial & Systems Engr	3	Introduction to analytical methods and techniques for optimizing the economic outcome of technical and managerial decisions. Includes time value of money, annual costs, present worth, future value, capitalized cost break-even analysis and valuation and depreciation	UG	Lecture
Fall 2017	ISE4410	4410	Tech Based Ventures	Industrial & Systems Engr	3	Train students on methods to develop breakthrough products with an entrepreneurial perspective and managerial outlook. Topics include advanced product development, protecting intellectual property, fostering strategic and creative thinking, effectively leading technology-driven teams	UG	Lecture
Fall 2017	ISE4420	4420	I&E Seminar Series	Industrial & Systems Engr	1	Seminars meet once a week. Guest lecturers from high-tech companies provide insight on entrepreneurship and innovation. Students gain an understanding of the associated challenges, as well as the resources available within the community	UG	Seminar
Fall 2017	ISE4510	4510	Comp Appl in ISE	Industrial & Systems Engr	4	Design and implement ISE-focused decision support systems built on existing computational modules. Includes applications of operations research methods and discrete event simulation in decision support roles.	UG	Lecture
Fall 2017	ISE4510L	4510L	Comp Appl in ISE Lab	Industrial & Systems Engr	0	Required laboratory for ISE 4510.	UG	Lab
Fall 2017	ISE4711	4711	Optimization Methods	Industrial & Systems Engr	4	Introductory course on deterministic models in operation research and their applications in Industrial and Systems Engineering. Students will formulate appropriate models, and obtain and interpret results in the context of ISE problems.	UG	Lecture
Fall 2017	ISE4711L	4711L	Optimization Methods Lab	Industrial & Systems Engr	0	Required laboratory for ISE 4711.	UG	Lab
Fall 2017	ISE4712	4712	Sim & Stoch Models	Industrial & Systems Engr	4	Study of 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	UG	Lecture/Lab Combination
Fall 2017	ISE4712L	4712L	Sim & Stoch Models Lab	Industrial & Systems Engr	0	Required laboratory for ISE 4712.	UG	Lab
Fall 2017	ISE4810	4810	Prod & Serv Sys	Industrial & Systems Engr	3	Explores quantitative techniques as applied to planning and control of systems in production and service industries. Applications include inventory control, scheduling, waiting time & variability management and production/workforce	UG	Lecture

Fall 2017	ISE4820	4820	Supp Ch Analy & Des	Industrial & Systems Engr	3	Provides fundamental understanding of supply chain systems and their structure. Techniques for analysis and design of the components and interactions including forecasting, inventory, warehouse operations & location, transportation and contemporary issues.	UG	Lecture
Fall 2017	ISE4850	4850	Six Sigma for Engineers	Industrial & Systems Engr	3	Introduction to the practical application of Six Sigma tools in production and service contexts. Includes videos and case studies of real world applications.	UG	Lecture
Fall 2017	ISE4910	4910	ISE Design I	Industrial & Systems Engr	3	Segment one of the ISE senior design sequence. Introduction to patents and engineering ethics included. Practicum results in the definition of the capstone design project to be completed in ISE 4920. Integrated Writing course.	UG	Lecture
Fall 2017	ISE4920	4920	ISE Design II	Industrial & Systems Engr	3	Segment two of the ISE senior design sequence. Practicum results in the final engineering design and completion of the design project. Integrated Writing course.	UG	Practicum
Fall 2017	ISE4950	4950	Undergrad Resrch ISE II	Industrial & Systems Engr	1	Undergraduate research in advanced Industrial and Systems Engineering. Topics vary.	UG	Independent Study
Fall 2017	ISE4980	4980	Special Topics in ISE II	Industrial & Systems Engr	1	Undergraduate independent studies in advanced Industrial and Systems Engineering. Topics vary.	UG	Lecture
Fall 2017	ISE4990	4990	Independ Stdy in ISE II	Industrial & Systems Engr	1	Undergraduate independent studies in advanced Industrial and Systems Engineering. Topics vary.	UG	Independent Study
Fall 2017	ISG7200	7200	Theor Found of Gftd & T	Intervention Specialist Gifted	3	Historical perspective, characteristics and major theories of those with gifted and talented educational needs.	GR	Lecture
Fall 2017	ISG7220	7220	Nat & Nur St Gftd Ed Nd	Intervention Specialist Gifted	3	Addressing cognitive, affective, social, and physical characteristics of students with gifted and talented needs in the educational setting.	GR	Lecture
Fall 2017	ISG7240	7240	Cur & Dif St Gftd Ed Nds	Intervention Specialist Gifted	3	Understanding the various curriculum models and differentiation in gifted education. Design, delivery and evaluation of curriculum that addresses differentiated curriculum needs.	GR	Lecture
Fall 2017	ISG7260	7260	Assess in Gftd Ed	Intervention Specialist Gifted	3	National and State perspectives on the role of assessment in program design, identification of students, development of written education plans and classroom instruction.	GR	Lecture
Fall 2017	ISG7280	7280	Com & Con GIS as St Adv	Intervention Specialist Gifted	3	Skills and information needed in the role of the Gifted Intervention Specialist as collaborator with general education teacher, administrators and parents and the advocate for students with gifts and talents.	GR	Lecture
Fall 2017	ISG7300	7300	Practicum in Gifted Ed	Intervention Specialist Gifted	4	Educators with prior teaching licenses, under the direct supervision of an experienced Intervention Specialist, are assigned to a school for intensive teaching experience in K-12 grade special education.	GR	Internship

Fall 2017	ISG7500	7500	Spec Studies in Gftd Ed	Intervention Specialist Gifted	1	Independent Study in a selected area of intervention specialist gifted education	GR	Internship
Fall 2017	ISM8000	8000	Research & Career Dev. I	Interdis. Appl. Sci. and Math	3	This course will introduce ISM students to the ongoing research activities within the program and will include presentations by ISM faculty. It will introduce ISM students to research related topics including literature research, data analysis, written presentations, and oral presentations. This course will aid the student in the selection of his/her research advisor. It will also consider research ethics which will emphasize the evaluation of hypothetical ethical scenarios in research.	GR	Lecture
Fall 2017	ISM8010	8010	Research & Career Dev. 2	Interdis. Appl. Sci. and Math	3	This course is a follow-up to ISM Research and Career Development I with the goal of continuing to advance student preparation for thesis research. This course builds on the prerequisite, ISM 8000, with a focus on the development of research projects and proposals. Students will continue to get exposure to the research activities of program faculty via seminars. In addition, the student activity in this course will focus on the development of a mock research proposal.	GR	Lecture
Fall 2017	ISM8100	8100	Graduate Seminar	Interdis. Appl. Sci. and Math	1	Convention of student body and faculty from the ISM program to learn, discuss, and critique current and evolving research in fields relevant to the ISM program mission as presented by an active and reputable scientific investigator. The course will be centered around guest lecturer and student presentations. Students will learn from world-class researchers about solutions to contemporary scientific problems through the application of fundamental principles.	GR	Seminar
Fall 2017	ISM8200	8200	Semester Internship	Interdis. Appl. Sci. and Math	3	This course will expose students to the expectations of the professional workforce while learning how to apply scientific knowledge in a professional research and development environment. It will also give students the opportunity to test their interest in and aptitude for a particular career path outside of academia. This internship will take place at an off-campus public or private entity engaged in work relevant to ISM Program oriented research topics.	GR	Internship
Fall 2017	ISM8300	8300	Independent Research	Interdis. Appl. Sci. and Math	1	The research work to be performed will be supervised by an ISM Program Faculty member. The scope and milestones required for the independent research shall be decided upon by the faculty member in consultation with the student.	GR	Independent Study
Fall 2017	ISM8400	8400	Dissertation Research	Interdis. Appl. Sci. and Math	1	The research work to be performed will be supervised by an ISM Program Faculty member. The scope and milestones required for the dissertation research shall be decided upon by the faculty member in consultation with the student.	GR	Independent Study

Fall 2017	ISM8500	8500	Special Topics	Interdis. Appl. Sci. and Math	1	Selected topics in interdisciplinary applied sciences and mathematics. Content developed by instructor is to be at a level of rigor appropriate for a Ph.D. level student. The student is expected to be able to demonstrate via work products a significant increase in understanding of the special topic.	GR	Lecture
Fall 2017	IT1010	1010	Graphic Terminology/Dsgn	Information Technology	3	Desktop publishing and graphic terminology used in today's graphics communications, and principles of design in printed media. Trends, history and ethics in print media.	UG	Lecture
Fall 2017	IT1210	1210	Intro Photo Design Sci	Information Technology	3	Basic terminology and techniques of photography including posing subjects and using photo editing software to enhance photography. Integrated lecture and lab.	UG	Lecture/Lab Combination
Fall 2017	IT1220	1220	Adv Photo Des Sci	Information Technology	3	Advanced photography techniques including image editing, output, workflow, advanced exposure, lighting techniques, and raw shooting. Department Managed Prerequisite(s): Undergraduate level IT 1210 Minimum Grade of D	UG	Lecture/Lab Combination
Fall 2017	IT1300	1300	Illustration	Information Technology	3	Relation of art applications to graphic design. Application of sketching and computer generated illustration.	UG	Lecture
Fall 2017	IT1400	1400	Layout and Typography	Information Technology	3	Fundamentals of typography as an element and tool of visual communication. Use of various software programs to produce creative and marketable typographic design. 1 hour lecture/2 hours lab.	UG	Lecture/Lab Combination
Fall 2017	IT1410	1410	Digital Media I	Information Technology	3	Use of a non-linear video editing program to combine audio and video files.	UG	Lecture/Lab Combination
Fall 2017	IT2010	2010	Photoshop I	Information Technology	3	Introduction to computer imaging and photo manipulation using raster-based Photoshop software. Filters and text will be explored. 2 hours lecture/2 hours lab.	UG	Lecture/Lab Combination
Fall 2017	IT2020	2020	Photoshop II	Information Technology	3	Advanced tools and techniques; topics include color harmonies, color value and saturation, color studies, various illusions created by contrast, value and saturation. Department Managed Prerequisite(s): Undergraduate level IT 2010 Minimum Grade of D	UG	Lecture/Lab Combination
Fall 2017	IT2050	2050	Presentation Skills	Information Technology	3	Professional speaking and electronic presentation skills.	UG	Lecture
Fall 2017	IT2150	2150	Design Integration	Information Technology	4	Skills needed to integrate essential software into projects that conform to design principles and client expectations.	UG	Lecture
Fall 2017	IT2180	2180	Found of Electronic Prod	Information Technology	3	Streamlined processes for delivering electronic content. Topics include Macs vs PCs, color depth, advantages and disadvantages of types of printers, magnetic and optical storage systems.	UG	Lecture
Fall 2017	IT2200	2200	Web Theory and Design I	Information Technology	3	Introduction to web authoring and programming using basic HTML authoring tools. 2 hours lecture/2 hours lab.	UG	Lecture/Lab Combination

Fall 2017	IT2210	2210	Web Theory & Design II	Information Technology	3	Production will move beyond the basics, adding form objects and other enhancements using web design software. 2 hours lecture/2 hours lab.	UG	Lecture/Lab Combination
Fall 2017	IT2220	2220	Digital Animation	Information Technology	3	Use of vector and raster images, movie clips and graphics to create images. Project-based course using the industry leading graphic animation software.<b> Department Managed Prerequisite(s): Undergraduate level IT 1300 Minimum Grade of D</b></h>	UG	Lecture/Lab Combination
Fall 2017	IT2230	2230	Web Integration	Information Technology	4	Integration of the web design process into a usable product. Overview of how web productions multimedia and interactivity interact with the Internet and databases.	UG	Lecture
Fall 2017	IT2240	2240	Fund of Weblog Design	Information Technology	3	Creating a weblog for the purpose of communicating or promoting an idea and evaluating the effectiveness of a weblog using visitor comments and web analytics.	UG	Lecture/Lab Combination
Fall 2017	IT2300	2300	E-Commerce Advertising	Information Technology	3	Techniques and strategies used in e-commerce advertising applied to graphic design. 2 hours lecture/2hours lab.	UG	Lecture/Lab Combination
Fall 2017	IT2320	2320	Publication Design	Information Technology	3	Introduces current print media environment and unique challenges encountered with communication when designing for books, magazines, newspapers, promotional literature, and other types of print publications.<b> Department Managed Prerequisite(s): Undergraduate level IT 1400 Minimum Grade of D</b></h>	UG	Lecture/Lab Combination
Fall 2017	IT2350	2350	Branding Experience	Information Technology	3	Techniques and strategies used in brand creation applied to graphic design.	UG	Lecture
Fall 2017	IT2360	2360	Found of Package Design	Information Technology	3	Fundamental concepts and applications of package design. History of field and useful package patterns. Hands-on experience in formulating package design.	UG	Lecture
Fall 2017	IT2400	2400	Employ Portfolio Dev	Information Technology	2	Development of effective job strategies including application forms, cover letters, and resumes. Development of a multimedia portfolio.	UG	Lecture/Lab Combination
Fall 2017	IT2450	2450	Concepts Environ Design	Information Technology	3	Intro to environmental design and how design works cohesively with the environment.	UG	Lecture
Fall 2017	IT2500	2500	Promotional Design	Information Technology	3	Designing, writing, and using creative ideas in developing advertisements with consideration of cultural diversity.	UG	Lecture/Lab Combination
Fall 2017	IT2550	2550	Emerging Software Tech	Information Technology	3	Core functionality of ArcGIS Desktop software: how to make maps, carry out spatial analysis, and build and edit spatial databases in the context of realistic projects. Some of the tasks covered include: symbolizing and labeling maps, classifying data, querying maps, analyzing spatial relationships, setting map projections, building spatial databases, editing data, geocoding addresses and making map layouts	UG	Lecture/Lab Combination



Fall 2017	IT3100	3100	Advanced Illustration	Information Technology	3	Use of Illustrator for technical purposes such as creating logos and other files for the Web.<b> Department Managed Prerequisite(s): Undergraduate level IT 1300 Minimum Grade of D and Undergraduate level IT 2020 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	IT3210	3210	Prin of Package Design	Information Technology	3	Complete coverage of step-by-step creation of package design including the pre-production and production issues.	UG	Lecture/Lab Combination
Fall 2017	IT3400	3400	Digital Multimedia Tech	Information Technology	3	Use of multimedia applications interfacing graphics and applied arts to produce contemporary advertising and graphic design portfolio projects. Emphasis on latest multimedia tools.	UG	Lecture/Lab Combination
Fall 2017	IT3410	3410	Digital Media 2	Information Technology	3	Introduces professional audio editing and mixing environment. Project-based course.<b> Department Managed Prerequisite(s): Undergraduate level IT 1410 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	IT3450	3450	Interactive Web Design	Information Technology	3	Designing and publishing HTML pages to the latest web standards software without writing code.<b> Department Managed Prerequisite(s): Undergraduate level IT 2010 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	IT4310	4310	History Graphic Design	Information Technology	3	Historical analysis of visual communication emphasizing the development of the profession of graphic design and the relationship of commerce and technology to the history of graphic design.<b> Department Managed Prerequisite(s): Undergraduate level ENG 2100 Minimum Grade of D</b>	UG	Lecture
Fall 2017	IT4400	4400	Motion Graphics	Information Technology	3	Creating engaging interactive content for mobile-device apps using the industry-leading software.<b> Department Managed Prerequisite(s): Undergraduate level IT 2010 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	IT4425	4425	Senior Seminar	Information Technology	2	Small interactive seminar on academic experiences for life in the graphic design field.	UG	Seminar
Fall 2017	IT4435	4435	Internship	Information Technology	2	Practical graphic design experience under the joint supervision of a faculty member and a business representative. May be taken for a letter grade or pass/unsatisfactory.	UG	Internship
Fall 2017	IT4479	4479	Special Topics	Information Technology	1	Focused study in an area of interest in Graphic Design and Visual Media.	UG	Lecture/Lab Combination
Fall 2017	ITA1010	1010	Beginning Italian I	Italian	3	Communicative introduction to Italian. Study of the vocabulary and structure of the Italian language; practice in speaking, listening, reading, and writing.	UG	Lecture
Fall 2017	ITA1020	1020	Beginning Italian II	Italian	3	Communicative introduction to Italian. Study of the vocabulary and structure of the Italian language; practice in speaking, listening, reading, and writing.	UG	Lecture

Fall 2017	ITA2010	2010	Intermediate Italian I	Italian	3	Continued study of the Italian language. Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language.	UG	Lecture
Fall 2017	ITA2020	2020	Intermediate Italian II	Italian	3	Continued study of the Italian language. Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language.	UG	Lecture
Fall 2017	ITL4890	4890	Intl Cont'd Registration	Intl Continued Registration	0	International students in undergraduate programs who need to complete incomplete coursework or degree requirements may register for ITL 4890. This course is not graded and does not carry a tuition charge.	UG	Lecture
Fall 2017	ITL7890	7890	Intl Continued Registration	Intl Continued Registration	0	International students in graduate programs requiring a thesis or dissertation and who have completed all degree requirements may register for ITL 789. This course is not graded and does not carry a tuition charge.	GR	Lecture
Fall 2017	JPN1010	1010	Beginning Japanese I	Japanese	3	Communicative introduction to Japanese language and culture. Study of the vocabulary and structure of the Japanese language; practice in speaking, listening, reading, and writing. Taught in Japanese.	UG	Lecture
Fall 2017	JPN1020	1020	Beginning Japanese II	Japanese	3	Communicative introduction to Japanese language and culture. Study of the vocabulary and structure of the Japanese language; practice in speaking, listening, reading, and writing. Taught in Japanese.	UG	Lecture
Fall 2017	JPN2010	2010	Intermediate Japanese I	Japanese	3	Continued study of the Japanese language. Grammar and vocabulary review with practice in speaking, reading, and writing. Taught in Japanese.	UG	Lecture
Fall 2017	JPN2020	2020	Intermediate Japanese II	Japanese	3	Continued study of the Japanese language. Grammar review with practice in speaking, reading, and writing. Taught in Japanese.	UG	Lecture
Fall 2017	JPN3110	3110	Japanese Conversation	Japanese	3	Practice in oral use of Japanese, emphasizing the culture of the Japanese world.	UG	Lecture
Fall 2017	JPN3120	3120	Adv Japanese Conv	Japanese	3	Continued practice in oral use of Japanese, emphasizing the culture of the Japanese world.	UG	Lecture
Fall 2017	JPN3700	3700	Internship in Japanese	Japanese	3	Supervised use of Japanese in workplace settings. Must complete an application available from the Department of Modern Languages. Minimum time commitment 135 hours a semester, including a minimum of 120 hours of on-site work. Senior standing and advisor permission required.	UG	Internship
Fall 2017	KNH1000	1000	Special Topics	Kinesiology & Health	1	Activity course for a variety of content areas	UG	Lab
Fall 2017	KNH1000 A	1000A	Special Topics	Kinesiology & Health	1	Activity course for a variety of content areas	UG	Lab
Fall 2017	KNH1000 B	1000B	Special Topics	Kinesiology & Health	1	Activity course for a variety of content areas	UG	Lab

Fall 2017	KNH1020	1020	Aerobic Conditioning	Kinesiology & Health	1	Fundamental skills and knowledge of Aerobic Conditioning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1020 A	1020A	Aerobic Conditioning	Kinesiology & Health	1	Fundamental skills and knowledge of Aerobic Conditioning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1020 B	1020B	Aerobic Conditioning	Kinesiology & Health	1	Fundamental skills and knowledge of Aerobic Conditioning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1040	1040	Army Fitness Training	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1040 A	1040A	Army Fitness Training	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1040 B	1040B	Army Fitness Training	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1050	1050	Army Fitness Training II	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1060	1060	Backpacking	Kinesiology & Health	1	Fundamental skills and knowledge of Backpacking. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1060 A	1060A	Backpacking	Kinesiology & Health	1	Fundamental skills and knowledge of Backpacking. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1060 B	1060B	Backpacking	Kinesiology & Health	1	Fundamental skills and knowledge of Backpacking. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1080	1080	Basketball	Kinesiology & Health	1	Fundamental skills and knowledge of Basketball. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1080 A	1080A	Basketball	Kinesiology & Health	1	Fundamental skills and knowledge of Basketball. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1080 B	1080B	Basketball	Kinesiology & Health	1	Fundamental skills and knowledge of Basketball. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1100	1100	Bowling	Kinesiology & Health	1	Fundamental skills and knowledge of Bowling. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab

Fall 2017	KNH1100 A	1100A	Bowling	Kinesiology & Health	1	Fundamental skills and knowledge of Bowling. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1100 B	1100B	Bowling	Kinesiology & Health	1	Fundamental skills and knowledge of Bowling. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1120	1120	Canoeing	Kinesiology & Health	1	Fundamental skills and knowledge of Canoeing. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1120 A	1120A	Canoeing	Kinesiology & Health	1	Fundamental skills and knowledge of Canoeing. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1120 B	1120B	Canoeing	Kinesiology & Health	1	Fundamental skills and knowledge of Canoeing. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1140	1140	Dance: Ballroom	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Ballroom. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1140 A	1140A	Dance: Ballroom	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Ballroom. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1140 B	1140B	Dance: Ballroom	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Ballroom. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1160	1160	Dance: Latin	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Latin. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1160 A	1160A	Dance: Latin	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Latin. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1160 B	1160B	Dance: Latin	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Latin. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1180	1180	Dance: Swing	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Swing. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1180 A	1180A	Dance: Swing	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Swing. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab

Fall 2017	KNH1180 B	1180B	Dance: Swing	Kinesiology & Health	1	Fundamental skills and knowledge of Dance: Swing. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1200	1200	Fencing: Beginning	Kinesiology & Health	1	Fundamental skills and knowledge of Fencing: Beginning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1200 A	1200A	Fencing: Beginning	Kinesiology & Health	1	Fundamental skills and knowledge of Fencing: Beginning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1200 B	1200B	Fencing: Beginning	Kinesiology & Health	1	Fundamental skills and knowledge of Fencing: Beginning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1210	1210	Fencing: Intermediate	Kinesiology & Health	1	Intermediate level of skills and knowledge in Fencing: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1210 A	1210A	Fencing: Intermediate	Kinesiology & Health	1	Intermediate level of skills and knowledge in Fencing: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1210 B	1210B	Fencing: Intermediate	Kinesiology & Health	1	Intermediate level of skills and knowledge in Fencing: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1220	1220	Fencing: Competitive	Kinesiology & Health	1	Intermediate level of skills and knowledge in Fencing: Competitive. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1220 A	1220A	Fencing: Competitive	Kinesiology & Health	1	Intermediate level of skills and knowledge in Fencing: Competitive. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1220 B	1220B	Fencing: Competitive	Kinesiology & Health	1	Intermediate level of skills and knowledge in Fencing: Competitive. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1240	1240	Golf	Kinesiology & Health	1	Fundamental skills and knowledge of Golf. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1240 A	1240A	Golf	Kinesiology & Health	1	Fundamental skills and knowledge of Golf. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1240 B	1240B	Golf	Kinesiology & Health	1	Fundamental skills and knowledge of Golf. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1260	1260	H2O Deep Conditioning	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Deep Conditioning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab

Fall 2017	KNH1260 A	1260A	H2O Deep Conditioning	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Deep Conditioning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1260 B	1260B	H2O Deep Conditioning	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Deep Conditioning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1270	1270	H2O Kickboxing	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Kickboxing. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1270 A	1270A	H2O Kickboxing	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Kickboxing. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1270 B	1270B	H2O Kickboxing	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Kickboxing. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1280	1280	H2O Moves with Step	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Moves with Step. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1280 A	1280A	H2O Moves with Step	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Moves with Step. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1280 B	1280B	H2O Moves with Step	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Moves with Step. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1290	1290	H2O Zumba	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Zumba. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1290 A	1290A	H2O Zumba	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Zumba. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1290 B	1290B	H2O Zumba	Kinesiology & Health	1	Fundamental skills and knowledge of H2O Zumba. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1300	1300	Hiking	Kinesiology & Health	1	Fundamental skills and knowledge of Hiking. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1300 A	1300A	Hiking	Kinesiology & Health	1	Fundamental skills and knowledge of Hiking. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1300 B	1300B	Hiking	Kinesiology & Health	1	Fundamental skills and knowledge of Hiking. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab

Fall 2017	KNH1340	1340	Judo	Kinesiology & Health	1	Fundamental skills and knowledge of Judo. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1340 A	1340A	Judo	Kinesiology & Health	1	Fundamental skills and knowledge of Judo. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1340 B	1340B	Judo	Kinesiology & Health	1	Fundamental skills and knowledge of Judo. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1360	1360	Karate	Kinesiology & Health	1	Fundamental skills and knowledge of Karate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1360 A	1360A	Karate	Kinesiology & Health	1	Fundamental skills and knowledge of Karate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1360 B	1360B	Karate	Kinesiology & Health	1	Fundamental skills and knowledge of Karate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1380	1380	Kayaking: Recreational	Kinesiology & Health	1	Fundamental skills and knowledge of Kayaking: Recreational. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1380 A	1380A	Kayaking: Recreational	Kinesiology & Health	1	Fundamental skills and knowledge of Kayaking: Recreational. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1380 B	1380B	Kayaking: Recreational	Kinesiology & Health	1	Fundamental skills and knowledge of Kayaking: Recreational. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1400	1400	Lifeguard Training	Kinesiology & Health	1	Intermediate level of skills and knowledge in lifeguard training. Competency-based approach. Students should check competency levels posted in physical education building before enrolling.	UG	Lab
Fall 2017	KNH1400 A	1400A	Lifeguard Training	Kinesiology & Health	1	Intermediate level of skills and knowledge in lifeguard training. Competency-based approach. Students should check competency levels posted in physical education building before enrolling.	UG	Lab
Fall 2017	KNH1400 B	1400B	Lifeguard Training	Kinesiology & Health	1	Intermediate level of skills and knowledge in lifeguard training. Competency-based approach. Students should check competency levels posted in physical education building before enrolling.	UG	Lab

Fall 2017	KNH1420	1420	Orienteering/Land Nav	Kinesiology & Health	1	Fundamental skills and knowledge of Orienteering/Land Navigation. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1420 A	1420A	Orienteering/Land Nav	Kinesiology & Health	1	Fundamental skills and knowledge of Orienteering/Land Navigation. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1420 B	1420B	Orienteering/Land Nav	Kinesiology & Health	1	Fundamental skills and knowledge of Orienteering/Land Navigation. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1440	1440	Phys Ed for Disabled	Kinesiology & Health	1	Fundamental skills and knowledge of Physical Education for Disabled. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1440 A	1440A	Phys Ed for Disabled	Kinesiology & Health	1	Fundamental skills and knowledge of Physical Education for Disabled. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1440 B	1440B	Phys Ed for Disabled	Kinesiology & Health	1	Fundamental skills and knowledge of Physical Education for Disabled. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1450	1450	Rape Def Strat Basic	Kinesiology & Health	1	Fundamental skills and knowledge of Rape Defense Strategies: Basic. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1450 A	1450A	Rape Def Strat Basic	Kinesiology & Health	1	Fundamental skills and knowledge of Rape Defense Strategies: Basic. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1450 B	1450B	Rape Def Strat Basic	Kinesiology & Health	1	Fundamental skills and knowledge of Rape Defense Strategies: Basic. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1460	1460	Rape Def Strat: Intermed	Kinesiology & Health	1	Intermediate level of skills and knowledge in Rape Defense Strategies: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1460 A	1460A	Rape Def Strat: Intermed	Kinesiology & Health	1	Intermediate level of skills and knowledge in Rape Defense Strategies: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1460 B	1460B	Rape Def Strat: Intermed	Kinesiology & Health	1	Intermediate level of skills and knowledge in Rape Defense Strategies: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1480	1480	Rappelling	Kinesiology & Health	1	Fundamental skills and knowledge of Rappelling. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab



Fall 2017	KNH1480 A	1480A	Rappelling	Kinesiology & Health	1	Fundamental skills and knowledge of Rappelling. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1480 B	1480B	Rappelling	Kinesiology & Health	1	Fundamental skills and knowledge of Rappelling. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1500	1500	Scuba & Skin: Open Water	Kinesiology & Health	2	Fundamental skills and knowledge of Scuba & Skin: Open Water. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1510	1510	Scuba: Advanced Diver	Kinesiology & Health	2	Intermediate level of skills and knowledge in Scuba: Advanced Diver. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1520	1520	SCUBA: Master Diver	Kinesiology & Health	2	Advanced skills and knowledge of SCUBA: Master Diver. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1530	1530	SCUBA: Newport Aquarium	Kinesiology & Health	2	Fundamental skills and knowledge of SCUBA: Newport Aquarium. Competency-based approach. Course may accommodate disabled students when appropriate. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	KNH1540	1540	Self Defense for Women	Kinesiology & Health	1	Fundamental skills and knowledge of Self Defense for Women. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1540 A	1540A	Self Defense for Women	Kinesiology & Health	1	Fundamental skills and knowledge of Self Defense for Women. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1540 B	1540B	Self Defense for Women	Kinesiology & Health	1	Fundamental skills and knowledge of Self Defense for Women. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1550	1550	GRACIE Self Def: Basic	Kinesiology & Health	1	Fundamental skills and knowledge of GRACIE Self Defense: Basic. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1550 A	1550A	GRACIE Self Def: Basic	Kinesiology & Health	1	Fundamental skills and knowledge of GRACIE Self Defense: Basic. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1550 B	1550B	GRACIE Self Def: Basic	Kinesiology & Health	1	Fundamental skills and knowledge of GRACIE Self Defense: Basic. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab

Fall 2017	KNH1555	1555	GRACIE Self Def: Intermed	Kinesiology & Health	1	Intermediate level of skills and knowledge in GRACIE Self Defense: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1560	1560	Soccer: Indoor	Kinesiology & Health	1	Fundamental skills and knowledge of Soccer: Indoor. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1560 A	1560A	Soccer: Indoor	Kinesiology & Health	1	Fundamental skills and knowledge of Soccer: Indoor. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1560 B	1560B	Soccer: Indoor	Kinesiology & Health	1	Fundamental skills and knowledge of Soccer: Indoor. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1570	1570	Soccer: Outdoor	Kinesiology & Health	1	Fundamental skills and knowledge of Soccer: Outdoor. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1570 A	1570A	Soccer: Outdoor	Kinesiology & Health	1	Fundamental skills and knowledge of Soccer: Outdoor. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1570 B	1570B	Soccer: Outdoor	Kinesiology & Health	1	Fundamental skills and knowledge of Soccer: Outdoor. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1600	1600	Step Aerobics	Kinesiology & Health	1	Fundamental skills and knowledge of Step Aerobics. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1600 A	1600A	Step Aerobics	Kinesiology & Health	1	Fundamental skills and knowledge of Step Aerobics. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1600 B	1600B	Step Aerobics	Kinesiology & Health	1	Fundamental skills and knowledge of Step Aerobics. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1610	1610	Strengthen & Tone	Kinesiology & Health	1	Fundamental skills and knowledge of Strengthen & Tone. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1610 A	1610A	Strengthen & Tone	Kinesiology & Health	1	Fundamental skills and knowledge of Strengthen & Tone. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1610 B	1610B	Strengthen & Tone	Kinesiology & Health	1	Fundamental skills and knowledge of Strengthen & Tone. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1620	1620	Stretch & Tone/Pilates	Kinesiology & Health	1	Fundamental skills and knowledge of Stretch & Tone/Pilates. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab

Fall 2017	KNH1620 A	1620A	Stretch & Tone/Pilates	Kinesiology & Health	1	Fundamental skills and knowledge of Stretch & Tone/Pilates. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1620 B	1620B	Stretch & Tone/Pilates	Kinesiology & Health	1	Fundamental skills and knowledge of Stretch & Tone/Pilates. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1660	1660	Swimming: Beginning	Kinesiology & Health	1	Fundamental skills and knowledge of Swimming: Beginning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1660 A	1660A	Swimming: Beginning	Kinesiology & Health	1	Fundamental skills and knowledge of Swimming: Beginning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1660 B	1660B	Swimming: Beginning	Kinesiology & Health	1	Fundamental skills and knowledge of Swimming: Beginning. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1670	1670	Swimming: Intermediate	Kinesiology & Health	1	Intermediate level of skills and knowledge in Swimming: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1670 A	1670A	Swimming: Intermediate	Kinesiology & Health	1	Intermediate level of skills and knowledge in Swimming: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1670 B	1670B	Swimming: Intermediate	Kinesiology & Health	1	Intermediate level of skills and knowledge in Swimming: Intermediate. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1680	1680	Swimming: Advanced	Kinesiology & Health	1	Advanced level of skills and knowledge in Swimming: Advanced. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1680 A	1680A	Swimming: Advanced	Kinesiology & Health	1	Advanced level of skills and knowledge in Swimming: Advanced. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1680 B	1680B	Swimming: Advanced	Kinesiology & Health	1	Advanced level of skills and knowledge in Swimming: Advanced. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1700	1700	Tai Chi	Kinesiology & Health	1	Fundamental skills and knowledge of Tai Chi. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1700 A	1700A	Tai Chi	Kinesiology & Health	1	Fundamental skills and knowledge of Tai Chi. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1700 B	1700B	Tai Chi	Kinesiology & Health	1	Fundamental skills and knowledge of Tai Chi. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab

Fall 2017	KNH1720	1720	Tennis	Kinesiology & Health	1	Fundamental skills and knowledge of Tennis. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1720 A	1720A	Tennis	Kinesiology & Health	1	Fundamental skills and knowledge of Tennis. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1720 B	1720B	Tennis	Kinesiology & Health	1	Fundamental skills and knowledge of Tennis. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1740	1740	Volleyball	Kinesiology & Health	1	Fundamental skills and knowledge of Volleyball. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1740 A	1740A	Volleyball	Kinesiology & Health	1	Fundamental skills and knowledge of Volleyball. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1740 B	1740B	Volleyball	Kinesiology & Health	1	Fundamental skills and knowledge of Volleyball. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1750	1750	Intro Distance Running	Kinesiology & Health	2	Fundamental skills and knowledge of distance running. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1755	1755	Marathon Training	Kinesiology & Health	2	Fundamental skills and knowledge of marathon training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1760	1760	Walk-Jog-Run	Kinesiology & Health	1	Fundamental skills and knowledge of Walk-Jog-Run. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1760 A	1760A	Walk-Jog-Run	Kinesiology & Health	1	Fundamental skills and knowledge of Walk-Jog-Run. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1760 B	1760B	Walk-Jog-Run	Kinesiology & Health	1	Fundamental skills and knowledge of Walk-Jog-Run. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1770	1770	Water Safety Instruction	Kinesiology & Health	1	National American Red Cross standards training for teaching American Red Cross Swimming and Diving and Water Safety courses.	UG	Lecture/Lab Combination
Fall 2017	KNH1770 A	1770A	Water Safety Instruction	Kinesiology & Health	1	National American Red Cross standards training for teaching American Red Cross Swimming and Diving and Water Safety courses.	UG	Lecture/Lab Combination
Fall 2017	KNH1770 B	1770B	Water Safety Instruction	Kinesiology & Health	1	National American Red Cross standards training for teaching American Red Cross Swimming and Diving and Water Safety courses.	UG	Lecture/Lab Combination

Fall 2017	KNH1780	1780	Weight Training	Kinesiology & Health	1	Fundamental skills and knowledge of Weight Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1780 A	1780A	Weight Training	Kinesiology & Health	1	Fundamental skills and knowledge of Weight Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1780 B	1780B	Weight Training	Kinesiology & Health	1	Fundamental skills and knowledge of Weight Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1800	1800	Weight Training: Women	Kinesiology & Health	1	Fundamental skills and knowledge of Weight Training: Women. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1800 A	1800A	Weight Training: Women	Kinesiology & Health	1	Fundamental skills and knowledge of Weight Training: Women. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1800 B	1800B	Weight Training: Women	Kinesiology & Health	1	Fundamental skills and knowledge of Weight Training: Women. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1820	1820	Winter Camping	Kinesiology & Health	1	Fundamental skills and knowledge of Winter Camping. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1820 A	1820A	Winter Camping	Kinesiology & Health	1	Fundamental skills and knowledge of Winter Camping. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1820 B	1820B	Winter Camping	Kinesiology & Health	1	Fundamental skills and knowledge of Winter Camping. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1960	1960	Yoga	Kinesiology & Health	1	Fundamental skills and knowledge of Yoga. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1960 A	1960A	Yoga	Kinesiology & Health	1	Fundamental skills and knowledge of Yoga. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1960 B	1960B	Yoga	Kinesiology & Health	1	Fundamental skills and knowledge of Yoga. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1980	1980	Zumba	Kinesiology & Health	1	Fundamental skills and knowledge of Zumba. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1980 A	1980A	Zumba	Kinesiology & Health	1	Fundamental skills and knowledge of Zumba. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab

Fall 2017	KNH1980 B	1980B	Zumba	Kinesiology & Health	1	Fundamental skills and knowledge of Zumba. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH1990	1990	BIPE Student Assistant	Kinesiology & Health	2	Advanced level of skills and knowledge in one particular activity. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH2000	2000	Army Fitness Tr. III	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH2000 A	2000A	Army Fitness Tr. III	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH2000 B	2000B	Army Fitness Tr. III	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH2010	2010	Army Fitness Training IV	Kinesiology & Health	1	Fundamental skills and knowledge of Army Fitness Training. Competency-based approach. Course may accommodate disabled students when appropriate.	UG	Lab
Fall 2017	KNH2410	2410	Intro to KNH	Kinesiology & Health	3	Introduction to professional programs and careers in sport science, public health and teaching health and physical education. Emphasis on history, philosophical foundations, current topics and future directions.	UG	Lecture
Fall 2017	KNH2420	2420	Princ of Emergency Mgmt	Kinesiology & Health	3	Focuses on the philosophical and theoretical underpinnings of emergency management and the principles that define effective practice.	UG	Lecture
Fall 2017	KNH2450	2450	Checkpoint 1	Kinesiology & Health	1	Introduce the health education and physical education licensure program requirements, assessments and procedures.	UG	Lecture
Fall 2017	KNH2500	2500	Basic Anatomy Physiology	Kinesiology & Health	4	Study of anatomy and physiology correlating both structure and function of the human body.	UG	Lecture/Lab Combination
Fall 2017	KNH2530	2530	Kinesiology	Kinesiology & Health	3	Analysis of muscular interrelationships in basic body movement and principles of mechanics as they relate to fundamental and complex motor skills in physical education activities.	UG	Lecture/Lab Combination
Fall 2017	KNH2540	2540	Psychology of Sport	Kinesiology & Health	3	Provides information to help the prospective teacher, coach, or sports medicine professional to effectively apply behavioral science principles to the performance aspects of sport and human movement.	UG	Lecture
Fall 2017	KNH2550	2550	Applied Ex Physiology	Kinesiology & Health	3	Practical applications in exercise physiology for the physical educator, coach, and athletic trainer. Methods of conditioning, training, implementation, and other special considerations included.	UG	Lecture/Lab Combination
Fall 2017	KNH2600	2600	First Aid and CPR	Kinesiology & Health	2	Standard Red Cross first aid course. Comprehensive study of first aid techniques and procedures in emergency treatment.	UG	Lecture

Fall 2017	KNH2610	2610	Athletic Training	Kinesiology & Health	3	Introduction to athletic training and sports medicine for health and physical education.	UG	Lecture/Lab Combination
Fall 2017	KNH2620	2620	Nutrition	Kinesiology & Health	3	Nutrient and food energy needs of the individual who is physically active. Tissue maintenance, growth and development, immune function, energy development, dietary guidelines and sound dietary practices are investigated.	UG	Lecture
Fall 2017	KNH2840	2840	Practicum in HPR	Kinesiology & Health	1	Supervised field work for sophomore students who are seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for a letter grade or pass/unsatisfactory.	UG	Practicum
Fall 2017	KNH3450	3450	Checkpoint 2	Kinesiology & Health	1	Monitors and supports the professional progress of health and physical education licensure students. Enhances the HPR teacher candidate's preparation for Praxis II exam, student teaching and career development.	UG	Lecture
Fall 2017	KNH3500	3500	Tech and Emergency Mgmt	Kinesiology & Health	3	Explores technology applications of emergency management.	UG	Lecture
Fall 2017	KNH3600	3600	Catastrophe Response	Kinesiology & Health	3	Addresses emergency management education, including disaster preparedness and response strategies, for catastrophic events.	UG	Lecture
Fall 2017	KNH3840	3840	Practicum-Hlth, PE & Rec	Kinesiology & Health	1	Supervised field work for junior students seeking certification or a concentration in a specific area. Topics vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.	UG	Practicum
Fall 2017	KNH4110	4110	Fitness Assessmt & Progr	Kinesiology & Health	3	Introduction to the administration and evaluation of a comprehensive fitness assessment emphasizing the interpretation of the fitness assessment in exercise program design. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	KNH4300	4300	Coaching Theory	Kinesiology & Health	3	Theory, methods, skills, strategies, organization, psychology, ethics, conditioning, and general aspects of teaching and coaching a particular sport. Typical sports covered include baseball, basketball, and soccer.	UG	Lecture
Fall 2017	KNH4450	4450	Checkpoint 3	Kinesiology & Health	1	Monitors and supports the professional progress of health and physical education licensure students. Enhances the HPR teacher candidate's preparation for Praxis II exam, student teaching and career development.	UG	Lecture
Fall 2017	KNH4550	4550	Seminar Sport Science	Kinesiology & Health	1	Monitors and supports the professional progress of sports science program students. Enhances sports science students' preparation for a certification exam and career development.	UG	Seminar
Fall 2017	KNH4840	4840	Practicum-Health, PE & Rec	Kinesiology & Health	1	Supervised field work for senior students seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.	UG	Practicum

Fall 2017	KNH4880	4880	Independent Study	Kinesiology & Health	1	Independent reading, writing, and/or reporting in areas related to health, physical education, or recreation. Topics varv.	UG	Independent Study
Fall 2017	KNH4890	4890	Wrkshp-Health, PE & Rec	Kinesiology & Health	1	Intensive study of content, curriculum, method, or materials designed to meet the needs of preservice and in-service professionals in health, physical education, and recreation. Titles varv.	UG	Seminar
Fall 2017	KNH6880	6880	Independent Study	Kinesiology & Health	1	Independent reading, writing, and/or reporting in an area related to health, physical education, or recreation. Titles varv.	GR	Independent Study
Fall 2017	KNH6890	6890	Wrkshp in Health, PE&Rec	Kinesiology & Health	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 varv.	GR	Lecture
Fall 2017	KNH7100	7100	PE for Chdrn w/Spec Need	Kinesiology & Health	3	Provides an overview of the etiological, physical, and psychological considerations of disabilities in an education setting. This course contains methods of adapting activities in physical education for individuals with disabilities.	GR	Lecture
Fall 2017	KNH7120	7120	Motor Dev: Low Incidence	Kinesiology & Health	3	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 2017	KNH7130	7130	Teach Adpt Phys Actv	Kinesiology & Health	3	Provides an overview of disability sport and physical activity including rules and certification requirements of the various athletic opportunities for exceptional populations. Includes discussions of adapted devices, technology, and special facilities used for disability sports.	GR	Lecture
Fall 2017	KNH7140	7140	Teach Adapted Aquatics	Kinesiology & Health	3	Provides an overview of adapted aquatics programming. This course is designed for people seeking information on the empowerment and self-actualization of individuals with disabilities through swimming and related aquatic activities.	GR	Lecture
Fall 2017	KNH7400	7400	Admin-Interscholastic Ath	Kinesiology & Health	3	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 2017	KNH7500	7500	Scientific Foundtns Cond	Kinesiology & Health	3	A study of scientific foundations for conditioning. Topics will include: exercise training techniques, heart rate, blood pressure, ventilation, strength, flexibility, and body composition. Laboratory methods will also be a part of this course.	GR	Lecture
Fall 2017	KNH7530	7530	Assessment in Adapted PE	Kinesiology & Health	3	Provides an overview of developing and diagnosing diverse motor, physical, and sensory deficiencies in exceptional children. Administrative procedures and interpretation of numerous assessment instruments will be covered.	GR	Lecture



Fall 2017	KNH7600	7600	Adv Athletic Training Tc	Kinesiology & Health	3	Examination of trauma, contusions, hematoma, strains, sprains, fractures, open wounds, and dislocations.	GR	Lecture
Fall 2017	KNH7800	7800	Research Methods & Prog	Kinesiology & Health	3	Study of successful program assessment and evaluation processes, related research methods, and grant/project development.	GR	Lecture
Fall 2017	KNH7840	7840	Field Experience APE	Kinesiology & Health	4	Provides a review of the APENS standards and how they relate to teaching individuals with disabilities. A 200-hour field experience will prepare students as they translate theory into practice.	GR	Internship
Fall 2017	KNH8990	8990	Phys Ed Research	Kinesiology & Health	1	Under the supervision of a thesis committee and chair, students select a physical education 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	Independent Study
Fall 2017	LA1010	1010	Intro to Liberal Arts	Liberal Arts	1	Overview of program and career opportunities. Includes strategies for achieving academic success through time management, communication skills, note taking, test study, test taking, and enrichment opportunities.	UG	Lecture
Fall 2017	LA2010	2010	Effective Career Plan	Liberal Arts	1	Assists students in developing academic major and career goals through identifying skills and interests and then researching appropriate options.	UG	Seminar
Fall 2017	LA3000	3000	Internship Liberal Arts	Liberal Arts	1	Career Services facilitated. Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with the faculty supervisor. May be repeated 3 times.	UG	Internship
Fall 2017	LA3990	3990	Studies Select Subjects	Liberal Arts	1	Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.	UG	Lecture/Lab Combination
Fall 2017	LA4000	4000	CELIA Internship	Liberal Arts	1	Internship with a local arts organization under the auspices of CELIA, Wright State's Ohio Center of Excellence in Collaborative Education, Leadership and Innovation in the Arts.	UG	Internship
Fall 2017	LA4900	4900	Senior Proj-Select Stds	Liberal Arts	1	Intensive studies or work in a selected topic.	UG	Independent Study
Fall 2017	LA6000	6000	CELIA Internship	Liberal Arts	1	Internship with a local arts organization under the auspices of CELIA, Wright State's Ohio Center of Excellence in Collaborative Education, Leadership and Innovation in the Arts.	GR	Internship
Fall 2017	LA6100	6100	Theory	Liberal Arts	3	An examination of the relationship and relevance of academia, the humanities, and the liberal arts to today's society and the modern learner.	GR	Lecture

Fall 2017	LAT1010	1010	Beginning Latin I	Latin	3	Introduction to methods and grammatical concepts necessary for further study in Latin.	UG	Lecture
Fall 2017	LAT1020	1020	Beginning Latin II	Latin	3	Introduction to advanced principles in Latin grammar.	UG	Lecture
Fall 2017	LAT2010	2010	Intermediate Latin I	Latin	3	Review of essentials and reading in selected authors.	UG	Lecture
Fall 2017	LAT2020	2020	Intermediate Latin II	Latin	3	Review of essentials and reading for comprehension in selected authors.	UG	Lecture
Fall 2017	LAT3510	3510	Readings in Roman Drama	Latin	3	Drama in Latin by Seneca, Plautus, and/or Terence. Discussion of dramatic techniques, Greek influence, and the role of drama in Roman society.	UG	Lecture
Fall 2017	LAT3530	3530	Readings in Roman Epic	Latin	3	Virgil's Aeneid, Ovid's Metamorphoses; Lucan, Statius, Valerius Flaccus, and Silius. Topics include intent and structure of the Aeneid, history and development of Roman epic, structure and transitional devices in the Metamorphoses, and the nature of rhetorical epic.	UG	Lecture
Fall 2017	LAT3550	3550	Readings in Roman Poetry	Latin	3	Roman lyric and elegiac poetry: Virgil's Eclogues; Catullus, Horace, Propertius, Tibullus, and Ovid. Topics include meters and style of Latin lyric, amatory tradition, and the influence of Hellenistic poetry.	UG	Lecture
Fall 2017	LAT3570	3570	Readings Roman Satire	Latin	3	Horace, Juvenal, Persius, Petronius, and Martial. Topics include development of this peculiar Roman genre, fragments of Lucilius, satirical methods and techniques, satiric epigram, and satire as a source of information about Roman private life.	UG	Lecture
Fall 2017	LAT4510	4510	Roman Didactic Lit	Latin	3	Study of Roman didactic and philosophical literature: Lucretius, Vergil's Georgics, Cicero's philosophical works, and Quintilian.	UG	Lecture
Fall 2017	LAT4530	4530	Roman History and Bio	Latin	3	Readings in Latin focusing on prose narrative in history and biography. Authors include Sallust, Livy, Tacitus, and Suetonius.	UG	Lecture
Fall 2017	LAT4550	4550	Readings Roman Politics	Latin	3	Readings include Cicero's political essays, the letters of Cicero and Pliny, and Augustus' Res Gestae.	UG	Lecture
Fall 2017	LAT4810	4810	Independent Reading	Latin	1	Reading and discussion of selected works of Latin literature with emphasis on grammatical, rhetorical, literary, and cultural analysis and criticism. Topics vary.	UG	Independent Study
Fall 2017	LAT5510	5510	Readings in Roman Drama	Latin	3	Drama in Latin by Seneca, Plautus, and/or Terence. Discussion of dramatic techniques, Greek influence, and the role of drama in Roman society. Titles vary.	GR	Lecture
Fall 2017	LAT5530	5530	Readings in Roman Epic	Latin	3	Virgil's Aeneid, Ovid's Metamorphoses; Lucan, Statius, Valerius Flaccus, and Silius. Topics include intent and structure of the Aeneid, history and development of the Roman Epic, structure and transitional devices in the Metamorphoses, and the nature of rhetorical epic. Titles vary.	GR	Lecture

Fall 2017	LAT5550	5550	Readings in Roman Poetry	Latin	3	Roman lyric and elegiac poetry: Virgil's Eclogues; Catullus, Horace, Propertius, Tibullus, and Ovid. Topics include meters and style of Latin lyric, amatory tradition, and the influence of Hellenistic poetry. Titles vary.	GR	Lecture
Fall 2017	LAT5570	5570	Readings in Roman Satire	Latin	3	Horace, Juvenal, Persius, Petronius, and Martial. Topics include development of this peculiar Roman genre, fragments of Lucilius, satirical methods and techniques, satiric epigram, and satire as a source of information about Roman private life. Titles vary.	GR	Lecture
Fall 2017	LAT6510	6510	Roman Didactic Lit	Latin	3	Study of Roman didactic literature: Lucretius, Vergil's Georgics, Cicero's philosophical works, Seneca, and Quintilian. Titles vary.	GR	Lecture
Fall 2017	LAT6530	6530	Roman Hist & Biography	Latin	3	Readings in Latin focusing on prose narrative in history and biography. Authors include Sallust, Livy, Tacitus, and Suetonius. Titles vary.	GR	Lecture
Fall 2017	LAT6550	6550	Readings in Roman Politi	Latin	3	Readings include Cicero's political essays and speeches, the letters of Cicero and Pliny, and Augustus' Res Gestae. Titles vary.	GR	Lecture
Fall 2017	LAT6810	6810	Indepen Reading in Latin	Latin	1	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	Lecture
Fall 2017	LAW3000	3000	Legal Env of Business	Law	3	Survey of domestic and international business law with the focus on practical applications of basic legal principles to managerial effectiveness, analytical reasoning and operational skills.	UG	Lecture
Fall 2017	LAW4300	4300	Legal Aspects Workplace	Law	3	Introduction to selected federal and Ohio workplace laws and policies with legal implications for human resource professionals and/or managers and for interacting with legal counsel.	UG	Lecture
Fall 2017	LAW7350	7350	Law for Accountants	Law	3	Course covers specific areas of business law that are included on the CPA Examination. Law and their application are drawn from the following general areas of business law: agency, business organizations, bankruptcy, the Uniform Commercial Code, accountants' liability, and property.	GR	Lecture
Fall 2017	LDR4600	4600	Ind Study in Leadership	Leadership	1	Independent study.	UG	Independent Study
Fall 2017	LDR4700	4700	Workshop in Leadership	Leadership	1	Small group learning for undergraduate students interested in leadership.	UG	Lecture

Fall 2017	LDR7010	7010	Theories of Leading	Leadership	3	Overviews a variety of selected theories about leading, organizing, and organizational change with a focus on how each theoretical approach can inform and influence the practice of leadership in real-world settings. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	LDR7030	7030	Bldg Leadership Capacity	Leadership	3	Students will explore leadership capacity from assessment through development and its alignment with leadership competencies. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	LDR7050	7050	Moral Leadership	Leadership	3	This course focuses on the foundations of moral leadership including ethics, social justice and authenticity.	GR	Lecture
Fall 2017	LDR7070	7070	Teaming & Collaboration	Leadership	3	This course focuses on theory, research, and current trends related to group dynamics and communication processes used to build organizational effectiveness in a diverse, multicultural workplace.	GR	Lecture
Fall 2017	LDR7090	7090	Org. Intent & Sustainabi	Leadership	3	This course focuses on theoretical and practical models for understanding international and sustainable organizational development. Central to this focus is the understanding of the relationships of both technical and adaptive leadership to organizational outcomes.	GR	Lecture
Fall 2017	LDR7100	7100	Develop Interpers Compet	Leadership	3	This course focuses upon the understanding, application, and assessment of interpersonal competencies. Further, the course addresses the emotional and social awareness necessary to sustain leadership effectiveness. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	LDR7200	7200	Emerging Issues Ldrshp	Leadership	3	Focuses on critical analysis of emerging, contemporary leadership issues. Students apply a broad range of current leadership literature to the research, development, and analysis of case studies.	GR	Lecture
Fall 2017	LDR7300	7300	Research Methods	Leadership	3	This course focuses on the need for learners to understand collecting, analyzing, and interpreting of data related to decision making in the workplace. Research concepts, reasoning, design and basic data analysis skills are introduced.	GR	Lecture
Fall 2017	LDR7450	7450	Lit & Research Design	Leadership	3	This course provides students with the tools necessary to synthesize leadership literature; and plan, analyze, and report results from research projects related to leadership.	GR	Lecture
Fall 2017	LDR7500	7500	Internship in Ldrshp Dev	Leadership	3	An organization-based experience that provides students with an opportunity to gain an understanding of and practice with leadership-in-action.	GR	Internship
Fall 2017	LDR7510	7510	Statistics and Research	Leadership	3	Introduction to basic statistical methods and data analysis for research and evaluation.	GR	Lecture

Fall 2017	LDR7590	7590	Qualitative Research MTH	Leadership	3	Theoretical bases for qualitative research in education; including training in qualitative methods, specifically, observation, interviewing, collecting written documents, grounded surveys, analysis, and interpretation and the presentation of the research	GR	Seminar
Fall 2017	LDR7600	7600	Research Project	Leadership	1	This course guides individual research projects to insure that the project demonstrates the students ability to take a problem from inquiry and data gathering, through analysis and solution identification. to formal presentation.	GR	Independent Study
Fall 2017	LDR8010	8010	Prog Eval in Orgs	Leadership	3	Study of program evaluation theory and practices. Students will review existing program evaluation reports and develop a program evaluation plan.	GR	Lecture
Fall 2017	LDR8020	8020	Strat Planning in Orgs	Leadership	3	Study of organizational strategic planning theory and practices. Includes development of strategic plans for organizations.	GR	Lecture
Fall 2017	LDR8030	8030	Fin Mgmt & Ldrshp in Org	Leadership	3	Study of financial management in organizations, with an emphasis on financial planning, budgeting, reporting, analysis, and decision-making. Includes a comprehensive business planning exercise.	GR	Lecture
Fall 2017	LDR8600	8600	Ind Study in Leadership	Leadership	1	For students interested in exploring independent study related to a topic in leadership.	GR	Independent Study
Fall 2017	LDR8700	8700	Workshop in Leadership	Leadership	1	Small group learning for graduate students interested in exploring a topic in leadership.	GR	Lecture
Fall 2017	LDR9990	9990	Thesis	Leadership	1	This course guides implementation of individual Masters Thesis projects from inquiry and data gathering, through analysis and solution identification. to formal presentation.	GR	Independent Study
Fall 2017	LE1000	1000	Intro to Law Enforcement	Law Enforcement	3	Functions of law enforcement, community policing, patrol, traffic enforcement and criminal law.	UG	Lecture
Fall 2017	LE1010	1010	Criminal Law for Law Enf	Law Enforcement	3	Administrative structure, procedures, and policies of various law enforcement organizations. Review personnel regulations and professional development.	UG	Lecture
Fall 2017	LE1020	1020	Intro to Criminal Law	Law Enforcement	3	Rationale and legal foundations of legal procedures.	UG	Lecture
Fall 2017	LE1030	1030	Intr to Crim Evid & Proc	Law Enforcement	3	Organization and functioning of the court system. Review of arrest and search procedures, issues of due process such as the Sixth Amendment and Miranda Law and the role of police, attorneys, and prosecutors.<b> Department Managed Prerequisite(s): Undergraduate level LE 1000 Minimum Grade of D or Undergraduate level LE 1010 Minimum Grade of D</b></b>	UG	Lecture
Fall 2017	LE1040	1040	Crime Investigation	Law Enforcement	3	Techniques used by police and police specialists to gather evidence at crime scenes and approaches used to interview witnesses. victims and crime suspects.	UG	Lecture/Lab Combination

Fall 2017	LE1060	1060	Issues: Law Enforcement	Law Enforcement	1	Focused study in an area of interest in Law Enforcement.	UG	Lecture/Lab Combination
Fall 2017	LE1070	1070	Criminal Justice Ethics	Law Enforcement	3	Comprehensive, balanced, and practical coverage of ethics across all three arms of the criminal justice system: the police, the courts, and corrections. Philosophical principles and theories that are the foundation of ethical decision-making and the latest challenges and issues in criminal justice.	UG	Lecture
Fall 2017	LE1100	1100	Police Academy 1	Law Enforcement	3	Ohio Police Training Academy curriculum. Introduction to basic training, the criminal justice system, report writing and the Ohio Revised Code. Basic firearms training and physical conditioning. Requires admission to Grand Lake Law Enforcement Academy.	UG	Lecture/Lab Combination
Fall 2017	LE1110	1110	Police Academy 2	Law Enforcement	3	Ohio Police Training Academy curriculum. Basic training and Ohio Revised Code. Examines criminal code (ORC 2900), laws of arrest, and firearms training. Requires admission to Grand Lake Law Enforcement Academy.	UG	Lecture/Lab Combination
Fall 2017	LE1120	1120	Police Academy 3	Law Enforcement	3	Ohio Police Training Academy curriculum. Human relations and safety issues. Study of law on search and seizure, interview and interrogation, civil liability and use of force, and testifying. Requires admission to Grand Lake Law Enforcement Academy.	UG	Lecture/Lab Combination
Fall 2017	LE1130	1130	Police Academy 4	Law Enforcement	3	Ohio Police Training Academy curriculum. Basic policing problems and procedures. Advanced human relations in special needs, domestic violence, crises, missing and abused children and prevention. Requires admission to Grand Lake Law Enforcement Academy.	UG	Lecture/Lab Combination
Fall 2017	LE1140	1140	Police Academy 5	Law Enforcement	3	Ohio Police Training Academy curriculum. Intermediate policing problems and procedures. Examines procedures in traffic and criminal investigations, including report writing. Requires admission to Grand Lake Law Enforcement Academy.	UG	Lecture/Lab Combination
Fall 2017	LE1150	1150	Police Academy 6	Law Enforcement	3	Ohio Police Training Academy curriculum. Crime-related problems and procedures. Examines patrol procedures, civil disorders and homeland security. Requires admission to Grand Lake Law Enforcement Academy.	UG	Lecture/Lab Combination
Fall 2017	LE2990	2990	Law Enforcement Internship	Law Enforcement	3	Course will provide an opportunity for the student to observe the criminal justice system in operation. The student will be expected to compare classroom theory with the day-to-day operation of the agency to which they are assigned and the roles and responsibilities of the professional in the field. Total of 40 clock hours required.	UG	Internship
Fall 2017	LEP0010	0010	Writing - Pre-LEAP	LEAP	0	Writing for low-beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture

Fall 2017	LEP0020	0020	Writing Workshop - Pre-LEAP	LEAP	0	Writing workshop (revision, editing and lab) for low-beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	LEP0030	0030	Grammar - Pre-LEAP	LEAP	0	Grammar for low-beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0040	0040	Integrated Skills - Pre-LEAP	LEAP	0	Reading, vocabulary, listening, cross-cultural discussions for low-beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0050	0050	List & Speak - Pre-LEAP	LEAP	0	Listening, speaking and pronunciation for low-beginning level ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0110	0110	Writing - Level 1	LEAP	0	Writing for beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0120	0120	Writing Workshop Level 1	LEAP	0	Writing workshop (revision, editing and lab) for beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	LEP0130	0130	Grammar - Level 1	LEAP	0	Grammar for beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0140	0140	Integrated Skills - Level 1	LEAP	0	Reading, vocabulary, listening, cross-cultural discussions for beginning ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0150	0150	List & Speak - Level 1	LEAP	0	Listening, speaking and pronunciation for beginning level ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0210	0210	Writing - Level 2	LEAP	0	Writing for low-intermediate/intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0220	0220	Writing Workshop Level 2	LEAP	0	Writing workshop (revision, editing and lab) for low-intermediate/intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	LEP0230	0230	Grammar - Level 2	LEAP	0	Grammar for low-intermediate/intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0240	0240	Integrated Skills - Level 2	LEAP	0	Reading, vocabulary, listening, cross-cultural discussions for low-intermediate/intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0250	0250	List & Speak - Level 2	LEAP	0	Listening, speaking and pronunciation for low-intermediate/intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0310	0310	Writing - Level 3	LEAP	0	Writing for high-intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0320	0320	Writing Workshop Level 3	LEAP	0	Writing workshop (revision, editing and lab) for high-intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination

Fall 2017	LEP0330	0330	Grammar - Level 3	LEAP	0	Grammar for high-intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0340	0340	Integrated Skills - Level 3	LEAP	0	Reading, vocabulary, listening and note-taking, cross-cultural discussions for high-intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0350	0350	List & Speak - Level 3	LEAP	0	Listening, speaking and pronunciation for high-intermediate ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0440	0440	Level 4-Academic Success	LEAP	0	Participants will learn how to succeed academically by practicing skills and strategies for understanding academic lectures, by practicing note-taking and organization, and by practicing advanced academic vocabulary. Listening comprehension will be improved through a variety of interactive listening and discussion activities based on academic lectures and conversations.	UG	Lecture
Fall 2017	LEP0450	0450	Level 4-Adv Read & Write	LEAP	0	Participants will develop study skills for academic success as they practice reading skills and strategies with reading passages used to produce various forms of composition necessary for college work, including writing summaries, expository essays, and essay tests. Students will work on perfecting the grammatical and rhetorical forms considered appropriate for these college writing tasks.	UG	Lecture
Fall 2017	LEP0460	0460	Academic Success Level 4	LEAP	0	Participants will learn how to succeed academically by practicing skills and strategies for understanding academic lectures, by practicing note-taking and organization, and by practicing advanced academic vocabulary. Listening comprehension will be improved through a variety of interactive listening and discussion activities based on academic lectures and conversations. For advanced ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0470	0470	Adv Read & Write - Level 4	LEAP	0	Participants will develop study skills for academic success as they practice reading skills and strategies with reading passages used to produce various forms of composition necessary for college work, including writing summaries, expository essays, and essay tests. Students will work on perfecting the grammatical and rhetorical forms considered appropriate for these college writing tasks. For advanced ESL students. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination



Fall 2017	LEP0480	0480	LEAP Test Preparation	LEAP	0	This course is designed to help non-native students of English prepare for standardized English tests such as the TOEFL and IELTS. The course includes strategies for test-taking in addition to practice exams with feedback. This course has a fee that is non-refundable once the term begins.	UG	Lecture
Fall 2017	LEP0550	0550	LEAP Pronunciation Imp.	LEAP	0	The course provides high-intermediate to advanced non-native English speakers with the skills they need to improve their intelligibility when speaking English. In-class activities and outside practice focus on the most important aspects of North American English pronunciation. Topics include the vowel and consonant sounds of NAE, the rhythmic and music aspects such as syllable stress and intonation, and how to use the voice and articulators to improve accuracy of speech production.	UG	Lecture
Fall 2017	LEP0560	0560	American Culture and Com	LEAP	0	This course focuses on developing the fluency and communication skills of intermediate to advanced non-native English speakers in common everyday settings. Students will improve their understanding of American culture by communicating in individual and group discussions, preparing and giving presentations, and by engaging with a variety of guest speakers. Cultural themes covered in the course will include American traditions, values, and behavior in the workplace and informal social settings.	UG	Lecture
Fall 2017	LEP0590	0590	English for EMBA	LEAP	0	English for EMBA is designed especially for students in the College of Business Executive MBA Program. The course is intended to improve students four core competencies (reading, writing, speaking, listening), as well as broaden their knowledge of American culture and skills for daily life, business practices, and etiquette.	UG	Lecture
Fall 2017	LRS1000	1000	Special Topics	Life and Recreational	1	Life and recreational skills course at the Lake Campus. Topic varies by term and instructor.	UG	Lab
Fall 2017	M&I2200	2200	Microbiology - Human Env	Microbiology & Immunology	4	Biology of viruses, bacteria, fungi, protozoans, and helminths as related to their natural environments and host-parasite interaction. Introductory course for students in environmental health, nursing, and patient-oriented paramedical health professions. Three hours lecture and two hours lab.	UG	Lecture
Fall 2017	M&I2200L	2200L	Microbiology - Human Env Lab	Microbiology & Immunology	0	Required laboratory for M&I 2200.	UG	Lab
Fall 2017	M&I4260	4260	Immunology	Microbiology & Immunology	3	Principles of basic immunology. Cellular and soluble factors associated with innate and adaptive immunities. Examines functions of phagocytes, natural killer (NK) cells, B cells, and T cells.	UG	Lecture

Fall 2017	M&I4310	4310	Virology	Microbiology & Immunology	3	Intrinsic properties of viruses that cause human disease and their interaction with cells, multiplication, genetics, and tumor induction.	UG	Lecture
Fall 2017	M&I4750	4750	Pathogenic Mechanisms	Microbiology & Immunology	4	Human-microbial pathogen interactions, emphasizing the molecular basis of the pathogenic mechanisms. Complexities of interactions between microbes and their human hosts.	UG	Lecture
Fall 2017	M&I4990	4990	Problems in Microbiology	Microbiology & Immunology	2	Physiological and biochemical processes unique to microorganisms and the host response to microbes.	UG	Lecture
Fall 2017	M&I6340	6340	Biological Safety	Microbiology & Immunology	2	Identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.	GR	Lecture
Fall 2017	M&I6750	6750	Pathogenic Mechanisms	Microbiology & Immunology	4	(Also listed as BMS 7750) 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 2017	M&I6990	6990	Special Problems in M&I	Microbiology & Immunology	2	Study of the physiological and biochemical processes unique to microorganisms and the host response to microbes.	GR	Independent Study
Fall 2017	M&I7260	7260	Immunology	Microbiology & Immunology	4	(Also listed as BMS 8020) 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/Recitation Combination
Fall 2017	M&I7270	7270	Pathogenic Microbiology	Microbiology & Immunology	4	(Also listed as BMS 8030) 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/Recitation Combination
Fall 2017	M&I7310	7310	Virology	Microbiology & Immunology	3	This course provides an introduction to the field of virology. The course emphasizes the intrinsic properties of viruses that cause human disease and their interaction with cells, multiplication, genetics, and tumor induction.	GR	Lecture
Fall 2017	M&I7720	7720	Mechanisms of Cell Death	Microbiology & Immunology	2	Signalling and Molecular mechanisms of Apoptotic Cell Death and relationship to human diseases.	GR	Lecture
Fall 2017	M&I7770	7770	Gene Therapy	Microbiology & Immunology	3	The molecular basis of gene therapy and the use of viral gene delivery systems for the treatment of human disease are examined. Gene therapy strategies are contrasted with various diseases, including cancer and AIDS.	GR	Lecture
Fall 2017	M&I7890	7890	Research in M&I	Microbiology & Immunology	1	Students will complete their research and/or thesis under the guidance of a faculty member.	GR	Lab

Fall 2017	M&I8000	8000	Microbiology Seminar	Microbiology & Immunology	1	Graded pass/unsatisfactory.	GR	Seminar
Fall 2017	M&I8440	8440	Sem Topics - M&I	Microbiology & Immunology	2	Molecular virology, viral oncology, immunology, transplantation immunology, tumor immunology, immune regulation. infection and immunity.	GR	Seminar
Fall 2017	M&I8990	8990	Microbiology Research	Microbiology & Immunology	2	Supervised thesis research.	GR	Lab
Fall 2017	MBA5100	5100	Survey of Financial Acct	MBA	3	Provides a basic understanding of financial accounting through examination of the concepts underlying generally accepted accounting principles and basic financial statements.	GR	Lecture
Fall 2017	MBA5200	5200	Survey of Economics	MBA	3	An introduction to economics. Provides students with modes of reasoning regarding individual and business behavior and enhances students' ability to understand the aggregate economy and how it influences business decisions.	GR	Lecture
Fall 2017	MBA5300	5300	Survey of Finance	MBA	3	Theories, concepts, and techniques of financial management. Designed for student with no previous course work in financial management and for those with a need to review the basic techniques.	GR	Lecture
Fall 2017	MBA5400	5400	Survey of Law	MBA	1.5	Course offers MBA students without prior course work in business law a survey of topics related to domestic and international business law with the focus on practical applications of basic legal principles. The course offers direct experience with the tools of legal analysis in order to provide students with the fundamentals for making well-grounded business decisions. Subject areas include contracts, torts, constitutional, employment law, corporations, LLCs and other aspects of commercial law.	GR	Lecture
Fall 2017	MBA5800	5800	Survey Quan Bus Analysis	MBA	3	Survey of quantitative techniques relevant to private and public sector resource allocation, production, and management decision problems, including linear programming, queuing analysis, and decision theory. Emphasis on mathematical modeling and interpretation of solutions.	GR	Lecture
Fall 2017	MBA7100	7100	Strategic Cost Mgt	MBA	3	Application of advanced management accounting concepts to strategic management decisions.	GR	Lecture
Fall 2017	MBA7220	7220	Economics for Managers	MBA	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 2017	MBA7300	7300	Fin Analysis & Decision	MBA	3	Application of finance concepts theories, and techniques of financial management. Emphasis on case problems and decision making.	GR	Lecture
Fall 2017	MBA7500	7500	Leadership and Ethics	MBA	3	To understand and develop leadership skills as well as ethical behavior and the importance of both within an organization.	GR	Lecture
Fall 2017	MBA7520	7520	Intl. Mgt: Ops & Environ	MBA	3	This course surveys the practices and principles involved in managing a business across national boundaries. Emphasizes the importance of the global institutional framework including the international monetary system and foreign exchange markets. Also covers environmental constraints and how functional business disciplines are changed in a global context	GR	Lecture
Fall 2017	MBA7550	7550	Competitive Strategy	MBA	3	Theory and practice of making decisions that shape the future of a firm. Content and process of the course will focus on the complexity of analytical strategic decision making from the perspective of managers who are responsible for an entire business unit and a wide range of competitive business situations	GR	Lecture
Fall 2017	MBA7577	7577	S-T Study Abroad	MBA	3	Faculty-supervised short-term study abroad. Students will be assigned readings about the economy, culture and business climate of the country to be visited prior to the tour. Students will also carry out a business analysis of firms to be visited on the tour. In consultation with the instructor, students will prepare a written report on a topic relevant to the tour.	GR	Independent Study
Fall 2017	MBA7600	7600	Marketing Strategy	MBA	3	Course emphasizes key elements of marketing and their importance to organizations including both processes and outcomes. Students will demonstrate an understanding of: The strategic role of marketing organizations, including the key role of a marketing plan in the firm, key strategic issues such as market segmentation, product and brand equity pricing, service satisfaction, and customer-centric focus	GR	Lecture
Fall 2017	MBA7800	7800	Supply Chain Mgmt	MBA	3	Explores the fundamentals of supply chain management, including the strategic role of the supply chain, key drivers of supply chain performance, and analytical tools and techniques for supply chain analysis. Cases and in-class exercises.	GR	Lecture
Fall 2017	ME1020	1020	Engg Prog with Matlab	Mechanical and Materials Engr	3	Introduces a broad range of programming concepts using Matlab. Covers concepts such as functions, loops, logic control, graphical user interface generation, computer IO, and communication between disparate languages	UG	Lecture

Fall 2017	ME1030	1030	Fund of Engineering Dsgn	Mechanical and Materials Engr	2	Introduction to the principles and practice of mechanical and materials engineering design. Fundamental design philosophy using a hands-on approach, including topics such as safety, ethics, and product liability. Teamwork and communication skills are stressed	UG	Lecture/Lab Combination
Fall 2017	ME1040	1040	EGR Design & Solid Model	Mechanical and Materials Engr	3	Fundamentals of blue-print reading, technical sketching, mechanical drawing, CAD, modeling and prototyping and computer-assisted analysis. Topics include safety, ethics, product liability, teamwork and personal responsibilities. Communication skills and economic considerations are stressed	UG	Lecture/Lab Combination
Fall 2017	ME2020	2020	Mech Drawing Solid Modl	Mechanical and Materials Engr	3	Basic concepts of engineering drawing with applications to manual and computer-aided drafting: multiview projections; sectional, auxiliary, and pictorial views; dimensioning; intersections and developments; introduction to finite element tools	UG	Lecture/Lab Combination
Fall 2017	ME2120	2120	Statics	Mechanical and Materials Engr	3	Forces, resultants, components, equilibrium of particles, equilibrium of rigid bodies, centroids and centers of gravity, analysis of structures, friction, and moments of inertia. <b>Department Managed Prerequisite(s): Undergraduate level EGR 1010 Minimum Grade of D and Undergraduate level PHY 2400 Minimum Grade of D and Undergraduate level ME 1040 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ME2120R	2120R	Statics Recitation	Mechanical and Materials Engr	0	Required recitation for ME 2120	UG	Recitation
Fall 2017	ME2210	2210	Dynamics	Mechanical and Materials Engr	3	Vector treatment of the kinematics and kinetics of particles and rigid bodies, based on Newton's laws and including work-energy and impulse-momentum techniques. <b>Department Managed Prerequisite(s): Undergraduate level ME 2120 Minimum Grade of C and (Undergraduate level ME 1020 Minimum Grade of C or Undergraduate level CEG 2200 Minimum Grade of C)</b>	UG	Lecture
Fall 2017	ME2600	2600	Metallography	Mechanical and Materials Engr	1	Experimental methods characterizing the microstructure of solids. Emphasis on optical microscopy and the effects of processing on properties and microstructure. <b>Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D (ME 2700 can be taken concurrently)</b>	UG	Lab

Fall 2017	ME2700	2700	Struc&Prop of Mat. I	Mechanical and Materials Engr	3	This course covers the fundamentals of the structures of solids and their effect on the mechanical properties of metals, polymers, and ceramics. Additional topics include phase diagrams and heat treatment. An overview of engineering materials is also presented.<b> Department Managed Prerequisite(s): Undergraduate level CHM 1210 Minimum Grade of D and Undergraduate level PHY 2400 Minimum Grade of D+ /b>	UG	Lecture
Fall 2017	ME2700R	2700R	Struc&Prop of Mat. I Rec	Mechanical and Materials Engr	0	Required recitation for ME 2700.	UG	Recitation
Fall 2017	ME3120	3120	Mechanics of Materials	Mechanical and Materials Engr	3	Introduction to stress and deformation in deformable solids. Topics include axial loading, torsion, pure bending, shear stresses in beams, design of beams under transverse loading, thin-wall pressure vessels, transformation of stress, stresses under combined loadings, deflection of beams and buckling.<b> Department Managed Prerequisite(s): Undergraduate level ME 2120 Minimum Grade of C and (Undergraduate level ME 1020 Minimum Grade of D or Undergraduate level CEC 3170 Minimum Grade of D) + /b>	UG	Lecture
Fall 2017	ME3210	3210	System Dynamics	Mechanical and Materials Engr	3	Introduces students to the system level modeling of dynamic engineering systems including, but not restricted to, linear and rotational mechanical, fluid, thermal, and electrical systems. Modeling of control devices (motors, heaters, pumps) is addressed.<b> Department Managed Prerequisite(s): Undergraduate level EE 2010 Minimum Grade of D and Undergraduate level ME 2210 Minimum Grade of D and Undergraduate level ME 3120 Minimum Grade of D and Undergraduate level ME 3350 Minimum Grade of D and Undergraduate level MTH 2350 Minimum Grade of D+ /b>	UG	Lecture
Fall 2017	ME3310	3310	Thermodynamics I	Mechanical and Materials Engr	3	This course studies energy and energy conversion from the classical thermodynamics perspective. Properties of fluids, conservation of mass, conservation of energy, and the second law of thermodynamics are studied. These principles are applied to engineering problems.<b> Department Managed Prerequisite(s): Undergraduate level EGR 1010 Minimum Grade of D and Undergraduate level PHY 2400 Minimum Grade of D+ /b>	UG	Lecture
Fall 2017	ME3320	3320	Thermodynamics II	Mechanical and Materials Engr	3	This course will apply the 0th, 1st, 2nd, and 3rd laws of thermodynamics, as well as conservation of mass, to a range of classical thermodynamic systems and phenomena. These include power and refrigeration cycles, gas mixtures, ideal vapor-gas mixtures, air conditioning, combustion, and chemical equilibrium	UG	Lecture

Fall 2017	ME3350	3350	Fluid Dynamics	Mechanical and Materials Engr	3	Study of fluid properties, fluid statics, incompressible flows, and real fluid flows.<b> Department Managed Prerequisite(s): Undergraduate level ME 2210 Minimum Grade of D and Undergraduate level ME 3310 Minimum Grade of C.</b>	UG	Lecture
Fall 2017	ME3360	3360	Heat Transfer	Mechanical and Materials Engr	3	Study of the movement of energy due to a temperature difference. The three modes of heat transfer are investigated: conduction, convection, and radiation. Detailed look at heat equation.<b> Department Managed Prerequisite(s): (Undergraduate level ME 1020 Minimum Grade of D and Undergraduate level ME 3350 Minimum Grade of D and Undergraduate level MTH 2350 Minimum Grade of D)</b>	UG	Lecture
Fall 2017	ME3600	3600	Exp. Meas. and Instr.	Mechanical and Materials Engr	3	Techniques, equipment, and measurement procedures used by Mechanical Engineers: writing lab reports, performing data acquisition, applying statistics to experimental data, signal analysis, measurement system analysis, etc. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level EGR 3350 Minimum Grade of D and Undergraduate level ME 2120 Minimum Grade of C and Undergraduate level MTH 2350 Minimum Grade of D and Undergraduate level EE 2010 Minimum Grade of D.</b>	UG	Lecture
Fall 2017	ME3600L	3600L	Exp. Meas. and Instr. Lab	Mechanical and Materials Engr	0	Required laboratory for ME 3600.	UG	Lab
Fall 2017	ME3610	3610	Mech Test & Metal Lab	Mechanical and Materials Engr	2	This course covers the experimental methods necessary to perform mechanical testing and metallographic analysis, and the relationships between the microstructure, processing and mechanical properties of materials. Formal lab reports will be written.	UG	Lecture/Lab Combination
Fall 2017	ME3750	3750	Thermo of Materials	Mechanical and Materials Engr	3	Application of classical thermodynamics to engineering materials. Heats of formation and reaction; behavior of solutions; free energy concepts; thermodynamic fundamentals of phase equilibria.	UG	Lecture
Fall 2017	ME3760	3760	Diffusion and Kinetics	Mechanical and Materials Engr	3	This course introduces the fundamentals of structure-property relations in metals and alloys related to transformations and kinetics. Application of basic thermodynamics, relation to microstructure, diffusion, interfaces, solidification transformation, and kinetics are covered.	UG	Lecture
Fall 2017	ME3940	3940	Mech & Mat EGR Intern I	Mechanical and Materials Engr	3	Department internship course. Students are supervised via weekly seminars and regular feedback from employer. Must have completed all of the 2nd year courses as listed in the program guide. Minimum of 30 hours a week for a total of no less than 450 hours of work is required	UG	Internship

Fall 2017	ME4010	4010	Comp Meth for Mech Engr	Mechanical and Materials Engr	3	Application of statics, dynamics, thermodynamics, fluid mechanics, and heat transfer to the design of mechanical systems using numerical methods.	UG	Lecture
Fall 2017	ME4080	4080	Design Optimization	Mechanical and Materials Engr	3	Concepts of minima and maxima; linear, dynamic, integer, and nonlinear programming; variational methods. Engineering applications are emphasized.	UG	Lecture
Fall 2017	ME4120	4120	Finite Element Analysis	Mechanical and Materials Engr	3	Fundamentals of finite element analysis as a general numerical method for the solution of boundary value problems in engineering, with an emphasis on structural and solid mechanics.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D and (Undergraduate level MTH 2350 Minimum Grade of D or (Undergraduate level MTH 2330 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D)) and Undergraduate level ME 3120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ME4120L	4120L	Finite Element Analysis Lab	Mechanical and Materials Engr	0	Required laboratory for ME 4120.	UG	Lab
Fall 2017	ME4121	4121	Industrial Controls	Mechanical and Materials Engr	3	Wiring diagram creation, hardware selection, and programmable logic controller design and operation.	UG	Lecture
Fall 2017	ME4121L	4121L	Industrial Controls Lab	Mechanical and Materials Engr	1	Hands-on experience in Industrial Controls, Automated Controls systems, plant modeling and control system performance.	UG	Lab
Fall 2017	ME4140	4140	Mechanical Design I	Mechanical and Materials Engr	3	Fundamental concepts in design for both static and fatigue loading, with application to selected mechanical components and systems.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and Undergraduate level ME 3120 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ME4150	4150	Mechanical Design II	Mechanical and Materials Engr	3	Analysis and design of mechanical elements including screws, welds, springs, bearings, gears, clutches, brakes, flywheels, pulleys and shafts. Group design project.<b> Department Managed Prerequisite(s): Undergraduate level ME 4140 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ME4160	4160	Advanced CAD	Mechanical and Materials Engr	3	Advanced course in computer-aided design reinforces and augments the fundamentals of technical blue-print reading, technical sketching, mechanical drawing, computer-aided design (CAD) of parts, assemblies, and engineering drawings, modeling and prototyping, and computer-assisted analysis.<b> Department Managed Prerequisite(s): Undergraduate level ME 2020 Minimum Grade of D and Undergraduate level ME 2210 Minimum Grade of D and Undergraduate level ME 3120 Minimum Grade of D</b>	UG	Lecture



Fall 2017	ME4170	4170	Mechanics of Composites	Mechanical and Materials Engr	3	Introduce composites as an engineering material and emphasize the basic concepts of their nature and mechanical properties. Micromechanics and macromechanics and lamination theory of composites will be emphasized.	UG	Lecture
Fall 2017	ME4180	4180	Additive Manufacturing	Mechanical and Materials Engr	3	An introduction to additive manufacturing process. The course will address various additive manufacturing (AM) principles and concepts; Materials science for AM; Design for AM; Scope of additive manufacturing with application area; bio-manufacturing.	UG	Lecture
Fall 2017	ME4190	4190	Intro Engr Lubrication	Mechanical and Materials Engr	3	Define various lubrication regimes where mechanical elements in automotive, aerospace, heavy machinery, wind turbine applications operate; introduce surface topography metrics & parameters; describe lubricant properties including viscosity & density dependences on pressure as well as temperature, non- & Newtonian behavior; derive Reynolds equation; solve governing equations for elasto- & hydrodynamic lubrication; introduce engr approaches for lubrication performance assessment in machine elements.	UG	Lecture
Fall 2017	ME4210	4210	Mechanical Vibration	Mechanical and Materials Engr	3	Modeling and analysis of single and multi-degree of freedom systems under free and forced vibration and impact, Lagrangian and matrix formulations, energy methods, and introduction to random vibrations. (2.5 hours lecture, 1 hour lab)	UG	Lecture
Fall 2017	ME4210L	4210L	Mechanical Vibration Lab	Mechanical and Materials Engr	0	Required laboratory for ME 4210.	UG	Lab
Fall 2017	ME4220	4220	Mech Sys Mdl & Dsgn	Mechanical and Materials Engr	3	This course will teach students how to model complex mechanical systems as a set of simple, linear or nonlinear components for the purpose of design. Students will be introduced to modern computational tools.	UG	Lecture
Fall 2017	ME4240	4240	Vehicle Engineering	Mechanical and Materials Engr	3	Develops students' abilities to derive and solve vehicle equations and introduces how dynamic analysis is used in vehicle design. Various performance criteria, control concepts, and HEVs will be studied.	UG	Lecture
Fall 2017	ME4250	4250	Kinematics & Design-Mech	Mechanical and Materials Engr	3	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.	UG	Lecture
Fall 2017	ME4260	4260	Intro Robotics	Mechanical and Materials Engr	3	(Also listed as CEG 6560 and ME 6560.) An introduction to the mathematics of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, Jacobians, dynamic and trajectory planning.	UG	Lecture

Fall 2017	ME4260L	4260L	Intro Robotics Lab	Mechanical and Materials Engr	1	First exposure to plant moduling and controller design to realize elementary control strategies in a laboratory environment.	UG	Lab
Fall 2017	ME4330	4330	Compressible Flow	Mechanical and Materials Engr	3	Fundamentals of gas flow in the subsonic to supersonic flow regimes. Wave propagation in compressible medium, one-dimensional isentropic flow with area change, frictional effects. heat transfer effects and two dimensional waves.	UG	Lecture
Fall 2017	ME4340	4340	Sim of Thermal-Fluids	Mechanical and Materials Engr	3	Commercial computational fluid dynamics software is used to solve practical engineering problems, including fluid, heat and mass transfer.	UG	Lecture
Fall 2017	ME4350	4350	Mechanics of Viscous Fluids	Mechanical and Materials Engr	3	This course will study how energy can be transformed from one form to another. The basic forms between which energy will be converted are mechanical, thermal, chemical, nuclear, and electrical. To demonstrate the conversion of energy from one form to another, the following types of devices and fuels will be studied: electric generators, MHD generators, wind turbines, ocean turbines, geothermal systems, fossil fuels, biofuels, and nuclear reactors.	UG	Lecture
Fall 2017	ME4360	4360	Prn-Internal Combustion	Mechanical and Materials Engr	3	Thermodynamics of internal combustion engines, combustion thermodynamics, friction, heat and mass losses, and computer control of the modern fuel-injected internal combustion engine.	UG	Lecture
Fall 2017	ME4430	4430	Aeronautics	Mechanical and Materials Engr	3	Aviation history. Standard atmosphere, basic aerodynamics, theory of lift, airplane performance, principles of stability and control. and astronautics and propulsion concepts.	UG	Lecture
Fall 2017	ME4440	4440	Aerospace Propulsion	Mechanical and Materials Engr	3	Engine cycle analysis; combustion fundamentals; reciprocating engines, propellers; applications to turbojet, turbofan, turboprop, ramjet, SCRAM jet, and rocket engines.	UG	Lecture
Fall 2017	ME4490	4490	Aerospace Structures	Mechanical and Materials Engr	3	Stress, deformation, and stability analysis of aerospace structures. Thin-walled members bending, torsion, and shear stresses calculation in multicell structures. Buckling of thin plates.	UG	Lecture
Fall 2017	ME4520	4520	Hydropower	Mechanical and Materials Engr	3	Hydraulics of turbomachines for power generation, hydrologic analysis for hydropower development for run-of-the-river systems and reservoir systems, dams and environmental impacts, environmental impact assessment, operations of reservoir systems, and economics of hydropower generation.	UG	Lecture
Fall 2017	ME4530	4530	Energy Conversion	Mechanical and Materials Engr	3	Fundamentals of energy and energy conversion, the conversion of energy from mechanical, thermal, chemical, and nuclear sources. To demonstrate these energy forms generators, wind, ocean, turbines, direct energy conversion, fossil fuels, biofuels, and nuclear power will be presented.	UG	Lecture

Fall 2017	ME4540	4540	Solar Thermal Engr.	Mechanical and Materials Engr	3	Fundamentals of solar radiation and how it can be utilized as a thermal energy source. Solar insolation on a surface, flat plate collectors, concentrating collectors, thermal energy storage. and solar hot water heating will be discussed.	UG	Lecture
Fall 2017	ME4550	4550	Geothermal Energy	Mechanical and Materials Engr	3	Techniques for tapping the energy of the earth will be discussed. This will include hot and cold geothermal energy. Use of geothermal energy to produce electricity, for space and district heating and cooling, and for industrial applications will be presented. In addition, geothermal energy's effect on the environment and its economics will be discussed.	UG	Lecture
Fall 2017	ME4560	4560	Wind Power	Mechanical and Materials Engr	3	Power in the wind, the wind turbine and its parts, performance of wind turbines, and economics of wind turbines will be presented.	UG	Lecture
Fall 2017	ME4570	4570	Energy Materials	Mechanical and Materials Engr	3	Students will understand the principles and the materials of advanced electrochemical energy storage systems including batteries, fuel cells, and supercapacitors. In this course, students will gain an understanding of material structures, material composition, and material morphologies in relation to applicable properties for electrochemical energy storage and conversion systems. Students will also be introduced to state-of-the-art materials research and development in these systems.	UG	Lecture
Fall 2017	ME4580	4580	Fuel Cell Sci and Tech	Mechanical and Materials Engr	3	Fundamentals, technologies, applications of various types of fuel cells, thermodynamics prediction, electrolyte conduction, electrode kinetics. Polymer electrolyte fuel cells, solid oxide fuel cell. fuel cell stack.	UG	Lecture
Fall 2017	ME4585	4585	Natural Gas Prod EGR	Mechanical and Materials Engr	3	Knowledge of natural gas production and the associated separation processes to extract gas from oil, recognize the properties of natural gas, perform design calculations involved in production, development and distribution of effluent treatments and the environmental impacts of natural gas.	UG	Lecture
Fall 2017	ME4590	4590	Adv. Clean Coal Tech.	Mechanical and Materials Engr	3	Historical perspective on coal; sources of coal in the world; future dependence on coal for energy; power production using coal; general process description; principles of combustion, conventional combustion reactors, environmental impact; fluidized bed reactors, process improvements in minimizing emissions; future innovations in clean coal technology.	UG	Lecture
Fall 2017	ME4610	4610	Thermal-Fluids Lab	Mechanical and Materials Engr	2	Experiments in thermodynamics, fluid dynamics and heat transfer will be performed. Lab reports.	UG	Lecture

Fall 2017	ME4620	4620	Mech and Mat Test Lab	Mechanical and Materials Engr	2	Introduces experimental methods needed to perform mechanical testing and the impact of microstructure on the mechanical properties of materials. Formal lab reports.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and Undergraduate level ME 3120 Minimum Grade of D and Undergraduate level ME 3600 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	ME4680	4680	Experimental Nanoscience	Mechanical and Materials Engr	3	Laboratory experiments 1) fabrication of nanomaterials; 2) characterization of physical and chemical properties; and 3) computational modeling of nanoscale physical phenomena.	UG	Lab
Fall 2017	ME4680	4680	Experimental Nanoscience	Mechanical and Materials Engr	3	Laboratory experiments 1) fabrication of nanomaterials; 2) characterization of physical and chemical properties; and 3) computational modeling of nanoscale physical phenomena.	UG	Lecture
Fall 2017	ME4680	4680	Experimental Nanoscience	Mechanical and Materials Engr	3	Laboratory experiments 1) fabrication of nanomaterials; 2) characterization of physical and chemical properties; and 3) computational modeling of nanoscale physical phenomena.	UG	Combination
Fall 2017	ME4700	4700	Struc&Prop of Mat. II	Mechanical and Materials Engr	3	This course covers the fundamental phenomena that control the thermal, optical, electrical and magnetic properties in solid-state materials.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of C and Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level MTH 2350 Minimum Grade of D</b>	UG	Lecture
Fall 2017	ME4720	4720	Engineering Polymers	Mechanical and Materials Engr	3	This course introduces polymers as engineering materials and covers fundamental concepts in polymer science and engineering. This includes polymerization processes morphology and crystallinity, thermal transitions, viscoelasticity, rubber elasticity, aging and contemporary issues in polymers.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of C</b>	UG	Lecture
Fall 2017	ME4730	4730	Engineering Ceramics	Mechanical and Materials Engr	3	Ceramic and refractory raw materials and products; atomic structure and bonding; structure of crystalline phases and glasses; structural imperfections; diffusion and permeability in oxides; and processing of ceramics.	UG	Lecture
Fall 2017	ME4740	4740	Mat Sel Failure Analysis	Mechanical and Materials Engr	3	Engineered components are manufactured with materials designed for a specified life, but may fail in service. Using analytical methods and computer software, procedures for selecting the optimum materials and manufacturing processes under multiple constraints are discussed. Analysis to establish the root cause of failures is addressed through lectures and case studies that relate factors such as design, material, manufacture, and service conditions.	UG	Lecture

Fall 2017	ME4750	4750	Mat. Characterization	Mechanical and Materials Engr	2	Principles of characterizing materials with respect to crystal structure, micro/nano structure, and chemical composition using particle or wave-based probes (visible lights, X-rays, and energetic electrons). The interactions between the probes and materials are discussed. Characterization at both qualitative and quantitative level will be elucidated. Laboratory exercises are included.	UG	Lecture
Fall 2017	ME4750	4750	Mat. Characterization	Mechanical and Materials Engr	2	Principles of characterizing materials with respect to crystal structure, micro/nano structure, and chemical composition using particle or wave-based probes (visible lights, X-rays, and energetic electrons). The interactions between the probes and materials are discussed. Characterization at both qualitative and quantitative level will be elucidated. Laboratory exercises are included.	UG	Lab
Fall 2017	ME4750L	4750L	Mat. Characterization Lab	Mechanical and Materials Engr	0	Required laboratory for ME 4750.	UG	Lab
Fall 2017	ME4770	4770	Mech. Behavior of Metals	Mechanical and Materials Engr	3	Crystal plasticity and single crystal behavior. Introduction to dislocation theory. Strengthening mechanisms and polycrystalline behavior. Introduction to fracture, fatigue, and creep of materials.	UG	Lecture
Fall 2017	ME4820	4820	Corrosion	Mechanical and Materials Engr	3	This course covers the principles of the corrosion and prevention methods from thermodynamics to electrochemical kinetics. Fundamental of passivation, anodic polarization, and cathodic protection will be elucidated. Laboratory exercises are included.	UG	Lecture/Lab Combination
Fall 2017	ME4830	4830	Comp. Materials Science	Mechanical and Materials Engr	3	This course covers basic theories, methods, and algorithms of atomistic computer simulations of materials. Classical, semi-empirical, and ab initio quantum mechanical methods are explained.	UG	Lecture/Lab Combination
Fall 2017	ME4840	4840	Mat Sel for Mech Design	Mechanical and Materials Engr	3	Principles of materials-limited design. Lectures, case histories, open-ended assignments and computer based materials selection tools. Procedures for selection of optimum material(s) under constraints resulting from functional, reliability, safety, cost and environmental issues.	UG	Lecture
Fall 2017	ME4850	4850	Nano-scale Sci and Engr	Mechanical and Materials Engr	3	Introduction to Nano-scale science and engineering in terms of the nano-scale building blocks (emphasizing carbon based nano-species), the characterization techniques (emphasizing Raman Spectroscopy), and the nano-phenomena such as thermal, optical, electrical, chemical, and mechanical phenomena observed on the nano-scale.	UG	Lecture

Fall 2017	ME4860	4860	Metal Forming	Mechanical and Materials Engr	3	Fundamentals of principal deformation processing systems including forging, extrusion, rolling, and sheet forming; material response and formability; and mechanics and analysis of selected processes.	UG	Lecture/Lab Combination
Fall 2017	ME4870	4870	Machining	Mechanical and Materials Engr	3	Fundamentals of machining with an emphasis on engineering models of machinability, chip formation, cutting forces and power, and lubrication. Introduction to numerical control machining. (3 Lecture, 1 Lab)	UG	Lecture
Fall 2017	ME4870L	4870L	Machining Lab	Mechanical and Materials Engr	0	Required laboratory for ME 4870.	UG	Lab
Fall 2017	ME4880	4880	Powder Processing of Mat	Mechanical and Materials Engr	3	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.	UG	Lecture/Lab Combination
Fall 2017	ME4900	4900	Capstone Design in ME I	Mechanical and Materials Engr	3	First of a two-course sequence affording students an experience in the methodology of solving realistic engineering design problems. Both courses require research of professional literature, application of systems engineering principles, and reporting of technical results. The student becomes acquainted with the demands of initiative, knowledge, intuition, and resourcefulness required for the successful solution of interdisciplinary open ended engineering problems. Integrated Writing course.	UG	Practicum
Fall 2017	ME4910	4910	Capstone Design I	Mechanical and Materials Engr	2	First of a two-course sequence in solving realistic engineering design problems. Research in professional literature, application of systems engineering principles, and reporting of technical results. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ME 1040 Minimum Grade of D and Undergraduate level ME 3600 Minimum Grade of D and Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level PHY 2410 Minimum Grade of D and Undergraduate level PHY 2410L Minimum Grade of D and ((Undergraduate level ME 3210 Minimum Grade of D and Undergraduate level ME 3310 Minimum Grade of D and Undergraduate level ME 3360 Minimum Grade of D and Undergraduate level ME 4140 Minimum Grade of D) or (Undergraduate level ME 3760 Minimum Grade of D and Undergraduate level ME 4620 Minimum Grade of D (ME 4620 can be taken concurrently) and Undergraduate level ME 4720 Minimum Grade of D))</b>	UG	Practicum

Fall 2017	ME4920	4920	Capstone Design II	Mechanical and Materials Engr	2	Second of a two-course sequence in solving realistic engineering design problems. Research in professional literature, application of systems engineering principles, and reporting of technical results. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ME 4910 Minimum Grade of D</b>	UG	Practicum
Fall 2017	ME4930	4930	Research in ME	Mechanical and Materials Engr	1	Second of a two-course sequence affording students an experience in the methodology of solving realistic engineering design problems. Both courses require research of professional literature, application of systems engineering principles, and reporting of technical results. The student becomes acquainted with the demands of initiative, knowledge, intuition, and resourcefulness required for the successful solution of interdisciplinary open ended engineering problems. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level ME 4920 Minimum Grade of D</b>	UG	Independent Study
Fall 2017	ME4940	4940	Mech & Mat EGR Intern	Mechanical and Materials Engr	3	Department internship course. Students are supervised via weekly seminars and regular feedback from employer. Must have completed all of the 2nd year courses as listed in the program guide. Minimum of 30 hours a week for a total of no less than 450 hours of work is required.	UG	Internship
Fall 2017	ME4950	4950	Honors Thesis	Mechanical and Materials Engr	3	Research, design, or project in mechanical or materials engineering.	UG	Independent Study
Fall 2017	ME4980	4980	Special Topics in ME	Mechanical and Materials Engr	1	Special topics course in Mechanical Engineering or Materials Science and Engineering. Topics vary.	UG	Lecture
Fall 2017	ME4990	4990	Independent Study in ME	Mechanical and Materials Engr	1	Independent study in Mechanical Engineering or Materials Science and Engineering. Topics vary.	UG	Independent Study
Fall 2017	ME5120	5120	Mechanics of Materials	Mechanical and Materials Engr	3	Introduction to stress and deformation in deformable solids. Topics include axial loading, torsion, pure bending, shear stresses in beams, design of beams under transverse loading, thin-wall pressure vessels, transformation of stress, stresses under combined loadings, deflection of beams and buckling.<b> Department Managed Prerequisite(s): Undergraduate level ME 2120 Minimum Grade of D and (Undergraduate level ME 1020 Minimum Grade of D or Undergraduate level CEG 3200 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	ME5210	5210	System Dynamics	Mechanical and Materials Engr	3	Introduces students to the system level modeling of dynamic engineering systems including, but not restricted to, linear and rotational mechanical, fluid, thermal, and electrical systems. Modeling of control devices (motors, heaters, pumps) is addressed	GR	Lecture

Fall 2017	ME5310	5310	Thermodynamics I	Mechanical and Materials Engr	3	This course studies energy and energy conversion from the classical thermodynamics perspective. Properties of fluids, conservation of mass, conservation of energy, and the second law of thermodynamics are studied. These principles are applied to engineering problems.<b> Department Managed Prerequisite(s): (Undergraduate level EGR 1010 Minimum Grade of D or Undergraduate level MTH 2310 Minimum Grade of D (MTH 2310 can be taken concurrently)) and Undergraduate level PHY 2400 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME5320	5320	Thermodynamics II	Mechanical and Materials Engr	3	This course will apply the 0th, 1st, 2nd, and 3rd laws of thermodynamics, as well as conservation of mass, to a range of classical thermodynamic systems and phenomena. These include power and refrigeration cycles, gas mixtures, ideal vapor-gas mixtures, air conditioning, combustion, and chemical equilibrium.<b> Department Managed Prerequisite(s): Undergraduate level ME 1020 Minimum Grade of C and (Undergraduate level ME 3310 Minimum Grade of C or Undergraduate level ME 5310 Minimum Grade of C)</b>	GR	Lecture
Fall 2017	ME5350	5350	Fluid Dynamics	Mechanical and Materials Engr	3	Study of fluid properties, fluid statics, incompressible flows, real fluid flows, and flow measurement.<b> Department Managed Prerequisite(s): Undergraduate level ME 3310 Minimum Grade of C or Graduate level ME 5310 Minimum Grade of C</b>	GR	Lecture
Fall 2017	ME5360	5360	Heat Transfer	Mechanical and Materials Engr	3	Study of the movement of energy due to a temperature difference. The three modes of heat transfer are investigated: conduction, convection, and radiation. Detailed look at heat equation.<b> Department Managed Prerequisite(s): (Undergraduate level ME 1020 Minimum Grade of D and Undergraduate level ME 3350 Minimum Grade of D) or (Graduate level ME 5350 Minimum Grade of D and Undergraduate level MTH 2350 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	ME5600	5600	Exp. Meas. and Instr.	Mechanical and Materials Engr	3	Techniques, equipment, and measurement procedures used by Mechanical Engineers: writing lab reports, performing data acquisition, applying statistics to experimental data, signal analysis, measurement system analysis, etc.<b> Department Managed Prerequisite(s): Undergraduate level ME 1030 Minimum Grade of D and Undergraduate level ME 2120 Minimum Grade of C and Undergraduate level MTH 2350 Minimum Grade of D and Undergraduate level EE 2010 Minimum Grade of D</b>	GR	Lecture



Fall 2017	ME5600L	5600L	Exp. Meas. and Instr. Lab	Mechanical and Materials Engr	0	Required laboratory for ME 5600.	GR	Lab
Fall 2017	ME5750	5750	Thermodyn of Materials	Mechanical and Materials Engr	3	Application of classical thermodynamics to engineering materials. Heats of formation and reaction; behavior of solutions; free energy concepts; thermodynamic fundamentals of phase equilibria.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME5760	5760	Diffusion and Kinetics	Mechanical and 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.<b> Department Managed Prerequisite(s): Undergraduate level ME 3750 Minimum Grade of D or Graduate level ME 5750 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6010	6010	Comp Meth for Mech Engr	Mechanical and Materials Engr	3	Combines material learned in statics, dynamics, thermodynamics, fluid mechanics, and heat transfer and applied them to the design of mechanical systems using numerical methods.<b> Department Managed Prerequisite(s): Graduate level ME 5360 Minimum Grade of D and Graduate level ME 5210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6080	6080	Design Optimization	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 2350 Minimum Grade of D or Undergraduate level MTH 2530 Minimum Grade of D) and Graduate level ME 5210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6120	6120	Finite Element Analysis	Mechanical and Materials Engr	3	Fundamentals of finite element analysis as a general numerical method for the solution of boundary value problems in engineering, with an emphasis on structural and solid mechanics.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 2350 Minimum Grade of D or Undergraduate level MTH 2330 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D) and Graduate level ME 5120 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6120L	6120L	Finite Element Analysis Lab	Mechanical and Materials Engr	0	Required laboratory for ME 6120.	GR	Lab
Fall 2017	ME6140	6140	Mechanical Design I	Mechanical and Materials Engr	3	Fundamental concepts in design for both static and fatigue loading, with application to selected mechanical components and systems.<b> Department Managed Prerequisite(s): Graduate level ME 5120 Minimum Grade of D</b>	GR	Lecture

Fall 2017	ME6150	6150	Mechanical Design II	Mechanical and Materials Engr	3	Analysis and design of mechanical elements including screws, welds, springs, bearings, gears, clutches, brakes, flywheels, pulleys and shafts. Students conduct a group design project.<b> Department Managed Prerequisite(s): Graduate level ME 6140 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6170	6170	Mechanics of Composites	Mechanical and Materials Engr	3	The main objective of this course is to introduce composites as an engineering material and emphasize the basic concepts of their nature and mechanical properties. Micromechanics and macromechanics and lamination theory of composites will be emphasized	GR	Lecture
Fall 2017	ME6180	6180	Additive Manufacturing	Mechanical and Materials Engr	3	An introduction to additive manufacturing process. The course will address various additive manufacturing (AM) principles and concepts; Materials science for AM; Design for AM; Scope of additive manufacturing with application area; bio-manufacturing	GR	Lecture
Fall 2017	ME6190	6190	Intro to Egr Lubrication	Mechanical and Materials Engr	3	Define various lubrication regimes where mechanical elements in automotive, aerospace, heavy machinery, wind turbine applications operate; introduce surface topography metrics & parameters; describe lubricant properties including viscosity & density dependences on pressure as well as temperature, non- & Newtonian behavior; derive Reynolds equation; solve governing equations for elasto- & hydrodynamic lubrication; introduce egr approaches for lubrication performance assessment in machine elements<b> Department Managed Prerequisite(s): Graduate level ME 5350 Minimum Grade of D and ((Undergraduate level MTH 2330 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D) or (Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level MTH 2350 Minimum Grade of D))</b>	GR	Lecture
Fall 2017	ME6210	6210	Mechanical Vibrations	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Graduate level ME 5210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6210L	6210L	Mechanical Vibrations Lab	Mechanical and Materials Engr	0	Required laboratory for ME 6210.	GR	Lab
Fall 2017	ME6220	6220	Mech Sys Model & Design	Mechanical and Materials Engr	3	Modeling of complex mechanical systems as a set of simple, linear or nonlinear components for the purpose of design. Introduces modern computational tools.<b> Department Managed Prerequisite(s): Graduate level ME 5210 Minimum Grade of D</b>	GR	Lecture

Fall 2017	ME6240	6240	Vehicle Engineering	Mechanical and 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.<b> Department Managed Prerequisite(s): Undergraduate level ME 2210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6250	6250	Kinematics & Design-Mech	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Undergraduate level ME 2210 Minimum Grade of C</b>	GR	Lecture
Fall 2017	ME6260	6260	Intro Robotics	Mechanical and Materials Engr	3	(Also listed as CEG 6560 and ME 6560.) An introduction to the mathematics of robots. Topics covered include coordinate systems and transformations, manipulator kinematics and inverse kinematics, Jacobians, dynamic and trajectory planning	GR	Lecture
Fall 2017	ME6260L	6260L	Intro Robotics Lab	Mechanical and Materials Engr	1	Laboratory supporting EE 6560. Students will experience hands on learning in lab environment.	GR	Lab
Fall 2017	ME6330	6330	Compressible Fluid Flow	Mechanical and Materials Engr	3	Fundamentals of gas flow in the subsonic to supersonic flow regimes. Wave propagation in compressible medium, one-dimensional isentropic flow with area change, frictional effects, heat transfer effects and two-dimensional waves.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of D or Undergraduate level ME 5350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6340	6340	Simulation of Thermal-Fl	Mechanical and Materials Engr	3	In this course students will learn to use commercial computational fluid dynamics software to solve practical engineering problems, including fluid, heat and mass transfer.<b> Department Managed Prerequisite(s): Graduate level ME 6010 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6350	6350	Mechanics Viscous Fluids	Mechanical and Materials Engr	3	Fundamental equations of viscous flow for laminar and turbulent flows including the Navier Stokes equations. Boundary layer analysis.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of D or Graduate level ME 5350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6360	6360	Prn Intrl Combust Engine	Mechanical and Materials Engr	3	Thermodynamics of I.C. engines, combustion thermodynamics, friction, heat and mass losses, and computer control of the modern fuel-injected I.C. engine.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of C or Graduate level ME 5350 Minimum Grade of C</b>	GR	Lecture

Fall 2017	ME6430	6430	Aeronautics	Mechanical and Materials Engr	3 Aviation history. Standard atmosphere, basic aerodynamics, theory of lift, airplane performance, principles of stability and control, astronautics, and propulsion concepts.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6440	6440	Aerospace Propulsion	Mechanical and Materials Engr	3 Engine cycle analysis; combustion fundamentals; reciprocating engines and propellers; applications to turbojet, turbofan, turboprop, ramjet, SCRAM jet, and rocket engines.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of D or Graduate level ME 5350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6490	6490	Aerospace Structures	Mechanical and Materials Engr	3 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.<b> Department Managed Prerequisite(s): Graduate level ME 5120 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6520	6520	Hydropower	Mechanical and Materials Engr	3 Topics covered are hydraulics of turbomachines for power generation, hydrologic analysis for hydropower development for run-of the river systems and reservoir systems, dams and environmental impacts, environmental impact assessment, operations of reservoir systems, and economics of hydropower generation.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of D or Undergraduate level ME 5350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6530	6530	Energy Conversion	Mechanical and Materials Engr	3 Fundamentals of energy and energy conversion, the conversion of energy from mechanical, thermal, chemical, and nuclear sources. To demonstrate these energy forms - generators, wind, ocean, turbines, direct energy conversion, fossil fuels, biofuels, and nuclear power will be presented.<b> Department Managed Prerequisite(s): Undergraduate level ME 3310 Minimum Grade of D or Graduate level ME 5310 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6540	6540	Solar Thermal Engr.	Mechanical and Materials Engr	3 Fundamentals of solar radiation and how it can be utilized as a thermal energy source. Solar insolation on a surface, flat plate collectors, concentrating collectors, thermal energy storage, and solar hot water heating will be discussed.<b> Department Managed Prerequisite(s): Undergraduate level ME 3360 Minimum Grade of D or Undergraduate level ME 5360 Minimum Grade of D</b>	GR	Lecture

Fall 2017	ME6550	6550	Geothermal Energy	Mechanical and Materials Engr	3	Techniques for tapping the energy of the earth will be discussed. This will include hot and cold geothermal energy. Use of geothermal energy to produce electricity, for space and district heating and cooling, and for industrial applications will be presented. In addition, geothermal energy's effect on the environment and its economics will be discussed.<b> Department Managed Prerequisite(s): Undergraduate level ME 3360 Minimum Grade of D or Undergraduate level ME 5360 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6560	6560	Wind Power	Mechanical and Materials Engr	3	Power in the wind, the wind turbine and its parts, performance of wind turbines, and economics of wind turbines will be presented.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of D or Graduate level ME 5350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6570	6570	Energy Materials	Mechanical and Materials Engr	3	Students will understand the principles and the materials of advanced electrochemical energy storage systems including batteries, fuel cells, and supercapacitors. In this course, students will gain an understanding of material structures, material composition, and material morphologies in relation to applicable properties for electrochemical energy storage and conversion systems. Students will also be introduced to state-of-the-art materials research and development in these systems.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and (Undergraduate level ME 3310 Minimum Grade of D or Graduate level ME 5310 Minimum Grade of D or Undergraduate level ME 3750 Minimum Grade of D or Graduate level ME 5750 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	ME6580	6580	Fuel Cell Sci and Tech	Mechanical and Materials Engr	3	This course will cover the fundamentals, technologies, and applications of various types of fuel cells. The Fundamentals covered are thermodynamic prediction, electrolyte conduction, and electrode kinetics. The types of fuel cells covered are polymer electrolyte fuel cell, solid oxide fuel cell, and fuel cell stack.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and (Undergraduate level ME 3310 Minimum Grade of D or Graduate level ME 5310 Minimum Grade of D or Undergraduate level ME 3750 Minimum Grade of D or Graduate level ME 5750 Minimum Grade of D)</b>	GR	Lecture

Fall 2017	ME6585	6585	Natural Gas Prod EGR	Mechanical and Materials Engr	3	Students will be able to demonstrate a knowledge of natural gas production and the associated separation processes to extract gas from oil, recognize the properties of natural gas, perform design calculations involved in production, development and distribution of natural gas, demonstrate a knowledge of effluent treatments in natural gas production and demonstrate a knowledge of the environmental impacts of natural gas.	GR	Lecture
Fall 2017	ME6590	6590	Adv. Clean Coal Tech.	Mechanical and Materials Engr	3	Historical perspective on coal; sources of coal in the world; future dependence on coal for energy; power production using coal; general process description; principles of combustion, conventional combustion reactors, environmental impact; fluidized bed reactors, process improvements in minimizing emissions; and discussions on future innovations in for clean coal technology.<b> Department Managed Prerequisite(s): Undergraduate level ME 3360 Minimum Grade of D or Graduate level ME 5360 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6680	6680	Experimental Nanoscience	Mechanical and Materials Engr	3	This course will provide a series of laboratory experiments similar to the state-of-the-art R&D in nanotechnology and nanoscience. The experiments include 1) fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; 2) characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses etc; and 3) computational modeling of nanoscale physical phenomena.<b> Department Managed Prerequisite(s): Undergraduate level CHM 1210 Minimum Grade of D and Undergraduate level CHM 1210L Minimum Grade of D and Undergraduate level PHY 2400 Minimum Grade of D and Undergraduate level PHY 2400L Minimum	GR	Combination

Fall 2017	ME6680	6680	Experimental Nanoscience	Mechanical and Materials Engr	3	This course will provide a series of laboratory experiments similar to the state-of-the-art R&D in nanotechnology and nanoscience. The experiments include 1) fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; 2) characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses etc; and 3) computational modeling of nanoscale physical phenomena.<b> Department Managed Prerequisite(s): Undergraduate level CHM 1210 Minimum Grade of D and Undergraduate level CHM 1210L Minimum Grade of D and Undergraduate level PHY 2400 Minimum Grade of D and Undergraduate level PHY 2400L Minimum	GR	Lab
Fall 2017	ME6680	6680	Experimental Nanoscience	Mechanical and Materials Engr	3	This course will provide a series of laboratory experiments similar to the state-of-the-art R&D in nanotechnology and nanoscience. The experiments include 1) fabrication of nanomaterials such as metal nanoparticles and graphene nanoplatelets; 2) characterization of physical and chemical properties by using techniques such as Raman spectroscopy, atomic force microscopy, terahertz spectroscopy, electrochemical analyses etc; and 3) computational modeling of nanoscale physical phenomena.<b> Department Managed Prerequisite(s): Undergraduate level CHM 1210 Minimum Grade of D and Undergraduate level CHM 1210L Minimum Grade of D and Undergraduate level PHY 2400 Minimum Grade of D and Undergraduate level PHY 2400L Minimum	GR	Lecture
Fall 2017	ME6700	6700	Structure & Prprts Matls	Mechanical and Materials Engr	3	Effect of microstructure, phase equilibrium, and processing on properties of structural materials including metallic alloys, polymers, and composites.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and Undergraduate level MTH 2350 Minimum Grade of D and Undergraduate level MTH 2320 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6720	6720	Engineering Polymers I	Mechanical and Materials Engr	3	Introduces polymers as engineering materials and covers fundamental concepts in polymer science and engineering. Includes polymerization processes, morphology and crystallinity, thermal transitions, viscoelasticity, rubber elasticity, aging, and contemporary issues in polymers.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D</b>	GR	Lecture

Fall 2017	ME6730	6730	Introduction to Ceramics	Mechanical and 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.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D</b></b>	GR	Lecture
Fall 2017	ME6740	6740	Mat Sel Failure Analysis	Mechanical and Materials Engr	3	Engineering aspects of failure analysis, failure mechanisms and related environmental factors, analysis of actual service failure.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and Undergraduate level ME 3120 Minimum Grade of D and Undergraduate level ME 4620 Minimum Grade of D (ME 4620 can be taken concurrently)</b></b>	GR	Lecture
Fall 2017	ME6750	6750	Mat. Characterization	Mechanical and Materials Engr	4	Principles of characterizing materials with respect to crystal structure, micro/nano structure, and chemical composition using particle or wave-based probes (visible lights, X-rays, and energetic electrons). The interactions between the probes and materials are discussed. Characterization at both qualitative and quantitative level will be elucidated. Laboratory exercises are included.<b> Department Managed Prerequisite(s): Undergraduate level ME 2600 Minimum Grade of D and Undergraduate level ME 2700 Minimum Grade of D</b></b>	GR	Lecture/Lab Combination
Fall 2017	ME6750L	6750L	Matrls Characterization Lab	Mechanical and Materials Engr	0	Required laboratory for ME 6750.	GR	Lab
Fall 2017	ME6770	6770	Mech Behavior of Metals	Mechanical and Materials Engr	3	Crystal plasticity and single crystal behavior. Introduction to dislocation theory. Strengthening mechanisms in metals. Fracture, fatigue, and creep behavior of metals.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and (Undergraduate level ME 3120 Minimum Grade of D or Graduate level ME 5120 Minimum Grade of D)</b></b>	GR	Lecture
Fall 2017	ME6820	6820	Corrosion	Mechanical and Materials Engr	3	Survey of the principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and (Undergraduate level ME 3310 Minimum Grade of D or Undergraduate level ME 3750 Minimum Grade of D)</b></b>	GR	Lecture



Fall 2017	ME6830	6830	Comp Materials Science	Mechanical and Materials Engr	3	This course covers basic theories, methods and algorithms of atomistic computer simulations of materials, using lectures and computer labs. Classical, semi-empirical, and ab initio quantum mechanical methods are explained.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	ME6840	6840	Mat Sel for Mech Design	Mechanical and Materials Engr	3	Principles of materials-limited design. Lectures, case histories, open-ended assignments and computer based materials selection tools. Procedures for selection of optimum material(s) under constraints resulting from functional, reliability, safety, cost and environmental issues.<b> Department Managed Prerequisite(s): (Undergraduate level ME 2700 Minimum Grade of D and Graduate level ME 5120 Minimum Grade of D) or Undergraduate level ME 3120 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6850	6850	Nano-scale Sci and Engr	Mechanical and Materials Engr	3	Students will be introduced to Nano-scale science and engineering in terms of the nano-scale building blocks (emphasizing carbon based nano-species), the characterization techniques (emphasizing Raman Spectroscopy), and the nano-phenomena such as thermal, optical, electrical, chemical, and mechanical phenomena observed on the nano-scale.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and Graduate level ME 5750 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6860	6860	Metal Forming	Mechanical and Materials Engr	3	Fundamentals of principal deformation processing systems including forging, extrusion, rolling, and sheet forming; material response and formability; and mechanics and analysis of selected processes.<b> Department Managed Prerequisite(s): (Undergraduate level ME 2700 Minimum Grade of D and Graduate level ME 5120 Minimum Grade of D) or Undergraduate level ME 3120 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	ME6870	6870	Machining	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Undergraduate level ME 2210 Minimum Grade of D and Undergraduate level ME 2700 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME6870L	6870L	Machining Lab	Mechanical and Materials Engr	0	Required laboratory for ME 6870.	GR	Lab

Fall 2017	ME6880	6880	Powder Process Materials	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Undergraduate level ME 2700 Minimum Grade of D and (Undergraduate level ME 3310 Minimum Grade of D or Graduate level ME 5310 Minimum Grade of D or Undergraduate level ME 3750 Minimum Grade of D or Graduate level ME 5750 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	ME6940	6940	Mech & Mat EGR Intern	Mechanical and Materials Engr	3	Department internship course. Students are supervised via weekly seminars and regular feedback from employer.	GR	Internship
Fall 2017	ME6980	6980	Special Problems in ME	Mechanical and Materials Engr	1	Special topics in Mechanical Engineering or Materials Science and Engineering. Titles vary.	GR	Lecture
Fall 2017	ME7060	7060	Structural Reliability	Mechanical and 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.<b> Department Managed Prerequisite(s): Graduate level ME 7100 Minimum Grade of D and Graduate level ME 6120 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7080	7080	Multidisc Strctrl Optm	Mechanical and 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.<b> Department Managed Prerequisite(s): Graduate level ME 6080 Minimum Grade of D and Graduate level ME 6120 Minimum Grade of D and Graduate level ME 7100 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	ME7100	7100	Adv Mechanics of Solids	Mechanical and Materials Engr	3	Introduction to solid mechanics at the graduate level. Topics include theory of elasticity, indicial notation and coordinate transformations, exact solutions to plane elasticity problems in Cartesian and polar coordinates, axisymmetric problems, torsion of noncircular sections and energy methods.<b> Department Managed Prerequisite(s): Undergraduate level ME 3120 Minimum Grade of D or Graduate level ME 5120 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7120	7120	Finite Elem Method Appl	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Graduate level ME 6120 Minimum Grade of D</b>	GR	Lecture

Fall 2017	ME7140	7140	Nonlin Finite Elmt Anal	Mechanical and Materials Engr	3	Nonlinear finite element analysis of elastic, plastic, and viscoplastic deformation. Flow formulation and solid formulation. Analysis and simulation of structures and metal forming processes.<b> Department Managed Prerequisite(s): Graduate level ME 6120 Minimum Grade of D and Graduate level ME 7100 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7160	7160	Nonlinear Dynamics & Vib	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Undergraduate level ME 4210 Minimum Grade of D or Graduate level ME 6210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7200	7200	Mechanics of Composites	Mechanical and Materials Engr	3	The main objective of this course is to introduce composites as an engineering material and emphasize the basic concepts of their nature and mechanical properties. Micromechanics and macromechanics and lamination theory of composites will be emphasized.<b> Department Managed Prerequisite(s): Undergraduate level ME 1020 Minimum Grade of D and Undergraduate level ME 5120 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7210	7210	Comp Mthds Strctrl Dynam	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Graduate level ME 6210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7250	7250	Advanced Dynamics	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Graduate level ME 5210 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7300	7300	Advanced Fluid Dynamics	Mechanical and 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.<b> Department Managed Prerequisite(s): Undergraduate level ME 3350 Minimum Grade of D or Graduate level ME 5350 Minimum Grade of D</b>	GR	Lecture

Fall 2017	ME7330	7330	Convective Heat & Mass	Mechanical and Materials Engr	3	Heat and mass transfer analysis within conductors and over submerged objects for laminar and turbulent flows. Film condensation and boiling.<b> Department Managed Prerequisite(s): Undergraduate level ME 3360 Minimum Grade of D or Graduate level ME 5360 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7340	7340	Computational Fluid Dyn	Mechanical and 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.<b> Department Managed Prerequisite(s): Graduate level ME 6010 Minimum Grade of C</b>	GR	Lecture/Lab Combination
Fall 2017	ME7350	7350	Radiation Heat Transfer	Mechanical and 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.<b> Department Managed Prerequisite(s): Undergraduate level ME 3360 Minimum Grade of D or Graduate level ME 5360 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7370	7370	Cardio Biofluid Mechanic	Mechanical and Materials Engr	3	This course describes the intricate relations between the fluid mechanics and biomedical aspects of the cardiovascular system. By the end of the course, students will be able to: 1)Identify, recognize and define biofluid mechanics concepts in relation to the cardiovascular system. 2)Model the flow and fluid-structure interactions in cardiovascular structures. 3)Apply this knowledge to analyze clinical research problems	GR	Lecture
Fall 2017	ME7390	7390	Fund of Plasma Sci	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Graduate level ME 7500 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7400	7400	Hypersonic Flows	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): Undergraduate level ME 4330 Minimum Grade of D or Graduate level ME 6330 Minimum Grade of D</b>	GR	Lecture

Fall 2017	ME7500	7500	Advanced Thermodynamics	Mechanical and Materials Engr	3	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.<b> Department Managed Prerequisite(s): (Undergraduate level ME 3320 Minimum Grade of D or Graduate level ME 5320 Minimum Grade of D) or (Undergraduate level ME 3750 Minimum Grade of D or Graduate level ME 5750 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	ME7520	7520	Hydrogen Energy	Mechanical and Materials Engr	3	This course focuses on hydrogen as a renewable and clean means of energy storage, and discusses hydrogen production and storage, as well as an overview of hydrogen energy conversion.<b> Department Managed Prerequisite(s): (Undergraduate level ME 3310 Minimum Grade of D or Undergraduate level ME 5310 Minimum Grade of D) and (Undergraduate level ME 3750 Minimum Grade of D or Undergraduate level ME 5750 Minimum Grade of D)</b>	GR	Lecture/Lab Combination
Fall 2017	ME7550	7550	Photovoltaics	Mechanical and Materials Engr	3	Basic principles of solar cells will be covered including semiconductors, electrons and holes, and p-n junctions. Different types of solar cell materials including crystalline and amorphous cells as well as techniques for increasing their efficiency will be presented.<b> Department Managed Prerequisite(s): Graduate level ME 7500 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7690	7690	Vibe Test & Hlth Mon	Mechanical and Materials Engr	3	Advanced theoretical and practical aspects of vibration testing including: signal analysis, windowing, transducers, exciters, modal identification techniques, rotor dynamics, and machine health monitoring. Includes extensive independent lab study.<b> Department Managed Prerequisite(s): Graduate level ME 6210 Minimum Grade of D</b>	GR	Lecture/Lab Combination
Fall 2017	ME7720	7720	Engineering Polymers II	Mechanical and Materials Engr	3	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 2017	ME7730	7730	Adv Physical Properties	Mechanical and Materials Engr	3	This course focuses on some of the advanced physical properties of solid-state materials including thermoelectric energy conversion, optoelectronics, principles of lasers, high-k dielectrics, magnetoresistance, negative differential resistance, superconductivity, effects of reduced dimensionality and nanostructures. <b> Department Managed Prerequisite(s): Undergraduate level ME 4700 Minimum Grade of D or Graduate level ME 6700 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7740	7740	Quantitative Microscopy	Mechanical and Materials Engr	3	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/Lab Combination
Fall 2017	ME7750	7750	Adv Egr Materials	Mechanical and Materials Engr	3	This course will define and explain crystalline structure of materials, different types of amorphous structures, polarization, band structures and thermal properties, nanostructures, magnetic behavior of materials, and optical phenomena. <b> Department Managed Prerequisite(s): Undergraduate level ME 4700 Minimum Grade of D or Graduate level ME 6700 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7760	7760	Transformation of Solids	Mechanical and Materials Engr	3	This is the first course in a two course sequence. Covers the theory of homogenous and heterogeneous nucleation and diffusion and interface controlled growth. <b> Department Managed Prerequisite(s): Graduate level ME 5760 Minimum Grade of D</b>	GR	Lecture
Fall 2017	ME7780	7780	Ceramics-Advanced Appl	Mechanical and Materials Engr	3	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 2017	ME7950	7950	Thesis	Mechanical and Materials Engr	1	Masters thesis.	GR	Independent Study
Fall 2017	ME7980	7980	Special Topics in ME	Mechanical and Materials Engr	1	Special topics in Mechanical Engineering or Materials Science and Engineering. Topics Vary	GR	Lecture
Fall 2017	ME7990	7990	Independent Study	Mechanical and Materials Engr	1	Independent study in Mechanical Engineering, Materials Science and Engineering, and Renewable and Clean Energy. Topics vary.	GR	Independent Study
Fall 2017	ME8950	8950	Dissertation Research	Mechanical and Materials Engr	1	Research on the Ph.D. dissertation topic. Graded pass/unsatisfactory.	GR	Independent Study

Fall 2017	MGT1010	1010	Community Leadership	Management	3	Provides experiential skill development in the areas of leadership and community service. Students will complete a group community service project, which will be developed in conjunction with the Junior Leadership Dayton program. Open only to Junior Leadership Dayton students. Graded pass/unsatisfactory.	UG	Lecture
Fall 2017	MGT1900	1900	Character & Competence I	Management	3	An introduction to the competence, character, and commitment required to achieve excellence in organizations. An opportunity for students to reinterpret their goals and identify steps that can be taken while in college toward success and well-being.	UG	Lecture
Fall 2017	MGT3100	3100	Mgt & Org Behavior	Management	3	Understanding the behavior of people within a work setting and the development of management competencies.	UG	Lecture
Fall 2017	MGT3110	3110	Bus Ethics & Ldr Dev	Management	3	Development of competencies in business ethics and leadership. Integrated Writing course.	UG	Lecture
Fall 2017	MGT3210	3210	Human Resources Mgt	Management	3	Overview of human resource (HR) functions and policies, including environment of HR (including legal), recruiting and selection of employees, training and development, compensation and benefits. labor and employee relationship.	UG	Lecture
Fall 2017	MGT4200	4200	Positive Grp & Org Dvlpt	Management	3	Presents basic ideas, philosophies, theories and techniques of organizational development and change. Students will increase in their awareness and understanding of the complex problems an organization faces as it strives to compete in today's and tomorrow's world. They will be given opportunities to develop and practice skills needed to develop groups and organizations.	UG	Lecture
Fall 2017	MGT4250	4250	HR Pract I: Comp & Ben	Management	3	Application of compensation and benefits theory to local small businesses, job analyses, job descriptions, wage and benefit surveys, market pricing, point-factor job evaluations, graded salary structure, and related policies. Requires extensive group work.	UG	Practicum
Fall 2017	MGT4260	4260	Staffing	Management	3	Coverage of the staffing process. Topics include human resource planning, recruitment, selection, measurement in selection, legal issues in staffing, job analysis, decision making, and retention management.	UG	Lecture
Fall 2017	MGT4300	4300	Org Change & Conflict	Management	3	Development and application of skills needed to help organizations identify and resolve conflict in order to adapt. Focus on identifying and analyzing of problems/opportunities, planning and implementing appropriate interventions, and the challenges of program evaluation.	UG	Lecture

Fall 2017	MGT4400	4400	Performance Management	Management	3	Setting objectives, observing performance, and giving and receiving ongoing feedback. Performance management requires that employees' activities and outputs are congruent with organizational goals, thus creating a direct link between employee performance and organizational objectives.	UG	Lecture
Fall 2017	MGT4700	4700	Management Ethics	Management	3	Managing individual and collective organizational ethics issues in domestic and global environments; ethics cases in business functions; moral accountability; ethics, innovation and sustainability; improving moral judgment and ethical work cultures; corporate governance ethics.	UG	Lecture
Fall 2017	MGT4710	4710	Theory & Prac Interviews	Management	3	Surveys the current scholarly and applied research literature of the employment process from the perspective of both applicant and employer. Focus will be on recruitment and selection methodologies.	UG	Lecture
Fall 2017	MGT4720	4720	High Performance Teams	Management	3	Introduction to group theory, the practical elements of forming and leading high performing teams, self-assessments and other group-related skills, and practice engaging different group roles and activities. Integrated Writing course.	UG	Lecture
Fall 2017	MGT4750	4750	Small Bus Management	Management	3	Provides students with the opportunity to apply business concepts to a real world situation. Student teams will develop an analysis of a small business and will gain hands-on experience while drawing on previous course work.	UG	Lecture
Fall 2017	MGT4770	4770	Train, Devlp, Perf Mgt	Management	3	Introduction to the concepts, processes, and issues associated with training and development and performance management. Covers planning, designing, implementing, and evaluating training programs as well as creating a direct link between employee performance and organizational objectives.	UG	Lecture
Fall 2017	MGT4780	4780	Honors Ind Study in Mgt	Management	3	Honors: Independent Study in Management	UG	Independent Study
Fall 2017	MGT4800	4800	Special Topics in Mgt	Management	1	Seminar in special topics such as organizational assessment, training and development, and personal career development. Topics vary.	UG	Seminar
Fall 2017	MGT4810	4810	Internship	Management	3	Internship developed by the employer, student, and Department Internship Coordinator must agree on the parameters of the internship, including number of work hours, credit hours, internship objectives, methodology, timeline, and evaluation criteria.	UG	Internship
Fall 2017	MGT4820	4820	Independent Readings	Management	1	Classic and/or contemporary readings in management or international business.	UG	Independent Study
Fall 2017	MGT4830	4830	Independent Study	Management	1	Independent study to explore an area of particular interest in management or international business.	UG	Independent Study



Fall 2017	MGT4850	4850	International Management	Management	3	Distinctive managerial challenges in conducting business in diverse regions and nations around the world; environmental constraints and functional competencies in international management.	UG	Lecture
Fall 2017	MGT4900	4900	Character & Comp II	Management	3	Drawing on their management studies, students will integrate essential managerial competencies and their personal strengths to develop a plan for their career as a manager and leader.	UG	Lecture
Fall 2017	MGT4950	4950	HR Capstone	Management	3	Address timely and important issues for human resource professionals. This course requires extensive team work, effective communication through writing and presentations, and a high degree of professionalism. This course is an integrated writing (IW) course within the Human Resource Management Major.	UG	Lecture
Fall 2017	MGT4990	4990	Strategy Domestic Int'l	Management	3	Issues in international business to build an interdisciplinary strategic perspective on management in a global environment.	UG	Lecture
Fall 2017	MGT6750	6750	Small Business Mgt.	Management	3	Graduate teams will work with small businesses and entrepreneurs to help create feasibility studies and business plans. Typical projects involve marketing research, economic analyses, legal and regulatory assessment, cash flow projections and other financial plans. Under the guidance of the instructor, analyses are created and refined during the semester, and presented to the clients in both a comprehensive written report and a formal final presentation.	GR	Lecture
Fall 2017	MGT6800	6800	Special Topics in Mgt	Management	1	Seminar in a management topic of current and timely interest. Topics and prerequisites vary.	GR	Seminar
Fall 2017	MGT7030	7030	Sem Human Resource 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	Seminar
Fall 2017	MGT7060	7060	Organ Dev and Change	Management	3	A detailed analysis of planned organizational change.	GR	Lecture
Fall 2017	MGT7210	7210	International Management	Management	3	Course provides an understanding of how firms identify, develop and execute different types of international strategies. We have three primary objectives: One, what influences the success and failure of firms in the international context? Two, in the global economy of the 21st century, competition is increasingly shaped by the presence of firms from a variety of national contexts. Three, the nature of competition faced by firms is therefore not only more fierce, but also more culturally diverse.	GR	Lecture

Fall 2017	MGT7510	7510	Applied Ldr Dev	Management	3	This course focuses on the development of leadership skills for managing in organizations. Multiple perspectives are used to enhance understanding of the course concepts—leading oneself, leading individuals, leading teams and the organizational context of leadership.	GR	Lecture
Fall 2017	MGT7660	7660	Creativity & Innovation	Management	3	This is a course designed to make you start thinking differently about your organizational life. It is intended to make you think differently about yourself, those with whom you work, and the organizational environment in order to facilitate increased creativity and innovation. The course is built around three main themes: personal reflection and improvement, enhancing individual creativity, and managing people and organizations for creativity and innovation.	GR	Lecture
Fall 2017	MGT7710	7710	Fundamentals of Proj Mgt	Management	3	An introduction to the management of projects, to include project selection, planning, budgeting, scheduling, execution, and control. Reviews the 'triple constraint' of project management: cost, schedule, and technical performance. Covers typical project life cycles, risk management, earned value management, characteristics of successful project managers, and the structure and dynamics of winning project teams.	GR	Lecture
Fall 2017	MGT7720	7720	Project Contract Mgt	Management	3	In today's complex world, large projects are typically carried out not by a single organization, but by teams of corporate entities. Such relationships are governed by contractual agreements, which affix the rights and responsibilities of the players involved. Topics include managing risk through contracting strategies, types of contracts, subcontractor management, teaming strategies, and negotiation strategy and tactics.	GR	Lecture
Fall 2017	MGT7730	7730	Proj Pln Eval & Contrl	Management	3	Focuses on project planning and control, with emphasis on practical application. Overview of the theoretical and practical mechanisms through which project planning, evaluation, and control occur. Additionally, a course project allows students to practice concepts and techniques presented in the course, taking a service project from the planning phase through scheduling, budgeting, execution and project termination.	GR	Lecture
Fall 2017	MGT7800	7800	Management Internship	Management	3	Graduate students are encouraged to do an internship as part of their program of study. Employing organizations can be located by either the student or the Department.	GR	Internship

Fall 2017	MGT7810	7810	Independent Study	Management	1	Individualized graduate-level program of study, agreed to between sponsoring faculty member and student and approved by the department chair, to explore an area of particular interest, in either management or international business. Normally 3 semester hours long, the course can be tailored for a different number of credit hours, as agreed by the faculty member and department chair.	GR	Independent Study
Fall 2017	MIL1010	1010	Ldrshp & Prsnl Develop	Military Science	3	Introduction to the personal challenges and competencies that are critical for effective leadership. Relationship of life skills such as goal setting, time management, physical fitness, and stress management, to leadership, officership, and the Army profession. Contracted students are required to participate in two-hour lab, physical fitness program and weekend training exercises.	UG	Lecture
Fall 2017	MIL1011	1011	Leadership Dev Lab	Military Science	0	Application of techniques introduced in the Army organizational structure, customs and courtesies in cadet-led, cadre-supervised lab. Mandatory weekly two-hour leadership lab, three weekly physical fitness classes and weekend training exercises for all contracted cadets.	UG	Lab
Fall 2017	MIL1020	1020	Intro to Tactical Ldrshp	Military Science	3	Overview of leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Explores dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercise. Contracted students are required to participate in two- hour lab, physical fitness program and weekend training exercises.	UG	Lecture
Fall 2017	MIL1022	1022	Intro Tact Ldrshp Lab	Military Science	0	Application of techniques introduced Tactical Leadership course in cadet-led, cadre-supervised lab. Mandatory participation in weekly two-hour leadership lab, three physical fitness classes and weekend training exercises for all contracted cadets.	UG	Lab
Fall 2017	MIL2010	2010	Foundations of Ldrshp	Military Science	3	Analysis of the light infantry squad's weapons and employment and the leader's role in directing and controlling small units in the execution of offensive and defensive tactical missions. Contracted students are required to participate in two-hour lab, physical fitness program and weekend training exercises.	UG	Lecture
Fall 2017	MIL2011	2011	Foundation of Ldrshp Lab	Military Science	0	Application of Army tactics, techniques and procedures in cadet-led, cadre-supervised lab. Mandatory participation in weekly two-hour leadership lab, three physical fitness classes and weekend training exercises for all contracted cadets.	UG	Lab

Fall 2017	MIL2020	2020	Found of Tactical Ldrshp	Military Science	3	Examines the challenges of leading tactical teams in complex contemporary operating environments. Highlights terrain analysis, patrolling, and operation orders. Cadets develop greater self-awareness as they assess their own leadership styles and practice communication and team-building skills. Contracted students are required to participate in two-hour lab, physical fitness program and weekend training exercises.	UG	Lecture
Fall 2017	MIL2022	2022	Found of Tact Ldrshp Lab	Military Science	0	Introduction into squad member responsibilities, battle drills and patrols. Each lab is cadet-led and cadre-supervised. Mandatory participation in weekly two-hour leadership lab, three weekly physical fitness classes and weekend training exercises for all contracted cadets.	UG	Lab
Fall 2017	MIL3010	3010	Adaptive Team Leadership	Military Science	3	Application of fundamentals of Army leadership, officership, Army values and ethics, personal development, and small unit tactics at the team and squad level. Students must fully participate in all ROTC activities.	UG	Lecture
Fall 2017	MIL3011	3011	Adaptive Team Ldrshp Lab	Military Science	0	Prepares cadet for six-week summer Leadership Development and Assessment Course. Cadet is required to lead squads of 9-12 in battle drills and patrolling in this cadet-led and cadre-supervised lab. Participation in weekly two-hour leadership lab, three weekly physical fitness classes and weekend training exercises is required.	UG	Lab
Fall 2017	MIL3020	3020	Applied Team Leadership	Military Science	3	Students plan, coordinate, navigate, motivate and lead a team or squad in the execution of a tactical mission during classroom PE, leadership lab or during a Situational Training Exercise in a field environment. Preparation for the 6-week summer Leader Development and Assessment Course at Ft. Lewis, WA. Requires participation in weekend training exercises, physical fitness program and weekly two-hour lab.	UG	Lecture
Fall 2017	MIL3022	3022	Applied Team Ldrshp Lab	Military Science	0	Prepares cadet for six-week summer Leadership Development and Assessment Course. Cadet is required to lead squads of 9-12 in battle drills and patrolling in this cadet-led and cadre-supervised lab. Mandatory weekly two-hour leadership lab, three weekly physical fitness classes and weekend training exercises.	UG	Lab
Fall 2017	MIL4010	4010	Adaptive Leadership	Military Science	3	Students are assigned the duties and responsibilities of an Army staff officer and must apply the fundamentals of principles of training, training management, Army writing style and military decision making to weekly training meetings. Students plan, execute and assess ROTC training, weekly two-hour labs and recruiting events. Students are expected to train, mentor, and evaluate underclass ROTC students while being mentored and evaluated by ROTC cadre.	UG	Lecture

Fall 2017	MIL4011	4011	Adaptive Ldrshp Lab	Military Science	0	Prepares the cadets to become active duty Army officers, through various leadership roles responsible for the training of the Cadet Corp. Cadets implement the fundamentals learned in previous courses and their summer training. Each lab is cadet-led and cadre-supervised. Mandatory weekly two-hour leadership lab, three weekly physical fitness classes and weekend training exercises.	UG	Lab
Fall 2017	MIL4020	4020	Ldrshp in Complex World	Military Science	3	Study/analysis of leading in complex military operations in the contemporary operating environment. Examines differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Explores aspects of interacting with non-government organizations, civilians on battlefield, and host nation support. Course prepares for ROTC and first unit assignment.	UG	Lecture
Fall 2017	MIL4022	4022	Ldrshp Complex World Lab	Military Science	0	Prepares the cadets to become active duty Army officers, through various leadership roles responsible for the training of the Cadet Corp. Cadets implement the fundamentals learned in previous courses and their summer training. Each lab is cadet-led and cadre-supervised. Mandatory weekly two-hour leadership lab, three weekly physical fitness classes and weekend training exercises.	UG	Lab
Fall 2017	MIL4500	4500	Advanced Topics	Military Science	2	Independent study project on selected recent or current events that impact U.S. Army operations, doctrine, structure, planning, or organization. A detailed presentation of causes, actions, and results on a selected topic.	UG	Independent Study
Fall 2017	MIS1150	1150	Intro to Bus Programming	Management Information Svstems	3	Introduction to the Visual Basic Programming language for business majors. Students will be able to create Windows applications by the end of the course.	UG	Lecture/Lab Combination
Fall 2017	MIS2150	2150	IS Apps Development	Management Information Systems	3	This course introduces the fundamental principles of conceiving, designing, developing, and testing information systems applications for business. The course incorporates the applications development lifecycle: determining requirements including business processes, activities, and stakeholders; designing an optimal solution using appropriate business objects, data structures, and algorithms; developing the solution using a high-level programming language; and testing the completed solution.	UG	Lecture/Lab Combination
Fall 2017	MIS3000	3000	Fundamentals of Info Sys	Management Information Systems	3	Introduces contemporary information systems and how they add value throughout the global organization. Focuses on key components of information systems: people, software, hardware, data, and network technologies. Students will develop a small business application using database, spreadsheet and web development tools.	UG	Lecture/Lab Combination

Fall 2017	MIS3150	3150	Data and Info Mgmt	Management Information Systems	3	Concepts, principles and data models of managing organizational data. Extensive experience in developing data models, applying relational database software, creating and using complex queries using Structured Query Language (SQL). Build custom multi-tier database applications using a web application language and a commercial database system.	UG	Lecture/Lab Combination
Fall 2017	MIS3250	3250	Analysis Design Info Sys	Management Information Systems	3	Overview of system analysis and design methodologies. Topics include planning, SDLC, project management overview, data, process and logic modeling techniques. Covers design, implementation, specifications, and testing plans.	UG	Lecture/Lab Combination
Fall 2017	MIS3450	3450	Web Apps Development	Management Information Systems	3	Introduces web design and development. Students will examine electronic methods of delivering products and services between organizations and consumers via the web. A solution to an e-business case will be developed and unloaded to a web server	UG	Lecture/Lab Combination
Fall 2017	MIS3650	3650	Business Processes RFID	Management Information Systems	3	Introduction to Radio Frequency Identification (RFID) with particular focus on business automation; hands-on experience with using RFID equipment and preparation for the RFID certification.	UG	Lecture/Lab Combination
Fall 2017	MIS3810	3810	Intro to Business Data	Management Information Systems	3	An introduction to the fundamentals of identifying, gathering, managing, visualizing, and analyzing structured, semi-structured, and unstructured data for business decision-making and performance.	UG	Lecture
Fall 2017	MIS3820	3820	Data Mining for Business	Management Information Svstems	3	This course will examine data mining tools and techniques that have been proven to be of value in recognizing patterns and making predictions from an applied perspective.	UG	Lecture
Fall 2017	MIS3840	3840	Data Vis for Business	Management Information Systems	3	Introduce students to data visualization in business including both the principles and techniques. Students will learn the value of visualization, specific techniques in information visualization and scientific visualization, and understand how to best leverage visualization methods	UG	Lecture
Fall 2017	MIS4250	4250	IT Infrastructures	Management Information Systems	3	Introduces Information Technology infrastructures including background, types, proper applications, and components of telecommunications, network design, and distributed information systems. Emphasizes telecommunications technology and its impact on information systems and business operations	UG	Lecture

Fall 2017	MIS4300	4300	Business Analytics	Management Information Systems	3	Introduces business analytics, including business intelligence, data visualization, reports, queries, scorecards, dashboards, online analytical processing, decision support, data warehousing, data mining, and multidimensional databases. Familiarizes students with different business analytics tools such as MicroStrategy and Teradata.	UG	Lecture/Lab Combination
Fall 2017	MIS4400	4400	IS Strat Mgt and Acq	Management Information Systems	3	Explores issues in managing the information systems function in organizations and how it integrates, supports, and enables various types of organizational capabilities. Senior management perspective in exploring the acquisition, development, and implementation of plans and policies to achieve efficient and effective information systems.	UG	Lecture
Fall 2017	MIS4500	4500	Bus Process Enterprise	Management Information Systems	3	Principles of business processes and enterprise information systems. Students identify, model, and reengineer business processes within and across organizations and integrate disparate information resources and business processes with an integrated enterprise system. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	MIS4600	4600	GIS for Business	Management Information Systems	3	Principles, tools, and techniques of geographic information systems. Creation, management, and use of geographic data in business-related decision making.	UG	Lecture/Lab Combination
Fall 2017	MIS4700	4700	Data Science for Bus App	Management Information Systems	3	Introduction to the process of extracting information and answers from multi-dimensional datasets to generate business insights. It will provide a broad overview of the entire data analytics pipeline, from data collection and preprocessing, to storing, exploring, visualizing, modeling, and interpretation. Modern computing tools (e.g. R, SAS) and essential data mining, machine learning, text, and network analytic methods will be discussed. Must be enrolled in CoBA.	UG	Lecture
Fall 2017	MIS4800	4800	Special Topics in IS	Management Information Systems	3	Each offering focuses on one area of emerging technology or information systems management. Topics could include information assurance, information architecture, data mining and data warehouse.	UG	Lecture
Fall 2017	MIS4810	4810	Internship in IS	Management Information Systems	3	Faculty-supervised internship in information systems. Students work on an information systems project in a firm or public agency and submit reports for completion of the course.	UG	Practicum

Fall 2017	MIS4950	4950	IS Proj Mgt & Develop	Management Information Systems	3	Introduces concept, practice, and the importance of project management. The course covers a systematic methodology for initiating, planning, executing, controlling, and closing IS projects. Student teams will be assigned to an information systems business problem of a firm or organization in the Dayton metropolitan area. Teams analyze, design, implement, evaluate, and develop an information system while applying project management practices.	UG	Lecture
Fall 2017	MIS7000	7000	Info Systems Strategy	Management Information Systems	3	Concepts and practices of management information systems for using information in the management of business enterprises are investigated to determine their deployment in achieving organization objectives. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	MIS7100	7100	Data-Driven Bus & Org	Management Information Systems	3	This course introduces students to the process of extracting business insights from organizational data. It provides a broad overview of the entire data analytics pipeline including collection, preprocessing, analyzing, visualizing, modeling and interpretation of data. Modern computing tools and essential data mining, machine learning, text, and network analytic methods will be discussed. Emphasis will be placed on learning when to use each technique as well as their theoretical underpinning. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	MIS7200	7200	IS Project Management	Management Information Systems	3	IS Project Management encompasses the knowledge, techniques, and tools necessary to manage the development of information systems projects. Leading edge tools, techniques, and concepts will be presented through the course. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	MIS7300	7300	Ent Data and Res Mgmt	Management Information Systems	3	Introduces the important topics in Enterprise Resource Planning (ERP). Identify important ERP concepts, advantages and disadvantages and success and failures of ERP implementations; use a commercial ERP package; understand RFID and Auto-ID technology and assess the potential of the RFID in the supply chain automation process. This course has a fee that is non-refundable once the term begins.	GR	Lecture



Fall 2017	MIS7400	7400	Outsourcing Partnerships	Management Information Systems	3	This course introduces the fundamentals of outsourcing information technology and business process activities. The course incorporates the outsourcing lifecycle including identifying needs, mapping activities and processes, establishing metrics and service levels, crafting the statement of work and contract, identifying and selecting vendors, conducting negotiations and finalizing contracts, managing and governing outsourcing relationships, and monitoring services and vendor performance. This course has a fee that is non-refundable once the term begins.	GR	Lecture/Lab Combination
Fall 2017	MIS7500	7500	Business Process Mgmt	Management Information Systems	3	This course provides a comprehensive approach for transforming business processes of an organization. It will demonstrate how to keep renewed processes working at optimum levels through process ownership and performance management. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	MIS7600	7600	Cust Rel Mgt & Bus Intel	Management Information Systems	3	An in-depth study of customer relationship management (CRM) technologies and business intelligence applications. The special focus on the application of CRM and BI technologies for managing the customer and data lifecycle. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	MIS7700	7700	Info Sec & Assurance	Management Information Systems	3	This survey course will provide an understanding of communications and IT infrastructures, their vulnerability as well as the size and complexity of security threats faced by enterprises. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	MIS7800	7800	Mgt of Tech Services	Management Information Systems	3	Introduction to state-of-the-art service management thinking. Provides an understanding of the unique challenges inherent in profit- delivering service excellence. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	MIS7810	7810	Special Topics in I.S.	Management Information Svstems	3	The Special Topics of Information Systems will offer cutting edge topics that focus on one area of emerging technology or information systems management.	GR	Lecture
Fall 2017	MIS7900	7900	IS Mgt Research Project	Management Information Systems	1	The Capstone IT Project provides students the opportunity to individually explore a problem or issue within the IT field study. This course has a fee that is non-refundable once the term begins.	GR	Practicum
Fall 2017	MKT2500	2500	Principles of Marketing	Marketing	3	Studies processes and activities that direct the flow of goods and services from the producer to the consumer with consideration of the social, ethical, economic, legal, and international environments.	UG	Lecture

Fall 2017	MKT3100	3100	Con & Org Buyer Behavior	Marketing	3	Examines psychological, economic, societal and cultural influences on consumer decisions. Explores the nature and scope of industrial or business-to-business markets. Differentiates between consumer industrial marketing in project management, pricing, promotion and distribution.	UG	Lecture
Fall 2017	MKT3200	3200	Principles of Selling	Marketing	3	Introduces professional selling in the business environment. Includes sales ethics and professionalism, persuasive communication, buying motives, and the professional selling process.	UG	Lecture
Fall 2017	MKT3300	3300	International Marketing	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 organizational operations.	UG	Lecture
Fall 2017	MKT3400	3400	Integrated Marketing Comm	Marketing	3	Introduces integrated marketing communications including advertising, direct marketing, public relations and sales promotion. Includes discussion of creative and media strategies.	UG	Lecture
Fall 2017	MKT3500	3500	Mkt Rsch Decision Making	Marketing	3	Provides the process and techniques of marketing research. Formulation of projects and evaluation of research results. Basic skills needed to become a practicing marketing researcher.	UG	Lecture
Fall 2017	MKT3600	3600	Retailing & E-Commerce	Marketing	3	Analyzes performance of marketing functions at the retail level. Emphasizes institutional and competitive factors and management of the marketing mix as it relates to retail market segments.	UG	Lecture
Fall 2017	MKT3700	3700	Create,Solve,Communicate	Marketing	3	Methods for enhancing creativity, team building and communication to better solve problems, all of which are essential tools for effective marketing.	UG	Lecture
Fall 2017	MKT4100	4100	Digital Marketing	Marketing	3	Basic principles of internet marketing and use of selected technologies e.g., advertising, search engine optimization, viral/social marketing, online surveys, web design, analytics, SPSS, geodemographics.	UG	Lecture
Fall 2017	MKT4150	4150	Viral Mkt & Social Media	Marketing	3	Focuses on theory, application and practice associated with viral marketing activities. Goals for students are to identify the major components of a viral marketing campaign, understand how the viral marketing approach is being used strategically by advertisers and marketers and understand the psychological motivations associated with content sharing.	UG	Lecture
Fall 2017	MKT4300	4300	Entrepreneurship	Marketing	3	How to start a business. Concepts, strategies and tactics of product innovation/development and planning to initiate or purchase a company. Students may develop a written business plan for a new venture.	UG	Lecture

Fall 2017	MKT4400	4400	Services Marketing	Marketing	3	Explores the seven Ps of marketing relating to the marketing of services. Explores emerging theories and strategies for effective implementation.	UG	Lecture
Fall 2017	MKT4600	4600	Advanced Retailing	Marketing	3	For students who plan to pursue a career in retailing or who plan to develop and grow a business. Advanced instruction and skill development through a focus on such key topics as retail formats, multichannel retailing, store layout and location, and the retail and services communications mix.	UG	Lecture
Fall 2017	MKT4650	4650	Mkt Analytics	Marketing	3	Analysis of online and internal company data, with an emphasis on application and recommendations.	UG	Lecture
Fall 2017	MKT4670	4670	Analytics Tools Insights	Marketing	3	Students gain hands-on experience with analytical tools to analyze marketing data and support marketing decisions that create value and build competitive advantage. Topics include demand estimation, segmentation, and web/social media analytics.	UG	Lecture
Fall 2017	MKT4690	4690	Big Data and Predictions	Marketing	3	Students learn specific data analytic methodologies such as predictive analytics, data mining, text mining, sentiment analysis, topic analysis and Big Data related applications. This course is largely practice oriented, with students learning experientially by being introduced to cutting-edge marketing analytical tools, and then applying them through in-class exercises and case analyses, generating data-driven managerial recommendations.	UG	Lecture
Fall 2017	MKT4700	4700	Marketing Challenges	Marketing	3	Application of marketing tools to local businesses. Student teams use marketing tools (e.g., SWOT, target market, competitive analysis, positioning, 4Ps, milestones, metrics) to develop recommendations to address core issues in the challenge.	UG	Lecture
Fall 2017	MKT4780	4780	Honors:Ind Study Market	Marketing	3	The course will consist of research or some other form of marketing project. The course is offered with the prior-approval of the department chair and the supervising marketing faculty member.	UG	Independent Study
Fall 2017	MKT4800	4800	Internship in Marketing	Marketing	3	On-the-job training and experience with an organization. Integrates classroom study with practical work experience.	UG	Internship
Fall 2017	MKT4850	4850	Special Topics in Marketing	Marketing	3	Seminar on special topics such as consumerism and social issues, nonprofit organization marketing, advanced retailing management, channels of distribution, pricing, or persuasion. Topics vary. Requires approval of the department chair and the faculty member.	UG	Lecture
Fall 2017	MKT4870	4870	Ind Studies in Marketing	Marketing	1	Research or some other marketing project. The course is offered with the prior-approval of the department chair and the supervising faculty member.	UG	Independent Study

Fall 2017	MKT4900	4900	Marketing Strategy	Marketing	3	Develops abilities to recognize opportunities and solve problems related to marketing strategy and improve decision making skills applied to the planning of marketing programs. Integrated Writing course.	UG	Lecture
Fall 2017	MKT5000	5000	Honors:Ind Study Market	Marketing	3	The course will consist of research or some other form of marketing project. The course is offered with the prior-approval of the department chair and the supervising marketing faculty member.	UG	Independent Study
Fall 2017	MKT7050	7050	Consumer Behavior	Marketing	3	The fundamental goal of this course is to help students develop a strategic perspective for understanding and applying the psychological and sociological aspects of both industrial and consumer buyer behavior. Psychological, societal, and cultural influences on consumer decisions are examined. Marketing strategy implications of conceptual constructs are discussed.	GR	Lecture
Fall 2017	MKT7100	7100	Digital Marketing	Marketing	3	This course highlights key fundamentals of successful integrated online/offline marketing with an emphasis on using the Internet & other marketing tools and technologies. Objectives are to understand basic principles of marketing; how to design an e-commerce web site using Internet marketing principles & various Internet Business Models; the legal, social & ethical issues faced by Internet marketers; global implications & how to use technologies in marketing.	GR	Lecture
Fall 2017	MKT7150	7150	Viral Mkt & Social Media	Marketing	3	This course focuses on theory, application and practice associated with viral marketing activities. Goals for students are 1) identify the major components of a viral marketing campaign 2) understand how the viral marketing approach is being used strategically by advertisers and marketers 3) understand the psychological motivations associated with content sharing (WOM).	GR	Lecture
Fall 2017	MKT7300	7300	Entrepreneurship	Marketing	3	The course will discuss the role of entrepreneurship in the economy. The course will also discuss how new ventures are developed. The course draws from a number of disciplines including marketing, finance, accounting, management, ethics, and law that form the foundation of a business. The course will include a discussion of the role of business plans and discuss how to prepare a successful business plan.	GR	Lecture
Fall 2017	MKT7500	7500	Marketing Res & Analysis	Marketing	3	Course is aimed at the manager who is th ultimate user of research and who is responsible for determining the scope and direction of reseach activities. The course will focus on both qualitative and quantitative aspects of marketing research and how managers use the results to address marketing problems.	GR	Lecture

Fall 2017	MKT7700	7700	International Marketing	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 2017	MKT7800	7800	MKT Analytics	Marketing	3	Analysis of online and internal company data, with an emphasis on application and recommendations.	GR	Lecture
Fall 2017	MKT7850	7850	Special Topics in Mkt	Marketing	3	Seminars in marketing - related topics.	GR	Lecture
Fall 2017	MKT7870	7870	Ind. Studies in Marketin	Marketing	3	A research project in marketing supervised by a faculty member in the Department of Marketing.	GR	Independent Study
Fall 2017	MKT7900	7900	Internship in Marketing	Marketing	3	On the job training and experieince with an organization. Integrates classroom study with practical work experience.	GR	Internship
Fall 2017	ML2020	2020	Chinese Culture in Film	Modern Languages	3	Chinese culture and traditions in film, with special emphasis on issues related to nationhood, modernity, education, gender roles, family values, equality, and globalization.	UG	Lecture
Fall 2017	ML2030	2030	Spanish Culture	Modern Languages	3	Introduction to Spain's history, cultures (Spanish as well as non-Spanish), and customs.	UG	Lecture
Fall 2017	ML2040	2040	The Hispanic World	Modern Languages	3	Introduction to Hispanic cultures with particular focus on Spain's relationship with its "Others" such as Muslims and Jews; the colonial legacies of Latin America, with particular attention to the portrayal of women, Indians and Afro-Latinos; and Latino cultural impact in the United States.	UG	Lecture
Fall 2017	ML2050	2050	Russian Culture	Modern Languages	3	Introduction to Russian culture and history with particular focus on the historic roots and cultural manifestations of Russia's unique Eastern-Western character; the changes to the Russian life style and mentality after 1917 as seen in essay, short fiction, documentary and feature films, and visual art; and Russian cultural impact in the United States.	UG	Lecture
Fall 2017	ML3130	3130	Russian Lit in Translation	Modern Languages	3	Selected works of foreign literature studied in English translation. Russian literature.	UG	Lecture
Fall 2017	ML3500	3500	Ambassador Prog Abroad	Modern Languages	3	Short term study abroad course led by a Wright State professor. Pre-departure orientation sessions, on-site lectures and cultural connections. Target language development. Post-travel project.	UG	Lecture
Fall 2017	ML3550	3550	Intl Service Learning	Modern Languages	3	Students engage in an international service learning project in the context of an Ambassador Program.	UG	Practicum
Fall 2017	ML3980	3980	Studies in Selec Subj	Modern Languages	1	Individual research project approved and supervised by a full-time faculty member.	UG	Lecture
Fall 2017	ML3990	3990	Studies in Selected Subjects	Modern Languages	1	Problems, approaches, and topics in the field of modern languages. Topics vary.	UG	Lecture

Fall 2017	ML4550	4550	French Feminist Philosoph	Modern Languages	3	Advanced study of French feminist theories, texts, and philosophies that emerged in the 1970s to the 1990s and have been mostly influential in Anglo-American contexts and academies. Integrated Writing course.	UG	Lecture
Fall 2017	ML5990	5990	Studies in Selected Subi	Modern Languages	1	Topics of study in modern languages	GR	Lecture
Fall 2017	MLB4010	4010	Topics in Med Lab Sci	Medical Laboratory Science	0.5	Advanced topics in medical laboratory science of current interest. Topics vary.	UG	Lecture/Lab Combination
Fall 2017	MLB4010	4010	Topics in Med Lab Sci	Medical Laboratory Science	0.5	Advanced topics in medical laboratory science of current interest. Topics vary.	UG	Practicum
Fall 2017	MLB4010	4010	Topics in Med Lab Sci	Medical Laboratory Science	0.5	Advanced topics in medical laboratory science of current interest. Topics vary.	UG	Lab
Fall 2017	MLB4010	4010	Topics in Med Lab Sci	Medical Laboratory Science	0.5	Advanced topics in medical laboratory science of current interest. Topics vary.	UG	Lecture
Fall 2017	MLB4110	4110	Orientation Med Lab Sci	Medical Laboratory Science	1.5	Theory and application of lab safety, universal precautions, specimen collection, quality assurance, phlebotomy, and other techniques fundamental to medical laboratory.	UG	Lecture
Fall 2017	MLB4111	4111	Orientation MLS Lab	Medical Laboratory Science	0.5	Application of lab safety, universal precautions, specimen collection, quality assurance, phlebotomy, and other techniques fundamental to medical laboratory.	UG	Lab
Fall 2017	MLB4210	4210	Urine/BodyFluid Analysis	Medical Laboratory Science	1.5	Study of body fluids, including the pathophysiology of their formation and the biochemical and morphologic methods used to obtain diagnostic information.	UG	Lecture
Fall 2017	MLB4211	4211	Urine/Body Fluid Lab	Medical Laboratory Science	0.5	Study of body fluids, including the pathophysiology of their formation and the biochemical and morphological methods used to obtain diagnostic information. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	MLB4310	4310	Basic Hematology	Medical Laboratory Science	2	Theory and application of principles of hematology, including hematopoiesis, counting and identification of cells in the peripheral blood, and the use of cellular morphology to diagnose disease.	UG	Lecture
Fall 2017	MLB4311	4311	Basic Hematology Lab	Medical Laboratory Science	1	Application of principles of hematology, including hematopoiesis, counting and identification of cells in the peripheral blood, and the use of cellular morphology to diagnose disease. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	MLB4320	4320	Advanced Hematology	Medical Laboratory Science	2	Advanced topics in hematology with an emphasis on the diagnosis and treatment of anemias, myelodysplastic and myeloproliferative disorders.	UG	Lecture

Fall 2017	MLB4330	4330	Hematology Practicum	Medical Laboratory Science	3	Introduction to practical application of hematology techniques at a clinical site.	UG	Practicum
Fall 2017	MLB4410	4410	Hemostasis	Medical Laboratory Science	1	Principles of hemostasis involved in blood vessel contraction, platelet activation and formation, and activation of coagulation factors, and their use in diagnosing coagulation defects and monitoring anticoagulant therapy.	UG	Lecture
Fall 2017	MLB4411	4411	Hemostasis Lab	Medical Laboratory Science	0.5	Blood vessel contraction, platelet activation and formation, and activation of coagulation factors, and their use in diagnosing coagulation defects and monitoring anticoagulant therapy. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	MLB4510	4510	Basic Clinical Chemistry	Medical Laboratory Science	2	Theory and application of human biochemistry and principles of chemistry techniques used in the analysis of blood and other body fluids.	UG	Lecture
Fall 2017	MLB4511	4511	Basic Clinical Chem Lab	Medical Laboratory Science	1	Application of human biochemistry and principles of chemistry techniques used in the analysis of blood and other body fluids. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	MLB4520	4520	Adv Clinical Chemistry	Medical Laboratory Science	2	Study of endocrine system, inborn errors of metabolism, toxicology, the role of tumor markers in cancer diagnosis and management, and other advanced topics in clinical chemistry.	UG	Lecture
Fall 2017	MLB4530	4530	Clinical Chem Prac	Medical Laboratory Science	3	Practical application of clinical chemistry techniques at a clinical site.	UG	Practicum
Fall 2017	MLB4610	4610	Serology	Medical Laboratory Science	1	Study of antigens and the stimulation of antibodies in vivo, and the use of these reactions to perform in vitro testing to diagnose and monitor the course of disease.	UG	Lecture
Fall 2017	MLB4611	4611	Serology Lab	Medical Laboratory Science	0.5	Antigens and the stimulation of antibodies in vivo, and the use of these reactions to perform in vitro testing to diagnose and monitor the course of disease. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	MLB4710	4710	Basic Diagnostic Micro	Medical Laboratory Science	3.5	Study of media composition and selection, biochemical techniques used to identify bacteria and related physiology, antibiotic susceptibility of bacteria, and discussion and identification of parasites.	UG	Lecture
Fall 2017	MLB4711	4711	Basic Diag Micro Lab	Medical Laboratory Science	1.5	Study of media composition and selection, biochemical techniques used to identify bacteria and related physiology, antibiotic susceptibility of bacteria, and discussion and identification of parasites. This course has a fee that is non-refundable once the term begins.	UG	Lab

Fall 2017	MLB4720	4720	Adv Diagnostic Micro	Medical Laboratory Science	2	Characteristics, pathophysiologic mechanisms and identification of chlamydia, fungi, viruses and other organisms and the methods used to diagnose and treat related diseases.	UG	Lecture
Fall 2017	MLB4730	4730	Diagnostic Micro Prac	Medical Laboratory Science	3	Practical application of microbiology techniques at a clinical site.	UG	Practicum
Fall 2017	MLB4810	4810	Basic Immunohematology	Medical Laboratory Science	2	Theory and application of the use of antigens and antibodies in blood grouping and transfusion medicine.	UG	Lecture
Fall 2017	MLB4811	4811	Basic Immunohem Lab	Medical Laboratory Science	1	Use of antigens and antibodies in blood grouping and transfusion medicine. This course has a fee that is non-refundable once the term begins.	UG	Lab
Fall 2017	MLB4820	4820	Adv Immunohematology	Medical Laboratory Science	2	Advanced topics in transfusion medicine, including immune hemolytic anemias, paternity testing, component therapy, HLA antigens, quality assurance and the role of regulatory agencies in the practice of transfusion medicine.	UG	Lecture
Fall 2017	MLB4830	4830	Immunohematology Prac	Medical Laboratory Science	3	Practical application of transfusion medicine techniques at a clinical site.	UG	Practicum
Fall 2017	MLB4990	4990	Medical Lab Op and Ed	Medical Laboratory Science	1	Principles of education, laboratory management, computer application and completion and presentation of a scientific project. Integrated Writing course.	UG	Lecture
Fall 2017	MP1310	1310	The Moving Image	Motion Picture	3	Introduction to film appreciation and analysis. Surveys basic theoretical and philosophical approaches to the study of film. Explores what it means to be literate in the language of film through study of key terms and concepts used in analyzing film. Topics include what it means to be a film spectator, how films create meaning, the political aspects of filmmaking, and various approaches to film criticism.	UG	Lecture
Fall 2017	MP1800	1800	Motion Pictures Prod I	Motion Picture	3	Elements of motion pictures production including scripting, cinematography, and editing. Participation in projects from initial conception to final screening.	UG	Lecture/Lab Combination
Fall 2017	MP2310	2310	Hist of Motion Picture I	Motion Picture	3	Historical development of the art of the film from 19th-century scientific experiments through the silent era and the advent of sound to mid 20th century. Examination of technical, social, economic, and cultural factors that have shaped motion pictures. Integrated Writing course.	UG	Lecture
Fall 2017	MP2320	2320	Motion Picture Hist II	Motion Picture	3	Historical development of the art of the film from the mid 20th century to the present. Consideration of American and world cinema and the relation of motion pictures to sociocultural conditions. Integrated Writing course.	UG	Lecture



Fall 2017	MP2810	2810	Intermediate MP Prod I	Motion Picture	3	Production of silent motion picture projects and audio projects under faculty supervision. Instruction in narrative technique, visual structure, and shooting and finishing a motion picture.	UG	Lecture/Lab Combination
Fall 2017	MP2820	2820	Intermediate MP Prod II	Motion Picture	3	Production of short motion picture and audio projects under faculty supervision. Further instruction in the technique and aesthetics of motion pictures. Includes an introduction to sync-sound.	UG	Lecture/Lab Combination
Fall 2017	MP3310	3310	Studies in Film History	Motion Picture	3	Intensive study of selected areas of film history. Titles and topics vary.	UG	Lecture
Fall 2017	MP3320	3320	Film Authorship	Motion Picture	3	Intensive study of the work of one or more film directors or other creative personnel. Topics vary.	UG	Lecture
Fall 2017	MP3330	3330	Studies in Film Theory	Motion Picture	3	Intensive study in film theory. Topics vary.	UG	Lecture
Fall 2017	MP3340	3340	Documentary Hist & Thry	Motion Picture	3	Comprehensive survey of the history of documentary film and an introduction to the theories and approaches used by documentary filmmakers.	UG	Lecture
Fall 2017	MP3350	3350	Screenwriting Short Film	Motion Picture	3	Introduction to writing a short screenplay. Students will learn basic storytelling strategies for media production.	UG	Lecture/Lab Combination
Fall 2017	MP3810	3810	Advanced MP Production I	Motion Picture	6	Production of film and video projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, fiction, and independent film within the free-lance motion pictures market.	UG	Lecture/Lab Combination
Fall 2017	MP3820	3820	Advanced MP Prod II	Motion Picture	6	Production of film and video projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, fiction, and independent film within the free-lance motion pictures market.	UG	Lecture/Lab Combination
Fall 2017	MP3990	3990	Studies Select Subjects	Motion Picture	1	Practical experience or research in topics in the field of motion pictures. Topics vary.	UG	Lecture
Fall 2017	MP3990	3990	Studies Select Subjects	Motion Picture	1	Practical experience or research in topics in the field of motion pictures. Topics vary.	UG	Internship
Fall 2017	MP4350	4350	Adv. Studies in Media	Motion Picture	3	Advanced media studies. Topics vary.	UG	Lecture
Fall 2017	MP4360	4360	Studies in MP Production	Motion Picture	3	Intensive study of a selected area of motion picture production. Topics vary.	UG	Lecture/Lab Combination
Fall 2017	MP4810	4810	Practicum in Filmmaking	Motion Picture	3	Credit for professional-caliber production work in a chosen role which may include developing a fully formed feature documentary treatment; writing a feature-length screenplay; or working on a senior practicum production as writer and/or director, director of photography, art director or editor.	UG	Practicum
Fall 2017	MP4990	4990	Ind Study in Motion Pict	Motion Picture	1	Independent study in motion picture history, theory, criticism, and practice.	UG	Independent Study

Fall 2017	MS2040	2040	Intro to Business Stats	Management Science	3	Statistical methods used in analysis of business problems, including theory and application of frequency distributions, measures of central tendency and variability, probability distributions, expectation, sampling and estimation, and one-sample hypothesis testing.	UG	Lecture
Fall 2017	MS2050	2050	Quant Business Modeling	Management Science	3	Development and interpretation of inferential statistical models applied to business. Estimation models, decision analysis and hypothesis testing models and regression models. Use of statistical software.	UG	Lecture
Fall 2017	MTE6100	6100	Math Modeling Behav Sci	Mathematics Teacher Education	3	Important mathematical topics such as differential equations, axiomatics, probability theory, matrix algebra, simulation, and game theory and their use in a variety of models in the social sciences, life sciences, and humanities. Includes deterministic models, probabilistic models, simulations, and considers both discrete and continuous models.	GR	Lecture
Fall 2017	MTE6400	6400	History of Mathematics	Mathematics Teacher Education	3	Mathematics as an on-going human activity. Historical development and contributions from diverse cultures of: number systems; measurement; algebra; Euclidean and non-Euclidean geometries; calculus; discrete mathematics; and statistics and probability.	GR	Lecture
Fall 2017	MTE6420	6420	Prob Stat Mid Schl Tchr	Mathematics Teacher Education	3	Probability and statistical methods applied to real problems. Scientific method of investigation. Data collection, organization, display, and analysis. Sampling distributions and probability. Introductions to statistical inference. Use of appropriate software and graphing calculator.	GR	Lecture/Lab Combination
Fall 2017	MTE6430	6430	Alg Func Mid Schl Tchr	Mathematics Teacher Education	4	Algebraic principles and linear functions are reviewed with respect to their usage in middle school classrooms. Polynomial, rational, exponential, logarithmic, and trigonometric functions are studied from a perspective appropriate for a middle school teacher. Students explore how properties of functions appear in various representations by means of technological tools.	GR	Lecture
Fall 2017	MTE6450	6450	Geometry Mid Schl Tchr	Mathematics Teacher Education	3	A study of two- and three-dimensional geometry appropriate for grade 4-10 teachers. Compass constructions, triangle congruence postulates, Pythagorean Theorem and proofs. Surface area and volume. Coordinate geometry applied to proofs and transformations.	GR	Lecture/Lab Combination
Fall 2017	MTE6460	6460	Modeling Mid Schl Tchr	Mathematics Teacher Education	4	Learning to think about the world quantitatively through experiencing solving pure and applied mathematics problems and modeling real world problems individually and in groups. Focuses on working with the steps involved in modeling real-life situations and understanding how modeling and problem solving differ.	GR	Lecture

Fall 2017	MTE6480	6480	Calculus Mid Schl Tchr	Mathematics Teacher Education	3	An exploration meant to give a solid conceptual understanding of the big ideas in calculus (limit, derivative, integral). Applications, connections to algebra, and how these concepts appear in middle school math classrooms are emphasized.	GR	Lecture/Lab Combination
Fall 2017	MTE6880	6880	Ind Reading Math Stat Ed	Mathematics Teacher Education	1	Selected topics from the research literature on a particular topic in mathematics and statistics education.	GR	Independent Study
Fall 2017	MTE6920	6920	Seminar in Math Stat Ed	Mathematics Teacher Education	1	Reading and discussion of current trends and research in mathematics and statistics education with applications to Pre K-14 mathematics classrooms.	GR	Seminar
Fall 2017	MTE6990	6990	Sel Topics Math Stat Ed	Mathematics Teacher Education	1	Selected topics pertinent to Pre K - 14 mathematics educators.	GR	Independent Study
Fall 2017	MTH1280	1280	College Algebra	Mathematics	4	Graphs of linear, polynomial and rational functions, exponential and logarithmic functions and equations, and systems of equations.	UG	Lecture
Fall 2017	MTH1340	1340	Precalculus	Mathematics	5	Functions and graphs, polynomial and rational functions, trigonometric and inverse trigonometric functions, conics, systems of equations, exponential and logarithmic functions, geometric series, binomial theorem.	UG	Lecture
Fall 2017	MTH1350	1350	Analytic Geometry & Trig	Mathematics	3	Polynomial equations, conic sections, trigonometric and inverse trigonometric functions, trigonometric identities, solution of triangles.	UG	Lecture
Fall 2017	MTH1440	1440	Math Modern World w/ Alg	Mathematics	4	An application of mathematics to modeling real world problems from the behavioral, computational, managerial, and social sciences. Includes such topics as graph theory, linear programming, probability, descriptive and inferential statistics, voting systems, game theory, population growth, computer algorithms, and codes and data storage. Incorporates selected topics in algebra for underprepared students.	UG	Lecture
Fall 2017	MTH1450	1450	Math and Modern World	Mathematics	3	An application of mathematics to modeling real world problems from the behavioral, computational, managerial, and social sciences. Includes such topics as probability, descriptive and inferential statistics, financial management, voting systems, codes and data storage.	UG	Lecture
Fall 2017	MTH2240	2240	Applied Calculus	Mathematics	4	Functions (including exponential and logarithmic functions), limits, derivatives and rates of change, applications of derivatives including graphing and optimization, and indefinite and definite integrals with applications. Credit will not be given for MTH 2240 for students who have already successfully completed MTH 2300.	UG	Lecture

Fall 2017	MTH2280	2280	Business Calculus	Mathematics	4	Functions, rates of change, limits, derivatives of algebraic functions, applications including maxima and minima, exponential and logarithmic functions, and indefinite and definite integrals with applications. Credit will not be given for MTH 2280 for students who have already successfully completed MTH 2300	UG	Lecture
Fall 2017	MTH2300	2300	Calculus I	Mathematics	4	Examines limits, the derivative, differentiation, applications of the derivative, antiderivatives, Riemann sums, the definite integral. and the fundamental theorem of calculus.	UG	Lab
Fall 2017	MTH2300	2300	Calculus I	Mathematics	4	Examines limits, the derivative, differentiation, applications of the derivative, antiderivatives, Riemann sums, the definite integral. and the fundamental theorem of calculus.	UG	Lecture
Fall 2017	MTH2300	2300	Calculus I	Mathematics	4	Examines limits, the derivative, differentiation, applications of the derivative, antiderivatives, Riemann sums, the definite integral. and the fundamental theorem of calculus.	UG	Combination
Fall 2017	MTH2310	2310	Calculus II	Mathematics	4	Integration techniques, applications of the definite integral, first-order differential equations, vectors and vector operations, parametric equations and polar coordinates, infinite series.	UG	Lecture
Fall 2017	MTH2310	2310	Calculus II	Mathematics	4	Integration techniques, applications of the definite integral, first-order differential equations, vectors and vector operations, parametric equations and polar coordinates, infinite series.	UG	Lab
Fall 2017	MTH2310	2310	Calculus II	Mathematics	4	Integration techniques, applications of the definite integral, first-order differential equations, vectors and vector operations, parametric equations and polar coordinates, infinite series.	UG	Combination
Fall 2017	MTH2320	2320	Calculus III	Mathematics	4	Vector functions and their derivatives, motion in two and three dimensions, lines, planes, and parametric surfaces, spherical and cylindrical coordinates. Partial derivatives and multiple integrals in two and three dimensions. Vector fields, line and surface integrals. Green's, Divergence, and Stoke's theorems	UG	Lecture
Fall 2017	MTH2330	2330	Differential Equations	Mathematics	3	Elementary first order equations, linear equations, existence and uniqueness, phase line and plane, linear systems, Laplace transform, and applications.	UG	Lecture
Fall 2017	MTH2350	2350	Diff Eq with Matrices	Mathematics	4	Introduction to differential equations with matrix theory. Matrices, determinants, vector spaces, least squares solutions, eigenvalues/eigenvectors, matrix diagonalization; first order differential equations, second and higher order linear equations, forced oscillations, systems of linear differential equations, phase plane, and Laplace transforms	UG	Lecture

Fall 2017	MTH2410	2410	Math Concepts Teachr I	Mathematics	3	Overview of mathematical topics from a perspective appropriate for early and middle childhood educators. Number systems such as whole numbers, fractions, rationals and decimals. Place value and bases. The meaning of and algorithms for the operations of addition, subtraction, and multiplication.	UG	Lecture/Lab Combination
Fall 2017	MTH2430	2430	Math Concepts Teachr II	Mathematics	3	Overview of mathematical topics from a perspective appropriate for early and middle childhood educators. Prime numbers and factorization, the operation of division on whole and rational numbers, ratio and proportion, probability, and data analysis.	UG	Lecture/Lab Combination
Fall 2017	MTH2450	2450	Math Concepts Teachr III	Mathematics	3	Overview of mathematical topics from a perspective appropriate for early and middle childhood educators. Introductory geometry in two and three dimensions, transformational geometry, and concepts of measurement.	UG	Lecture/Lab Combination
Fall 2017	MTH2530	2530	Elementary Linear Alg	Mathematics	3	Matrices and their operations, linear systems of equations, Gaussian elimination, determinants, geometry of Euclidean space, vector spaces and subspaces, linear independence, basis, dimension and rank, orthogonality and the Gram-Schmidt process, linear transformations, eigenvalues and eigenvectors, and diagonalization.	UG	Lecture
Fall 2017	MTH2570	2570	Discrete Math Computing	Mathematics	4	Discrete mathematics useful in computing. Emphasis on mathematical induction, recurrence relations, asymptotic behavior of functions, and algorithm analysis.	UG	Lecture
Fall 2017	MTH2800	2800	Writing Math Proofs	Mathematics	3	Introduction to logic and techniques used in mathematical proofs. Students gain experience in constructing proofs as they study sets, relations, functions, algebraic structures, and the properties of real numbers. Integrated Writing course.	UG	Lecture
Fall 2017	MTH3060	3060	Mathematical Modeling	Mathematics	3	Introduction to mathematics as used in the real world. Graphical methods, curve-fitting, dimensional analysis, scaling, stability, growth, vibrations, circuits, probability, optimality, approximation, Monte Carlo simulation. Students will be encouraged to make creative use of mathematical and problem-solving skills, and asked to develop an original model.	UG	Lecture
Fall 2017	MTH3100	3100	Math Modeling Behav Sci	Mathematics	3	Differential equations, axiomatics, probability theory, matrix algebra, simulation, and game theory, and their use in a variety of models in the social sciences, life sciences, and humanities. Includes deterministic models, probabilistic models, simulations. Considers both discrete and continuous models.	UG	Lecture

Fall 2017	MTH3120	3120	Theory of Interest	Mathematics	4	Theory of financial transactions involving interests, annuities, derivatives, options and futures. Compound and simple rates of interest and discount, force of interest, annuity certain and annuity due, mortgage amortizations, evaluation of bonds, durations, asset and liability matching, cash flow analysis, short sales of stocks and options, arbitrage, and an introduction to risk management and immunization. Covers the SoA/CAS syllabus for the actuarial exam FM/2.	UG	Lecture
Fall 2017	MTH3140	3140	Mathematical Software	Mathematics	3	Solving scientific problems using computational software packages MATLAB and Mathematica, including procedural and functional programming.	UG	Lecture
Fall 2017	MTH3260	3260	Num Mthds Comput Sci	Mathematics	3	Numerical methods for the sciences using modern programming languages. Solution of linear and nonlinear equations, symmetric matrix eigenvalue problems, interpolation and least squares. Initial value and boundary value problems for representative systems governed by ordinary and partial differential equations are also solved numerically.	UG	Lecture
Fall 2017	MTH3320	3320	Complex Variables	Mathematics	3	Operations with complex numbers, derivatives, holomorphic functions and the Cauchy-Riemann equations. Integrals, Cauchy's Theorem, the Cauchy Integral Formula, and consequences. Definitions and properties of elementary functions. Power series, conformal maps, the calculus of residues.	UG	Lecture
Fall 2017	MTH3330	3330	Partial Differential Eq	Mathematics	3	Linear first order equations, method of characteristics. Classification of second order equations. Solution techniques for the heat equation, wave equation and Laplace's equation. Maximum principles. Green's functions and fundamental solutions.	UG	Lecture
Fall 2017	MTH3430	3430	Alg Func Mid Schl Tchr	Mathematics	4	Algebraic principles and linear, polynomial, rational, exponential, logarithmic, and trigonometric functions from a perspective appropriate for middle school teachers. Uses technology to explore how properties of functions appear in various representations.	UG	Lecture
Fall 2017	MTH3450	3450	Geometry Mid Schl Tchr	Mathematics	3	Two- and three-dimensional Euclidean geometry from a perspective appropriate for grade 4-10 teachers. Compass constructions, triangle congruence, postulates, Pythagorean Theorem, and proofs. Surface area and volume. Coordinate geometry applied to proofs and transformations.	UG	Lecture/Lab Combination
Fall 2017	MTH3480	3480	Calculus Mid Schl Tchr	Mathematics	3	Explores the big ideas in calculus -- limit, derivative, and integral -- with the goal of a solid conceptual understanding. Emphasizes applications, connections to algebra, and how these concepts appear in middle school math classrooms.	UG	Lecture/Lab Combination

Fall 2017	MTH3990	3990	Selected Topics in Math	Mathematics	1	Selected topics in mathematics.	UG	Independent Study
Fall 2017	MTH4070	4070	Optimization Techniques	Mathematics	3	Algorithms for optimizing real functions of several variables subject to equality and inequality constraints. Convexity properties of functions and sets, linear programming, simplex and interior point methods, integer programming, branch and bound algorithm, transportation problem, necessary and sufficient conditions for nonlinear function optimization, Newton and quasi-Newton methods, Lagrange multiplier conditions, Kuhn-Tucker conditions, dynamic programming.	UG	Lecture
Fall 2017	MTH4150	4150	Scientific Computation	Mathematics	3	Modern computational techniques for simulating scientific phenomena.	UG	Lecture
Fall 2017	MTH4240	4240	Coding Theory	Mathematics	3	Essentials of error-correcting codes, including methods for efficient and accurate transfer of information. Perfect and related codes, linear and cyclic codes, BCH codes, Reed-Muller codes, Reed-Solomon codes, Self-dual codes, weight enumerators and bounds.	UG	Lecture
Fall 2017	MTH4260	4260	Matrix Computations	Mathematics	3	Numerical linear algebra survey using high-level computing tools. Topics include linear equations, matrix factorizations, eigenvalue problems, least squares, applications of singular value decompositions, and iterative methods for large sparse matrices. Emphasizes conditioning of problems and accuracy and stability of algorithms.	UG	Lecture
Fall 2017	MTH4290	4290	Cryptography Data Secur	Mathematics	3	Mathematical principles of cryptography and data security. Introduces relevant algebra and number theory. Discusses developments in cryptography, including the data encryption standard (DES), public-key encryption (RSA), cryptographic hash functions, digital signatures, key safeguarding schemes, and cryptographic protocols such as key exchange and entity authentication, identification schemes, electronic elections and digital cash.	UG	Lecture
Fall 2017	MTH4310	4310	Real Variables I	Mathematics	3	The real number system, inequalities, completeness, limits, sequences and the Cauchy criterion, functions, continuity, differentiability, the mean value theorem, L'Hospital's rule, Taylor's theorem, the Riemann integral, fundamental theorem of calculus, approximate integration, improper integrals. Integrated Writing Course.	UG	Lecture
Fall 2017	MTH4320	4320	Real Variables II	Mathematics	3	Infinite series, sequences and series of functions, power series, Taylor series, uniform convergence, topology of $\mathbb{R}^n$ , real-valued and vector-valued functions of several variables, derivatives and integrals of functions of several variables.	UG	Lecture

Fall 2017	MTH4400	4400	History of Mathematics	Mathematics	3	Mathematics as an on-going human activity. Historical development and contributions from diverse cultures of number systems, measurement, algebra, Euclidean and non-Euclidean geometries, calculus, discrete mathematics, probability and statistics. Integrated Writing course.	UG	Lecture
Fall 2017	MTH4460	4460	Modeling Mid Schl Tchr	Mathematics	4	Learning to think quantitatively through solving pure and applied mathematics problems and modeling real world problems. Focuses on working with the steps involved in modeling real-life situations and understanding how modeling and problem solving differ.	UG	Lecture/Lab Combination
Fall 2017	MTH4510	4510	Modern Algebra I	Mathematics	3	Elementary number theory: divisibility, prime numbers, congruences, quadratic reciprocity, and number-theoretic functions. Introduction to rings, integral domains, and fields.	UG	Lecture
Fall 2017	MTH4520	4520	Modern Algebra II	Mathematics	3	Examples and elementary properties of abstract algebraic structures, including groups, rings, integral domains, and fields.	UG	Lecture
Fall 2017	MTH4550	4550	Advanced Linear Algebra	Mathematics	3	Basic principles of linear independence, spanning sets, bases, and dimension. Linear transformations, matrix representations of linear transformations, and determinants. Spectral theory of square matrices, Jordan canonical form. Perron-Frobenius results on positive matrices.	UG	Lecture
Fall 2017	MTH4570	4570	Combinatorics and Graphs	Mathematics	4	Permutations, combinatorics, generating functions, recurrence relations, and Polya's theory of counting; methods, results, and algorithms of graph theory, with emphasis on graphs as mathematical models applicable to organizational and industrial situations.	UG	Lecture
Fall 2017	MTH4710	4710	Geometry	Mathematics	3	Introduction to hyperbolic and other geometries.	UG	Lecture
Fall 2017	MTH4810	4810	Applied Mathematics I	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, and Poincare phase plane.	UG	Lecture
Fall 2017	MTH4820	4820	Applied Mathematics II	Mathematics	3	Use of integral transforms in the solution of differential and integral equations, Fourier series, Fourier and Laplace transforms, distributions, integral equations, Green's functions, Sturm-Liouville theory, perturbation methods and asymptotics, orthogonal functions, and special functions.	UG	Lecture
Fall 2017	MTH4880	4880	Independent Read Math	Mathematics	1	Selected readings in mathematics.	UG	Independent Study
Fall 2017	MTH4910	4910	HS Math Adv Perspective	Mathematics	3	Mathematics for high school teachers from an advanced perspective: real and complex numbers, functions, equations, integers and polynomials, number system structures. Integrated Writing course.	UG	Lecture



Fall 2017	MTH4920	4920	Mathematics Seminar	Mathematics	3	Detailed study of a single mathematics topic chosen by the student with the approval of the instructor. Integrated Writing course.	UG	Seminar
Fall 2017	MTH4990	4990	Selected Topics in Math	Mathematics	1	Selected topics in mathematics.	UG	Independent Study
Fall 2017	MTH5260	5260	Num Mthds Comput Sci	Mathematics	3	Numerical methods for the sciences using modern programming languages. Solution of linear and nonlinear equations, symmetric matrix eigenvalue problems, interpolation and least squares. Initial value and boundary value problems for representative systems governed by ordinary and partial differential equations are also solved numerically. <b> Department Managed Prerequisite(s): (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D) and (Undergraduate level MTH 2350 Minimum Grade of D or (Undergraduate level MTH 2330 Minimum Grade of D and	GR	Lecture
Fall 2017	MTH5320	5320	Complex Variables	Mathematics	3	Operations with complex numbers; derivatives; holomorphic functions and the Cauchy-Riemann equations; integrals; Cauchy's Theorem, the Cauchy Integral Formula, and consequences; definitions and properties of elementary functions; power series; conformal maps; the calculus of residues. <b> Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D </b>	GR	Lecture
Fall 2017	MTH5330	5330	Partial Differential Eq	Mathematics	3	Linear first order equations, method of characteristics. Classification of second order equations. Solution techniques for the heat equation, wave equation and Laplace's equation. Maximum principles. Green's functions and fundamental solutions. <b> Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D and (Undergraduate level MTH 2330 Minimum Grade of D or Undergraduate level MTH 2350 Minimum Grade of D) </b>	GR	Lecture
Fall 2017	MTH5990	5990	Selected Topics	Mathematics	1	Selected topics in mathematics. May be taken for letter grade or pass/unsatisfactory.	GR	Independent Study
Fall 2017	MTH6050	6050	Adv Engineering Math	Mathematics	3	Topics include eigenvalues and eigenvectors, matrix factorizations, Fourier series, analytical and numerical solutions to the three classical partial differential equations, and complex functions, integration, and series and residues. <b> Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D and (Undergraduate level MTH 2350 Minimum Grade of D or (Undergraduate level MTH 2330 Minimum Grade of D and Undergraduate level MTH 2520 Minimum Grade of D) </b>	GR	Lecture

Fall 2017	MTH6060	6060	Mathematical Modeling	Mathematics	3	An introduction to mathematics as it is used in the real world. Graphical methods, curve-fitting, dimensional analysis, scaling, stability, growth, vibrations, circuits, probability, optimality, approximation, Monte Carlo simulation. Students will be encouraged to make creative use of mathematical and problem-solving skills, and asked to develop an original model.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 2330 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D) or Undergraduate level MTH 2350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6070	6070	Optimization Techniques	Mathematics	3	Algorithms for optimizing real functions of several variables subject to equality and inequality constraints. Convexity properties of functions and sets, linear programming, simplex and interior point methods, integer programming, branch and bound algorithm, transportation problem, necessary and sufficient conditions for nonlinear function optimization, Newton and quasi-Newton methods, Lagrange multiplier conditions, Kuhn-Tucker conditions, dynamic programming.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level MTH 2520 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6140	6140	Mathematical Software	Mathematics	3	Solving scientific problems using computational software packages MATLAB and Mathematica, including procedural and functional programming.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 2330 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D) or Undergraduate level MTH 2350 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6150	6150	Scientific Computation	Mathematics	3	Modern computational techniques for simulating scientific phenomena.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 3140 Minimum Grade of D or Undergraduate level MTH 4160 Minimum Grade of D) and Undergraduate level MTH 3060 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6240	6240	Coding Theory	Mathematics	3	An introduction to the essentials of error-correcting codes, including methods for efficient and accurate transfer of information. Perfect and related codes, linear and cyclic codes, BCH codes, Reed-Muller codes, Reed-Solomon codes, Self-dual codes, weight enumerators and bounds.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D</b>	GR	Lecture

Fall 2017	MTH6260	6260	Matrix Computations	Mathematics	3	Numerical linear algebra survey using high-level computing tools. Topics include linear equations, matrix factorizations, eigenvalue problems, least squares, applications of singular value decompositions, and iterative methods for large sparse matrices. Conditioning of problems and accuracy and stability of algorithms are emphasized.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D and (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	MTH6290	6290	Cryptography Data Secur	Mathematics	3	Mathematical principles of cryptography and data security. Preliminary algebra and number theory will be briefly introduced. Various developments in cryptography will then be discussed, including the data encryption standard (DES), public-key encryption (RSA), cryptographic hash functions, digital signatures, key safeguarding schemes, and cryptographic protocols such as key exchange and entity authentication, identification schemes, electronic elections and digital cash.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6310	6310	Real Variables I	Mathematics	3	The real number system, inequalities, completeness, limits, sequences and the Cauchy criterion, functions, continuity, differentiability, the mean value theorem, L Hospital's rule, Taylor's theorem, the Riemann integral, fundamental theorem of calculus, approximate integration, improper integrals.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2800 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6320	6320	Real Variables II	Mathematics	3	infinite series, sequences and series of functions, power series, Taylor series, uniform convergence, topology of $\mathbb{R}^n$ , real-valued and vector-valued functions of several variables, derivatives and integrals of functions of several variables.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D and (Undergraduate level MTH 4310 Minimum Grade of D or Graduate level MTH 6310 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	MTH6510	6510	Modern Algebra I	Mathematics	3	Elementary number theory: divisibility, prime numbers, congruences, quadratic reciprocity, and number-theoretic functions. This provides an introduction to rings, integral domains, and fields.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2800 Minimum Grade of D</b>	GR	Lecture

Fall 2017	MTH6520	6520	Modern Algebra II	Mathematics	3 Examples and elementary properties of abstract algebraic structures: these include groups, rings, integral domains, and fields.<b> Department Managed Prerequisite(s): Undergraduate level MTH 4510 Minimum Grade of D or Graduate level MTH 6510 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6550	6550	Advanced Linear Algebra	Mathematics	3 Basic principles of linear independence, spanning sets, bases, and dimension. Linear transformations, matrix representations of linear transformations, and determinants. Spectral theory of square matrices, Jordan canonical form. Perron-Frobenius results on positive matrices.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D and Undergraduate level MTH 2800 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6570	6570	Combinatorics and Graphs	Mathematics	4 Topics include: permutations, combinatorics, generating functions, recurrence relations, and Polyas theory of counting; methods, results, and algorithms of graph theory, with emphasis on graphs as mathematical models applicable to organizational and industrial situations.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2310 Minimum Grade of D and (Undergraduate level CS 1160 Minimum Grade of D or Undergraduate level CS 1180 Minimum Grade of D or Undergraduate level CEG 2170 Minimum Grade of D)</b>	GR	Lecture
Fall 2017	MTH6710	6710	Geometry	Mathematics	3 Introduction to hyperbolic and other geometries.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2800 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6810	6810	Applied Mathematics I	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, and Poincare phase plane.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH6820	6820	Applied Mathematics II	Mathematics	3 Use of integral transforms in the solution of differential and integral equations, Fourier series, Fourier and Laplace transforms, distributions, integral equations, Green's functions, Sturm-Liouville theory, perturbation methods and asymptotics, orthogonal functions, and special functions.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 2320 Minimum Grade of D and Undergraduate level MTH 2530 Minimum Grade of D) or Graduate level MTH 6810 Minimum Grade of D</b>	GR	Lecture

Fall 2017	MTH6880	6880	Independent Reading	Mathematics	1	Selected readings in mathematics.	GR	Independent Study
Fall 2017	MTH6990	6990	Selected Topics	Mathematics	1	Selected topics in mathematics.	GR	Independent Study
Fall 2017	MTH7000	7000	Prof Experience Grad Stu	Mathematics	1	Participation in seminars related to teaching and research.	GR	Seminar
Fall 2017	MTH7160	7160	Numerical Analysis I	Mathematics	4	Solutions of systems of linear and nonlinear equations, numerical solution of matrix eigenvalue problems, interpolation and numerical integration, numerical solution of initial and boundary value problems for differential equations.<b> Department Managed Prerequisite(s): Graduate level MTH 6550 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH7170	7170	Numerical Analysis II	Mathematics	4	Finite difference and finite element methods for partial differential equations, including elliptic, parabolic and hyperbolic.<b> Department Managed Prerequisite(s): Graduate level MTH 5330 Minimum Grade of D and Graduate level MTH 6550 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH7310	7310	Real Analysis I	Mathematics	4	Cardinality of sets. Metric spaces, convergence, completeness, compactness. Fixed point Theorems. Spaces of continuous functions, Arzela-Ascoli Theorem, Stone-Weierstrass Theorem. Lebesgue measure and integration on $\mathbb{R}^n$ . Convergence theorems, Fubini's Theorem. $L_p$ spaces.<b> Department Managed Prerequisite(s): Undergraduate level MTH 4320 Minimum Grade of D or Graduate level MTH 6320 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH7320	7320	Real Analysis II	Mathematics	4	Hilbert spaces, Riesz representation theorem, orthonormal bases. Banach spaces, dual spaces, weak convergence. Bounded linear operators, adjoint operators, compact operators. Applications.<b> Department Managed Prerequisite(s): Graduate level MTH 7310 Minimum Grade of D</b>	GR	Lecture
Fall 2017	MTH7370	7370	Complex Analysis	Mathematics	4	Analytic functions, Cauchy-Riemann equations, Cauchy integral formula, Calculus of residues, Harmonic functions, Taylor series, Laurent series, Riemann Mapping Theorem<b> Department Managed Prerequisite(s): Undergraduate level MTH 4320 Minimum Grade of D or Graduate level MTH 6320 Minimum Grade of D</b>	GR	Lecture

Fall 2017	MTH7510	7510	Algebra I	Mathematics	4	Groups: isomorphism theorems, Jordan-Holder theorem, permutation groups, Sylow theorems, finitely generated Abelian groups, and free groups. Rings and Modules: homomorphisms, ideals, principal ideal domains, the Euclidean algorithm, unique factorization, radicals.	GR	Lecture
Fall 2017	MTH7520	7520	Algebra II	Mathematics	4	Rings and modules: Noetherian rings and modules, Artinian rings and modules, and Wedderburn-Artin structure theory. Field theory-simple extensions, Galois theory, solvability by radicals, cyclotomy, finite fields, and Wedderburn's theorem.	GR	Lecture
Fall 2017	MTH7710	7710	Topology	Mathematics	4	Topological spaces, continuous maps, open and closed maps, Connectedness, Separation Axioms, Convergence, Compactness, Homotopy, Basic concepts of algebraic topology.	GR	Lecture
Fall 2017	MTH7770	7770	Applied Analysis	Mathematics	4	Fixed point theorems and applications, Banach and Hilbert spaces and applications, compact operators, eigenvalues, eigenfunction expansions, Sturm-Liouville problems, inverse operators, variational methods, and basic approximate methods in analysis.	GR	Lecture
Fall 2017	MTH7920	7920	Special Problems	Mathematics	1	Examines a specific problem in advanced mathematics.	GR	Independent Study
Fall 2017	MTH7990	7990	Selected Topics	Mathematics	1	Selected topics in mathematics.	GR	Independent Study
Fall 2017	MTH8000	8000	Graduate Seminar	Mathematics	1	Seminar on selected advanced topics in mathematics.	GR	Seminar
Fall 2017	MTH8300	8300	Topics in Analysis	Mathematics	1	Selected advanced topic or topics in analysis.	GR	Independent Study
Fall 2017	MTH8500	8500	Topics in Algebra	Mathematics	1	Selected advanced topic or topics in algebra.	GR	Independent Study
Fall 2017	MTH8700	8700	Topics in Geometry	Mathematics	1	Selected advanced topic or topics in Geometry.	GR	Independent Study
Fall 2017	MTH8990	8990	Graduate Research	Mathematics	1	Research on a selected topic in mathematics.	GR	Independent Study

Fall 2017	MUA1100	1100	Applied Music	Music: Applied Music	1	Applied music instruction is available to the general student, regardless of major. Section number designates applied area. Audition required. Half-hour lesson only. Enrollment limited. Department permission required.	UG	Independent Study
Fall 2017	MUA1110	1110	Applied Music	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.	UG	Independent Study
Fall 2017	MUA1120	1120	Applied Music	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.	UG	Independent Study
Fall 2017	MUA1210	1210	Applied Music	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.	UG	Independent Study
Fall 2017	MUA1220	1220	Applied Music	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.	UG	Independent Study
Fall 2017	MUA1410	1410	Applied Music	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.	UG	Independent Study
Fall 2017	MUA1420	1420	Applied Music	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.	UG	Independent Study
Fall 2017	MUA2110	2110	Applied Music	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.	UG	Independent Study
Fall 2017	MUA2120	2120	Applied Music	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.	UG	Independent Study
Fall 2017	MUA2210	2210	Applied Music	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.	UG	Independent Study
Fall 2017	MUA2220	2220	Applied Music	Music: Applied Music	2	Open only to Music majors or minors. All students must have auditioned for and have received department approval before registering for applied music.	UG	Independent Study
Fall 2017	MUA2410	2410	Applied Music	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.	UG	Independent Study
Fall 2017	MUA2420	2420	Applied Music	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.	UG	Independent Study
Fall 2017	MUA3110	3110	Applied Music	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.	UG	Independent Study

Fall 2017	MUA3120	3120	Applied Music	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.	UG	Independent Study
Fall 2017	MUA3210	3210	Applied Music	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.	UG	Independent Study
Fall 2017	MUA3220	3220	Applied Music	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.	UG	Independent Study
Fall 2017	MUA3410	3410	Applied Music	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.	UG	Independent Study
Fall 2017	MUA3420	3420	Applied Music	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.	UG	Independent Study
Fall 2017	MUA3990	3990	Junior Recital	Music: Applied Music	1	A solo concert performance on the major instrument during the junior year.	UG	Independent Study
Fall 2017	MUA4110	4110	Applied Music	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.	UG	Independent Study
Fall 2017	MUA4120	4120	Applied Music	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.	UG	Independent Study
Fall 2017	MUA4210	4210	Applied Music	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.	UG	Independent Study
Fall 2017	MUA4220	4220	Applied Music	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.	UG	Independent Study
Fall 2017	MUA4410	4410	Applied Music	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.	UG	Independent Study
Fall 2017	MUA4420	4420	Applied Music	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.	UG	Independent Study
Fall 2017	MUA4990	4990	Senior Recital	Music: Applied Music	0	A solo concert performance on the major instrument during the senior year.	UG	Independent Study
Fall 2017	MUA7100	7100	Applied Music	Music: Applied Music	1	Open only to Graduate Students. All students must have auditioned for and have received departmental approval before registering for applied music.	GR	Independent Study
Fall 2017	MUA7200	7200	Applied Music	Music: Applied Music	2	Open only to Graduate Students. All students must have auditioned for and have received departmental approval before registering for applied music.	GR	Independent Study



Fall 2017	MUA7400	7400	Applied Music	Music: Applied Music	4	Open only to Graduate Students. All students must have auditioned for and have received departmental approval before registering for applied music.	GR	Independent Study
Fall 2017	MUE2050	2050	Chamber Music	Music: Ensembles	1	Small chamber ensembles of varying instrumentation. Audition required	UG	Lecture/Lab Combination
Fall 2017	MUE2440	2440	University Brass Choir	Music: Ensembles	1	A performance-oriented group which provides the student with chamber brass music experience. Students learn elements of ensemble execution, professionalism, brass music history, orchestral styles, and sound production. Audition required	UG	Lecture/Lab Combination
Fall 2017	MUE2450	2450	Collegium Musicum	Music: Ensembles	1	Collegium Musicum is the generic term for an instrumental and vocal ensemble devoted to the study and performance of early music written before 1750. One period (Medieval, Renaissance, Baroque) will be emphasized each term.	UG	Lecture/Lab Combination
Fall 2017	MUE2460	2460	University Saxophone Quartet	Music: Ensembles	1	Performs saxophone quartet repertoire ranging from classic to jazz to contemporary. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2480	2480	University Clarinet Choir	Music: Ensembles	1	Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.	UG	Lecture/Lab Combination
Fall 2017	MUE2490	2490	Chamber Players	Music: Ensembles	1	Exploration of performance repertoire composed expressly for small wind ensemble. Works by such composers as Mozart, Strauss, Dvorak, Beethoven, and Stravinsky. Consent of conductor and student's applied instructor required.	UG	Lecture/Lab Combination
Fall 2017	MUE2500	2500	Symphonic Band	Music: Ensembles	1	Performs band music of all styles. Open to all students, each semester, with intermediate to advanced experience. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2660	2660	Concert Band	Music: Ensembles	1	Performs band music of all styles. Open to all students without audition.	UG	Lecture/Lab Combination
Fall 2017	MUE2670	2670	Pep Band	Music: Ensembles	1	Performs jazz, rock, and contemporary music at all home basketball games and for other campus activities. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2680	2680	Jazz Band	Music: Ensembles	1	A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2690	2690	Wind Symphony	Music: Ensembles	1	The university's most select symphonic band organization, this ensemble performs compositions ranging from traditional classics to innovative contemporary literature, including transcriptions and original works. Audition and instructor permission required	UG	Lecture/Lab Combination
Fall 2017	MUE2700	2700	Univ Symphony Orchestra	Music: Ensembles	1	Performs orchestral music of all styles and periods.	UG	Lecture/Lab Combination

Fall 2017	MUE2770	2770	Chamber Orchestra	Music: Ensembles	1	Instrumental ensemble, consisting primarily of strings and varying combinations of wind and percussion instruments, devoted to the study and performance of music written for that medium.	UG	Lecture/Lab Combination
Fall 2017	MUE2900	2900	University Chorus	Music: Ensembles	1	Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2920	2920	Vocal Jazz Ensemble	Music: Ensembles	1	Development of performance skills in vocal jazz. Emphasis on jazz style and techniques, improvisation, and jazz theory. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2930	2930	University Men's Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2940	2940	University Women's Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2950	2950	Chamber Singers	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE2970	2970	Paul L. Dunbar Chorale	Music: Ensembles	1	A choral ensemble for students who desire to explore the musical style of gospel music and its roots and various forms. Includes performances of a body of literature associated with the African American church to the university and surrounding communities	UG	Lecture/Lab Combination
Fall 2017	MUE2990	2990	Collegiate Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral concert repertoire representing a wide range of historical and compositional styles. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4050	4050	Chamber Music	Music: Ensembles	1	Small chamber ensembles of varying instrumentation. Audition required	UG	Lecture/Lab Combination
Fall 2017	MUE4440	4440	University Brass Choir	Music: Ensembles	1	A performance-oriented group which provides students with chamber brass music experience. Students learn elements of ensemble execution, professionalism, brass music history, orchestral styles, and sound production. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4450	4450	Collegium Musicum	Music: Ensembles	1	Collegium Musicum is the generic term for an instrumental and vocal ensemble devoted to the study and performance of early music written before 1750. One period (Medieval, Renaissance, Baroque) will be emphasized each term.	UG	Lecture/Lab Combination
Fall 2017	MUE4460	4460	University Saxophone Quartet	Music: Ensembles	1	Performs saxophone quartet repertoire ranging from classic to jazz to contemporary. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4480	4480	University Clarinet Choir	Music: Ensembles	1	Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.	UG	Lecture/Lab Combination

Fall 2017	MUE4490	4490	Chamber Players	Music: Ensembles	1	Exploration and performance of compositions for small wind ensemble (usually 8 to 16 players). Typical repertoire may include works by Gabrieli, Mozart, Beethoven, Schubert, Dvorak, Strauss, or others. The ensemble functions according to a player pool concept, utilizing instrumental forces as needed for various works. Audition and instructor permission required	UG	Lecture/Lab Combination
Fall 2017	MUE4500	4500	Symphonic Band	Music: Ensembles	1	Performs band music of all styles. Open to all students with intermediate to advanced experience. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4660	4660	Concert Band	Music: Ensembles	1	Performs band music of all styles. Open to all students without audition.	UG	Lecture/Lab Combination
Fall 2017	MUE4670	4670	Pep Band	Music: Ensembles	1	Performs jazz, rock, and contemporary music at all home basketball games and for other campus activities. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4680	4680	Jazz Band	Music: Ensembles	1	A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4690	4690	Wind Symphony	Music: Ensembles	1	The university's most select symphonic band organization, this ensemble performs compositions ranging from traditional classics to innovative contemporary literature, including transcriptions and original works. Audition and instructor permission required	UG	Lecture/Lab Combination
Fall 2017	MUE4700	4700	Univ Symphony Orchestra	Music: Ensembles	1	Performs orchestral music of all styles and periods.	UG	Lecture/Lab Combination
Fall 2017	MUE4770	4770	Chamber Orchestra	Music: Ensembles	1	Instrumental ensemble, consisting primarily of strings and varying combinations of wind and percussion instruments, devoted to the study and performance of music written for that medium. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4900	4900	University Chorus	Music: Ensembles	1	Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4920	4920	Vocal Jazz Ensemble	Music: Ensembles	1	Development of performance skills in vocal jazz. Emphasis on jazz style and techniques, improvisation, and jazz theory. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4930	4930	University Men's Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4940	4940	University Women's Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4950	4950	Chamber Singers	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.	UG	Lecture/Lab Combination

Fall 2017	MUE4970	4970	Paul L. Dunbar Chorale	Music: Ensembles	1	A choral ensemble exploring the musical style of gospel music and its roots and various forms. Includes on- and off-campus performances of a body of literature associated with the African American church. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE4990	4990	Collegiate Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral concert repertoire representing a wide range of historical and compositional styles. Audition required.	UG	Lecture/Lab Combination
Fall 2017	MUE6050	6050	Chamber Music	Music: Ensembles	1	Small chamber ensembles of varying instrumentation. Audition required	GR	Lecture/Lab Combination
Fall 2017	MUE6440	6440	University Brass Choir	Music: Ensembles	1	A performance-oriented group which provides students with chamber brass music experience. Students learn elements of ensemble execution, professionalism, brass music history, orchestral styles, and sound production. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6450	6450	Collegium Musicum	Music: Ensembles	1	Collegium Musicum is the generic term for an instrumental and vocal ensemble devoted to the study and performance of early music written before 1750. One period (Medieval, Renaissance, Baroque) will be emphasized each term.	GR	Lecture/Lab Combination
Fall 2017	MUE6460	6460	Univ Saxophone Quartet	Music: Ensembles	1	Performs saxophone quartet repertoire ranging from classic to jazz to contemporary. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6480	6480	Univ Clarinet Choir	Music: Ensembles	1	Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.	GR	Lecture/Lab Combination
Fall 2017	MUE6490	6490	Chamber Players	Music: Ensembles	1	Exploration and performance of compositions for small wind ensemble (usually 8 to 16 players). Typical repertoire may include works by Gabrieli, Mozart, Beethoven, Schubert, Dvorak, Strauss, or others. The ensemble functions according to a player pool concept, utilizing instrumental forces as needed for various works. Audition and instructor permission required.	GR	Lecture/Lab Combination
Fall 2017	MUE6500	6500	Symphonic Band	Music: Ensembles	1	Performs band music of all styles. Open to all students, each semester, with intermediate to advanced experience. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6660	6660	Concert Band	Music: Ensembles	1	Performs band music of all styles. Open to all students without audition.	GR	Lecture/Lab Combination
Fall 2017	MUE6670	6670	Pep Band	Music: Ensembles	1	Performs jazz, rock, and contemporary music at all home basketball games and for other campus activities. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6680	6680	Jazz Band	Music: Ensembles	1	A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.	GR	Lecture/Lab Combination

Fall 2017	MUE6690	6690	Wind Symphony	Music: Ensembles	1	The university's most select symphonic band organization, this ensemble performs compositions ranging from traditional classics to innovative contemporary literature, including transcriptions and original works. Audition and instructor permission required.	GR	Lecture/Lab Combination
Fall 2017	MUE6700	6700	Univ Symphony Orchestra	Music: Ensembles	1	Performs orchestral music of all styles and periods.	GR	Lecture/Lab Combination
Fall 2017	MUE6770	6770	Chamber Orchestra	Music: Ensembles	1	Instrumental ensemble, consisting primarily of strings and varying combinations of wind and percussion instruments, devoted to the study and performance of music written for that medium.	GR	Lecture/Lab Combination
Fall 2017	MUE6900	6900	University Chorus	Music: Ensembles	1	Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6920	6920	Vocal Jazz Ensemble	Music: Ensembles	1	Development of performance skills in vocal jazz. Emphasis on jazz style and techniques, improvisation, and jazz theory. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6930	6930	University Men's Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6940	6940	Univ Women's Chorale	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6950	6950	Chamber Singers	Music: Ensembles	1	Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUE6970	6970	Paul L Dunbar Chorale	Music: Ensembles	1	A choral ensemble for students who desire to explore the musical style of gospel music and its roots and various forms. Includes performances of a body of literature associated with the African American church to the university and surrounding communities.	GR	Lecture/Lab Combination
Fall 2017	MUE6990	6990	Collegiate Chorale	Music: Ensembles	1	Development of choral and vocal skills. Emphasis on advanced choral concert repertoire representing a wide range of historical and compositional styles. Audition required.	GR	Lecture/Lab Combination
Fall 2017	MUS1000	1000	Recitals	Music	0	Attendance at concerts, recitals and other performances	UG	Lab
Fall 2017	MUS1010	1010	Theory of Music I	Music	3	Theoretical study of music through written exercises including melody, harmony, rhythm, form and analysis.	UG	Lecture
Fall 2017	MUS1020	1020	Theory of Music II	Music	3	Theoretical study of music through written exercises including melody, harmony, rhythm, form and analysis.	UG	Lecture
Fall 2017	MUS1110	1110	Vocal Technique and Diction	Music	1	Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy.	UG	Lecture

Fall 2017	MUS1120	1120	Vocal Technique and Diction	Music	1	Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy.	UG	Lecture
Fall 2017	MUS1140	1140	Fundamentals of Music Theory	Music	3	Study of basic materials, notation, and reading of music for students with little or no previous music training.	UG	Lecture
Fall 2017	MUS1170	1170	Jazz History and Music	Music	3	Historical survey of jazz and related styles from the late 19th century to the present.	UG	Lecture
Fall 2017	MUS1180	1180	Popular Musical Theatre	Music	3	Survey of popular musical theatre from its origin in classic comic opera to the present. Emphasis on the Broadway musical since the 1940s.	UG	Lecture
Fall 2017	MUS1210	1210	Music Listening	Music	3	Listening skills and aural analysis through musical examples from a variety of periods and cultures. Principal styles, genres, and composers of Western music from the Middle Ages to the present.	UG	Lecture
Fall 2017	MUS1310	1310	Beg Guitar Class I	Music	1	Focuses on the development of good playing habits through melody and chord playing. Tuning, care of the guitar, and tablature reading covered, various guitar styles demonstrated. Students provide own instruments. Electric guitars not suitable.	UG	Lecture
Fall 2017	MUS1320	1320	Beg Guitar Class II	Music	1	Based on technique covered in MUS 1310, this class concentrates on note-reading, more chords, and accompaniment styles.	UG	Lecture
Fall 2017	MUS1350	1350	Guitar Pedagogy	Music	1	The study of materials, equipment, and class instruction on guitar for the elementary teacher.	UG	Lecture
Fall 2017	MUS1450	1450	Vocal Ped & Choral Meth	Music	1	An overview of vocal technique, literature, and performance for the instrumental music education major.	UG	Lecture
Fall 2017	MUS1510	1510	Musicianship I	Music	1	The study of sight singing and techniques for hearing and notating melody and harmony.	UG	Lecture
Fall 2017	MUS1520	1520	Musicianship II	Music	1	The study of sight singing and techniques for hearing and notating melody and harmony.	UG	Lecture
Fall 2017	MUS1550	1550	Keyboard Musicianship I	Music	1	Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces.	UG	Lecture
Fall 2017	MUS1560	1560	Keyboard Musicianship II	Music	1	Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces.	UG	Lecture
Fall 2017	MUS1990	1990	Intro to Music Educ	Music	2	Introduction to the social, historical and philosophical foundations of music education. Overview of the music teaching profession, including basic terminology, necessary skills and dispositions, curricular issues, and instructional procedures.	UG	Lecture

Fall 2017	MUS2010	2010	Theory of Music III	Music	3	Continuation of MUS 1010 and 1020. Part-writing, analysis, and harmony on a more advanced level.	UG	Lecture
Fall 2017	MUS2020	2020	Theory of Music IV	Music	3	Continuation of MUS 1010 and 1020. Part-writing, analysis, and harmony on a more advanced level.	UG	Lecture
Fall 2017	MUS2140	2140	Music in Western Culture	Music	3	Introduction to the music of Western culture from the Middle Ages to the present. Emphasis on listening skills; elements of music; major styles, genres, and composers; and cultural context.	UG	Lecture
Fall 2017	MUS2150	2150	Upper Strings Pedagogy	Music	1	The study of materials, equipment, and class instruction in basic playing and teaching violin and viola.	UG	Lecture
Fall 2017	MUS2160	2160	Lower Strings Pedagogy	Music	1	The study of materials, equipment, and class instruction in basic playing and teaching cello and string bass.	UG	Lecture
Fall 2017	MUS2170	2170	Orch. Strings and Guitar	Music	1	The study of materials, equipment, and class instruction in basic playing and teaching string instruments and use of guitar in the elementary classroom.	UG	Lecture/Lab Combination
Fall 2017	MUS2230	2230	Brass Pedagogy	Music	1	Develops an understanding of brass playing techniques and related pedagogy, with special attention to beginning-level instruction.	UG	Lecture
Fall 2017	MUS2250	2250	Orchestral Strings Ped.	Music	1	This course will provide future instrumental music education majors with practical and artistic application, pedagogical techniques, methods, knowledge and literature for the elementary and secondary string program.	UG	Lecture/Lab Combination
Fall 2017	MUS2260	2260	Band Methods-Voice/Str.	Music	1	The course is designed to give vocal and string music education majors a foundation in wind and percussion pedagogy, band teaching techniques, methodology, and resources.	UG	Lecture/Lab Combination
Fall 2017	MUS2270	2270	Woodwind Pedagogy	Music	1	The study of materials, equipment, and class instruction in playing and teaching woodwind instruments in public school.	UG	Lecture
Fall 2017	MUS2310	2310	Percussion Pedagogy	Music	1	Class instruction. Materials and pedagogy.	UG	Lecture
Fall 2017	MUS2420	2420	Comp NW Culture: Music	Music	3	Introduction to the music and cultural diversity and uniqueness of selected areas of the globe. Study of indigenous folk music and instruments of Asia, India, Africa, North America, Central and southeast Europe. Credit will not be given for MUS 2420 Comparative Nonwestern Cultures: Music for students who have already successfully completed CST 2420 Comparative Nonwestern Cultures: Music. Integrated Writing course.	UG	Lecture
Fall 2017	MUS2510	2510	Musicianship III	Music	1	Continuation of MUS 1520.	UG	Lecture
Fall 2017	MUS2520	2520	Musicianship IV	Music	1	Continuation of MUS 2510.	UG	Lecture
Fall 2017	MUS2550	2550	Piano for Music Ed I	Music	1	Class instruction in functional keyboard skills. Continuation of MUS 1560. Special emphasis on skills needed for vocal/choral music education	UG	Lecture

Fall 2017	MUS2560	2560	Piano Music Education II	Music	1	Class instruction in functional keyboard skills.	UG	Lecture/Lab Combination
Fall 2017	MUS2610	2610	French Diction	Music	2	For students of singing. Application of the International Phonetic Alphabet to French. Includes intensive readings of song lyrics.	UG	Lecture
Fall 2017	MUS2620	2620	German Diction	Music	2	For students of singing. Application of the International Phonetic Alphabet to German. Includes intensive readings of song lyrics.	UG	Lecture
Fall 2017	MUS2810	2810	Jazz Improvisation	Music	1	Basic fundamental scales and principles associated with the jazz tradition. Includes the study and performance of the blues, minor pentatonic, minor seventh, and major scales.	UG	Lecture
Fall 2017	MUS2900	2900	African American Music	Music	3	Survey of the development of African American music from a historical, sociological, and cultural perspective. Analysis of the genres, influences, and impact on American and world culture. Integrated Writing course.	UG	Lecture
Fall 2017	MUS3110	3110	History of Music I	Music	3	History of western art music from ancient Greece to 1750. Integrated Writing course.	UG	Lecture
Fall 2017	MUS3120	3120	History of Music II	Music	3	History of western art music from 1750 to the present. Integrated Writing course.	UG	Lecture
Fall 2017	MUS3230	3230	Basic Conducting	Music	2	Basic baton technique and score reading for choral and instrumental conducting.	UG	Lecture
Fall 2017	MUS3240	3240	Band Conducting	Music	2	Practical applications of conducting, teaching, and rehearsing in actual conducting situations with live instrumental performers.	UG	Lecture
Fall 2017	MUS3250	3250	Choral Conducting	Music	2	Practical applications of conducting, teaching, and rehearsing in actual conducting situations with live performers.	UG	Lecture
Fall 2017	MUS3260	3260	Orchestral Conducting	Music	2	Practical applications of conducting, teaching, and rehearsing in actual conducting situations with live orchestral performers.	UG	Lecture
Fall 2017	MUS3270	3270	March Band/Jazz Ens Meth	Music	2	Methodology, techniques, and strategies required for success with marching band and jazz ensemble.	UG	Lecture
Fall 2017	MUS3280	3280	Con Band Music Ed Meth	Music	1	Teaches students the methodology, techniques, and strategies that will make them successful with elementary, middle and high school concert band programs.	UG	Lecture
Fall 2017	MUS3280L	3280L	Adv Band Cond Lab	Music	1	Builds upon the previously gained conducting experiences and knowledge.	UG	Lecture/Lab Combination
Fall 2017	MUS3290	3290	Choral Music Ed Meth I	Music	1	This course is designed to enable the choral music education student to be successful as a teacher/conductor at all levels, with a primary focus on the elementary and middle school choral music setting.	UG	Lecture
Fall 2017	MUS3290L	3290L	Adv Choral Cond Lab I	Music	1	Builds upon the previously gained conducting experiences and knowledge.	UG	Lecture/Lab Combination
Fall 2017	MUS3300	3300	Choral Music Ed Meth II	Music	1	This course is designed to enable the choral music education student to be successful as a teacher/conductor at all levels, with a primary focus on the junior/senior high school.	UG	Lecture



Fall 2017	MUS3300L	3300L	Adv Choral Cond Lab I	Music	1	Builds upon the previously gained conducting experiences and knowledge.	UG	Lecture/Lab Combination
Fall 2017	MUS3310	3310	Orchestra Music Ed Meth	Music	1	The course will teach students the methodology, techniques, and strategies that will make them successful with elementary, middle and high school orchestra programs	UG	Lecture
Fall 2017	MUS3310L	3310L	Adv Orch Cond Lab	Music	1	Builds upon the previously gained conducting experiences and knowledge.	UG	Lecture/Lab Combination
Fall 2017	MUS3340	3340	Music in the Elementary	Music	3	Materials, techniques, organization, and administration of vocal and general music programs in the public school. Reading components and teaching strategies included.	UG	Lecture
Fall 2017	MUS3420	3420	Form and Analysis	Music	3	Harmonic and formal analysis: motive, phrase, periods, and binary and ternary forms.	UG	Lecture
Fall 2017	MUS3430	3430	Orchestration/Vocal Arr	Music	3	A study of tone quality, ranges, and transpositions of band and orchestral instruments; voice qualities and ranges of choral ensembles; orchestration and arranging techniques; and written assignments in each area.	UG	Lecture
Fall 2017	MUS3550	3550	Keyboard Musicianship	Music	1	This course provides vocal performance education majors with functional and technical keyboard skills.	UG	Lecture
Fall 2017	MUS3560	3560	Keyboard Musicianship	Music	1	Provides vocal performance education majors with functional and technical keyboard skills.	UG	Lecture
Fall 2017	MUS3650	3650	Mthds & Mtrls Music K-6	Music	3	Materials and methods for teaching general music in grades K-6. Laboratory session required in addition to regular class meeting times to develop skills in sight singing and in the use of traditional classroom instruments.	UG	Lecture/Lab Combination
Fall 2017	MUS3710	3710	Composition I	Music	3	Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style.	UG	Lecture
Fall 2017	MUS3720	3720	Composition II	Music	3	Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style.	UG	Lecture
Fall 2017	MUS4010	4010	Teach Mus In Plur Soc	Music	3	Orientation to teaching in a pluralistic society and awareness of the total global community. Examination of social and philosophical foundations as they relate to teaching music in diverse settings and situations.	UG	Lecture
Fall 2017	MUS4140	4140	Intro to Research in Mus	Music	3	Methods of scholarly investigation in music history, theory, and education; music bibliography; emphasis on individual projects and reports.	UG	Lecture
Fall 2017	MUS4160	4160	Piano Pedagogy	Music	3	Offers a historical overview of keyboard pedagogy and examines anthologies, collections, and studies written for piano students at various performance levels.	UG	Lecture

Fall 2017	MUS4200	4200	Opera Production and Coaching	Music	2	For advanced singers in the production of opera; culminates in public performance. Individual coaching for major role assignment. Study and involvement in technical areas of production: set design, building, properties, and costumes. May include participation in Dayton Opera productions.	UG	Lecture/Lab Combination
Fall 2017	MUS4300	4300	Improving Rdg-Mus Cntnt Area	Music	3	Provides multi-age music teachers with reading and writing strategies to help solve problems encountered in grades K-12. Language art skills and strategies are taught to help students communicate more effectively across the curriculum.	UG	Lecture
Fall 2017	MUS4360	4360	Counterpoint	Music	3	Introduction to contrapuntal techniques. Exercises in species counterpoint, imitation and fugal devices. Analysis of examples from the Renaissance to the 20th century.	UG	Lecture
Fall 2017	MUS4410	4410	Lecture Recital	Music	1	Public performance and lecture on a topic relevant to the performer.	UG	Lecture/Recitation Combination
Fall 2017	MUS4420	4420	Pedagogy	Music	1	Fundamental problems involved in studio teaching. Critical analysis of teaching materials. Observation and practice in private teaching required.	UG	Independent Study
Fall 2017	MUS4430	4430	Vocal Pedagogy	Music	2	Familiarizes with physiological and psychological aspects of voice so they will better understand their own instruments and will be better equipped to teach others.	UG	Lecture
Fall 2017	MUS4460	4460	Medieval & Renaissance Music	Music	3	Study of music and critical analysis of representative works from major composers of Medieval and Renaissance music.	UG	Lecture
Fall 2017	MUS4470	4470	Baroque Music	Music	3	Study of music and critical analysis of representative works from major composers of the Baroque period.	UG	Lecture
Fall 2017	MUS4480	4480	Classic and Romantic Music	Music	3	Study of music and critical analysis of representative works from major composers of Classical and Romantic music.	UG	Lecture
Fall 2017	MUS4490	4490	Music Since 1900	Music	3	Study of music and critical analysis of representative works from major composers of music written after 1900.	UG	Lecture
Fall 2017	MUS4510	4510	Piano Literature I	Music	3	A survey of the literature of the piano and its predecessors--clavichord, harpsichord, and the pianoforte--from the early English Virginal music to the present time.	UG	Lecture
Fall 2017	MUS4520	4520	Piano Literature II	Music	3	A survey of the literature of the piano and its predecessors--clavichord, harpsichord, and the pianoforte--from the early English Virginal music to the present time.	UG	Lecture
Fall 2017	MUS4550	4550	Vocal Literature I	Music	2	Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie, and English and American art songs.	UG	Lecture
Fall 2017	MUS4560	4560	Vocal Literature II	Music	3	Survey of vocal literature from the 18th through the 20th century emphasizing opera and oratorio.	UG	Lecture

Fall 2017	MUS4650	4650	Computer Applications in Music	Music	2	Study of computer technology and music software applications. Emphasis is placed upon using MIDI for electronic score notation, sequencing, and basic courseware design.	UG	Lecture
Fall 2017	MUS4800	4800	Workshops in Music	Music	1	Selected special topics or problems in music or special areas of music teaching. Titles vary.	UG	Lecture
Fall 2017	MUS4810	4810	Adv Studies in Spec Subjects	Music	1	Directed research.	UG	Independent Study
Fall 2017	MUS6010	6010	Intro Grad Studies-Music	Music	3	Methods of scholarly investigation in music history, theory, and education; music bibliography; emphasis on individual projects and reports.	GR	Lecture
Fall 2017	MUS6020	6020	Intro Res In Music Ed	Music	3	A comprehensive introduction to research in Music Education and its value and contribution to the development of historical data, pedagogy, ethnographic research and understanding of contemporary issues in music instruction and performance.	GR	Lecture
Fall 2017	MUS6160	6160	Piano Pedagogy	Music	3	Class offers a historical overview of keyboard pedagogy and examines anthologies, collections, and studies written for piano students at various performance levels.	GR	Lecture
Fall 2017	MUS6200	6200	Opera Prod and Coaching	Music	2	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 2017	MUS6360	6360	Counterpoint	Music	3	Introduction to contrapuntal techniques. Exercises in species counterpoint, imitation and fugal devices. Analysis of examples from Renaissance to the 20th century.	GR	Lecture
Fall 2017	MUS6430	6430	Vocal Pedagogy	Music	3	This course is designed to make students familiar with physiological and psychological aspects of voice so they will better understand their own instruments and will be better equipped to teach others.	GR	Lecture
Fall 2017	MUS6460	6460	Medieval & Renaissance	Music	3	Study of music and critical analysis of representative works from major composers of Medieval and Renaissance music.	GR	Lecture
Fall 2017	MUS6470	6470	Baroque Music	Music	3	Study of music and critical analysis of representative works from major composers of the Baroque period.	GR	Lecture
Fall 2017	MUS6480	6480	Classic & Romantic Music	Music	3	Study of music and critical analysis of representative works from major composers of Classical and Romantic music.	GR	Lecture
Fall 2017	MUS6490	6490	Music Since 1900	Music	3	Study of music and critical analysis of representative works from major composers of music written after 1900.	GR	Lecture
Fall 2017	MUS6510	6510	Piano Literature I	Music	3	A survey of the literature of the piano and its predecessors--clavichord, harpsichord, and the pianoforte--from early English Virginal Music to the present time.	GR	Lecture

Fall 2017	MUS6520	6520	Piano Literature II	Music	3	A survey of the literature of the piano and its predecessors--clavichord, harpsichord, and the pianoforte--from early English Virginal music to the present time.	GR	Lecture
Fall 2017	MUS6550	6550	Vocal Literature I	Music	2	Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie. English and American art songs.	GR	Lecture
Fall 2017	MUS6560	6560	Vocal Literature II	Music	3	Survey of vocal literature from the 18th through the 20th century emphasizing opera, and oratorio.	GR	Lecture
Fall 2017	MUS6650	6650	Computer App in Music	Music	3	Study of computer technology and music software applications. Emphasis is placed upon using MIDI for electronic score notation, sequencing, and basic courseware design.	GR	Lecture
Fall 2017	MUS6800	6800	Workshops in Music	Music	1	Selected topics or problems in music, or special areas of music teaching. Titles vary.	GR	Lecture
Fall 2017	MUS6810	6810	Adv Studies in Spec Subj	Music	1	Studies in selected subjects.	GR	Independent Study
Fall 2017	MUS7040	7040	Found & Prin of Mus Ed	Music	3	Historical, philosophical, and psychological foundations of music education. Principles applied to theoretical and practical problems of music education.	GR	Lecture
Fall 2017	MUS7180	7180	Music and the Humanities	Music	3	This course explores relationships between music and the other arts, especially visual art and literature.	GR	Lecture
Fall 2017	MUS7330	7330	Analytical Techniques I	Music	3	Presentation of materials to help students develop skills to analyze core works in the Western musical tradition from the early Medieval period through the early Classical period.	GR	Lecture
Fall 2017	MUS7340	7340	Analytical Techniques II	Music	3	Analytical study of representative compositions of the Classical and Romantic periods.	GR	Lecture
Fall 2017	MUS7800	7800	Graduate Pedagogy	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	Independent Study
Fall 2017	MUS7890	7890	Continuing Registration	Music	1	Registration for graduate students to maintain graduate status while completing requirements other than required courses.	GR	Independent Study
Fall 2017	MUS7990	7990	Thesis in Music	Music	1	Scholarly document related to research connected to the student's area of specialty. Required by the Master's of Music degree in Music Education, Thesis Option.	GR	Independent Study
Fall 2017	MUS7995	7995	Perf. Document/Recital	Music	1	Work on the capstone experience in the Master of Music in Performance degree, and in the recital option of the Master of Music in Music Education degree. Includes preparation and performance of a performance recital and an accompanying scholarly document relating to research connected to the performance recital.	GR	Independent Study

Fall 2017	NCP3330	3330	Neuroscience Today	Neuroscience, Cell Bio & Phys	2	Introduction to contemporary neuroscience. Brain function and dysfunction underlying motor, sensory and other brain-derived processes.	UG	Lecture
Fall 2017	NEU1000	1000	Intro to Neuro Research	Neuroscience	1	Introduction to the primary neuroscience literature. Students will learn how to search for articles and begin to analyze the different components of them.	UG	Lecture
Fall 2017	NEU2000	2000	Intro Neuro Prog Majors	Neuroscience	1	Undergraduate neuroscience majors will learn about various resources and expectations that will aid their academic and future career success. Students will also be introduced to the neuroscience community at Wright State University.	UG	Lecture
Fall 2017	NEU3100	3100	How Nervous Sys Works I	Neuroscience	4	An in-depth exposure to how the nervous system works at the single neuron and simple circuit level. Topics include passive and active membrane properties, synaptic function, and information processing.	UG	Lecture/Lab Combination
Fall 2017	NEU3200	3200	How Nerv Sys Works II	Neuroscience	4	How the nervous system works among and between neural networks to elicit behavioral responses to external and internal stimuli. Topics will include 1) how the brain interacts with the world, 2) higher levels of interaction, and 3) motivated behaviors.	UG	Lecture/Lab Combination
Fall 2017	NEU3400	3400	Adv Neuro Lab Tech Micro	Neuroscience	4	How microscopes work. Techniques and skills necessary for preparing tissue for imaging. Optimizing images for visualization and quantification.	UG	Lecture/Lab Combination
Fall 2017	NEU4020	4020	Sr Cap Neuro Lab Res	Neuroscience	1	Senior neuroscience majors will write a scientific research article encompassing the neuroscience research they have done and deliver an oral presentation summarizing their research project. Senior standing.	UG	Independent Study
Fall 2017	NEU4030	4030	Sr Cap Neuro Lit Res	Neuroscience	1	Senior Neuroscience majors will select a neuroscience topic, critically analyze the scientific literature associated with it, and write a scientific review article on the study of that topic.	UG	Independent Study
Fall 2017	NEU4040	4040	Sr Cap Neuro Grant Dev	Neuroscience	1	Senior neuroscience majors will develop a grant proposal on a neuroscience topic that could push the field forward. Students will prepare a written grant proposal and deliver an oral presentation summarizing their proposal.	UG	Independent Study
Fall 2017	NEU4990	4990	Ind Research Neurosci	Neuroscience	1	Students will actively participate in neuroscience research opportunities and gain proficiency in techniques used to study various aspects of neuroscience. Junior or Senior standing.	UG	Independent Study
Fall 2017	NUR2100	2100	Hlth Pro & Assess Adults	Nursing	3	Incorporates self-directed activities to promote maximum health in self and others. Development of a systematic approach to obtaining a complete health history and performing physical assessment to determine health and illness in adults. 2 cr. Didactic; 1 cr. Assessment lab (2 hrs per week)	UG	Lecture
Fall 2017	NUR2100 L	2100L	Hlth Pro & Assess Adults Lab	Nursing	0	Required laboratory for NUR 2100.	UG	Lab

Fall 2017	NUR2124	2124	Nur for Unlicensed HC	Nursing	1	Introduces non-Registered Nurse healthcare personnel to the role of the professional nurse; introduction to nursing theories with emphasis on interprofessional, intraprofessional, and patient-centered communication skills and critical reasoning in the application of nursing process. Includes laboratory and clinical experiences basic to clinical practice in care of adults. This is an integrated writing course. (3 cr didactic; 2 cr clinical total; 2 cr lab total)	UG	Lecture
Fall 2017	NUR2124 C	2124C	Nur for Unlicensed HC Clinical	Nursing	0	Required clinical for NUR 2124.	UG	Clinical
Fall 2017	NUR2400	2400	Intro Clin Nursing	Nursing	7	Introduces nursing theories with emphasis on interprofessional, intraprofessional, and patient-centered communication skills, the lab and clinical experiences basic to clinical practice, critical reasoning, and the application of health assessment skills in the clinical setting. (3 didactic hrs; 2 clinical hrs; 2 lab hrs)	UG	Lecture
Fall 2017	NUR2400 C	2400C	Intro Clin Nursing Clinical	Nursing	0	Required clinical for NUR 2400.	UG	Clinical
Fall 2017	NUR3100	3100	Patho Across Lifespan	Nursing	3	Focuses on physiological change, clinical manifestations, and diagnostic criteria in a variety of disease processes across the lifespan that are fundamental to the development of critical reasoning and planning of nursing care. (3 didactic hrs)	UG	Lecture
Fall 2017	NUR3200	3200	Health Wellness Family	Nursing	3	Foundation course in culture and family nursing. Emphasizes concepts, models, theories and strategies consistent with a philosophy of health and wellness in the context of human diversity for individuals and families. Integrated Writing course	UG	Lecture
Fall 2017	NUR3300	3300	Found of Research & EBP	Nursing	3	Introduction to the research process and evidence-based practice. Emphasizes the critical appraisal of current evidence that guides professional nursing practice. Integrated Writing course.	UG	Lecture
Fall 2017	NUR3420	3420	Nur Care Mental Health	Nursing	1	Focuses on critical reasoning and in the care of individuals and groups with common mental health disorders. Emphasizes therapeutic use of self for enhancing effective communication. Incorporates principles from abnormal psychology, group dynamics, milieu nursing, and complex care relationships, substance use/abuse, crisis intervention, delivery models. (3 cr didactic; 3 cr total clinical/lab)	UG	Lecture
Fall 2017	NUR3420 C	3420C	Nur Care Mental Health Clin	Nursing	0	Required clinical for NUR 3420.	UG	Clinical

Fall 2017	NUR3440	3440	Nur Wom & Childbear Fam	Nursing	1	Focuses on critical reasoning and care of women and expanding families including mothers, fathers, and newborns. Delivery of holistic, family-centered care that reflects understanding of fetal growth and development, physiological/pathophysiological changes of pregnancy, culture, family transitions and reproductive health issues. (2 cr didactic; 2 cr total clinical/lab)	UG	Lecture
Fall 2017	NUR3440 C	3440C	Nur Wom&Childbear Fam Clin	Nursing	0	Required clinical for NUR 3440.	UG	Clinical
Fall 2017	NUR3460	3460	Nursing Care of Children	Nursing	1	Focuses on critical reasoning and care of children, adolescents, and families. Delivery of holistic, family-centered care that incorporates understanding of growth and development, culture, pathophysiological changes, and family transitions. (2 cr didactic; 2 cr total clinical/lab)	UG	Lecture/Lab Combination
Fall 2017	NUR3460	3460	Nursing Care of Children	Nursing	1	Focuses on critical reasoning and care of children, adolescents, and families. Delivery of holistic, family-centered care that incorporates understanding of growth and development, culture, pathophysiological changes, and family transitions. (2 cr didactic; 2 cr total clinical/lab)	UG	Lecture
Fall 2017	NUR3460 C	3460C	Nursing Care of Children Clin	Nursing	0	Required clinical for NUR 3460.	UG	Clinical
Fall 2017	NUR3480	3480	Nursing Care of Adults	Nursing	1	Focuses on critical reasoning and nursing care of adults in acute care settings. Delivery of holistic, patient-centered care that incorporates understanding of pathophysiology, pharmacology, and medical and nursing care principles. (3 cr didactic; 4 cr total clinical/lab)	UG	Lecture
Fall 2017	NUR3480 C	3480C	Nursing Care of Adults Clin	Nursing	0	Required clinical for NUR 3480.	UG	Clinical
Fall 2017	NUR4140	4140	Nursing Elective	Nursing	1	Titles and topics vary.	UG	Lecture
Fall 2017	NUR4150	4150	Independent Study	Nursing	1	Faculty-directed, individualized study of student-selected topics.	UG	Independent Study
Fall 2017	NUR4420	4420	Cri Care Across Lifespan	Nursing	1	Focuses on critical reasoning in the care of individuals across the lifespan experiencing acute physiological crisis. Integrates concepts from previous courses with concepts of critical care nursing in a variety of clinical settings. (2 cr didactic; 4 cr total clinical/lab)	UG	Lecture
Fall 2017	NUR4420 C	4420C	Cri Care Across Lifespan Clin	Nursing	0	Required clinical for NUR 4420.	UG	Clinical

Fall 2017	NUR4440	4440	Public Health Nursing	Nursing	1	Integrates nursing and public health concepts/trends to assess community health needs. Stresses primary, secondary, and tertiary prevention for health of individuals, families, and groups, including lifestyle and genetic factors affecting population health. Examines global aspects of the social, political, legal-ethical and environmental issues influencing health care and health policy. (3 cr didactic; 3 cr total clinical/lab)	UG	Lecture
Fall 2017	NUR4440C	4440C	Public Health Nursing Clinical	Nursing	0	Required clinical for NUR 4440.	UG	Clinical
Fall 2017	NUR4460	4460	Lshp Mgmt to Prof Nrsng	Nursing	10	Facilitates the transition from student to professional nursing role through concentrated experience in selected clinical areas. Managerial and leadership concepts, issues and roles are examined and applied in various health care settings. (2 didactic hrs; 16 clinical hrs)	UG	Lecture
Fall 2017	NUR4460C	4460C	Lshp Mgmt to Prof Nrsng Clin	Nursing	0	Required clinical for NUR 4460.	UG	Clinical
Fall 2017	NUR4800	4800	Transition Role Prof Nur	Nursing	3	Synthesis of concepts, theories, processes, issues of informatics, and models to facilitate transition into professional nursing.	UG	Lecture
Fall 2017	NUR4801	4801	Nur Role for Unlicensed	Nursing	3	Synthesis of concepts, theories, processes, issues of informatics, and models to facilitate a seamless transition of Associate Degree or Diploma prepared nursing student who is awaiting NCLEX passage into professional nursing role.	UG	Lecture
Fall 2017	NUR4810	4810	Nur Care in Genomics Era	Nursing	3	Foundation course in genomics and determinants of health that explores essential competencies for professional nurses to improve clients' health and increase their longevity. Emphasizes health and wellness in context of human diversity for individuals and families. Implications for best practices associated with genomic information including ethics and counseling are highlighted.	UG	Lecture
Fall 2017	NUR4820	4820	PopNursing Pol Sys	Nursing	6	Integrates population-based concepts to assess populations. Emphasizes all levels of prevention to promote health of individuals, families, and groups; including lifestyle and genetic factors impacting population health. Examines global aspects of the demographic, social, political, legal-ethical, and environmental issues influencing health care and health policy. Fieldwork provides opportunities for the professional nurse to provide and coordinate care among vulnerable populations.	UG	Lecture



Fall 2017	NUR4830	4830	Holistic Nur Therapies	Nursing	3	Introduction to complementary and alternative therapies (CAT) to promote holistic nursing for individuals across the lifespan through various health care systems. Emphasis is on model of Relationship Based Care to promote care of patient, family, colleagues and self. Integrated writing course.	UG	Lecture
Fall 2017	NUR4840	4840	Ldrship & Mngmt Nur Prac	Nursing	6	Examines theories and strategies of leadership and management for the practice of professional nursing while incorporating safety and quality improvement initiatives, and improving quality patient outcomes. Includes application of leadership concepts, skills, and decision-making in the provision of nursing care, team coordination, and participation in evidence-based improvement/change projects. Fieldwork provides opportunity for professional immersion experience.	UG	Lecture
Fall 2017	NUR4850	4850	Colab Impv Pat Hlth Outc	Nursing	3	Prepares nurses for their 21st-century role aimed at improving quality of care and patient safety in healthcare systems, with the use of technology and evidence-based decision-making among interprofessional teams.	UG	Lecture
Fall 2017	NUR4860	4860	Policy & Politics Hlth	Nursing	3	Integrates leadership and management concepts to influence policies to promote health and prevent disease and reduce disparity across health care settings. Examines global aspects of the demographic, social, political, legal-ethical, and environmental issues influencing health care and health policy.	UG	Lecture
Fall 2017	NUR4870	4870	Communities Toward Hlth	Nursing	3	Integrates population-based concepts to assess populations. Emphasizes all levels of prevention to promote health of individuals, families, and groups; including lifestyle and genetic factors impacting population health.	UG	Lecture
Fall 2017	NUR4880	4880	Cri Reason in Hlth Sys	Nursing	3	Examines system and organizational theories for the practice of professional nursing to incorporate safety and quality improvement initiatives that improving quality patient outcomes across complex health care systems.	UG	Lecture
Fall 2017	NUR4890	4890	Ldshp & Mngm't	Nursing	3	Theories and strategies of leadership and management for the practice of professional nursing. Safety and quality improvement initiatives and improving quality patient outcomes. Leadership concepts, skills, and decision-making in nursing care, team coordination, and participation in evidence-based improvement/change projects. Fieldwork required.	UG	Practicum
Fall 2017	NUR4980	4980	Honors Project Proposal	Nursing	2	Under the guidance of a faculty member, students develop an honors project.	UG	Seminar
Fall 2017	NUR4980	4980	Honors Project Proposal	Nursing	2	Under the guidance of a faculty member, students develop an honors project.	UG	Independent Study

Fall 2017	NUR4990	4990	Nur Honors Ind Study	Nursing	1	Under the guidance of a faculty member, students implement and complete the honors project proposed in NUR 4980 by taking variable credits of 1-4 semester hours which can be repeated over several semesters. Program requires a minimum total of 2 semester hours but may be extended to a maximum of 4 semester hours.	UG	Independent Study
Fall 2017	NUR6101	6101	Nsg Curr Devel	Nursing	3	Analysis of learning theories and models of nursing curriculum design. Development and evaluation of nursing curriculum and educational programs.	GR	Lecture
Fall 2017	NUR6102	6102	Teach.and Eval. Strat.	Nursing	4	Examination and application of the art, principles, theories, models, and strategies of teaching and evaluation in nursing education. Role of nurse educator in classroom and clinical is explored.	GR	Lecture
Fall 2017	NUR6103	6103	Practicum in Nsg Ed	Nursing	1	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	Seminar
Fall 2017	NUR6114	6114	Nursing Elective	Nursing	1	Determined by the specific faculty offering the elective. The purpose of the graduate nursing elective is to offer undergraduate and graduate students opportunities to explore specific topics in greater depth.	GR	Lecture
Fall 2017	NUR6901	6901	School Nursing	Nursing	2	Roles and responsibilities of school nurses. Care of children in schools. Art, principles and strategies of promoting health in schools. Emphasis on preparation to assume role of school nurse.	GR	Lecture
Fall 2017	NUR6902	6902	Child/Adol Hlth Schools	Nursing	3	Roles and responsibilities of the school nurse in managing care for children and adolescents with health needs in the school setting.	GR	Lecture
Fall 2017	NUR6903	6903	School Nursing Practicum	Nursing	3	Application of roles and responsibilities of school nurses in Ohio.	GR	Clinical
Fall 2017	NUR7001	7001	Role Dev & Ldrshp	Nursing	3	This course focuses on understanding and synthesizing concepts and theories that will facilitate professional role development and leadership in advanced nursing roles.	GR	Lecture
Fall 2017	NUR7002	7002	Info Tech in Hlth Care	Nursing	3	This course focuses on the theoretical basis of nursing and health care informatics. The model of data, information and knowledge is used to explore the basis of nursing informatics within health care. Strategies are examined for dissemination, access, retrieval and evaluation of information for professionals and consumers of health care.	GR	Lecture
Fall 2017	NUR7003	7003	Hlth Policy & Politics	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.	GR	Lecture

Fall 2017	NUR7004	7004	Theoretical Fndatns Nsg	Nursing	3	Analysis of nursing and other selected concepts, models, and theories as related to nursing practice, administration, and education in development and application of nursing science	GR	Lecture
Fall 2017	NUR7005	7005	Nur Res & Evid for Pract	Nursing	3	Critical analysis of the components, methodology, and state of the art of research for nursing to plan change for best practice	GR	Lecture
Fall 2017	NUR7098	7098	Supervised Nsg Res Exp	Nursing	1	Guided exploration of research problem(s) under direct supervision of experience researcher	GR	Lecture
Fall 2017	NUR7099	7099	Thesis/Project	Nursing	1	Thesis or Scholarly Project	GR	Lecture
Fall 2017	NUR7102	7102	Adv Path Across Lifespan	Nursing	3	An in-depth scientific knowledge base is explored relevant to selected pathophysiological states across the lifespan confronted by graduate nurses. This course provides a basis for the foundation of clinical decisions related to selected diagnostic tests and the initiation of therapeutic regimens. Pathophysiology is correlated to clinical diagnoses and management	GR	Lecture
Fall 2017	NUR7103	7103	Applied Pharm Lifespan	Nursing	3	Focuses on prescriptive knowledge of pharmacologic agents used in treatment of common primary health care problems, stable chronic disease states and acute care diseases across the lifespan. Emphasis on indications, mechanisms of action, drug interactions, side effects, and client education	GR	Lecture
Fall 2017	NUR7104	7104	Adv Hlth Assmt Lifespan	Nursing	3	Application of cognitive processes and psychomotor skills needed for comprehensive health assessment. Emphasis is on health history; physical, developmental, and nutritional assessment; and identification of common client problems across the life span	GR	Lecture/Lab Combination
Fall 2017	NUR7105	7105	Pop Hlth	Nursing	3	This course synthesizes methods of population assessment and planning to construct population-appropriate interventions for health care delivery systems. The focus is on safe, quality, and culturally-appropriate advanced nurse practice activities to meet emerging world needs	GR	Lecture
Fall 2017	NUR7106	7106	Adv Fam Nsg	Nursing	2	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 multi disciplinary approaches	GR	Lecture
Fall 2017	NUR7114	7114	Nursing Elective	Nursing	1	Determined by the specific faculty offering the elective. The purpose of the graduate nursing elective is to offer graduate students the opportunities that may include exploring specific topics in greater depth, experiencing different health systems around the world and developing new knowledge, skills and dispositions	GR	Lecture
Fall 2017	NUR7115	7115	Independent Study	Nursing	1	Independent study of selected topic with guidance from faculty	GR	Lecture

Fall 2017	NUR7122	7122	Pathphys Child/Adol	Nursing	3	This course presents focuses on the advanced study of the physiologic body systems of children/adolescents and pathologic conditions common in children/adolescents. Emphasis is on knowledge for the provision of advanced nursing care for acute and chronic conditions of childhood as well as care related to disease prevention and health promotion.	GR	Lecture
Fall 2017	NUR7123	7123	Pedi Pharm	Nursing	3	Focuses on the prescriptive knowledge of pharmacologic agents used in the treatment of common pediatric health care problems and stable chronic disease states of children. Emphasis will be placed on indications, mechanisms of action, drug interactions, side effects and parent and child.	GR	Lecture
Fall 2017	NUR7124	7124	Adv Hlth Assmt Child/Ado	Nursing	3	Application of cognitive processes and psychomotor skills needed for comprehensive health assessment of children and adolescents. Emphasis on health history, physical assessment of children and adolescents. Various instruments will be incorporated to assess growth and development issues.	GR	Lecture/Lab Combination
Fall 2017	NUR7201	7201	Acute Adult Hlth Prob I	Nursing	8	Focus is on complex symptom management related to acute and emergent physiological alterations in renal, cardiovascular, pulmonary, and integumentary function, along with multisystem disorders. Health promotion, maintenance and restoration are emphasized with risk assessment and prevention. Pharmacological management of complex symptomatology and advanced role development are incorporated.	GR	Seminar
Fall 2017	NUR7202	7202	Acute Adult Hlth Prob II	Nursing	8	Focus is on complex symptom management related to acute and emergent physiological alterations in endocrine, gastrointestinal, genital urinary, hematological, immunological and neurological function. Health promotion, maintenance and restoration are emphasized, along with risk assessment and preventative strategies. Advanced practice role development is incorporated into the course through patient care management seminars, case study presentations and clinical practice.	GR	Seminar
Fall 2017	NUR7203	7203	ACNP Practicum	Nursing	6	The focus is on synthesis of theory and implementation of the role of the acute care nurse practitioner. Experiences emphasize clinical decision-making in an inter-professional environment with focus on the acute care practitioner as a principal provider of care for patients with acute or emergent health problems.	GR	Seminar

Fall 2017	NUR7211	7211	Concepts in Cardiovas Nsg	Nursing	3	Examination of physiological concepts, human responses, nursing assessments, and interventions related to actual and potential health problems in adults with cardiovascular alterations.	GR	Lecture
Fall 2017	NUR7212	7212	12 Lead EKG Interp	Nursing	1	The interpretation and clinical significance of abnormalities of the twelve lead electrocardiogram.	GR	Lecture
Fall 2017	NUR7213	7213	AG AC Diagnostic Procd.	Nursing	2	This course provides theoretical knowledge and emphasizes psychomotor skills.	GR	Lecture
Fall 2017	NUR7301	7301	Strt Plng Nsg & Hlth Car	Nursing	5	This course focuses on the managerial function of planning and developing leadership skills. The strategic planning process uses a systems framework to create a long term focus for nursing and health care systems.	GR	Lecture
Fall 2017	NUR7302	7302	Hum Res Mgmt Nsg Admin	Nursing	3	Analysis of human resource management in health care organizations. Specific application is made to the nurse administrator role.	GR	Lecture
Fall 2017	NUR7304	7304	Finan Resour Mgmt Nsg Ad	Nursing	5	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 2017	NUR7305	7305	Org. Theory & Dec Mkg	Nursing	3	Evaluation of the concepts, models, and theories of health care organizations. Analysis of quantitative and qualitative decision making models in health care systems. Continuous quality improvement strategies are analyzed in terms of patient safety and staff outcomes. Introduction to database management for administrative decision making.	GR	Lecture
Fall 2017	NUR7306	7306	Info Tech Nsg & Hlth Sys	Nursing	2	Systematic assessment of 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 2017	NUR7313	7313	Ns Admin Practice	Nursing	5	Nursing administrative practice focusing on creating safe and quality health care. Includes application, synthesis and evaluation of prior learning to create healthy work environments. Includes a global perspective of health care.	GR	Lecture
Fall 2017	NUR7351	7351	Curriculum Development	Nursing	3	Analysis of learning theories and models of nursing curriculum design. Development and evaluation of nursing curriculum and educational programs.	GR	Lecture
Fall 2017	NUR7352	7352	Adv Clin Prac Experience	Nursing	3	Provides the nurse educator with advanced knowledge and experience with a selected client population. Emphasizes the application of classroom content acquired in core and supporting courses. Clinical practicum hours in the clinical setting are required.	GR	Clinical
Fall 2017	NUR7353	7353	Instruc Methods Nur Ed	Nursing	3	Examination and application of the art, principles, theories, models, and strategies of teaching in nursing education. Role of nurse educator in classroom and clinical is explored.	GR	Lecture

Fall 2017	NUR7354	7354	Eval Strategies Nur Educ	Nursing	3	Examination and application of the art, principles, theories, models, and strategies of evaluation in nursing education. Role of nurse educator in classroom and clinical is explored.	GR	Lecture
Fall 2017	NUR7421	7421	Adult Gerontology I	Nursing	6	This clinical course provides students the opportunity to examine and apply CNS theory to practice and enables students to develop strategies to overcome barriers to safe, quality healthcare delivery. Students acquire knowledge and skills characteristic of CNS practice as it relates to clinical judgment, facilitation of learning, advocacy, moral agency, caring practice and response to diversity.	GR	Lecture
Fall 2017	NUR7422	7422	Adult Gerontology II	Nursing	6	Students focus on further development of the knowledge and skills related to the core competencies of the clinical nurse specialist. Acquiring leadership in the development of system-wide policy. Advocating for the individual, family, and population of interest within the context of clinical practice and policy development.	GR	Lecture
Fall 2017	NUR7423	7423	Adult Gerontology III	Nursing	6	The clinical course expands on the synthesis and application of theory to clinical nurse specialist practice. Further development of clinical decision-making in an interprofessional complex environment is emphasized.	GR	Lecture
Fall 2017	NUR7511	7511	Chronic Care for ACPNP	Nursing	5	Application of theoretical frameworks and research findings for health promotion, disease prevention, health maintenance, and health restoration for children and adolescents. Practicum focuses on advanced nursing care and multi-disciplinary collaboration for comprehensive health care across settings.	GR	Lecture
Fall 2017	NUR7512	7512	Acute Illness for ACPNP	Nursing	5	Emphasis on nursing management of complex acute illnesses and multi-system disorders for children/adolescents and their families. Clinical practicum focuses on multi-disciplinary collaboration for the delivery of comprehensive health care, in high acuity settings.	GR	Lecture
Fall 2017	NUR7513	7513	Practicum for ACPNP	Nursing	6	Focus is on models of practice in providing health care to infants, children and adolescents within the full scope of advanced practice (wellness, common minor health problems, and high acute and complex chronic illness). Factors influencing role development and delegation/supervision, quality improvements, accreditation standards, professional standards, and prescriptive authority will be addressed.	GR	Lecture

Fall 2017	NUR7522	7522	Pediatric CNS I	Nursing	5	Application and analysis of advanced practice nursing concepts as a pediatric clinical nurse specialist in care of infants, children and adolescents and their families with acute and chronic health problems including acute physiologic exacerbations, symptom management and health restoration.	GR	Lecture
Fall 2017	NUR7523	7523	Ped. CNS II Practicum	Nursing	6	Focus is on models of practice in providing health care to infants, children and adolescents within the full scope of advanced practice (wellness, common minor health problems, and acute and chronic illness). Expansion and utilization of expert knowledge as a pediatric clinical nurse specialist to develop a programmatic approach to promoting health of individuals, families and groups/communities. Factors influencing role development will be addressed.	GR	Lecture
Fall 2017	NUR7550	7550	Peds Minor III/Injuries	Nursing	6	Application of advanced practice nursing skills integrating theory, research findings, and differential diagnoses in the provision of primary and minor acute care for children/adolescents in families. Clinical learning will incorporate use of case management and multi-disciplinary collaboration with consideration of physical, social, and psychological factors.	GR	Lecture
Fall 2017	NUR7551	7551	Chronic Care for PNPs	Nursing	6	Application of theoretical frameworks and research findings for health promotion, disease prevention, health maintenance, and health restoration for children and adolescents. The clinical practicum will focus on advanced nursing care, incorporating multi-disciplinary collaboration for the delivery of comprehensive health care in various care settings. Emphasis is on management of pediatric chronic conditions.	GR	Lecture
Fall 2017	NUR7552	7552	Practicum for PCPNP	Nursing	6	Focus on models of practice providing health care to infants, children and adolescents in wellness, common minor health problems, and acute and chronic illness. Factors influencing role development will be addressed.	GR	Lecture
Fall 2017	NUR7611	7611	Psych MH NP Prac I	Nursing	7	The focus is on comprehensive symptom assessment and diagnostic reasoning in the management of individuals and families with acute and chronic alterations in psychiatric/mental health status across the lifespan. Health promotion, health behaviors, and disease prevention strategies are emphasized with respect to epidemiology, risks, and growth and development. Therapeutic communication, ethics, and cultural competency are emphasized. Advanced practice role development is incorporated.	GR	Lecture

Fall 2017	NUR7612	7612	Psych MH NP Prac II	Nursing	8	The focus is on comprehension and clinical reasoning in the selection and use of a variety of therapeutic modalities used in the management of individuals and families with acute and/or chronic alterations in psychiatric/mental health status and functioning across the lifespan. Pharmacologic and non-pharmacologic treatment modalities are explored. Advanced practice role development is incorporated.	GR	Lecture
Fall 2017	NUR7613	7613	Psych MH NP Prac III	Nursing	6	The focus is on synthesis of knowledge and implementation of the role of the Psychiatric-Mental Health Nurse Practitioner (PMHNP). Experiences emphasize clinical decision making in an inter-professional environment with focus on the PMHNP as a principle provider of care for individuals with acute and chronic psychiatric/mental health disorders across the lifespan.	GR	Lecture
Fall 2017	NUR7720	7720	Pri Cr to Age 2 Form III	Nursing	2	This course is for students enrolled in the neonatal nurse practitioner concentration in the MS in Nursing program. The focus of this course is on the growth and development of former preterm and critically ill infants and the impact of morbidity that originated in the newborn period. Differential diagnosis and treatment plans will be directed towards achieving the highest level of wellness obtainable.	GR	Lecture
Fall 2017	NUR7731	7731	Adv New/Infant Pharm	Nursing	3	Principles of pharmacology as applied to the child from birth to the age of 2 are presented. Common drug therapies across a wide array of classes for use in the NICU or those whose clinical condition originated in the neonatal period are discussed as well as novel, innovative, experimental treatment protocols, use of off-label medications, and therapeutic drug testing. The legal, ethical, and financial constraints relative to prescriptive authority of the NNP are presented.	GR	Lecture
Fall 2017	NUR7732	7732	Adv Neonatal Assessment	Nursing	4	Course allows an immersive experience in the identification of normal and abnormal findings in the neonate. Content includes a comprehensive view of fetal assessment, maternal wellbeing, and family dynamics. Opportunity will be offered to evaluate perinatal histories, perform developmental and physical exams, evaluate diagnostic and laboratory findings, and identify areas for referral. Students will learn to write comprehensive history and physicals using standard nomenclature.	GR	Lecture



Fall 2017	NUR7733	7733	NNP Practice 1	Nursing	6	The clinical focus is on beginning clinical competencies in the neonatal intensive care unit. The course begins the study of embryology, neonatal pathophysiology, and management of disease process. Students will learn a new role as a member of an interprofessional team, the use of documentation systems, patient rounds, patient management, database development, discharge planning, x-ray interpretation, and the provision of culturally competent care.	GR	Lecture
Fall 2017	NUR7734	7734	NNP Practice II	Nursing	7	The clinical focus of this course is on continuing clinical competencies for the nurse practitioner in the Level III/IV neonatal intensive care unit. The course continues the exploration of embryology, neonatal pathophysiology, and management of the disease process. Students will apply current management strategies and will utilize best evidence to provide a high level of care for infants and their families.	GR	Lecture
Fall 2017	NUR7735	7735	NNP Practice III	Nursing	7	Students will be asked to build upon prior learning, caring for ill newborns/infants and their families. Complex cases and multiple patient scenarios will be stressed. Application of research findings, leadership on the interprofessional team, planning and execution of complicated discharge, and innovations in care are all essential competencies.	GR	Lecture
Fall 2017	NUR7801	7801	Prime Care Women/Child	Nursing	6	Provides the nurse practitioner with knowledge and skills needed to deliver primary health care to women, children and adolescents in multiple settings. Emphasizes the application of problem identification and management, health promotion, and client and family counseling. Clinical and supervised lab experiences focus on foundations of nurse practitioner practice, initial role identification and opportunity to apply classroom and core content.	GR	Lecture
Fall 2017	NUR7802	7802	Prim Care Adults	Nursing	5	Provides the nurse practitioner with knowledge and skills needed to deliver primary health care to young adults, adults, and older adults through senescence in multiple settings. Emphasizes the application of problem identification and management, health promotion, and client & family counseling. Supervised lab and clinical experiences provide the opportunity to apply classroom and core content.	GR	Lecture
Fall 2017	NUR7803	7803	FNP Practicum	Nursing	6	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.	GR	Clinical
Fall 2017	NUR7901	7901	Advances in Sch Nsg	Nursing	4	Individually mentored practicum that requires advanced nursing practice with individuals and groups. Includes seminar that facilitates synthesis and application of all prior learning for evidence-based practice.	GR	Seminar

Fall 2017	NUR7903	7903	Practicum:School Nursing	Nursing	1	Focus is on clinical application of relevant theories and research findings for health promotion, disease prevention, and health maintenance for children and adolescents in schools. Emphasis is on the development of a comprehensive school health program. Seminars synthesize previous learning with application to the role of school nurse. Clinical practicum required.	GR	Seminar
Fall 2017	NUR8001	8001	Sci Base Nsg Pract	Nursing	3	This course examines nursing science from a broad range of perspectives. The emphasis is on identification and analysis of nursing phenomena, use of nursing science to manage phenomena, and evaluation of outcomes.	GR	Lecture
Fall 2017	NUR8002	8002	Population Health	Nursing	3	This course uses epidemiologic models to analyze and construct interventions for health care delivery systems. The focus is on safe, quality, culturally-appropriate advanced nursing practice activities to meet emerging world needs.	GR	Lecture
Fall 2017	NUR8003	8003	App Nsg Res	Nursing	3	This course builds on knowledge of research and clinical practice with emphasis on evidence-based practice. Students learn to critically examine and apply nursing research within the practice setting.	GR	Lecture
Fall 2017	NUR8004	8004	Org Sys Ldrshp Hlth Care	Nursing	3	Examines application of organizational and leadership theories/strategies to assess process/outcomes in complex practice settings, health care organizations, and communities with a focus on the APN role in analyzing clinical patterns and issues.	GR	Lecture
Fall 2017	NUR8005	8005	Project Seminar	Nursing	3	This course provides the knowledge and skills to plan the DNP project proposal for systematic implementation and evaluation of outcomes built on a synthesis of the literature. An analytical approach to implementing a practice change at multiple organizational systems will be explored. The seminar will include a variety of activities related to role of the DNP as leader and innovator for practice change.	GR	Lecture
Fall 2017	NUR8006	8006	Mrktng Entrepre Hlth Car	Nursing	3	This course examines marketing and entrepreneurial strategies for advanced nursing practice in complex health care systems. The focus is on creating and evaluating marketing plans and entrepreneurial activities.	GR	Lecture
Fall 2017	NUR8007	8007	QM and I for HC Org	Nursing	3	Examines the principles and practice of quality management in health care organizations and clinical performance in care delivery and outcomes. Focus is on the role and accountability of the advanced practice nurse working with a collaborative team for maintaining patient safety and improving quality of care.	GR	Lecture

Fall 2017	NUR8008	8008	IT in Nursing & H Care	Nursing	3	Systematic assessment of clinical and administrative information needs of health care systems. Examines the technology and strategies needed to support patients, nurses, and health care delivery in dynamic environmental systems.	GR	Lecture
Fall 2017	NUR8099	8099	Doctoral Project	Nursing	1	This course is a guided, independent project applying the evidence-based practice process to improve patient outcomes, health care delivery, nursing practice, and or health policy.	GR	Lecture
Fall 2017	NUR8101	8101	EB Nur Prac Direct Care	Nursing	3	This seminar course focuses on the nursing management of complex patients, diagnostic reasoning, translation of evidence into practice, and building intra and inter-professional interactive models to meet patient needs.	GR	Seminar
Fall 2017	NUR8102	8102	Final Pract-Direct Care	Nursing	1	Individually precepted practicum that requires advanced nursing practice with individuals and groups. Includes seminar that facilitates synthesis and application of all prior learning for evidence-based practice.	GR	Seminar
Fall 2017	NUR8201	8201	Evidence Bsd Leadership	Nursing	3	This course examines evidence practices in leadership practices in complex health care settings focusing on creating and evaluating innovative practices including model application for financial and clinical outcomes.	GR	Lecture
Fall 2017	NUR8202	8202	Final Prac-Leadership	Nursing	1	Individually mentored practicum that requires leadership and practice at the aggregate/systems/organizational level of health care. Includes required seminar that facilitates application, synthesis, and evaluation of prior learning in applied practice	GR	Seminar
Fall 2017	OIS1010	1010	Professional Devel I	Office Information Svstems	1	Professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.	UG	Lecture
Fall 2017	OIS1020	1020	Professional Devel II	Office Information Systems	1	Professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.	UG	Lecture
Fall 2017	OIS1030	1030	Professional Devel III	Office Information Systems	1	Professional development in office procedures, dress, personality, leadership, and other aspects of business development.	UG	Lecture
Fall 2017	OIS1040	1040	Professional Devel IV	Office Information Svstems	1	Professional development in office procedures, dress, personality, leadership, and other aspects of business development.	UG	Lecture
Fall 2017	OIS1120	1120	Speedwriting	Office Information Svstems	3	Skills in writing and reading alphabetic shorthand with emphasis on diction, transcription, speed, and production of documents.	UG	Lecture
Fall 2017	OIS1150	1150	Business/Office Corres	Office Information Svstems	3	Study of terminology and formats used in business communication: letters, reports, memos, diction, grammar, sentence construction. punctuation. and spelling.	UG	Lecture

Fall 2017	OIS1160	1160	Intro to App Business	Office Information Systems	3	Analytical, ethical awareness and reasoning abilities, multicultural understanding, use of technology, and communications and team building in a business environment.	UG	Lecture/Lab Combination
Fall 2017	OIS1230	1230	Medical Term/Practice	Office Information Svstems	3	Study of medical terminology and other basic aspects of the medical assistant profession.	UG	Lecture/Lab Combination
Fall 2017	OIS1250	1250	Desktop Publishing	Office Information Svstems	2	Creation of a range of professional quality publications.	UG	Lecture/Lab Combination
Fall 2017	OIS1260	1260	Spreadsheet Applications	Office Information Svstems	2	Spreadsheets for office applications.	UG	Lecture/Lab Combination
Fall 2017	OIS1270	1270	Presentation Software	Office Information Svstems	2	Use of software to develop professional presentations.	UG	Lecture/Lab Combination
Fall 2017	OIS1280	1280	Database Applications	Office Information Svstems	2	Create, manipulate, and maintain databases and generate queries and reports for office applications.	UG	Lecture/Lab Combination
Fall 2017	OIS1310	1310	Medical Law & Ethics	Office Information Svstems	3	Fundamentals of medical ethics and law pertinent to employees in medical offices, hospitals, and other healthcare facilities. A portfolio project is included.	UG	Lecture/Lab Combination
Fall 2017	OIS2000	2000	Legal Admin Assist Proce	Office Information Svstems	3	Legal administrative assistant procedures and other basic aspects of the legal assistant profession.	UG	Lecture/Lab Combination
Fall 2017	OIS2010	2010	Medical Coding ICD9-CM	Office Information Svstems	3	Study of medical skills in ICD9 coding for insurance and medical documents using reference manuals and computer software.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1230 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2020	2020	Medical Coding CPT	Office Information Svstems	3	CPT coding for insurance and medical documents using reference manuals and computer software.<b> Department Managed Prerequisite(s): Undergraduate level OIS 2010 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2030	2030	Medical Insur Billing	Office Information Svstems	3	Claims, both paper and electronic, and the medical records process. HIPAA forms and regulations, medical coding, and electronic claims.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1230 Minimum Grade of D and Undergraduate level OIS 2010 Minimum Grade of D and Undergraduate level OIS 2020 Minimum Grade of D and Undergraduate level OIS 2270 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2040	2040	Hands-on Medical Apps	Office Information Svstems	3	Taking blood pressures, charting, first-aid, CPR, and other basic medical office procedures.	UG	Lecture/Lab Combination

Fall 2017	OIS2050	2050	Desktop Publishing	Office Information Systems	3 Using a computer graphic design system to produce typeset-quality text and graphics, such as newsletters, letterheads, brochures, and manuals. Two hours lecture, two hours lab.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1050 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2060	2060	Desktop Publishing Des	Office Information Systems	3 Principles of typography and design in desktop publishing applications that include newsletters, flyers, brochures, manuals, presentation media, and web publishing.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1080 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2070	2070	Legal Doc Format/Word	Office Information Systems	3 Preparation of legal documents (wills, codicils, interrogations, contracts, and other applications).	UG	Lecture/Lab Combination
Fall 2017	OIS2080	2080	Medical Document Format	Office Information Systems	3 Preparation of medical documents (patient reports, doctor referrals, examination reports, hospitalization reports, procedures reports, and other applications).<b> Department Managed Prerequisite(s): Undergraduate level OIS 1230 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2100	2100	Admin Office Procedures	Office Information Systems	3 Development of operational functions and decision-making competencies. Simulations in executive, medical, and legal procedures including experiences in telephone and communication techniques, word processing, and administrative services	UG	Lecture
Fall 2017	OIS2110	2110	Med Office Simulations	Office Information Systems	3 Fundamentals of medical office management software including inputting patient data, processing insurance payments, scheduling appointments, and printing medical reports. A portfolio project is included.<b> Department Managed Prerequisite(s): Undergraduate level OIS 2080 Minimum Grade of D and Undergraduate level OIS 1230 Minimum Grade of D and Undergraduate level OIS 2010 Minimum Grade of D and Undergraduate level OIS 2020 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2120	2120	Financial Recordkeeping	Office Information Svstems	3 Creating and managing business financial records for small and large offices.	UG	Lecture/Lab Combination
Fall 2017	OIS2150	2150	Job Search/Port Dev	Office Information Svstems	3 Job hunting skills, resume writing, interviewing techniques, and effective employment seeking skills.	UG	Lecture/Lab Combination
Fall 2017	OIS2170	2170	Integ Office Software	Office Information Systems	3 Study of computer skills by utilizing and integrating Microsoft Office software. Students will use Microsoft Office software to complete discipline specific projects.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1260 Minimum Grade of D and Undergraduate level OIS 1280 Minimum Grade of D</b>	UG	Lecture/Lab Combination

Fall 2017	OIS2180	2180	Office Tech Trends	Office Information Systems	3	Latest information on office standards and legislative updates that impact office support professionals.	UG	Lecture/Lab Combination
Fall 2017	OIS2200	2200	Admin Office Management	Office Information Systems	3	Office organization with an emphasis on work flow, proper equipment, problems in supervision, human relations, and management techniques.	UG	Lecture/Lab Combination
Fall 2017	OIS2250	2250	Medical Health Records	Office Information Systems	3	Intro to use of electronic records in a medical practice.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1230 Minimum Grade of D and Undergraduate level OIS 2020 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2270	2270	Computers/Medical Office	Office Information Systems	3	Concepts and skills needed for a successful career in the medical office using standard software.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1230 Minimum Grade of D and Undergraduate level OIS 2020 Minimum Grade of D and Undergraduate level OIS 2010 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2300	2300	Medical Transcription	Office Information Systems	3	Medical transcription.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1230 Minimum Grade of D and Undergraduate level OIS 2350 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2310	2310	Legal Transcription	Office Information Systems	3	Legal transcription emphasizing skills needed in today's word processing environment.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1220 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2320	2320	Executive Transcription	Office Information Systems	3	Executive transcription from CDs.	UG	Lecture/Lab Combination
Fall 2017	OIS2350	2350	Pharmacology/Med Assist	Office Information Systems	3	Framework of drug information for allied health professionals. Step-by-step calculations, drug information by classification, purposes, side effects, cautions, and interactions.<b> Department Managed Prerequisite(s): Undergraduate level OIS 1230 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	OIS2400	2400	Independent Study	Office Information Systems	1	Directed study on selected topics.	UG	Independent Study
Fall 2017	OIS2480	2480	Capstone	Office Information Svstems	2	Comprehensive project in office applications.	UG	Independent Study
Fall 2017	OIS2500	2500	Internship	Office Information Systems	3	Practical experience coordinated by faculty, student, and business representative.	UG	Internship

Fall 2017	OL2010	2010	Self as Leader	Organizational Leadership	3	Introduction to leadership skills: an understanding of the personal, professional, and communication skills and dispositions necessary for effective leadership in any organizational setting.	UG	Lecture/Lab Combination
Fall 2017	OL3020	3020	Leading Others	Organizational Leadership	3	Introduction to leadership theories and styles. Skills and abilities needed for working with others in an organizational setting, and a framework for building and leading teams.	UG	Lecture
Fall 2017	OL3030	3030	Interpersonal Skills-Ldrs	Organizational Leadership	3	Understanding and application of emotional and social intelligence (ESI) to leading self, teams and organizations. Focus on intrapersonal, interpersonal, adaptability, stress management and general mood.	UG	Lecture
Fall 2017	OL3040	3040	Developing Others	Organizational Leadership	3	Strategies for organizational assessment, tools for developing people within organizations, and techniques for developing and delivering training programs.	UG	Lecture
Fall 2017	OL3990	3990	Special Topics in OL	Organizational Leadership	1	Seminar in special topics such as women in leadership, leadership in the public sector, or non-profit leadership. Topics vary.	UG	Seminar
Fall 2017	OL4010	4010	Leading Change	Organizational Leadership	3	Contemporary and advanced issues in change leadership such as creating a climate for change, implementing and sustaining change, building a change vision, adaptive leadership and change readiness.	UG	Seminar
Fall 2017	OL4020	4020	Community-Based Learning	Organizational Leadership	3	Investigate a community-based issue, determine actions needed, devise and execute service learning, reflect on the experience, and demonstrate learning by sharing results with the community involved.	UG	Seminar
Fall 2017	OL4025	4025	Comm-Based Internship	Organizational Leadership	3	On-site experiential learning experience coupled with specific academic assignments in which the intern demonstrates his/her familiarity with a related scholarly literature base, while also identifying specific career/learning objectives joined with performance indicators.	UG	Internship
Fall 2017	OL4940	4940	Ldrship and the Environ	Organizational Leadership	3	Case-based, current events seminar addresses leadership within organizations given today's global environment, varying demographics and high customer service standards. Integrated Writing course.	UG	Seminar
Fall 2017	OL4950	4950	Ldrship Skills Applica	Organizational Leadership	3	Culminating OL experience in the major. Incorporating leadership strategies in an external organization, and assessing and assisting with a leadership challenge, problem issue, and/or need. Integrated Writing course.	UG	Seminar
Fall 2017	OL4990	4990	OL Honors Project	Organizational Leadership	1	A theoretically based research project under the guidance of a faculty advisor. Examples might include: defining a specific research question and providing a comprehensive literature review; or identifying, examining, and researching a work-based problem/issue.	UG	Independent Study

Fall 2017	P&N4420	4420	Intro Neurophysiology	Physiology & Neuroscience	3	Physiological mechanisms that subserve the functions of the nervous system. Topics include the biophysics of neuronal information, intercellular communications, motor control, sensorv svstems. and developmental neurobioloav.	UG	Lecture
Fall 2017	P&N4880	4880	Ind Reading - Physiology	Physiology & Neuroscience	1	Various physiology topics will be discussed with an assigned faculty advisor.	UG	Independent Study
Fall 2017	P&N4990	4990	Spec Prob in Physiology	Physiology & Neuroscience	1	Exploration of potential careers in physiology. Studies may vary from working with instructor on an ongoing physiological research project to analysis of data obtained from completed research project.	UG	Independent Study
Fall 2017	P&N6100	6100	Human Physiology	Physiology & Neuroscience	4	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 2017	P&N6420	6420	Introductory Neurophys	Physiology & Neuroscience	3	Physiological mechanisms that subserve the functions of the nervous system. Topics include the biophysics of neuronal information, intercellular communications, motor control, sensorv svstems. and developmental neurobioloav.	GR	Lecture
Fall 2017	P&N6500	6500	Glial Cell Physiology	Physiology & Neuroscience	2	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 pathophvsioav.	GR	Lecture
Fall 2017	P&N6690	6690	Quant Aspct-Mem Trans	Physiology & Neuroscience	2	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 2017	P&N6990	6990	Lab Rotation	Physiology & Neuroscience	1	Special physiological problems or research designed for specific needs and talents of the student.	GR	Independent Study
Fall 2017	P&N7010	7010	Sel Topics in Physiology	Physiology & Neuroscience	1	A selected area of physiology is discussed in greater detail than in basic physiology courses. Some topics may include laboratorv.	GR	Lecture/Lab Combination
Fall 2017	P&N7100	7100	Breakthroughs Neurosci	Physiology & Neuroscience	2	Students will be able to critically read original literature and identify the creativity, logic and insight behind research breakthroughs in neuroscience.	GR	Lecture
Fall 2017	P&N7220	7220	Ion Channels	Physiology & Neuroscience	3	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 2017	P&N7750	7750	Neuroscience & Phys	Physiology & Neuroscience	3	In-depth coverage of cellular neuroscience with an emphasis on physiological concepts. Subjects include nervous system development, generation of ion gradients, ionic basis of the action potential, synaptic transmission, and ion channels.	GR	Lecture
Fall 2017	P&N7760	7760	Intercellular Comm	Physiology & Neuroscience	3	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 2017	P&N7890	7890	Continuing Registration	Physiology & Neuroscience	1	By permission of instructor.	GR	Independent Study
Fall 2017	P&N7920	7920	Mechanisms of Cell Death	Physiology & Neuroscience	2	Signalling and Molecular mechanisms of Apoptotic Cell Death and relationship to human diseases.	GR	Lecture
Fall 2017	P&N8000	8000	Physiology Seminar	Physiology & Neuroscience	1	Two seminars (Physiology Seminar I and II) run concurrent with the Department of Neuroscience, Cell Biology and Physiology Seminar Series.	GR	Seminar
Fall 2017	P&N8080	8080	Neuroscience Seminar	Physiology & Neuroscience	1	Students present a current scientific article to colleagues and faculty. Graded pass/unsatisfactory.	GR	Seminar
Fall 2017	P&N8600	8600	Prin Biomedical Research	Physiology & Neuroscience	1	Principles of Biomedical Research is appropriate for students that will be involved in biomedical research. PBR provides a lecture and student interactive series designed to introduce students to the basics of biomedical research.	GR	Lecture
Fall 2017	P&N8990	8990	Physiology Research	Physiology & Neuroscience	1	Supervised thesis research.	GR	Independent Study
Fall 2017	PHA8000	8000	Prin Biomedical Research	Pharmacology_S C	1	Principles of Biomedical Research is appropriate for students that will be involved in biomedical research. PBR provides a lecture and student interactive series designed to introduce students to the basics of biomedical research.	GR	Lecture
Fall 2017	PHL2040	2040	Great Books: Philosophy	Philosophy	3	Selected great books in the history of Western philosophy chosen from each of three eras (ancient/medieval, modern, and contemporary) and examined both within their respective historical frameworks and as an exercise in critical thinking. Integrated Writing course	UG	Lecture
Fall 2017	PHL2050	2050	Philosophy:Big Questions	Philosophy	3	Introduction to philosophy through the exploration and critical examination of some of the following perennial, philosophical questions: Does God exist? Are we free? What is happiness? Why be ethical? What is knowledge? What is the meaning of life? Integrated Writing course	UG	Lecture

Fall 2017	PHL2100	2100	Phil of State & Soc	Philosophy	3	An examination of the ongoing political debate within our culture, including an examination of the role government should play in a good society. Among the questions to be considered: Should governments exist? If so, how much power should they possess, and to what end should they exercise this power? This course is, with EC 2100, part of a two-course Wright State Core sequence on government and society.	UG	Lecture
Fall 2017	PHL2150	2150	Inductive Logic	Philosophy	3	Introduction to the techniques of inductive and probabilistic reasoning with emphasis on the problems encountered in attempting to justify those techniques.	UG	Lecture
Fall 2017	PHL2230	2230	Symbolic Logic I	Philosophy	3	Introduction to the techniques of deductive logic including truth-table analysis, the propositional calculus, and predicate logic.	UG	Lecture
Fall 2017	PHL3000	3000	Critical Thinking	Philosophy	3	Introduction to fundamental reasoning skills as understood philosophically and as applied in a variety of areas, including science, religion, politics, and morality. Topics include the structure of deductive and inductive reasoning, valid and invalid arguments, truth tables, syllogisms, formal and inductive fallacies.	UG	Lecture
Fall 2017	PHL3010	3010	Ancient Philosophy	Philosophy	3	History of philosophy from the Pre-Socratics to Neo-Platonism, with particular emphasis on the philosophical systems of Plato and Aristotle. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3020	3020	Medieval Philosophy	Philosophy	3	Introduction to medieval philosophy and some of its most important representative thinkers, including Anselm, Abelard, Aquinas, John Duns Scotus, and William of Ockham. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3030	3030	Modern Philosophy	Philosophy	3	History of philosophy from Descartes to Kant. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3050	3050	19th Century Philosophy	Philosophy	3	Study of 19th century European philosophy. Topics include the idealist rejection of materialism by Hegel and Schopenhauer; Kierkegaard and Nietzsche's critique of rationalism on behalf of concrete existence; and Marx's synthesis of idealism's optimism about humanity's ability to shape its world and a commitment to the material world over the ideal.	UG	Lecture
Fall 2017	PHL3060	3060	Analytic Philosophy	Philosophy	3	Survey of the analytic tradition including philosophers such as Frege, Russell, Wittgenstein, Carnap, Quine, Davidson, Kripke, Putnam, and Nagel. Integrated Writing course.	UG	Lecture

Fall 2017	PHL3090	3090	Existentialism	Philosophy	3	Introduction to the 20th-century philosophical and literary movement. Emphasis on concrete existence and the passions over abstract rationality, conception of self as a product of radically free acts of self-creation, affirmation of uncertainty and absurdity as inescapable elements of the human condition, and rejection of traditional ethical systems. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3100	3100	American Philosophy	Philosophy	3	A look at the American Pragmatist Tradition from Peirce, James and Dewey to recent American philosophers such as Quine, Davidson, Rorty and Putnam. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3110	3110	Ethics	Philosophy	3	Critical examination of major issues and problems of contemporary philosophical ethics. Concepts of good, bad, right, wrong, and justice. Relation between ethics and religion. Objectivity or subjectivity of values.	UG	Lecture
Fall 2017	PHL3120	3120	History of Ethics	Philosophy	3	Study of the development of ethical philosophy through a detailed investigation of such figures as Plato, Aristotle, Hobbes, Butler, Hume, Kant, Mill, and Nietzsche. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3130	3130	Metaphysics	Philosophy	3	Examines such topics as the problem of universals, free will and determinism, the nature of abstract entities like numbers, the problem of identity and individuation, the nature of time and cause and effect, and the realism and anti-realism debate. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3140	3140	Theories of Knowledge	Philosophy	3	Examination of the possibility of knowledge, limits, methods and value. Readings vary but may include Plato, Descartes, Hume, Russell, Moore, Gettier, Nozick, Bonjour, Quine, Kripke, Putnam and Williamson. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3150	3150	Philosophy of Language	Philosophy	3	Major issues such as sense and reference, theories of meaning and truth, language games, syntax, language and thought. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3200	3200	Symbolic Logic I	Philosophy	3	Introduction to the techniques of deductive logic including truth-table analysis, the propositional calculus, and predicate logic. Students who have taken PHL 2230 cannot take PHL 3200.	UG	Lecture
Fall 2017	PHL3230	3230	Symbolic Logic II	Philosophy	3	Standard notations, principles of inference, formal systems, and methods of proof. Focus on first-order predicate logic.	UG	Lecture
Fall 2017	PHL3250	3250	Inductive Logic	Philosophy	3	Introduction to the techniques of inductive and probabilistic reasoning with emphasis on the problems encountered in attempting to justify those techniques. Students who have taken PHI 2150 cannot take PHI 3250.	UG	Lecture

Fall 2017	PHL3310	3310	Modern Political Phil	Philosophy	3	Classic texts and thinkers in political philosophy from the 16th century to the present. Topics include the foundations of society, theories of justice and rights, the concept of property, and the defense and critique of liberalism, democracy, socialism, and libertarianism. Readings may include Machiavelli, Hobbes, Locke, Hume, Rousseau, Smith, Mill, Mary Nozick, Rawls, and Nussbaum.	UG	Lecture
Fall 2017	PHL3320	3320	20th C Political Phil	Philosophy	3	Major thinkers in 20th century political philosophy. Topics vary, focusing on one or more themes such as rights, democracy, liberalism, pluralism, secularism, tolerance, torture, terrorism, or totalitarianism. Readings from thinkers such as Arendt, Marcuse, Habermas, Foucault, Derrida, Rawls, Rorty, Cohen, MacIntyre, Taylor, Nussbaum, and Agamben.	UG	Lecture
Fall 2017	PHL3410	3410	Aesthetics & Phil of Art	Philosophy	3	An examination of theories of art and beauty, considering questions such as: is fine art different from craft or entertainment? Are there objective standards of artistic value? Is arts purpose to express emotion, communicate truth, or produce pleasure? Do ethical flaws affect artistic value? Considers a variety of ways of interpreting, evaluating, and appreciating artworks, in order to develop a richer sense of what art is and why we value it.	UG	Lecture
Fall 2017	PHL3510	3510	Scientific Revolutions	Philosophy	3	Examines dramatic paradigm shifts in the history of science including Newton, Einstein, Darwin, quantum theory and beyond, including emerging scientific ideas. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3650	3650	Theories Human Nature	Philosophy	3	Theories of human nature.	UG	Lecture
Fall 2017	PHL3670	3670	Philosophy of Mind	Philosophy	3	Central issues in the philosophy of mind, including mind and brain, identity theory, nature of consciousness and qualia, intentionality, agency and other topics. Integrated Writing course.	UG	Lecture
Fall 2017	PHL3780	3780	Bioethics	Philosophy	3	Major ethical problems arising in medical settings. Issues include the value of human life, abortion, euthanasia, the status of advanced directives, cloning, and genetic enhancement.	UG	Lecture
Fall 2017	PHL3800	3800	Identity Respons Death	Philosophy	3	Study of three fundamental beliefs in ethical thinking.	UG	Lecture
Fall 2017	PHL3830	3830	Faith & Reason	Philosophy	3	Introduction to issues in the philosophy of religion. Topics vary.	UG	Lecture
Fall 2017	PHL3900	3900	Topics in Phil of	Philosophy	3	Selected topics.	UG	Lecture
Fall 2017	PHL3990	3990	Studies Select Subjects	Philosophy	3	Problems, approaches, and topics in the field of philosophy. Topics vary.	UG	Lecture

Fall 2017	PHL4010	4010	Major Philosophers	Philosophy	3	In-depth examination of the works of a major philosopher. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	PHL4020	4020	Continental Phil Seminar	Philosophy	3	Focused study of a narrow theme or topic in the continental and European philosophical traditions. Topics vary, but will focus on an issue in phenomenology, hermeneutics, critical theory, psychoanalytic theory, or continental social and political philosophy. Integrated Writing course.	UG	Seminar
Fall 2017	PHL4110	4110	Ethics Seminar	Philosophy	3	Ethical problems, theories, and methods. Topics vary. Integrated Writing course.	UG	Seminar
Fall 2017	PHL4140	4140	Philosophy of Law	Philosophy	3	Survey of the important theories concerning the nature and justification of law, liberty, justice, responsibility, and punishment.	UG	Lecture
Fall 2017	PHL4200	4200	Symbolic Logic II	Philosophy	3	Standard notations, principles of inference, formal systems, and methods of proof. Focus on first-order predicate logic. Students who have taken PHL 3230 cannot take PHL 4200.	UG	Lecture
Fall 2017	PHL4420	4420	Lit and Philosophy	Philosophy	3	Study of literary texts with strong philosophical themes, such as philosophy and tragedy or philosophy and science fiction. Integrated Writing course.	UG	Lecture
Fall 2017	PHL4710	4710	Phil of Physical Science	Philosophy	3	Analysis of views concerning scientific explanation, the logic of theory testing, and the ontological status of theoretical entities; philosophical examination of the concepts of space, time, matter, and motion from classical physics to contemporary relativity.	UG	Lecture
Fall 2017	PHL4720	4720	Philosophy of Social Sci	Philosophy	3	Analysis of views concerning concept and theory formation in the social sciences, problems in objectivity and value, justification of Verstehen, mechanism vs. teleological explanations, and reductionism.	UG	Lecture
Fall 2017	PHL4810	4810	Independent Study	Philosophy	1	Faculty-directed, individualized study on student-selected topics. Limited to majors and advanced students. Permission of department and a minimum 3.0 GPA required.	UG	Independent Study
Fall 2017	PHL4970	4970	Senior Project	Philosophy	3	Guided research culminating in a major paper on a topic chosen by the student and the instructor. Students develop a comprehensive bibliography, prepare a detailed outline, and write and revise the final project. May be completed for Honors.	UG	Independent Study
Fall 2017	PHL5010	5010	Ancient Philosophy	Philosophy	3	History of philosophy from the Pre-Socratics to Neo-Platonism. Topics vary.	GR	Lecture
Fall 2017	PHL5020	5020	Medieval Philosophy	Philosophy	3	History of philosophy from Augustine to Ockham. Topics vary.	GR	Lecture
Fall 2017	PHL5030	5030	Modern Philosophy	Philosophy	3	History of philosophy from Descartes to Kant. Topics vary.	GR	Lecture

Fall 2017	PHL5050	5050	19th Century Philosophy	Philosophy	3	Study of 19th century European philosophy. Topics include the idealist rejection of materialism by Hegel and Schopenhauer, Kierkegaard and Nietzsches critique of rationalism on behalf of concrete existence, and Marxs synthesis of idealisms optimism about humanitys ability to shape its world and a commitment to action over thought	GR	Lecture
Fall 2017	PHL5060	5060	Analytic Philosophy	Philosophy	3	A survey of the analytic tradition including philosophers such as Frege, Russell, Wittgenstein, Carnap, Quine, Davidson, Kripke, Putnam, Nagel and others.	GR	Lecture
Fall 2017	PHL5090	5090	Existentialism	Philosophy	3	Introduction to 20th century philosophical and literary movement which, rooted in traditional questions of freedom and moral responsibility, breaks dramatically with the past in its emphasis on concrete existence and the passions over abstract rationality, its conception of self as a product of radically free acts of self-creation, its affirmation of uncertainty and absurdity as inescapable elements of the human condition, and its rejection of traditional ethical customs.	GR	Lecture/Recitation Combination
Fall 2017	PHL5100	5100	American Philosophy	Philosophy	3	A look at the American Pragmatist tradition from Peirce, James and Dewey to more recent American philosophers such as Quine, Davidson, Putnam and Rorty.	GR	Lecture
Fall 2017	PHL5110	5110	Ethics	Philosophy	3	Critical examination of major issues and problems of contemporary philosophical ethics. Concepts of "good," "bad," "right," "wrong," and "justice." Relation between ethics and religion. Objectivity or subjectivity of values.	GR	Lecture
Fall 2017	PHL5120	5120	History of Ethics	Philosophy	3	Study of the development of ethical philosophy through a detailed investigation of such figures as Plato, Aristotle, Hobbes, Butler, Hume, Kant, Mill, and Nietzsche.	GR	Lecture
Fall 2017	PHL5130	5130	Metaphysics	Philosophy	3	An examination of topics such as: the problem of universals, free will and determinism, the nature of abstract entities like numbers, the problem of identity and individuation, the nature of time and cause and effect and the realism and anti-realism debate.	GR	Lecture
Fall 2017	PHL5140	5140	Theories of Knowledge	Philosophy	3	Examination of philosophical theories of knowledge from ancient times to the present. Readings vary but may include: Plato, Descartes, Hume, Kant, Russell, Moore, Gettier, Nozick, Bonjour, Quine, Kripke, Putnam and Williamson.	GR	Lecture
Fall 2017	PHL5150	5150	Philosophy of Language	Philosophy	3	A study of major issues such as sense and reference, theories of meaning and truth, language games, nature of grammar and syntax, language and thought.	GR	Lecture

Fall 2017	PHL5310	5310	Modern Political PHL	Philosophy	3	Introduction to classic texts and thinkers in political philosophy from the 16th century to the present. Topics include the foundations of society, theories of justice and rights, the concept of property, and the defense and critique of liberalism, democracy, socialism, and libertarianism. Readings may include Machiavelli, Hobbes, Locke, Hume, Rousseau, Smith, Mill, Marx, Nozick, Rawls, and Nussbaum.	GR	Lecture
Fall 2017	PHL5320	5320	20th C Political PHL	Philosophy	3	A close study of major thinkers in 20th century political philosophy. Topics vary, focusing on one or more themes such as rights, democracy, liberalism, pluralism, secularism, tolerance, torture, terrorism, or totalitarianism. Readings from thinkers such as Hannah Arendt, Herbert Marcuse, Jürgen Habermas, Michel Foucault, Jacques Derrida, John Rawls, Richard Rorty, G. A. Cohen, Alasdair MacIntyre, Charles Taylor, Martha Nussbaum, and Giorgio Agamben.	GR	Lecture
Fall 2017	PHL5410	5410	Aesthetics and PHL Art	Philosophy	3	An examination of theories of art and beauty, considering questions such as: is fine art different from craft or entertainment? Are there objective standards of artistic value? Is art's purpose to express emotion, communicate truth, or produce pleasure? Do ethical flaws affect artistic value? Considers a variety of ways of interpreting, evaluating, and appreciating artworks, in order to develop a richer sense of what art is and why we value it.	GR	Lecture
Fall 2017	PHL5510	5510	Scientific Revolutions	Philosophy	3	A look at dramatic paradigm shifts in the history of science including Newton, Einstein, Darwin, quantum theory and emerging ideas today.	GR	Lecture
Fall 2017	PHL5650	5650	Human Nature	Philosophy	3	Theories of human nature. Topics vary.	GR	Lecture
Fall 2017	PHL5670	5670	Philosophy of Mind	Philosophy	3	Studies central issues in the philosophy of mind including mind and brain, identity theory, nature of consciousness and qualia, intentionality, agency and other special topics.	GR	Lecture
Fall 2017	PHL5780	5780	Bioethics	Philosophy	3	Study of major ethical problems arising in medical settings. Issues include the value of human life, abortion, euthanasia, the status of advanced directives, cloning, and genetic enhancement.	GR	Lecture
Fall 2017	PHL5800	5800	Ident. Respons. Death	Philosophy	3	Study of three fundamental beliefs when thinking ethically: that a person exists as one person over time; that we are responsible for at least some of what we do; and that death is bad for the person who dies.	GR	Lecture
Fall 2017	PHL5830	5830	Faith & Reason	Philosophy	3	Issues in the philosophy of religion. Topics vary.	GR	Lecture
Fall 2017	PHL5900	5900	Topics in Phil of Religi	Philosophy	3	Examination of selected topics related to the philosophy of religion.	GR	Lecture
Fall 2017	PHL5990	5990	Studies in Selected Subjects	Philosophy	3	Problems, approaches, and topics in the field of philosophy.	GR	Lecture

Fall 2017	PHL6010	6010	Major Philosophers	Philosophy	3	In-depth study of the works of a major philosopher. Topics vary.	GR	Lecture
Fall 2017	PHL6020	6020	Continental PHL Seminar	Philosophy	3	A focused, in-depth study of a narrow theme or topic in the continental and European philosophical traditions. Topics vary, but will focus on an issue in phenomenology, hermeneutics, critical theory, psychoanalytic theory, or continental social and political philosophy. Readings will focus on a small number of thinkers in the tradition, including philosophers such as Husserl, Heidegger, Merleau-Ponty, Levinas, Adorno, Benjamin, Marcuse, Foucault, Habermas, and Freud.	GR	Seminar
Fall 2017	PHL6110	6110	Ethics Seminar	Philosophy	0	An in-depth investigation of ethical problems, theories, and methods. Variable title course.	GR	Seminar
Fall 2017	PHL6140	6140	Philosophy of Law	Philosophy	3	Survey of the important theories concerning the nature and justification of law, liberty, justice, responsibility, and punishment.	GR	Lecture
Fall 2017	PHL6240	6240	Literature and Philos.	Philosophy	3	A study of literary texts with strong philosophical themes such as philosophy and tragedy or philosophy of science fiction.	GR	Lecture
Fall 2017	PHL6810	6810	Independent Study	Philosophy	1	Faculty-directed, individualized study on student-selected topics. Limited to advanced students. Permission of faculty and a minimum 3.5 GPA required.	GR	Independent Study
Fall 2017	PHY1000	1000	Undergrad Phy Seminar I	Physics	1	Provides undergraduate physics majors with an introduction to the course load, faculty, resources, and expectations associated with the Wright State University undergraduate physics program.	UG	Seminar
Fall 2017	PHY1010	1010	Undergrad Phy Seminar II	Physics	1	Provides undergraduate physics majors with an introduction to the course load, faculty, resources, and expectations associated with the Wright State University undergraduate physics program. Continuation of PHY 1000.	UG	Seminar
Fall 2017	PHY1050	1050	Physics How Things Work	Physics	3	The physics associated with everyday scientific and technological phenomena and devices, including those associated with the generation, detection, and application of sound, light, and energy.	UG	Lecture
Fall 2017	PHY1050 L	1050L	How Things Work Lab	Physics	1	Experiments illustrating the physics of everyday scientific and technological phenomena and devices, including those associated with the generation, detection, and application of sound, light, and energy.	UG	Lab
Fall 2017	PHY1060	1060	Astronomy	Physics	3	Introduction to astronomy emphasizing the solar system and the universe of stars and galaxies. Topics include the earth-moon system, other planets and their satellites, space exploration, theories for the origin of the solar system stellar evolution, astrophysics, and cosmology.	UG	Lecture



Fall 2017	PHY1060 L	1060L	Astronomy Laboratory	Physics	1	Astronomical observations and experiments.	UG	Lab
Fall 2017	PHY1110	1110	Principles of Physics I	Physics	4	Fundamental physics of mechanics. Topics include laws of motion, work and energy, momentum, circular and rotational motion, gravity, fluids, mechanical waves and thermodynamics.	UG	Lecture
Fall 2017	PHY1110 L	1110L	Prin Physics Lab I	Physics	1	Introductory-level laboratory problems.	UG	Lab
Fall 2017	PHY1110 R	1110R	Principles of Physics I Rec	Physics	0	Required recitation for PHY 1110.	UG	Recitation
Fall 2017	PHY1120	1120	Principles of Physics II	Physics	4	Fundamentals of charge, electric field, magnetism, optics and modern physics. Topics include electric and magnetic fields, electromagnetic induction, electromagnetic waves, geometric and wave optics, optical instruments, relativity, quantum theory, and nuclear physics.	UG	Lecture
Fall 2017	PHY1120 L	1120L	Prin Physics Lab II	Physics	1	Introductory-level laboratory problems.	UG	Lab
Fall 2017	PHY1120 R	1120R	Principles of Physics II Rec	Physics	0	Required recitation for PHY 1120.	UG	Recitation
Fall 2017	PHY2400	2400	General Physics I	Physics	4	Introductory survey of mechanics for science and engineering students. Uses of interpreting physical phenomena. Topics include vectors, kinematics, dynamics, energy, momentum, rotation, oscillation and thermodynamics.	UG	Lecture
Fall 2017	PHY2400 L	2400L	General Physics I Lab	Physics	1	Introductory physics laboratory problems in mechanics, oscillation and thermodynamics.	UG	Lab
Fall 2017	PHY2400 R	2400R	General Physics I Recitation	Physics	0	Required recitation for PHY 2400.	UG	Recitation
Fall 2017	PHY2410	2410	General Physics II	Physics	4	Introductory survey of electricity and magnetism. Uses calculus in interpreting physical phenomena. Topics include electric field and potential, currents, DC circuits, magnetic fields, Faraday's law, and optics.	UG	Lecture
Fall 2017	PHY2410 L	2410L	General Physics II Lab	Physics	1	Introductory physics laboratory problems in electricity, magnetism, and optics.	UG	Lab
Fall 2017	PHY2410 R	2410R	General Physics II Rec	Physics	0	Required recitation for PHY 2410.	UG	Recitation
Fall 2017	PHY2420	2420	Intro to Modern Physics	Physics	3	Phenomenology and theoretical concepts of modern physics. Special theory of relativity, quantum theory, atomic and molecular structure and spectra, x-rays and solid state physics, nuclear physics, and instrumentation for nuclear physics research.	UG	Lecture

Fall 2017	PHY2450	2450	Concepts in Physics ECE	Physics	3.5	Fundamental concepts and applications of physics designed for early childhood education majors. Topics are integrated with mathematics and include laboratory experiences, demonstrations, and projects. Students may use either PHY 2450 or PHY 2460, but not both courses, to satisfy the requirements of the WSU Core	UG	Lecture/Lab Combination
Fall 2017	PHY2460	2460	Concepts in Physics MCE	Physics	3.5	Fundamental concepts and applications of physics designed for middle childhood education majors. Topics are integrated with mathematics and include laboratory experiences, demonstrations, and projects. Students may use either PHY 2450 or PHY 2460, but not both courses, to satisfy the requirements of the WSU Core	UG	Lecture/Lab Combination
Fall 2017	PHY3150	3150	Physics Instrumentation	Physics	3	Analog and digital electronics with an emphasis on use in the laboratory. Topics include linear devices and analysis, op-amps, the use of digital components including logic gates, counters, microcontrollers, and ADC/DAC.	UG	Lecture/Lab Combination
Fall 2017	PHY3220	3220	Applied Optics	Physics	3	Physical optics, with some review of geometrical optics. Topics include optical instrumentation, interference of light, optical interferometry, diffraction, fiber optics, lasers and nonlinear optics.	UG	Lecture/Lab Combination
Fall 2017	PHY3460	3460	Concepts Appl Physics II	Physics	4	Basic concepts and applications in physics including electricity, magnetism, optics, waves, simple machines. Inquiry learning environment emphasizing science process and mathematical reasoning, problem-solving, technology and societal connections.	UG	Lecture/Lab Combination
Fall 2017	PHY3500	3500	Advanced Physics Lab I	Physics	2	Statistical analysis of experimental data. Emphasizes experimental design, data analysis, and presentation in report form. Experiments are taken from several major areas of physics, such as optics, spectroscopy, solid state physics, acoustics, nuclear physics and electronics. Integrated Writing course	UG	Lab
Fall 2017	PHY3510	3510	Advanced Physics Lab II	Physics	2	Statistical analysis of experimental data. Emphasizes experimental design, data analysis, and presentation in report form. Experiments are taken from several major areas of physics, such as optics, spectroscopy, solid state physics, acoustics, nuclear physics and electronics. Integrated Writing course	UG	Lab
Fall 2017	PHY3710	3710	Analytical Mechanics	Physics	3	Problems in the dynamics of motion in one, two and three Dimensions. Mathematical and computational approaches are applied to systems with non-constant forces, central forces, and oscillations.	UG	Lecture

Fall 2017	PHY4270	4270	Physics - Remote Sensing	Physics	3	Purpose and motivation for remote sensing, spectral temporal, spatial, and radiometric characteristics and resolution issues, propagation of electromagnetic energy, optics, atmospheric effects, image collection and quality, sensor performance measures, platforms and orbits.	UG	Lecture
Fall 2017	PHY4320	4320	Lasers	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.	UG	Lecture
Fall 2017	PHY4400	4400	Intro Nanosci/Nanotech	Physics	3	Introduction to nanoscience and technology. Topics include introduction to quantum mechanics, fabrication, characterization, materials, electronic properties, optical properties, magnetic properties, devices, MEMS and NEMS.	UG	Lecture/Lab Combination
Fall 2017	PHY4450	4450	Teaching Physical Sci	Physics	3	Pedagogical content knowledge and skills necessary to teach physical science. Includes an analysis of the high school physics curriculum and detailed development of teaching strategies for most physical science topics.	UG	Lecture/Lab Combination
Fall 2017	PHY4460	4460	Multiple Rep Phys Sci	Physics	3	Acquaints physics teachers with the multiple representation method used in constructing concepts and problem solving in physical science. Focus will be placed on representations including pictorial representations, motion and force diagrams, graphs, energy bar charts, ray and wave front diagrams, and use of analogies.	UG	Lecture/Lab Combination
Fall 2017	PHY4470	4470	Dev of Ideas Phy Sci	Physics	3	Acquaints physics and chemistry teachers with the construction of knowledge in physical science and its implications to science instruction. Focuses on the processes that lead to the laws of physics and chemistry and how this knowledge of science history can be used to design physics and chemistry lessons.	UG	Lecture/Lab Combination
Fall 2017	PHY4500	4500	Electricity Magnetism I	Physics	3	Fundamental laws of electricity and magnetism from viewpoint of fields. Review of vector analysis; electrostatics; special techniques in electrostatics; magnetostatics; and material properties.	UG	Lecture
Fall 2017	PHY4510	4510	Electricity Magnetism II	Physics	3	Fundamental laws of electricity and magnetism from viewpoint of fields. Electromagnetic waves; time-dependent potentials and fields; radiation; resonant cavities; waveguides and transmission lines.	UG	Lecture
Fall 2017	PHY4560	4560	Int. Phy Sci & Math II	Physics	4	Integration of physics and mathematics, fulfilling science and math standards, physics education issues, inquiry teaching practices, and assessment. Applications of these to electricity, magnetism, waves, and optics.	UG	Lecture/Lab Combination
Fall 2017	PHY4600	4600	Intro to Quantum Mechanics I	Physics	3	Mathematical structure of quantum mechanics. Applications to selected one- and three-dimensional problems with emphasis on atomic structure.	UG	Lecture

Fall 2017	PHY4610	4610	Intro to Quantum Mechanics II	Physics	3	Introduction to the theoretical foundations of quantum theory. The Schrodinger and Heisenberg formulations of the harmonic oscillator, the hydrogen atom, the theory of quantized angular momentum, and scattering. Hilbert space, operators, commutation relations, and the Heisenberg uncertainty principle are included.	UG	Lecture
Fall 2017	PHY4620	4620	Nucl & Part Physics	Physics	3	Nuclear properties and models, radioactive decay, nuclear applications, elementary particle properties and interactions, the standard model.	UG	Lecture
Fall 2017	PHY4630	4630	Solid State Physics	Physics	3	Selected properties of solids and their quantitative explanation in terms of simple physical models. Applications of quantum mechanics to solids.	UG	Lecture/Lab Combination
Fall 2017	PHY4700	4700	Topics in Physics	Physics	1	Selected topics in physics.	UG	Independent Study
Fall 2017	PHY4730	4730	Mathematical Physics	Physics	3	Survey of mathematical physics, including vector analysis, analytical mechanics, electromagnetism, and thermodynamics.	UG	Lecture
Fall 2017	PHY4800	4800	Classical Mechanics	Physics	3	Introduction to classical theoretical physics. Emphasis on mechanics and mathematical techniques.	UG	Lecture
Fall 2017	PHY4810	4810	Electromagnetic Theory I	Physics	4	Emphasis on electromagnetic field theory and mathematical techniques.	UG	Lecture
Fall 2017	PHY4830	4830	Statistical Mechanics	Physics	3	Introduction to microscopic and macroscopic physical systems developed from concepts of statistical physics. Applications to classical and quantum systems. Theories of phase transitions, critical phenomena and fluctuations.	UG	Lecture
Fall 2017	PHY4940	4940	Senior Project	Physics	3	Selected problems in experimental and theoretical physics with critical analysis of results. Integrated Writing course.	UG	Independent Study
Fall 2017	PHY5150	5150	Physics Instrument Lab	Physics	3	Familiarity with the fundamentals of analog electronics as applied to scientific instrumentation. Ability to converse with electronic technicians professionally. Ability to build prototype circuits and test their operation. Familiarity with a few sensors and with methods of signal to noise enhancement.	GR	Lecture/Lab Combination
Fall 2017	PHY5220	5220	Optics	Physics	3	Study of optics using geometric and physical optics. Theory and applications of interferometry and light detection devices. Study of optical instruments. Brief introduction to lasers and holography.	GR	Lecture
Fall 2017	PHY5500	5500	Advanced Physics Lab - I	Physics	2	Laboratory projects designed to introduce the participant to modern physics laboratory techniques by doing standard measurements or reproducing historic experiments.	GR	Lab
Fall 2017	PHY5510	5510	Advanced Physics Lab - 2	Physics	2	Laboratory projects designed to introduce the participant to modern physics laboratory techniques by doing standard measurements or reproducing historic experiments.	GR	Lab

Fall 2017	PHY5710	5710	Mechanics	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 2017	PHY5990	5990	Spec Problem in Physics	Physics	1	Special topics, problems or research designed for specific needs, talents, or interest of the student.	GR	Independent Study
Fall 2017	PHY6000	6000	Semiconductor Physics	Physics	3	Study of crystal structure; electronic band structure; charge carriers in semiconductors; generation, recombination, and motion of charge carriers; electrical and optical properties. Covers structure and characteristics of p-n junctions; bipolar transistors; field effect transistors; and other selected devices. Design and computer modeling of devices.	GR	Lecture
Fall 2017	PHY6100	6100	Physics Lab Techniques	Physics	2	Proficiency with general laboratory and measurement techniques, knowledge of physical sensors and data reduction techniques. Application to simple physical systems.	GR	Lab
Fall 2017	PHY6270	6270	Physics - Remote Sensing	Physics	3	Purpose and motivation for remote sensing; spectral temporal, spatial, and radiometric characteristics and resolution issues; propagation of electromagnetic energy; optics; atmospheric effects; image collection and quality; sensor performance measures; platforms and orbits.	GR	Lecture
Fall 2017	PHY6320	6320	Lasers	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/Lab Combination
Fall 2017	PHY6400	6400	Nanosci. and Nanotech.	Physics	3	Introduction to nanoengineering, nanoscience and nanotechnology. Topics include introduction to quantum mechanics, fabrication, characterization, materials, electronic properties, optical properties, magnetic properties, devices, MEMS, NFMS.	GR	Lecture/Lab Combination
Fall 2017	PHY6430	6430	Complex Nat. Systems	Physics	4	Explores quantitative analysis and probabilistic forecasting of the behavior of complex nonlinear natural and human systems. Methods of analysis included fractals to quantify spatial, size, and temporal scaling and chaos to study sensitivity to initial conditions and feedback. Modeling includes self-organization and cellular automata. Systems studied include seismology, chemistry, biochemistry, hydrology, medicine, geography, and coupled human and natural systems.	GR	Lecture

Fall 2017	PHY6450	6450	Integ Phy Sci & Math I	Physics	4	Integration of physics and mathematics, fulfilling science and math standards, physics education issues, inquiry teaching practices, and assessment. Application of these to science and math process skills, measurement, and properties of matter, kinematics, forces and energy transfers.	GR	Lecture/Lab Combination
Fall 2017	PHY6460	6460	Int. Phy Sci & Math II	Physics	4	Integration of physics and mathematics, fulfilling science and math standards, physics education issues, inquiry teaching practices, and assessment. Applications of these to electricity, magnetism, waves, and optics.	GR	Lecture/Lab Combination
Fall 2017	PHY6500	6500	Electricity and Magnet	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 2017	PHY6510	6510	Electricity & Magnetism	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 2017	PHY6600	6600	Intro to Quantum Mechanics I	Physics	3	Introduction to the ideas and methods of the quantum mechanics. Applications to selected one- and three-dimensional problems with emphasis on atomic structure. Analysis of quantum mechanical spin and angular momentum.	GR	Lecture
Fall 2017	PHY6610	6610	Intro to Quantum Mechanics II	Physics	3	Introduction to the ideas and methods of the quantum mechanics. Applications to selected one- and three-dimensional problems with emphasis on atomic structure. Analysis of quantum mechanical spin and angular momentum. Continuation of PHY6600.	GR	Lecture
Fall 2017	PHY6620	6620	Nucl. & Particle Phys.	Physics	3	Nuclear radiation, nuclear properties, nuclear transformations, and elementary particles and interactions. Relativistic energy relationships.	GR	Lecture
Fall 2017	PHY6630	6630	Intro to Sol. State Phys	Physics	3	Selected properties of solids and their quantitative explanation in terms of simple physical models. Applications of quantum mechanics to solids. 3 hours lecture.	GR	Lecture
Fall 2017	PHY6730	6730	Mathematical Physics	Physics	3	Survey of mathematical physics including vector analysis, tensor analysis, calculus of several variables, ordinary and partial differential equations, integral equations, theory of distributions. Ability to apply these to mechanics, electromagnetism, and thermodynamics, and quantum mechanics.	GR	Lecture
Fall 2017	PHY6800	6800	Classical Mechanics	Physics	3	Classical theoretical mechanics with emphasis on the mathematical basis of Lagrangian and Hamiltonian systems, and rotational dynamics.	GR	Lecture

Fall 2017	PHY6810	6810	Electromag. Theory - I	Physics	4	Electromagnetic field theory emphasizing static and time dependent fields, field sources, and boundary value problems using advanced mathematical techniques.	GR	Lecture
Fall 2017	PHY6820	6820	Electromagnetic Th. II	Physics	4	Understanding of formal Electromagnetic Theory including application of multipole treatments in Electro- and Magneto-statics, applications of relativity, and application of Maxwells equations to particular physical systems.	GR	Lecture
Fall 2017	PHY6830	6830	Statistical Mechanics	Physics	3	Introduction to microscopic and macroscopic physical systems developed from concepts of statistical physics. Application to classical and quantum systems will be presented as well as theories of phase transitions, critical phenomena and fluctuations.	GR	Lecture
Fall 2017	PHY6990	6990	Spec. Top. Phy Teachers	Physics	1	Physical science topics for teachers. Topics vary by year. Applicable to grades 3-12 teachers or to the MST capstone experience according to section.	GR	Lecture/Lab Combination
Fall 2017	PHY7000	7000	Prin. of Instr-Phys. Lab	Physics	2	Survey of available instructional materials and discussion of educational theory and techniques leading to more effective instruction in the physics laboratory. For physics majors only or departmental approval required.	GR	Lecture/Lab Combination
Fall 2017	PHY7040	7040	Philosophy of Physics	Physics	3	The various overarching ideas in physics that give unity to the subject. Historical bases of these ideas are included. Topics include but are not limited to the experimental basis of physics, fundamental limits on measuring and of knowing, the physical nature of the cosmos, determinism, relativity, the quantum - continuum transition, the nature of space and time, entropy (H theorem) , Bell's theorem, Liouville's theorem.	GR	Seminar
Fall 2017	PHY7100	7100	Quantum Mechanics I	Physics	3	Principles of non-relativistic quantum mechanics, Schroedinger's equation and matrix mechanics. Facility with applications to atomic, molecular, nuclear, solid state, spin, and biological systems.	GR	Lecture
Fall 2017	PHY7110	7110	Quantum Mechanics II	Physics	3	Continuation of PHY7100. Principles of non-relativistic quantum mechanics, Schroedinger's equation and matrix mechanics. Facility with applications to atomic, molecular, nuclear, solid state, spin, and biological systems.	GR	Lecture
Fall 2017	PHY7120	7120	Rel Quantum Mech	Physics	3	Relativistic treatment of fields, quantum theory of radiation, relativistic treatment of spin, the Dirac equation and its solution, scattering of relativistic particles.	GR	Lecture
Fall 2017	PHY7200	7200	Many-Body Physics	Physics	3	Consideration of many body theory in Physics including phase space evolution, Liouvilless theorem, ensembles, the Boltzman equation, the H theorem, and approach to equilibrium, fluctuation phenomena. Non-equilibrium problems	GR	Lecture

Fall 2017	PHY7210	7210	Complexity. in Env. Sys.	Physics	4	Mathematical methods for quantitative analysis and modeling of complex, nonlinear environmental systems. Applications of scaling in space and time, feedback, and self-organization in environmental systems including: ecology, hydrology, global climate change, and geodynamical systems.	GR	Lecture
Fall 2017	PHY7280	7280	General Relativity	Physics	3	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. Introduction to differential geometry.	GR	Seminar
Fall 2017	PHY7300	7300	Solid State - Structure	Physics	3	Topics from the physics of the solid state related to structure as chosen by the instructor. These may include but are not limited to: crystallography, particle beam analysis of crystal structure, lattice dynamics, theories of specific heat and sound, defects in structures, defect dynamics, and mechanisms of mass transport.	GR	Seminar
Fall 2017	PHY7310	7310	Solid State - E&M	Physics	3	Topics in solid state physics related to electromagnetic properties. Topics may include but are not limited to theories of electronic and spin conduction, theories of magnetism, electronic band structure, dielectric function and polarizability, theories of optical transmission and absorption, ferroelectricity, ferromagnetism, and superconductivity, spin resonance, and the moschauer effect.	GR	Seminar
Fall 2017	PHY7400	7400	Nucl. Methods in Physics	Physics	3	Topics in the application of nuclear structure, nuclear processes, and energy loss processes to physical measurement and research. Radiation damage. Particle scattering. Gamma, alpha and beta spectroscopy. Energy loss spectroscopies.	GR	Seminar
Fall 2017	PHY7510	7510	Atomic Spectra & Struct.	Physics	3	Modern theory of the atom and quantum mechanical treatment of the origin of atomic and X-ray spectra.	GR	Seminar
Fall 2017	PHY7520	7520	Mol. Spectra & Structure	Physics	3	Theory of molecular spectra and structure with examination of experimental data as related to molecular spectra. Applications to the detection and analysis of molecules.	GR	Seminar
Fall 2017	PHY7530	7530	Ultrafast Optics	Physics	3	The science and application of ultrafast optics. The theory of the generation, propagation, and application of ultrafast laser pulses. Nonlinear optics as related to ultrafast optics.	GR	Seminar
Fall 2017	PHY7540	7540	Geophysics	Physics	3	The physics of the earth's crust, and atmosphere. Applications of physical principles to such processes as fluid flow in the crust, friction within the crust, measurements of crust structure, fluid flow in the atmosphere, interaction of the atmosphere with radiation and weather.	GR	Seminar



Fall 2017	PHY7550	7550	Terahertz Physics	Physics	3	The interaction of high frequency electromagnetic radiation with materials with emphasis on the Terahertz region of the spectrum. Ability to apply these interactions to the function and design of high frequency electronic devices and/or to molecular systems.	GR	Seminar
Fall 2017	PHY7700	7700	Selected Topics	Physics	3	This course explores a topic for which no other course exists. Topics vary. Only 6 credit hours may be applied to those required for the MS degree.	GR	Independent Study
Fall 2017	PHY7800	7800	Plasma Physics	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	Seminar
Fall 2017	PHY7890	7890	Continuing Registration	Physics	1	Continuing Registration	GR	Independent Study
Fall 2017	PHY7990	7990	Minor Problems	Physics	1	Students pursue a narrow topic on a tutorial basis or be trained in a specific laboratory or computational technique. Cannot be used for thesis credit. A maximum of 6 credits may be counted toward the MS degree.	GR	Independent Study
Fall 2017	PHY8000	8000	Seminar	Physics	1	Scheduled discussions of current problems in physics. Centered around guest lecturer and student presentations.	GR	Seminar
Fall 2017	PHY8250	8250	Fund of Bio Comp & Mod	Physics	3	This course will treat fundamental programming approaches, data structures and mathematical/statistical principles used in designing, computational biology tools and algorithms. Students will learn theoretical principles and gain practical experience.	GR	Lecture/Lab Combination
Fall 2017	PHY8990	8990	Research	Physics	3	Provides students opportunities for directed study or laboratory work in a specialized field of interest. Intended for thesis preparation. May be repeated.	GR	Independent Study
Fall 2017	PLS2000	2000	Power and Politics	Political Science	3	Examines power and conflict; introduces several worldviews for understanding important issues in domestic and international politics. Integrated Writing course.	UG	Lecture
Fall 2017	PLS2120	2120	American National Govern	Political Science	3	Introductory survey of American national government and politics including study of political participation, interest groups, political parties, leadership, mass media, elections and campaigns, the Constitution, presidency, Congress, bureaucracy, and the courts.	UG	Lecture
Fall 2017	PLS2220	2220	International Politics	Political Science	3	Introductory survey of the international political system including study of state and nonstate actors, major features of the system, conflict roots, approaches to peace-keeping, and current issues.	UG	Lecture

Fall 2017	PLS2510	2510	Comp NW Social Systems	Political Science	3	Examines political processes as well as social and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary. Credit will not be given for PLS 2510 Comparative Nonwestern Social Systems to students who have already successfully completed CST 2510 Comparative Nonwestern Social Systems. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3010	3010	Mod Political Ideologies	Political Science	3	Systematic analysis of theories and variations of modern political ideologies, including democracy, socialism, fascism, and communism.	UG	Lecture
Fall 2017	PLS3020	3020	Intro to Comparative Pol	Political Science	3	Examination of differences among political systems, parliamentary and presidential, democratic and authoritarian, as well as regional differences in political economic development. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3100	3100	Quant Method Polysci	Political Science	3	Uses of quantitative political data with emphasis on contemporary research applications. Survey design and questionnaire construction. Analysis and interpretation of data.	UG	Lecture
Fall 2017	PLS3150	3150	Religion and Politics	Political Science	3	(Also listed as REL 3650) General examination of both the historical and the contemporary relation between religion and politics in the United States, with special reference to church/state separation. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3210	3210	City Politics	Political Science	3	Governments and politics of metropolitan regions; government structure and functions; interests and power relations.	UG	Lecture
Fall 2017	PLS3220	3220	State Government	Political Science	3	Survey and analysis of the structures and functions of the American states with special attention to the problems of federal-state and state-local relations, legislative apportionment, and urban growth. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3230	3230	Government of Ohio	Political Science	3	Organization and functions of the government of Ohio with special attention to development, social structure, legal status, electoral processes, and fiscal problems. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3250	3250	African Amer Politics	Political Science	3	Explores what makes African American politics distinctive from American politics and the prerequisites for effective political and economic leadership in the black community. Major theme is black power. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3260	3260	Black Women and Politics	Political Science	3	Role of race and gender in the political activities of black women in the US, Africa, and the diaspora. Integrated Writing course.	UG	Lecture

Fall 2017	PLS3310	3310	Political Parties	Political Science	3	General functions, organization, and operation of American political parties. Emphasis on role of parties in democratic systems. Examines nominations, elections, campaigns, and presidential politics. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3350	3350	The American Presidency	Political Science	3	General political functions, roles, and structure of the presidential office; limits and opportunities of presidential power; relations with Congress, courts, bureaucracy, the public, and the political party; and presidential personality.	UG	Lecture
Fall 2017	PLS3370	3370	The Legislative Process	Political Science	3	Policy role, political functions, internal structure, and operation of Congress. Secondary concern for state legislatures and non-American legislative bodies. Integrated	UG	Lecture
Fall 2017	PLS3400	3400	Law and Society	Political Science	3	Theories of law and the nature and functions of the judicial process.	UG	Lecture
Fall 2017	PLS3410	3410	Fund Crim Investigation	Political Science	3	Survey of investigative techniques focusing on specific problems and crimes to illustrate proper methods and procedures of criminal investigations.	UG	Lecture
Fall 2017	PLS3420	3420	Civ Lib I: 1st Amendment	Political Science	3	Cases and related materials on the Bill of Rights and the Fourteenth Amendment with emphasis on the First Amendment freedoms: freedom of speech, of the press, and of religion.	UG	Lecture
Fall 2017	PLS3430	3430	Civil Lib II Due Process	Political Science	3	Cases and related materials on the enforcement of civil rights and liberties through the due process and equal protection claims of the 14th Amendment.	UG	Lecture
Fall 2017	PLS3440	3440	Police Procedures and Op	Political Science	3	Procedures and operations of law enforcement at various levels from patrol to senior administration, emphasizing duties, responsibilities and leadership. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3450	3450	Public Administration	Political Science	3	Nature and scope of public administration, administrative law, and public interest in the administrative process.	UG	Lecture
Fall 2017	PLS3460	3460	Public Personnel Admin	Political Science	3	Methods of employment, training, compensation, and employee relations in various levels of civil service. Examines organizations of public employees.	UG	Lecture
Fall 2017	PLS3470	3470	Am Public Pol Analysis	Political Science	3	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.	UG	Lecture
Fall 2017	PLS3560	3560	Politics Society France	Political Science	3	The historic interaction of French culture and politics. Growth of the French nation and state, French society, the nature of modern politics and institutions, and France's role in world affairs. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3700	3700	International Theory	Political Science	3	Influential classical and contemporary contending theoretical perspectives in international relations and their critique. Integrated Writing course.	UG	Lecture

Fall 2017	PLS3750	3750	Human Rights in USA	Political Science	3	Examines controversies over human rights in the United States and 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. Integrated Writing course.	UG	Lecture
Fall 2017	PLS3990	3990	Selected Subjects	Political Science	1	Problems, approaches and issues in the field of political science. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4010	4010	Dev & Con Am Civ Lib	Political Science	3	Birth and development of fundamental liberty in American society. Views of political philosophers, important historic events, and altered the role of the court. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4030	4030	Campaigns and Elections	Political Science	3	American political electoral institutions and processes, and campaigns. Emphasis on readings, discussion, and research. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4040	4040	Civil Rights Struggles	Political Science	3	History and development of castigation in America, focusing upon groups. Examines the struggles of race, ethnicity, gender, sexual orientation, immigrants, native Americans, labor, religion, non-citizens, the disabled and aged and the fetus and animals. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4060	4060	Globalization	Political Science	3	The political economy of globalization as it affects local, national, and international political processes. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4070	4070	Seminar Political Theory	Political Science	3	Special topics on selected theorists/thinkers, or in theoretical approaches to disciplinary subject matter. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4080	4080	Radical Black Thought	Political Science	3	Examines radical black thought and philosophy from a Pan-Africanist perspective, focusing primarily on the 20th century. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4090	4090	Legal Judging	Political Science	3	Examines how the Supreme Court should interpret the Constitution and how this idea has developed over time. Looks at the history of the Supreme Court and also the theoretical and empirical perspectives on legal judging. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4100	4100	Political Psychology	Political Science	3	Introduction to political psychology, emphasizing its application to international politics. Surveys dominant psychological theories, approaches and works, as well as applications of psychological perspectives to foreign policy and world politics.	UG	Lecture
Fall 2017	PLS4150	4150	Law Lawyers & the System	Political Science	3	Introduces the American legal system at the level of trial courts, the participants and common legal transactions. Examines how cases are processed, what lawyers can sue for, and how trials are "judged." Particular emphasis upon incentives that rules create for behavior, and whether the system lives up to common expectations.	UG	Lecture

Fall 2017	PLS4160	4160	Sex and the Law	Political Science	3	Addresses how government uses law to regulate sex as activity, expression, and identity. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4170	4170	Moot Court	Political Science	3	Politics in the appellate courts and simulated appellate arguments in a moot court setting. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4180	4180	Politics and Ethics	Political Science	3	Philosophical and legal foundations for regulating ethics among public officials. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4200	4200	Politics and the Novel	Political Science	3	(Also listed as ENG 3010) Study and critiques 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	UG	Lecture
Fall 2017	PLS4210	4210	Am Constitutional Pols	Political Science	3	The creation of the US Constitution and the ongoing struggle in American legal politics over its basic meaning.	UG	Lecture
Fall 2017	PLS4230	4230	Fin Mgt Pub Orgs	Political Science	3	Local fiscal institutions and 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	UG	Lecture
Fall 2017	PLS4250	4250	Metro Studies Seminar	Political Science	3	Explores issues that impact metropolitan development such as pollution, the non-profit sector, and transportation.	UG	Lecture
Fall 2017	PLS4260	4260	Supreme Court	Political Science	3	Addresses the role of the Supreme Court in American politics, including an examination of how the Court operates as a source of institutional power and public policy. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4270	4270	Urban Policy Analysis	Political Science	3	(Also listed as URS 4270). Study of selected urban problems and their relationship to the political environment. Use of simulation gaming to understand community development processes	UG	Lecture
Fall 2017	PLS4280	4280	Nat'l Security Politics	Political Science	3	Study of U.S. national defense and security policy process and major strategic issues facing the U.S. government. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4300	4300	American Govt Seminar	Political Science	3	Selected and varying topics related to American politics and institutions. Emphasis on readings, discussion and research. Topics vary. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4310	4310	Cyber Crime	Political Science	3	Political and legal issues in computer- and Internet-based crime, including child pornography, computer fraud, and identity theft, prevention of cyber crime and responsibilities of computer owners and Internet servers	UG	Lecture
Fall 2017	PLS4330	4330	Public Opinion	Political Science	3	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 policy process; and development of political attitudes and values.	UG	Lecture

Fall 2017	PLS4340	4340	Political Leadership	Political Science	3	Development of political attitudes and values among leaders, activists, and the public. Relationship between personality, political leadership, behavior, and policy. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4350	4350	Political Corruption	Political Science	3	Analysis of political corruption including campaign and elections, graft, the executive branch, congressional ethics, corruption in law enforcement, organized crime and abuse of authority.	UG	Seminar
Fall 2017	PLS4360	4360	Criminal Law	Political Science	3	Nature of the criminal law and law pertaining to criminal liability; inchoate crimes; the elements of crimes against persons, property, and habitation; and the defenses to criminal actions.	UG	Lecture
Fall 2017	PLS4370	4370	Criminal Procedure	Political Science	3	Constitutional protections of the individual confronting the criminal justice system. Case law pertaining to the Fourth Amendment (search and seizure), Fifth Amendment (self-incrimination), and Sixth Amendment (right to counsel).	UG	Lecture
Fall 2017	PLS4380	4380	Environmental Law Policy	Political Science	3	Environmental law and policy and 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.	UG	Lecture
Fall 2017	PLS4390	4390	Bioethics and Law	Political Science	3	Legal implications of new biological technologies, particularly mind and behavior control, genetic engineering, birth and death control, and organ transplantation.	UG	Lecture
Fall 2017	PLS4400	4400	Constitutional Law	Political Science	3	Examines cases in which provisions of the constitution have been judicially interpreted. Also examines federal systems, separation of powers, and limits on government.	UG	Lecture
Fall 2017	PLS4410	4410	Natural Resources Law	Political Science	3	Examines federal management of natural resources on public lands, specifically, water, minerals, timber, grazing, and wildlife. Analysis of constitutional authority, statutes, regulations, federalism, and judicial review of administrative decisions.	UG	Lecture
Fall 2017	PLS4420	4420	Criminal Justice System	Political Science	3	Survey of the American criminal justice system concentrating on political aspects. Topics include police, judges, attorneys, supreme court decisions, crime, and public opinion.	UG	Lecture
Fall 2017	PLS4440	4440	Topics Criminal Justice	Political Science	3	Problems, approaches, and topics in the field of criminal justice. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4450	4450	Adv Criminal Investgn	Political Science	3	Criminal investigative techniques including forensics, evidence, interviews, and interrogation as applied to specific types of crimes. Integrated Writing course.	UG	Lecture

Fall 2017	PLS4460	4460	Public Budgeting	Political Science	3	Also listed as URS 4230. Examines the major phases of the government budget cycle, types of budgets, budgetary reform, economic and public policy impact of government budgeting, the decision making process, and legislative/executive relations in budget formation and implementation.	UG	Lecture
Fall 2017	PLS4480	4480	Gender Violence Am Pol	Political Science	3	Examines gender violence in the United States. Considers the range of violence, its sources, and solutions. Topics include domestic violence, rape, human trafficking, reproductive rights, and pornography. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4490	4490	Gender Violence Intl Pol	Political Science	3	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. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4500	4500	Political Anthropology	Political Science	3	Anthropological study of political life cross-culturally. Evolutionary and historical approaches to political institutions, and classic anthropological analyses of political institutions. Recent developments in the study of politics as a contemporary problem. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4510	4510	Contemp African Politics	Political Science	3	Political processes and governmental institutions of sub-Saharan Africa; special attention to dynamics of political development and social and economic change. Comparative analysis of selected African political systems. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4520	4520	Intl Human Rights	Political Science	3	Examines the role of human rights in international relations and considers contending definitions of human rights and debates over policy by focusing on thematic issues and case studies. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4530	4530	Soviet Successor States	Political Science	3	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. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4540	4540	Politics of Middle East	Political Science	3	Introduction to governments and politics of the Middle East with special attention to cultural and historical background and the Arab-Israeli conflict. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4550	4550	Politics of Iraq	Political Science	3	Traces recent political history of Iraq since its formation in 1920s. Examines reasons for recent war and implications for Iraq's political future. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4560	4560	Politics of Europe	Political Science	3	Comparative study of the political systems of Great Britain, France, and Germany. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4570	4570	Pol. Developing Nations	Political Science	3	Politics, economy, society and international relations of developing nations. Integrated Writing course.	UG	Seminar

Fall 2017	PLS4580	4580	Latin American Politics	Political Science	3	Politics in Central America, South America and the Caribbean, focusing on political and economic development. Considers major debates in comparative politics on a variety of issues, including democracy and democratization. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4590	4590	Contemporary Brazil	Political Science	3	Introduction to Brazilian politics, society and economy. Topics include Brazil's political and economic liberalization, its international relations, gender and race relations, and the environment. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4600	4600	Comparative Politics Sem	Political Science	3	Readings, research, reports, and discussion of selected topics and problems. Topics vary. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4610	4610	Comp Social Movements	Political Science	3	Examines group behavior motivated by the desire to change or maintain political, economic, cultural or social systems. Examination of movements in countries around the world, including cross-national and global movements. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4620	4620	US-India-Pak-Afghan Rel	Political Science	3	United States relations with India, Pakistan and Afghanistan. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4630	4630	International Conflict	Political Science	3	Relationship of power, alliances, arms races, etc. to the initiation, prosecution, and aftermath of interstate war. Effects of an increasingly globalized world on war. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4640	4640	Israel and Palestine	Political Science	3	Examines the domestic politics of Israel and Palestine, and the international politics of the conflict between them. Focuses on the causes, development, and prospects of the conflict in the area known as Israel/Palestine. Examines the political history of Israelis and Palestinians, their differing narratives that frame their worldview and how they see the conflict.	UG	Lecture
Fall 2017	PLS4650	4650	Politics of Nationalism	Political Science	3	Examines theories and various cases of nationalist movements/conflicts from different parts of the world in order to appreciate the relevance of nationalism to contemporary politics and international relations. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4660	4660	Politics in South Asia	Political Science	3	Political institutions and political, economic, security and international relations issues in India, Pakistan, Sri Lanka, Bangladesh and Nepal. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4670	4670	China: Domestic Politics	Political Science	3	Governmental structures and processes within modern China, emphasizing both elite and mass politics. Overview of the rise of state socialism and examination of some of the key issues in Chinese politics and society today. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4700	4700	Topics Intl Relations	Political Science	3	Readings, research, reports, and discussion of selected topics and problems. Integrated Writing course.	UG	Seminar



Fall 2017	PLS4710	4710	International Law	Political Science	3	Study of rules governing the conduct of international politics with emphasis on their relevance to current world problems.	UG	Lecture
Fall 2017	PLS4720	4720	International Terrorism	Political Science	3	Surveys the phenomenon of terrorism: who employs it, how and why it occurs in international politics, and how targets respond to terrorism. Examines special problems terrorism creates for democracies and the politics of hostage-taking. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4730	4730	American Foreign Policy	Political Science	3	Role of the United States in contemporary international politics and the relationship of the domestic political system to that role. Discussion of current policy and events. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4740	4740	Politics Women Terrorist	Political Science	3	Examines the violent and political behavior of women in terrorism, including ideology, gender, and case studies. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4750	4750	Weapons Mass Destruct	Political Science	3	Weapons of mass destruction, their manufacture, use, and effects. Analyzes their political aspects. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4770	4770	International Org	Political Science	3	Examines the competing theoretical perspectives on international organization and analyzes the structure, functions, and the evolving role of key international organizations. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4820	4820	State Legisl Internship	Political Science	3	Students work for a state legislator in Columbus, including office work, constituent assistance and research. Requires minimum GPA of 3.0.	UG	Internship
Fall 2017	PLS4821	4821	Pre-Law Internship	Political Science	3	Intern 12-15 hours per week in regional law offices, including prosecutors, public defenders, and private practices. Assist attorneys, participate in outreach program activities, and observe trials.	UG	Internship
Fall 2017	PLS4822	4822	Congress Dist Internship	Political Science	3	Intern 12-15 hours per week in one of the area's congressional district local offices to assist staff with constituency casework.	UG	Internship
Fall 2017	PLS4823	4823	Campaign Internship	Political Science	3	Volunteer for the candidate of one's choice in a local, state, or federal election. Work 170 hours over the semester, adjusting hours to account for the campaign calendar.	UG	Internship
Fall 2017	PLS4824	4824	Local/City Internship	Political Science	3	Intern 12-15 hours per week in a local governmental office. Jobs include working with city managers, mayors, and other city leaders to meet local needs and help with specific projects.	UG	Internship
Fall 2017	PLS4825	4825	Washington DC Internship	Political Science	3	Internships in Washington, DC for academic credit. Interns are expected to work at least 12-15 hours per week and write an assessment of the experience at the end of the semester.	UG	Internship

Fall 2017	PLS4840	4840	Pre-Law Internship	Political Science	3	Students volunteer 15 hours per week in Greene County Prosecutor's office. Duties include preparing trial notebooks, legal research, courtroom observation, outreach, and other assistance to the prosecutor's staff. Students must have 3.0 GPA. Integrated Writing course.	UG	Internship
Fall 2017	PLS4850	4850	Chinese Foreign Policy	Political Science	3	Examines development and current practices of Chinese foreign policy. Special attention given to China-U.S. relations, as well as China's role in international and regional organizations. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4860	4860	Model UN Seminar	Political Science	3	Experiential learning opportunity with intensive training in research, writing, public speaking and conflict resolution. Culminates at the national collegiate conference in New York simulating the UN. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4870	4870	Politics of Intelligence	Political Science	3	Evolution of intelligence gathering, analysis, and application in policy making in the United States. Tensions inherent between a democracy and a secret agency, and the role of technology. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4871	4871	Fundamentals of Intel	Political Science	3	Immerses students in the fundamental tradecraft standards of intelligence analysis used by the United States Intelligence Community. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4880	4880	Conflict Resolution	Political Science	3	Survey of literature on causes and resolution of conflict and application of concepts and theories to analysis of a real-world international conflict. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4881	4881	Diplomacy & Negotiation	Political Science	3	Topics include power and leverage; negotiation strategies; mediation and third-party involvement; and ratification and implementation of agreements. Provides an analytical understanding of how negotiation works, and some level of proficiency and comfort in the practice of negotiation. Integrated Writing course.	UG	Seminar
Fall 2017	PLS4900	4900	Independent Reading	Political Science	1	Supervised individual readings on selected topics arranged between student and faculty member directing the study. Requires 3.0 GPA. Integrated Writing course.	UG	Independent Study
Fall 2017	PLS4910	4910	Independent Research	Political Science	1	Supervised individual research on selected topics. Minimum 3.0 grade point average. Integrated Writing course.	UG	Independent Study
Fall 2017	PLS4920	4920	Indep Field Research	Political Science	1	Supervised individual projects. May involve intern programs, field research or other specialized projects. Requires 3.0 GPA.	UG	Independent Study
Fall 2017	PLS4930	4930	Contemporary Problems	Political Science	3	Advanced study in selected topics that frequently include new developments in the methodology or subject matter of the various sub fields of the discipline. Integrated Writing course.	UG	Lecture
Fall 2017	PLS4940	4940	Special Topics	Political Science	1	Problems of contemporary significance. Integrated Writing course.	UG	Lecture

Fall 2017	PLS5230	5230	Government of Ohio	Political Science	3	Organization and functions of the government of Ohio with special attention to development, social structure, legal status, electoral processes, and fiscal problems.	GR	Lecture
Fall 2017	PLS5250	5250	African Am Politics	Political Science	3	Explores what makes African American politics distinctive from American politics and the prerequisites for effective political and economic leadership in the black community. Major theme is notion of black power.	GR	Lecture
Fall 2017	PLS5260	5260	Black Women and Politics	Political Science	3	Examines the role of race and gender in the study of the political behavior of black women in the US, Africa and the diaspora.	GR	Lecture
Fall 2017	PLS5400	5400	Law and Society	Political Science	3	Examines the judicial process, civil litigation (torts, contracts, family law) and pertinent constitutional issues.	GR	Lecture
Fall 2017	PLS5410	5410	Fund Crim Investigation	Political Science	3	Survey of investigative techniques focusing on specific problems and crimes to illustrate proper methods and procedures of criminal investigation.	GR	Lecture
Fall 2017	PLS5420	5420	Civil Liberties I:1st Amndmnt	Political Science	3	Cases and related materials on the Bill of Rights and the Fourteenth Amendment with emphasis on the First Amendment freedoms, concentrating on Supreme Court behavior and First Amendment procedures.	GR	Lecture
Fall 2017	PLS5430	5430	Civil Liberties II	Political Science	3	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 2017	PLS5440	5440	Police Procedures and Op	Political Science	3	Procedures and operations of law enforcement at various levels from patrol to senior administration, emphasizing duties, responsibilities and leadership.	GR	Lecture
Fall 2017	PLS5470	5470	Public Policy	Political Science	3	Examines models of public policy making and analyzes contemporary policy debates on the economy, energy and environment, immigration, and education.	GR	Lecture
Fall 2017	PLS5560	5560	Pol Society France	Political Science	3	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 2017	PLS5750	5750	Human Rights in USA	Political Science	3	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 2017	PLS5990	5990	Studies in Select.Topics	Political Science	3	Problems, approaches and topics in the field of political science.	GR	Lecture
Fall 2017	PLS6030	6030	Campaigns and Elections	Political Science	3	American political electoral institutions and processes, and campaigns.	GR	Lecture

Fall 2017	PLS6060	6060	Globalization	Political Science	3	Focuses on the economic aspects of globalization and effects on local, national, and international political processes.	GR	Lecture
Fall 2017	PLS6080	6080	Radical Black Thought	Political Science	3	Examines radical black thought and philosophy from a Pan-Africanist perspective, primarily focuses on the 20th century.	GR	Lecture
Fall 2017	PLS6100	6100	Pol Psychology	Political Science	3	Introduces students to political psychology, with an emphasis on application to international politics. Students are provided with a broad survey of psychological theories, approaches and works, and how these perspectives are applied to foreign policy and world politics.	GR	Seminar
Fall 2017	PLS6160	6160	Sex and the Law	Political Science	3	Addresses how government uses law to regulate sex as activity, expression, and identity.	GR	Lecture
Fall 2017	PLS6170	6170	App Politics and Moot Ct	Political Science	3	Politics in the appellate courts and simulated appellate arguments in a moot court setting.	GR	Lecture
Fall 2017	PLS6180	6180	Politics and Ethics	Political Science	3	Philosophical and legal foundations for regulating ethics among public officials.	GR	Lecture
Fall 2017	PLS6200	6200	Politics & the Novel	Political Science	3	(Also listed as ENG 6600.) 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 2017	PLS6210	6210	Am Constitutional Pols	Political Science	3	The creation of the US Constitution and the ongoing struggle in American legal politics over its basic meaning.	GR	Lecture
Fall 2017	PLS6260	6260	Supreme Court in Am Pol	Political Science	3	Role of the Supreme Court in the Constitution, its relations with other branches and agencies of the U.S. government, and significant events and trends in the Court.	GR	Lecture
Fall 2017	PLS6270	6270	Public Policy Analysis	Political Science	3	Study of the policy development process and its relationship to past and current urban issues. Focuses on a current urban issue through discussion, reading, and research.	GR	Lecture
Fall 2017	PLS6280	6280	Nat'l Security Politics	Political Science	3	Study of U.S. national defense and security policy process and the major strategic issues facing the U.S. government.	GR	Lecture
Fall 2017	PLS6300	6300	Am Govt and Politics Sem	Political Science	3	Selected topics related to American government politics and processes. Emphasis on readings, discussion and research. Topics vary.	GR	Seminar
Fall 2017	PLS6330	6330	Public Opinion	Political Science	3	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 2017	PLS6340	6340	Political Leadership	Political Science	3	Study of political attitude development and acquisition of basic political orientations and values, beginning with childhood and proceeding through adolescence and adulthood. Investigation of the role of various socializing	GR	Lecture

Fall 2017	PLS6350	6350	Sem - Political Corrupt	Political Science	3	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	Seminar
Fall 2017	PLS6360	6360	Criminal Law	Political Science	3	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 2017	PLS6370	6370	Criminal Procedure	Political Science	3	Examines the case law regarding the constitutional aspects of criminal procedure, particularly the Fourth, Fifth, and Sixth Amendments.	GR	Lecture
Fall 2017	PLS6380	6380	Environ Law & Policy	Political Science	3	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 2017	PLS6390	6390	Bioethics and Law	Political Science	3	Examines legal implications of new biological technologies, particularly mind and behavior control, genetic engineering, birth and death control and organ transplantation.	GR	Lecture
Fall 2017	PLS6400	6400	Constitutional Law	Political Science	3	Cases in which provisions of the Constitution have been judicially interpreted; federal systems; separation of powers; and limits on government.	GR	Lecture
Fall 2017	PLS6410	6410	Natural Resources Law	Political Science	3	Examines federal management of natural resources on public lands, specifically water, minerals, timber, grazing, and wildlife. Analysis of constitutional authority, statutes, regulations, federalism, and judicial review of administrative decisions.	GR	Lecture
Fall 2017	PLS6420	6420	Criminal Justice Systems	Political Science	3	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 2017	PLS6440	6440	Topics Criminal Justice	Political Science	3	Problems, approaches, and topics in the field of criminal justice and legal studies. Topics vary.	GR	Lecture
Fall 2017	PLS6450	6450	Adv Crim Investgn	Political Science	3	Criminal investigative techniques including forensics, evidence, interviews, and interrogations as applied to specific types of crimes.	GR	Lecture
Fall 2017	PLS6480	6480	Gender Violence & Am Pol	Political Science	3	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 2017	PLS6490	6490	Intl Pol Gender Violence	Political Science	3	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 2017	PLS6510	6510	Contemp African Politics	Political Science	3	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 2017	PLS6520	6520	Intl Human Rights	Political Science	3	Examines the role of human rights in international relations. Considers contending definitions of human rights and debates over policy by focusing on thematic issues and case studies.	GR	Lecture
Fall 2017	PLS6530	6530	Soviet Successor States	Political Science	3	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 2017	PLS6540	6540	Politics of Mid East	Political Science	3	Introduction to governments and politics of the Middle East with special attention to cultural and historical background and the Arab-Israeli conflict.	GR	Lecture
Fall 2017	PLS6550	6550	Politics of Iraq	Political Science	3	Traces recent political history of Iraq since its formation in 1920s. Examines reasons for recent war and implications for Iraq's political future	GR	Seminar
Fall 2017	PLS6560	6560	Politics of Europe	Political Science	3	Comparative study of the political systems of Great Britain, France, and West Germany.	GR	Lecture
Fall 2017	PLS6570	6570	Pol. Developing Nations	Political Science	3	Exploration of politics, economy, society, and international relations of developing nations.	GR	Seminar
Fall 2017	PLS6580	6580	Latin American Politics	Political Science	3	Introduces students to politics in Central America, South America and the Caribbean, focusing on political and economic development. Considers major debates in comparative politics about a variety of issues, including democracy and democratization	GR	Lecture
Fall 2017	PLS6590	6590	Contemporary Brazil	Political Science	3	Introduction to Brazilian politics, society and economy. Topics include Brazil's political and economic liberalization, its international relations, gender and race relations, and the environment.	GR	Lecture
Fall 2017	PLS6600	6600	Sem Comp Politics	Political Science	3	Readings, research, reports, and discussion of selected topics and problems. Topics vary.	GR	Seminar
Fall 2017	PLS6610	6610	Compar. Social Movements	Political Science	3	Examines group behavior motivated by the desire to change or maintain political, economic, cultural or social systems. Examination of movements in countries around the world, including cross-national and global movements.	GR	Lecture
Fall 2017	PLS6620	6620	US-India-Pak-Afghan Rela	Political Science	3	Examination of various aspects of United States relations with India, Pakistan and Afghanistan.	GR	Seminar
Fall 2017	PLS6640	6640	Israel and Palestine	Political Science	3	This class examines the domestic politics of Israel and Palestine, and the international politics of the conflict between them. This course focuses on the causes, development, and prospects of the conflict in the area known as Israel/Palestine. It examines the political history of Israelis and Palestinians, their differing narratives that frame their worldview and how they see the conflict	GR	Lecture

Fall 2017	PLS6650	6650	Politics of Nationalism	Political Science	3	Introduction to different dimensions of nationalism. Examination of theories and cases of nationalist movements/conflicts from different parts of the world in order to appreciate relevance of nationalism to contemporary politics and international relations.	GR	Seminar
Fall 2017	PLS6660	6660	Politics in South Asia	Political Science	3	Examines political institutions and political, economic, security and international relations issues in India, Pakistan, Sri Lanka, Bangladesh and Nepal.	GR	Seminar
Fall 2017	PLS6670	6670	China: Domestic Politics	Political Science	3	Analysis of governmental structures and processes within modern China, emphasizing both elite and mass politics. Overview of the rise of state socialism and examination of some of the key issues in Chinese politics and society today.	GR	Lecture
Fall 2017	PLS6700	6700	Topics in IR	Political Science	3	Readings, research, reports, and discussion on selected topics and problems in international relations. Topics vary.	GR	Seminar
Fall 2017	PLS6710	6710	International Law	Political Science	3	Examines the nature of international law; international courts and subjects; diplomacy; the use of force; law of war; and international environmental law.	GR	Lecture
Fall 2017	PLS6720	6720	International Terrorism	Political Science	3	Surveys the phenomenon of terrorism: who employs it, how and why it occurs in international politics, and how targets respond to terrorism.	GR	Seminar
Fall 2017	PLS6730	6730	American Foreign Policy	Political Science	3	Investigates the role of the United States in contemporary international politics and the relationship of the domestic political system to that role. Discussion of current policy and events included.	GR	Lecture
Fall 2017	PLS6740	6740	Pol of Women & Terror	Political Science	3	Examines the political behavior of women in terrorism, including an analysis of the roles females play in different groups, and differing theories to explain recent changes in the field.	GR	Seminar
Fall 2017	PLS6750	6750	Weapons Mass Destruction	Political Science	3	Examines various issues relating to weapons of mass destruction, including their manufacture, use, effects, and the politics surrounding decisions to acquire them.	GR	Lecture
Fall 2017	PLS6770	6770	International Organization	Political Science	3	Examines the competing theoretical perspectives on international organization and analyzes the structure, functions, and the evolving role of key international organizations--IGOs & NGOs-- in global governance; also explores their pathologies and prospects for reform.	GR	Lecture
Fall 2017	PLS6820	6820	State Legis Internship	Political Science	3	Students work for a state legislator in Columbus two days per week. They report weekly to the faculty instructor and write an assessment of the experience at the end of the assignment.	GR	Internship
Fall 2017	PLS6821	6821	Pre-Law Internship	Political Science	3	Intern 12-15 hours per week in regional law offices, including prosecutors, public defenders, and private practices. Assist attorneys, participate in outreach program activities, and observe trials.	GR	Internship

Fall 2017	PLS6822	6822	Congress Dist Internship	Political Science	3	Intern 12-15 hours per week in one of the area's congressional district local offices to assist staff with constituency casework.	GR	Internship
Fall 2017	PLS6823	6823	Campaign Internship	Political Science	3	Volunteer for the candidate of ones choice in a local, state, or federal election. Work 170 hours over the semester, adjusting hours to account for the campaign calendar.	GR	Internship
Fall 2017	PLS6824	6824	Local/City Internship	Political Science	3	Intern 12-15 hours per week in a local governmental office. Jobs include working with city managers, mayors, and other city leaders to meet local needs and help with specific projects.	GR	Internship
Fall 2017	PLS6825	6825	Washington DC Internship	Political Science	3	Internships in Washington, DC for academic credit. Interns are expected to work at least 12-15 hours per week and write an assessment of the experience at the end of the semester.	GR	Internship
Fall 2017	PLS6850	6850	Chinese Foreign Policy	Political Science	3	Examines development and current practices of Chinese foreign policy. Special attention given to China-U.S. relations, as well as China's role in international and regional organizations.	GR	Lecture
Fall 2017	PLS6860	6860	Model United Nations Sem	Political Science	3	Model UN is an experiential learning opportunity built around this seminar, with intensive training in research, public speaking, bargaining and conflict resolution. Culminates at the national conference in New York, simulating the U.N.	GR	Seminar
Fall 2017	PLS6870	6870	Politics of Intelligence	Political Science	3	Examines the history and politics of intelligence gathering, analysis and application in policy making in the United States. Addresses the tension inherent to a secret agency operating within a democratic state and considers the role of technology.	GR	Lecture
Fall 2017	PLS6871	6871	Fundamentals of Intel	Political Science	3	Immerses students in the fundamental tradecraft standards of intelligence analysis used by the United States Intelligence Community.	GR	Lecture
Fall 2017	PLS6880	6880	Conflict Resolution	Political Science	3	Survey of literature on causes and resolution of conflict and application of concepts and theories to analysis of a real-world international conflict.	GR	Seminar
Fall 2017	PLS6881	6881	Diplomacy & Negotiation	Political Science	3	Topics include power and leverage; negotiation strategies; mediation and third-party involvement; and ratification and implementation of agreements. Provides an analytical understanding of how negotiation works, and some level of proficiency and comfort in the practice of negotiation.	GR	Seminar
Fall 2017	PLS6900	6900	Independent Reading	Political Science	1	Supervised individual readings on selected topics.	GR	Independent Study
Fall 2017	PLS6910	6910	Independent Research	Political Science	1	Supervised individual research on a selected topic arranged between the student and faculty member directing the study.	GR	Independent Study



Fall 2017	PLS6920	6920	Indep Field Research	Political Science	1	Supervised individual projects. May include internships or other special projects.	GR	Internship
Fall 2017	PLS6930	6930	Contemporary Problems	Political Science	3	Advanced study in a selected topic that frequently includes new developments in the methodology or subject matter of the various subfields of the discipline.	GR	Lecture
Fall 2017	PLS6940	6940	Special Topics	Political Science	3	Advanced study of a selected topic of contemporary political significance.	GR	Lecture
Fall 2017	PLS7010	7010	ICP Statistics I	Political Science	3	Emphasis on quantitative research design, statistical literacy and data analysis in political science. Discusses measurement, probability, and univariate hypothesis testing.	GR	Lecture/Lab Combination
Fall 2017	PLS7020	7020	ICP Statistics II	Political Science	3	Focus on statistical applications and literacy centered on the multivariate regression model (assumptions, violations of assumptions, and their consequences). Includes introduction to categorical data analysis, elementary time series and event history.	GR	Lecture/Lab Combination
Fall 2017	PLS7030	7030	ICP Research Design	Political Science	3	Addresses fundamentals of qualitative and quantitative research in social science with emphasis on skills needed to complete master's thesis or project.	GR	Seminar
Fall 2017	PLS7200	7200	Grad Sem in IR theory	Political Science	3	Introduction to the theories and concepts employed in modern political analysis with emphasis on the study of international relations.	GR	Seminar
Fall 2017	PLS7300	7300	Comparative Pol Theories	Political Science	3	Focuses on research emphasizing the comparative analysis of political systems and cultures, including mass and elite behavior in democratic and non-democratic regimes.	GR	Seminar
Fall 2017	PLS7790	7790	Practicum	Political Science	1	Field experience for students in selected settings. Jointly supervised by faculty and on-site personnel.	GR	Practicum
Fall 2017	PLS7791	7791	Princip of Intelligence	Political Science	2	This seminar examines the role of intelligence in security, and the rigorous techniques used by analysts. Data collection, analysis, and policy recommendations to develop threat and vulnerability assessments are the focus.	GR	Seminar
Fall 2017	PLS7900	7900	Continuing Registration	Political Science	1	Continuing registration.	GR	Independent Study
Fall 2017	PLS7980	7980	Graduate Project	Political Science	1	Graduate research project that combines knowledge gained through coursework with field experience.	GR	Independent Study
Fall 2017	PLS7981	7981	Strategic Intelligence	Political Science	3	This course examines the process whereby the president and national security policymakers use strategic intelligence in foreign policy. The process is examined from its historical inception up to contemporary practice.	GR	Seminar
Fall 2017	PLS7982	7982	Intell and Homeland Sec	Political Science	3	This course examines how intelligence interacts with homeland security, its impact on both individuals and society. Civil liberties, public perception, and the rule of law and the intelligence community are studied. This course may culminate in a security clearance for eligible class members.	GR	Seminar

Fall 2017	PLS7990	7990	Graduate Thesis Research	Political Science	1	Research for Master's Thesis.	GR	Independent Study
Fall 2017	POR1110	1110	Essentials of Portuguese	Portuguese	3	Introduction to Portuguese with an emphasis on speaking the language.	UG	Lecture
Fall 2017	PPH2000	2000	Global Health	Population & Public Health	3	This course will investigate the commonalities and differences of global health issues around the world and how these are diverse, but interconnected. Integrated Writing course.	UG	Lecture
Fall 2017	PPH4990	4990	Undergraduate Research	Population & Public Health	1	Undergraduate biomedical research and seminar. Students will participate in hands-on research as well as reading primary literature, presenting scientific talks, and exploring the social and ethical implications of scientific research.	UG	Lecture/Lab Combination
Fall 2017	PPH6100	6100	Biostatistics for Health	Population & Public Health	3	Introduction to the basic principles and applications of statistical methods as they are applied to data arising in the health professions.	GR	Lecture
Fall 2017	PPH6200	6200	Public Health Epidemiology	Population & Public Health	3	This is an introduction to epidemiology; including historical foundations, basic concepts, research designs, infectious diseases, screening, the influence of chance, bias, and confounding, and practical applications. The course discusses the calculation and interpretation of measures of frequency, association, and public health impact. Emphasis is placed on epidemiological principles, concepts, and methods used within public health settings. Students will complete an applied data project.	GR	Lecture
Fall 2017	PPH6300	6300	Environmental Health	Population & Public Health	3	Students taking this course will develop a broad knowledge base in the multidisciplinary field of environmental health. The class will focus on the topics of environmental health that have the greatest affect on the community, such as food-borne health hazards, zoonotic disease, housing, water treatment, and solid and hazardous waste and substances. Contemporary concerns, such as climate change, environmental disaster, and the built environment, will also be thoroughly discussed.	GR	Lecture
Fall 2017	PPH6400	6400	Social and Behavioral De	Population & Public Health	3	This course addresses the socio-ecological and behavioral theories of health behavior and their application to designing theory-based interventions. Students develop a theory-based logic map for one risk or protective health behavior.	GR	Lecture
Fall 2017	PPH6500	6500	Health Resource Mgmt & P	Population & Public Health	3	This course will introduce students to the theory, concepts, and practice of managing health resources in both traditional health services and public health settings. In addition, this course will cover health care policies (existing and proposed) and their impact on health care resource management. Sessions will include presentations on patient behavior, managed care, the insurance industry, health provider theory, law, and quality among other topics.	GR	Lecture

Fall 2017	PPH7110	7110	Public Health Research	Population & Public Health	3	This class will examine a range of research designs in the context of methods commonly used in public health departments and community based organizations. Students will also learn data analysis skills using SPSS needed to analyze data collected. Students will conduct a research project using a secondary data set.	GR	Seminar
Fall 2017	PPH7120	7120	Qualitative Methods in P	Population & Public Health	3	This is an overview of qualitative research methods commonly used in public health. Students will gain experience in the qualitative research process: problem definition, instrument development, data collection, data analysis (qualitative analysis software), interpretation and write-up of findings. Students will develop a critical perspective and be able to evaluate the methodological rigor of qualitative studies by recognizing their strengths and weaknesses, appropriate and inappropriate uses.	GR	Lecture
Fall 2017	PPH7130	7130	Geospatial Tech in P H	Population & Public Health	3	This course prepares students to use geospatial technologies within the framework of Public Health issues. Topics covered include geographic information systems (GIS), global positioning system (GPS), remote sensing, spatial analysis, project design, data management, basic cartographic principles, case studies and a project. At completion, students have a baseline understanding of how to incorporate geospatial technologies into real-world Public Health matters.	GR	Lecture/Lab Combination
Fall 2017	PPH7140	7140	Social Networks and Hlth	Population & Public Health	3	This course provides an introduction to the major theories, methods, models, and findings of social network analysis research and application with attention to medical and public health topics. While not a methods course, the goal of the course is to introduce scholars to the body of research of social networks and health. The emphasis of the course will be to apply the theory of social networks to practical public health situations through engaging peer-reviewed research and class discussion.	GR	Seminar
Fall 2017	PPH7150	7150	Applied Epidemiology	Population & Public Health	3	This course will overview advanced topics in epidemiology as they apply in public health research and applications.	GR	Seminar
Fall 2017	PPH7160	7160	Adv Stat & Epi with SPSS	Population & Public Health	3	This class will introduce advanced statistical methods such as regression analysis applied in epidemiological research. Students will learn application of these methods using Statistical Package for Social Sciences (SPSS) to do data analysis.	GR	Lecture/Lab Combination
Fall 2017	PPH7170	7170	PH Epidemiology II	Population & Public Health	3	Through homework, readings, exercises and class projects, students will gain hands-on experience of epidemiologic research.	GR	Lecture

Fall 2017	PPH7210	7210	Maternal and Child Hlth	Population & Public Health	3	Concentrating on women of childbearing age, pregnant women, infants, and children from birth through 21 years, this course provides an introduction to the health needs of women and children and to the delivery of services/interventions designed to meet these needs. Critical areas in maternal, infant and child health are examined from several perspectives. Students learn the biological, social, political, and economic context within which maternal and child health problems arise.	GR	Lecture
Fall 2017	PPH7220	7220	Issues in Aging	Population & Public Health	3	Multidisciplinary approaches to the challenges and opportunities of communities and/or families faced with providing health care and social services to a growing number of older adults. Students will work in multidisciplinary teams for class projects.	GR	Seminar
Fall 2017	PPH7230	7230	HP with Indiv with Disab	Population & Public Health	3	This course introduces the health disparities experience by individuals and explores the unique social, physical and political needs for health promotion interventions.	GR	Lecture
Fall 2017	PPH7310	7310	Public Hlth Ethics & Pol	Population & Public Health	3	This is a general introduction to the ethical and legal foundations underlying public health in the United States and internationally. The goal is to equip students with the basic conceptual tools they will need as professionals, whether they work in medicine, law, or public service. The readings offer a range of perspectives each week, and are essential background for Team-Based Learning activities and discussions. Written assignments include two short research papers and a final exam.	GR	Lecture
Fall 2017	PPH7320	7320	Public Health Law	Population & Public Health	3	This course provides a general introduction to the field of public health law. The objective of the course is to provide non-lawyers with a general overview of contemporary public health laws, regulations, and court decisions, and the key issues raised thereby with regard to the protection of individual civil and economic liberties. Objectives will be accomplished via lectures, assigned readings, and team-based learning activities. Periodic writing assignments and a final exam are required.	GR	Lecture
Fall 2017	PPH7410	7410	Community Assessment	Population & Public Health	3	Course is designed to provide a practical public health experience. To describe communities quantitatively, learners will create tables and descriptions using current public health and community data; they will also conduct qualitative inquiry about the nature of communities. Visual display and reporting and presentation skills will be covered. Quantitative and qualitative data are combined to give learners practical experience creating a community assessment from a variety of data sources.	GR	Lecture

Fall 2017	PPH7420	7420	Health Program Plan & E	Population & Public Health	3	This course develops a depth of health education knowledge and skills for planning, implementing, and evaluating community health education programs. Awareness, behavioral, social, environmental, and policy type interventions will be discussed	GR	Lecture
Fall 2017	PPH7430	7430	Health Awareness and Adv	Population & Public Health	3	This course introduces the concepts, principles, and practices of health communications. It utilizes social/behavioral theory to develop a comprehensive, integrated plan that provides communications targeting interpersonal, community, and policy/system comm. Students will learn how to communicate risk, identify and segment target audiences, develop culturally appropriate messages and materials, social marketing and using new media, communicating with the media and policy makers, and evaluation	GR	Lecture
Fall 2017	PPH7510	7510	Strategic Leadership in	Population & Public Health	3	This course will introduce students to concepts, principles, and practices of strategic management in multiple health care settings. Principles of organizational behavior and culture will be examined and techniques in negotiation, leadership, and strategic analysis will be applied	GR	Lecture
Fall 2017	PPH7520	7520	Problems in Public Hlth	Population & Public Health	3	This introduces the future public health workforce to historical and contemporary public health challenges that range from the local public health jurisdiction to the theoretical integration of public health, veterinary and medical practice, including health care management systems that enable efficiency of care and delivery. It's intended to flex with contemporary issues to accommodate real-time public health issues in the community and/ or impacting federal, state, and global health	GR	Lecture
Fall 2017	PPH7530	7530	Health Systems Comm	Population & Public Health	2	The course introduces principles and practices of communication in health systems settings. Students develop knowledge in communication styles, interpersonal relations, conflict management, grant writing, consensus building, conducting meetings, correspondence, and community communications with the media, interviews, and risk communication. Case studies are used from healthcare and other sectors. The course is presented by an interdisciplinary team of faculty and community leaders	GR	Lecture

Fall 2017	PPH7640	7640	Princ. of Emerg. Mgmt	Population & Public Health	3	Course provides an understanding of the phenomena of disasters and management of disaster impacts, as well as an understanding of the emergency management system, currently in place in the US, which serves as a model for developing systems worldwide. Analysis of the National Incident Management System for disaster/crisis/consequence management will be done through case studies, lecture, and independent study that will provide insight into emergency management and the role public health plays.	GR	Lecture
Fall 2017	PPH7650	7650	Public Health Crisis and	Population & Public Health	3	This course provides an analysis of the players involved; coordination with governmental emergency management at the local, state, tribal and federal level; legal requirements; public health disaster awareness and preparedness; disaster mitigation and response; public health business resumption considerations and public policy considerations and community outreach.	GR	Lecture
Fall 2017	PPH7660	7660	Public Health Terrorism	Population & Public Health	3	This course provides an in-depth investigation of terrorists, their targets and potential methods and the resultant implications for public health and emergency managers. This course explores terrorists and their motives, vulnerability of critical infrastructure and other civilian targets, risk assessment and interventions. This course will describe and critique local, national and international resources and initiatives in this evolving modern phenomenon.	GR	Lecture
Fall 2017	PPH7710	7710	Global Health	Population & Public Health	3	This course offers an introduction to the institutional, economic, epidemiological, ideological, and political forces in the field of global health. Social constructs of health will be reviewed, as well as how environmental factors and political decision making affect global and international health. Students will also explore best practices approaches to health systems both at national and global levels.	GR	Lecture
Fall 2017	PPH7720	7720	Global Health Systems	Population & Public Health	3	This course provides an overview to the institutional, economic, epidemiological, ideological, social, and political forces that shape global health systems. A health system includes all organizations, people and actions that promote, restore or maintain health. A health system incorporates efforts to influence determinants of health as well as more direct health improving activities. Students will investigate best-practices approaches to health systems both at national and global levels.	GR	Lecture
Fall 2017	PPH7910	7910	Independent Study	Population & Public Health	1	Independent study of topics in community health.	GR	Independent Study

Fall 2017	PPH7920	7920	Special Topics in PH	Population & Public Health	1	This course enables students to work with faculty to address current topics in public health. Topics vary.	GR	Lecture
Fall 2017	PPH8100	8100	Crit Thinking in Pub Hlt	Population & Public Health	1	This course is designed to assist students in developing the skills and knowledge needed to be successful in the MPH program. Students will meet every other week, have weekly assignments, and will write a concept paper based on a public health issue.	GR	Lecture
Fall 2017	PPH8110	8110	Public Health Practice	Population & Public Health	2	This practice placement is intended to provide an intensive applied public health learning experience. Students must complete 200 hours of supervised practice in an approved public community site.	GR	Practicum
Fall 2017	PPH8120	8120	HSM Practice Placement	Population & Public Health	1	This practice placement will provide the student with the opportunity to engage in any area of population health, health systems, health policy, health economics and/or health finance.	GR	Practicum
Fall 2017	PPH8210	8210	Public Health CE I	Population & Public Health	3	This course provides the opportunity to apply, integrate, and synthesize knowledge and experience gained throughout the MPH Program to a question or problem of public health relevance. Under supervision of a faculty advisor, students conduct an integrative writing project usually developed in the form of an applied research paper, policy analysis, community assessment, program evaluation, comprehensive case analysis, or "best practices" review. A full report is written and presented.	GR	Independent Study
Fall 2017	PPH8220	8220	Public Health CE II	Population & Public Health	3	This course provides the opportunity to apply, integrate, and synthesize knowledge and experience gained throughout the MPH Program to a question or problem of public health relevance. Under supervision of a faculty advisor, students conduct an integrative writing project usually developed in the form of an applied research paper, policy analysis, community assessment, program evaluation, comprehensive case analysis, or "best practices" review. A full report is written and presented.	GR	Independent Study
Fall 2017	PPH8230	8230	CE Continuation Credit	Population & Public Health	1	Continuation of Culminating experience project research carried out with faculty approval and supervision.	GR	Independent Study
Fall 2017	PSC7900	7900	Found of Ntwrk Sec	Prof Psychology Cyber Security	3	Covers current real-world issues and practices of information security. Students learn how to successfully configure, execute, construct, and troubleshoot network security to ensure that threats are minimized or negated.	GR	Lecture
Fall 2017	PSC7920	7920	Sec Risk Mgmt	Prof Psychology Cyber Security	3	Introduces management aspects of Cyber Security from an IT governance perspective by understanding the DoD, Federal, and IC information technology management goals. Topics include DIACAP, FISMA, CNSS, FIPS, and NIST Standards.	GR	Lecture

Fall 2017	PSC7950	7950	Sec Sys & App S/W D&D	Prof Psychology Cyber Security	3	Introduces implementing software security with software engineering best practices, fundamental tenets of security doctrine, and the incorporation of security throughout the software development lifecycle. Presents guidance for thorough and objective risk analyses and testing.	GR	Lecture
Fall 2017	PSI8010	8010	History & Systems- Psych	Professional Psychology	3	Reviews key historical events and personalities who have contributed significantly to psychology as a philosophy, scientific discipline and profession.	GR	Lecture
Fall 2017	PSI8020	8020	Human Development	Professional Psychology	3	Psychological conceptualizations of infancy, childhood, adolescence, and adulthood including physical, cognitive, intellectual, social, and interpersonal development.	GR	Lecture
Fall 2017	PSI8030	8030	Social Psychology	Professional Psychology	3	Presents 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.	GR	Lecture
Fall 2017	PSI8040	8040	Research Methods & Exper	Professional Psychology	3	Students will learn how to become good consumers of psychological research, how to use electronic databases efficiently, begin to consider how to design their own research, and refine APA style writing skills.	GR	Lecture
Fall 2017	PSI8050	8050	Statistics	Professional Psychology	3	Introduction to statistics for psychologists.	GR	Lecture
Fall 2017	PSI8070	8070	Neuro. Affect & Behavior	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; higher cortical functions such as language, memory, and executive control; overview of various neurological conditions.	GR	Lecture
Fall 2017	PSI8080	8080	Professional Development	Professional Psychology	1	Issues relevant to students' development as professional psychologists including professional involvement, legal and legislative issues, professional ethics and standards, and relations with other professional groups.	GR	Lecture
Fall 2017	PSI8110	8110	Cognitive Assessment	Professional Psychology	3	Presents basic intelligence, aptitude, and related assessment devices with clinical utility and theoretical underpinnings with adults, adolescents, and children.	GR	Lecture
Fall 2017	PSI8110L	8110L	Cognitive Assessment Lab	Professional Psychology	1	Lab provides hands-on learning of the cognitive and achievement measures taught in the course.	GR	Lab
Fall 2017	PSI8120	8120	Objective Pers. Assess	Professional Psychology	3	Introduction to the principles and practices of objective personality assessment and report writing.	GR	Lecture
Fall 2017	PSI8130	8130	Intro to Projective Asse	Professional Psychology	3	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.	GR	Lecture



Fall 2017	PSI8140	8140	Rorschach	Professional Psychology	3	Introduction to the Rorschach; how and when to administer; how to score, interpret, and convey results meaningfully.	GR	Lecture
Fall 2017	PSI8190	8190	Multicultural Laboratory	Professional Psychology	3	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.	GR	Lecture/Lab Combination
Fall 2017	PSI8300	8300	Interviewing	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.	GR	Lecture
Fall 2017	PSI8310	8310	Psychopathology	Professional Psychology	4	This course discusses the psychological disorders of the DSM-IV TR pertinent to children and adults as well as etiology and diagnostic issues, provides a brief review of evidence-based treatment and research salient to those disorders, and addresses multicultural and ethical considerations.	GR	Lecture
Fall 2017	PSI8320	8320	Child Psychopathology	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 2017	PSI8400	8400	Theories of Pers/Therapy	Professional Psychology	3	Explores the major theories of personality and related models of psychotherapy for adults and children within an integrative framework. Theories and models are examined in terms of perspective on human nature and psychopathology, its major mechanisms of therapeutic change, and evidence base.	GR	Lecture
Fall 2017	PSI8410	8410	Group Psychotherapy	Professional Psychology	3	Presents background, development, and theory of small groups as well as effective leadership techniques and procedures for planning, conducting, and evaluating group interaction and progress.	GR	Lecture
Fall 2017	PSI8420	8420	Crisis Intervention	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.	GR	Lecture/Lab Combination
Fall 2017	PSI8430	8430	Behav. & Cognitive Ther.	Professional Psychology	3	Provides students with the theoretical background, current research, and clinical applications of behavioral and cognitive therapies.	GR	Lecture
Fall 2017	PSI8440	8440	Psychodyn & Interp Ther	Professional Psychology	3	Covers origins and recent trends in dynamic therapies, including brief dynamic therapies and interpersonal theories and therapies and Interpersonal Psychotherapy.	GR	Lecture

Fall 2017	PSI8450	8450	Chemical Dependency	Professional Psychology	3	The purpose and main objective of this course is to enhance the skill set of pre-doctoral graduate students in the field of substance abuse and dependence. Historical underpinnings, models of recovery, treatment settings, assessment strategies, and prevention/treatment modalities will all be addressed in detail. Each participant will also have an opportunity to increase understanding of the major drugs of choice. Emphasis will be on culture, oppression and the needs of unique populations.	GR	Lecture
Fall 2017	PSI9080	9080	Practice Tutorial	Professional Psychology	1	Exposure to a variety of clinical case materials using a vertical team format.	GR	Lecture
Fall 2017	PSI9120	9120	Neuropsych Assessment	Professional Psychology	3	Introduction to the field of clinical neuropsychological assessment. Students learn to select, administer, score, and interpret neuropsychological tests in different clinical situations.	GR	Lecture
Fall 2017	PSI9140	9140	Educational Assessment	Professional Psychology	3	Covers the issues and methods surrounding the assessment of various types of academic/learning problems including academic under preparation, impact of psychological impairment, impact of physical impairment, specific learning disabilities, and adult ADHD.	GR	Lecture
Fall 2017	PSI9150	9150	Child Assessment	Professional Psychology	3	Overview of child assessment theory, techniques, and strategies to prepare students for further practical work in the assessment of child functioning.	GR	Lecture
Fall 2017	PSI9160	9160	Forensic Assessment	Professional Psychology	3	Focuses on the interface between psychological assessment and the legal arena.	GR	Lecture
Fall 2017	PSI9170	9170	Career Assessment	Professional Psychology	3	Reviews major theories of career development and formal and informal career assessment instruments with emphasis on diverse populations; develops skills to administer and interpret career assessment instruments and write integrated reports.	GR	Lecture
Fall 2017	PSI9180	9180	Integrative Assessment	Professional Psychology	3	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.	GR	Lecture
Fall 2017	PSI9400	9400	Humanistic Psychotherapy	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.	GR	Lecture
Fall 2017	PSI9410	9410	Advanced Group Therapy	Professional Psychology	3	Addresses practical and clinical aspects of conducting group therapy, with an emphasis on skill building, assessment techniques from the CORE-R Battery, and multicultural applications.	GR	Lecture

Fall 2017	PSI9420	9420	Brief Psychotherapy	Professional Psychology	3	Study and discussion of problem-focused, time-limited interventions. Study of concepts and techniques; use of programmatic and group methods.	GR	Lecture
Fall 2017	PSI9430	9430	Psychodynamic Psychotherapy	Professional Psychology	3	Presents contemporary psychodynamic theory and practice.	GR	Lecture
Fall 2017	PSI9440	9440	Child Psychotherapy	Professional Psychology	3	Overview of current theory, research, and techniques of psychotherapy for children and adolescents with specific emphasis on behavior therapy, play therapy, group therapy, family therapy, and milieu therapy.	GR	Lecture
Fall 2017	PSI9450	9450	Feminist Psychotherapy	Professional Psychology	3	Addresses the theory underlying feminist therapy and focuses on applying that theory to clinical work by utilizing readings, videos, discussion, and role-plays. Students will practice conceptualizing from the feminist perspective.	GR	Lecture
Fall 2017	PSI9460	9460	Domestic Violence	Professional Psychology	3	Addresses research and clinical issues regarding domestic violence. Explores impact on and intervention with victims, perpetrators, children and adolescents, and society.	GR	Lecture
Fall 2017	PSI9470	9470	AIDS: Clinical Issues	Professional Psychology	3	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.	GR	Lecture
Fall 2017	PSI9480	9480	Mindful Based Clin Inter	Professional Psychology	3	Students will learn mindfulness theory, practice, and clinical applications.	GR	Lecture
Fall 2017	PSI9490	9490	Sex & Gender Ident	Professional Psychology	3	This course provides a sex-positive, interdisciplinary, feminist approach to diverse sexualities (orientations, identities and behaviors), and influences on sexual well-being as well as foundational concepts in serving transgender and gender diverse populations. Students will explore their values/biases and gain comfort and competence in addressing these issues in order to provide basic sex therapy interventions and transgender-affirming therapy consistent with ethical guidelines.	GR	Lecture
Fall 2017	PSI9500	9500	Psychopharmacology	Professional Psychology	3	Introduction to how psychotropic medications produce their desired and undesired effects with applications to many forms of psychopathology.	GR	Lecture

Fall 2017	PSI9510	9510	Dev. Behavioral Peds I	Professional Psychology	3	Part one of a two-sequence course addressing infant through adolescent development; therapeutic interventions; and assessments and interventions for disorders such as Autism, Aspergers, and Nonverbal Learning Disorders. Specific health conditions in early childhood through adolescence e.g., immunological disorders, renal disorders, traumatic brain injury, etc., will be addressed. Students will also learn about consultation (i.e. day-care and home-based), advocacy, and health care policy.	GR	Lecture
Fall 2017	PSI9520	9520	Family Therapy	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.	GR	Lecture/Lab Combination
Fall 2017	PSI9530	9530	Health Psychology	Professional Psychology	3	Techniques of therapy applied to populations whose problems arise from unhealthy lifestyles and not from serious psychopathology. Topics include stress management, weight control, and health maintenance.	GR	Lecture
Fall 2017	PSI9540	9540	Dev. Behavioral Peds II	Professional Psychology	3	Part two of a two-sequence course addressing a wide range of developmental and behavioral difficulties from conception through late adolescence. Part two places emphasis on assessment, management, and treatment of developmental and behavioral factors involved in the causation or maintenance of pediatric concerns such as various medical diagnoses with behavioral components such as diabetes and asthma, childhood obesity, and regulatory disorders (toileting, discipline difficulties, sleep, feeding/eating). Additional focus will be placed on adherence to medical regimen, quality of life, pain assessment and management, and evidence-based	GR	Lecture
Fall 2017	PSI9550	9550	Play Therapy	Professional Psychology	3	This course teaches graduate students about the essential elements and principles of play therapy including history, theory and modalities, techniques, applications, and skills. Emphasis will be on non-directive, directive, and empirically-based approaches.	GR	Lecture/Lab Combination
Fall 2017	PSI9560	9560	Rehabilitation Psych	Professional Psychology	3	Introduction to the field of rehabilitation psychology focusing on current psychological theories and treatment interventions utilized by rehabilitation psychologists and the role of psychological factors in the treatment of function, psychological, and social impacts of disability.	GR	Lecture

Fall 2017	PSI9570	9570	Trauma Theor Asmt Interv	Professional Psychology	3	Introduction to the psychology of trauma, covering history of trauma theories, etiology, neurobiological impact of trauma across the life-span, types of trauma, symptoms, diagnosis, and treatment of trauma-responses in adults and children, particularly post-traumatic stress disorder (PTSD) within a cultural context. Management of countertransference reactions and recognition, prevention, and treatment of compassion fatigue and vicarious traumatization in the clinician will be emphasized.	GR	Lecture
Fall 2017	PSI9580	9580	Forensic Intervention	Professional Psychology	3	Introduction to forensic intervention with adult and juvenile populations. Treatment of the different types of offender populations within the criminal justice system; overview of the settings in which services are rendered. Exploration of theories related to the etiology of criminal behavior, prediction of violent crime, and types of intervention possible within the criminal justice system.	GR	Lecture
Fall 2017	PSI9590	9590	Integrative Psycho.	Professional Psychology	3	This course explores integrative approaches to psychotherapy. The course will expose students to current perspectives on psychotherapy integration and the history of the integrative movement. Students will also have the opportunity to examine and apply a variety of strategies for integration, as well as examine issues and challenges to developing an integrative stance.	GR	Lecture
Fall 2017	PSI9610	9610	Consultation	Professional Psychology	3	Explores consultation as a core competency for the professional psychologist. Consultation is a planned, collaborative interaction that is an explicit intervention process based on principles and procedures found within psychology and related disciplines in which the psychologist does not have direct control of the change process (NCSPP). The course examines consultation in a variety of business and professional settings.	GR	Lecture
Fall 2017	PSI9630	9630	Practice Mgmt	Professional Psychology	1	This course provides information on how to develop and maintain a psychological practice in clinical psychology. Included are topics such as developing a business plan, financial considerations, marketing a practice, dealing with third party payers, managing employees, and working with advisors.	GR	Lecture
Fall 2017	PSI9650	9650	Supervision	Professional Psychology	3	Focuses on issues related to clinical supervision in psychology; i.e., the process and complexities of supervision, ethical issues, multicultural issues and considerations, and supervision theory and research.	GR	Lecture

Fall 2017	PSI9660	9660	Prof. Ethics and Issues	Professional Psychology	3	Provides a working knowledge of APA ethical principles and code of conduct, Ohio law and rules governing psychologists, and basic principles of risk management. Increases sensitivity to potential ethical dilemmas and develops skills in identifying and resolving ethical dilemmas in professional psychology.	GR	Lecture
Fall 2017	PSI9670	9670	Multiprofessional Ethics	Professional Psychology	3	Physicians, psychologists and clergy must interact with a variety of professionals in their practices and in their roles as community leaders. The course will address ethical issues of common concern to these professional groups. Discussing these issues in an interprofessional context will increase understanding of the issues themselves as well as increase appreciation for the tasks and problems of professional partners.	GR	Lecture
Fall 2017	PSI9720	9720	Program Evaluation	Professional Psychology	3	The goal for the course is to make students familiar with basic concepts and practice in program evaluation. The objectives of this course are to teach students about key concepts in program evaluation including program logic models and to provide students with an opportunity to apply their skills by working on a program evaluation.	GR	Lecture
Fall 2017	PSI9750	9750	Forensic Psychology	Professional Psychology	3	Introduction to the legal system including an overview of legal and political systems and processes, criminal and civil issues in forensic psychology, and the relevance of legal issues for practitioners and clients. Topics range from correctional psychology to competency issues.	GR	Lecture
Fall 2017	PSI9800	9800	Diversity Integration I	Professional Psychology	3	First course in a 2-course sequence that also builds on PSI 8190. Focus is on increasing awareness so that students can have meaningful dialogues about cultural similarities and differences and ground their thinking in post-modern, constructionist theory. Explores the complex integration of multiple identities.	GR	Lecture
Fall 2017	PSI9810	9810	Diversity Integration II	Professional Psychology	3	This course builds on PSI 9800 and is a capstone course. Students demonstrate diversity competence by self assessments, case vignettes, interactive learning exercises, case presentations, and discussions of multicultural topics.	GR	Lecture
Fall 2017	PSI9820	9820	Diversity IntegrationIII	Professional Psychology	2	This is the third (capstone) course in a series of three diversity courses on the integration of multiple identities in professional practice. Students are expected to demonstrate diversity competence via reflective learning. The purpose of the course is to help students become more confident in using the competencies that s/he has acquired as a result of diversity courses and clinical training.	GR	Lecture

Fall 2017	PSI9920	9920	Elective Practicum	Professional Psychology	1	Field placement that meets the criteria for PSI 9970, Practicum that is completed in addition to the placement required for PSI 9970. May be taken multiple terms.	GR	Practicum
Fall 2017	PSI9930	9930	First Year Clinical Exp	Professional Psychology	0	Students, under supervision, become acquainted with the work of professional psychologists through direct and indirect experience. Successful completion of two quarters is required for the PsvM degree.	GR	Lecture
Fall 2017	PSI9940	9940	Applied Teaching Prac	Professional Psychology	1	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 2017	PSI9950	9950	Directed Study	Professional Psychology	1	Individualized course of readings completed under faculty supervision.	GR	Independent Study
Fall 2017	PSI9960	9960	Selected Topics	Professional Psychology	1	Content selected by instructor in consultation with the Office of Academic Affairs.	GR	Independent Study
Fall 2017	PSI9971	9971	Practicum I	Professional Psychology	1	Field experience supervised by a licensed psychologist.	GR	Independent Study
Fall 2017	PSI9972	9972	Practicum II	Professional Psychology	1	Field experience supervised by a licensed psychologist.	GR	Independent Study
Fall 2017	PSI9973	9973	Practicum III	Professional Psychology	1	Field experience supervised by a licensed psychologist.	GR	Independent Study
Fall 2017	PSI9974	9974	Practicum - Advanced	Professional Psychology	1	Field experience supervised by a licensed psychologist.	GR	Independent Study
Fall 2017	PSI9980	9980	Prof Dissertation	Professional Psychology	1	An original creative work, produced independently by the student with guidance from the committee that exemplifies the student's ability to think critically, to evaluate research, theory, or other scholarly or clinical work, and to write clearly and concisely.	GR	Independent Study
Fall 2017	PSI9990	9990	Internship	Professional Psychology	1	Capstone clinical experience for the Psy.D. degree, completed under supervision by a licensed psychologist.	GR	Internship
Fall 2017	PSY1010	1010	Intro to Psychology	Psychology	4	History of psychology, research methods, biological foundations, perception, consciousness, learning, memory, cognition, language, development, motivation, emotion, social behavior, personality, health, psychopathology and therapy, and organizational psychology. Integrated Writing course.	UG	Lecture
Fall 2017	PSY1010	1010	Intro to Psychology	Psychology	4	History of psychology, research methods, biological foundations, perception, consciousness, learning, memory, cognition, language, development, motivation, emotion, social behavior, personality, health, psychopathology and therapy, and organizational psychology. Integrated Writing course.	UG	Lab

Fall 2017	PSY1010 L	1010L	Intro to Psychology Lab	Psychology	0	Required laboratory for PSY 1010.	UG	Lab
Fall 2017	PSY2000	2000	PSY Elective Topics	Psychology	1	A variable elective topic in psychology. Topics vary.	UG	Lecture
Fall 2017	PSY2001	2001	PSY Elective Topics	Psychology	1	A variable elective topic in psychology. Topics vary.	UG	Lecture
Fall 2017	PSY2002	2002	PSY Elective Topics	Psychology	1	A variable elective topic in psychology. Topics vary.	UG	Lecture
Fall 2017	PSY2003	2003	PSY Elective Topics	Psychology	1	A variable elective topic in psychology. Topics vary.	UG	Lecture
Fall 2017	PSY2010	2010	History of Modern Psych	Psychology	3	The history of psychology as an academic discipline. History of "the mind, historical events that have shaped the field, recognition of psychology as a science, and life histories of selected psychologists.	UG	Lecture
Fall 2017	PSY2020	2020	Careers in Psychology	Psychology	1	Topics relating to careers and occupations in psychology.	UG	Lecture
Fall 2017	PSY2100	2100	Psychology Men and Women	Psychology	3	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.	UG	Lecture
Fall 2017	PSY2110	2110	Human Sexuality	Psychology	3	Survey of the diversity of human sexual behavior including the psychological, physiological, social, and emotional basis of sexual behavior.	UG	Lecture
Fall 2017	PSY2120	2120	Human Factors and Design	Psychology	3	Applies human behavior, abilities, limitations, and other characteristics to the design and evaluation of products, systems, jobs, tools, and environments.	UG	Lecture
Fall 2017	PSY2130	2130	Environmental Psychology	Psychology	3	Effects of environmental factors such as crowding, noise, pollution, temperature, lighting, and architecture on human behavior. Applications of psychological knowledge and techniques to current environmental problems.	UG	Lecture
Fall 2017	PSY2150	2150	Psy Principles in Films	Psychology	3	Studies principles of psychology and their application through commercial films.	UG	Lecture
Fall 2017	PSY2410	2410	Childhood & Adolescence	Psychology	3	Child and adolescent development, based on theories and research in developmental psychology. Emotional, cognitive, and social development, as well as the development of the self. identity, and relationships.	UG	Lecture
Fall 2017	PSY2420	2420	Psychology Men and Women	Psychology	3	Examines the current state of research 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.	UG	Lecture



Fall 2017	PSY2430	2430	Issues in Aging	Psychology	3	Issues facing older adults in today's society. Replaces the view of aging as a time of illness, feebleness, and disability with a view of aging as a time of continued growth, change, and maturation. In addition to the declines of aging, attention will be given to the different ways older individuals interact with society, the unique way they experience social situations, and the specific issues they face as a result of the aging process.	UG	Lecture
Fall 2017	PSY2510	2510	Stereotyping & Prejudice	Psychology	3	Current topics in stereotyping and prejudice. Lectures are organized around discussions, videos, demonstrations, and experimental findings.	UG	Lecture
Fall 2017	PSY2520	2520	Forensic Psychology	Psychology	3	Examines applications of psychology to law and the U.S. legal system. Addresses issues such as the history of forensic psychology, research methods, criminal behaviors such as juvenile delinquency, eyewitness testimony, profiling, jury decision-making, and sentencing.	UG	Lecture
Fall 2017	PSY2530	2530	Influence and Persuasion	Psychology	3	Examines the importance of attitude formation, structure, and change, with special emphasis on the elements of persuasive appeals. Applications of this research to marketing, advertising, politics, law.	UG	Lecture
Fall 2017	PSY2610	2610	Behavior Modification	Psychology	3	Introduces procedures used in the field of behavior modification.	UG	Lecture
Fall 2017	PSY2620	2620	Animal Intelligence	Psychology	3	Introduces the adaptive function of animal behavior, from the simple to the complex. Associative learning, discrimination learning, category formation, short-term and long-term memory, navigation, social learning, and communication and language.	UG	Lecture
Fall 2017	PSY2640	2640	Evolution and Psychology	Psychology	3	Scientific movements that paved the way for the science of evolutionary psychology. Methods of testing evolutionary hypotheses, problems of survival and group living, and the challenges of sex and mating, and of parenting and kinship.	UG	Lecture
Fall 2017	PSY2710	2710	Psycholinguistics	Psychology	3	Physical, neurological, and cognitive processes underlying the acquisition, production, and application of language. Examines contributions of psychology, linguistics, computer science, and neuroscience to this discipline.	UG	Lecture
Fall 2017	PSY2810	2810	Psychology Incarceration	Psychology	3	Instruction examines the socio-psychological, developmental, mental health factors surrounding the experience of incarcerated persons.	UG	Lecture
Fall 2017	PSY2830	2830	Chemical Dependency	Psychology	3	Use, misuse, and dependency of psychoactive chemicals/drugs. Review of history and theory regarding the study of dependency, particularly as it relates to current practices in treatment, the nature of the addiction process, recovery, and prevention. Screening, diagnosing, assessment, and the referral process.	UG	Lecture

Fall 2017	PSY2910	2910	Drugs and Behavior	Psychology	3	Introduces the major classes of psychoactive drugs, their behavioral effects and mechanisms of action. The societal impact of some popular drugs is examined in terms of their effects on the brain, body and behavior.	UG	Lecture
Fall 2017	PSY2920	2920	Hormones and Behavior	Psychology	3	An overview of hormone-behavior relationship in humans and animals. Topics include sexual differences, puberty, reproductive behavior, parental behavior, aggression, and cognition.	UG	Lecture
Fall 2017	PSY2940	2940	Mind, Body & Conscious	Psychology	3	An exploration of modern ideas about consciousness, how it is related to the mind and body, its usefulness, and its relationship to reality.	UG	Lecture
Fall 2017	PSY3000	3000	PSY Core Topics	Psychology	1	A selected topic in a core area of psychology. Topics vary.	UG	Lecture
Fall 2017	PSY3010	3010	Research Methods Psy I	Psychology	4	Basics of experimentation, data analysis and writing using the American Psychological Association (APA) style. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3010 L	3010L	Research Methods Psy I Lab	Psychology	0	Required laboratory for PSY 3010.	UG	Lab
Fall 2017	PSY3020	3020	Research Methods Psy II	Psychology	4	Methods of true experiments, data analysis and APA-style writing. Uses methods from representative fields of psychology to collect, summarize and visualize data. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3020 L	3020L	Research Methods Psy II Lab	Psychology	0	Required laboratory for PSY 3020L.	UG	Lab
Fall 2017	PSY3040	3040	Industrial and Org Psy	Psychology	3	Scientific psychological principles, procedures, and methods applied to human behavior in organizations.	UG	Lecture
Fall 2017	PSY3070	3070	Tests & Measures	Psychology	3	Introduction to the use, application, evaluation, and development of psychological tests and measures including ability, aptitude, attitude, standardized, or normed measures.	UG	Lecture
Fall 2017	PSY3090	3090	Psy of Health Behavior	Psychology	3	Survey of the psychology of health care. The focus is both theoretical and practical, emphasizing the integration of physiological and psychological knowledge.	UG	Lecture
Fall 2017	PSY3110	3110	Abnormal Psychology	Psychology	3	Facts and theories pertaining to abnormal behavior. Topics include classification and diagnosis, and causes and treatment of abnormal behavior.	UG	Lecture
Fall 2017	PSY3130	3130	Methods in Clinical Psyc	Psychology	4	This course provides students with a critical knowledge of qualitative research methods in psychology and with competencies necessary to carry out this kind of research in conjunction with quantitative methods and independently in its own right. The course includes a focus on the history of use, the philosophical foundations, and the scientific status of qualitative research methods in psychology. Integrated Writing course.	UG	Lecture/Lab Combination

Fall 2017	PSY3210	3210	Cognition and Learning	Psychology	3	Theories, methodologies, and applications in the areas of attention, perception, visual imagery, memory, expert performance, decision making, and problem solving. Emphasis on how the brain performs cognitive functions.	UG	Lecture
Fall 2017	PSY3230	3230	Cognition & Learning Mth	Psychology	4	Laboratory research in various areas of cognitive psychology. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3230 L	3230L	Cognition & Learning Mth Lab	Psychology	0	Required laboratory for PSY 3230.	UG	Lab
Fall 2017	PSY3310	3310	Psychology Personality	Psychology	3	Survey of contemporary perspectives in personality psychology. Compares research methods, assessment strategies, and applications.	UG	Lecture
Fall 2017	PSY3330	3330	Personality Research Mth	Psychology	4	Survey of research methods appropriate to personality assessment and analysis. Laboratory experience in the development, implementation, and analysis of a research project focused on an issue in personality psychology. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3330 L	3330L	Personality Research Mth Lab	Psychology	0	Required laboratory for PSY 3330.	UG	Lab
Fall 2017	PSY3410	3410	Lifespan Development Psy	Psychology	3	Survey of theory, research, and methodological issues in the study of development across the lifespan.	UG	Lecture
Fall 2017	PSY3430	3430	Developmental Psy Mth	Psychology	4	Survey of research design appropriate to developmental analysis, innovations in developmental methodology, and laboratory experience in the selection, design, and analysis of developmental problems of specific interest to individual students. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3430 L	3430L	Developmental Psy Mth Lab	Psychology	0	Required laboratory for PSY 3430.	UG	Lab
Fall 2017	PSY3510	3510	Social Psychology	Psychology	3	Current theories and experimental findings examining the situational and social causes underlying people's attitudes, beliefs, and behaviors.	UG	Lecture
Fall 2017	PSY3530	3530	Social Psychology Mth	Psychology	4	Laboratory course in methods and problems involved in social psychology research. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3530 L	3530L	Social Psychology Mth Lab	Psychology	0	Required laboratory for PSY 3530.	UG	Lab
Fall 2017	PSY3600	3600	Engineering Psychology	Psychology	3	Introduction to the study of human factors in the design and operation of machine systems.	UG	Lecture
Fall 2017	PSY3610	3610	Conditioning & Learning	Psychology	3	Introduction to experimental findings and contemporary theories of conditioning, learning, and motivation.	UG	Lecture
Fall 2017	PSY3630	3630	Condition & Learning Mth	Psychology	4	Problems and methods of research in conditioning, learning, and motivation. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	PSY3630 L	3630L	Condition & Learning Mth Lab	Psychology	0	Required laboratory for PSY 3630.	UG	Lab

Fall 2017	PSY3710	3710	Perception	Psychology	3	Examines active processes by which organisms gather, interpret, and respond to environmental stimuli.	UG	Lecture
Fall 2017	PSY3730	3730	Perception Methods	Psychology	4	Laboratory experience and research techniques in various areas of perception. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3730 L	3730L	Perception Methods Lab	Psychology	0	Required laboratory for PSY 3730.	UG	Lab
Fall 2017	PSY3820	3820	Cognitive Neuroscience	Psychology	3	Human behavior as supported by specific brain mechanisms. Incorporates research from varied disciplines such as cognitive psychology, neuropsychology, neurobiology, philosophy, and computer science.	UG	Lecture
Fall 2017	PSY3830	3830	Cognitive Neuro Methods	Psychology	4	Research methods used in cognitive neuroscience. Hands-on experience with the design of neuroscientific experiments, data collection, data analysis, as well as communication of data through writing.	UG	Lecture
Fall 2017	PSY3910	3910	Behavioral Neurosci I	Psychology	3	Physiological mechanisms of behavior. Basic neuroanatomy and neurophysiology, neuronal development and function, psychopathology, reproduction, learning, sleep, and stress.	UG	Lecture
Fall 2017	PSY3920	3920	Behavioral Neurosci II	Psychology	3	Learning and memory, reinforcement systems, ingestive behavior, sensory and motor systems, psychopharmacology, and addictive processes.	UG	Lecture
Fall 2017	PSY3930	3930	Beh Neuroscience Methods	Psychology	4	Overview of methods used in behavioral neuroscience. Includes neuroanatomical dissections, student presentations, animal testing, and manuscript preparation. Integrated Writing course.	UG	Lecture
Fall 2017	PSY3930 L	3930L	Beh Neuroscience Methods Lab	Psychology	0	Required laboratory for PSY 3930.	UG	Lab
Fall 2017	PSY4000	4000	PSY Capstone Topics	Psychology	1	A selected psychology capstone topic. Topics vary.	UG	Seminar
Fall 2017	PSY4020	4020	Adv Exp Design: Programs	Psychology	4	Methods and techniques necessary for more advanced statistical applications, as well as those specific to computer programs instrumental in the design, analysis, and interpretation of behaviorally oriented research.	UG	Lecture/Lab Combination
Fall 2017	PSY4030	4030	Practicum in Applied Psy	Psychology	3	Supervised work in an applied psychological setting consistent with students' individual interests (e.g., mental health agency, industrial, or organizational setting). Graded pass/unsatisfactory.	UG	Practicum
Fall 2017	PSY4040	4040	Independent Reading	Psychology	1	Specific topics selected by students and instructor.	UG	Independent Study
Fall 2017	PSY4050	4050	Honors Seminar	Psychology	2	Primarily derived from current honors thesis research. Literature surveys, experimental designs, and special analytical problems presented and discussed by students and faculty. Topics vary.	UG	Seminar

Fall 2017	PSY4060	4060	Independent Research	Psychology	1	Original problems for investigation. Graded pass/unsatisfactory.	UG	Independent Study
Fall 2017	PSY4070	4070	Honors Research Project	Psychology	1	Original problems for investigation leading to a psychology department honors thesis.	UG	Independent Study
Fall 2017	PSY4100	4100	Applied Psych Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on applied psychology. Topics vary. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4110	4110	Positive Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge within Positive Psychology. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4120	4120	Applied Sports Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge within sports psychology. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4130	4130	Psy in Film Cap	Psychology	3	Communication-intensive seminar integrating knowledge examining psychology in film. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4140	4140	Cond and Learning Cap	Psychology	3	Communication-intensive seminar integrating knowledge within conditioning and learning. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4200	4200	Cognitive Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on cognitive psychology. Topics will vary. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4210	4210	Info Processing Cap	Psychology	3	Communication-intensive seminar integrating knowledge on information processing skills such as selective attention, pattern recognition, reading, problem solving, and human performance. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4220	4220	Psycholinguistics Cap	Psychology	3	Communication-intensive seminar integrating knowledge on language: its development during the first years of life, its biological basis, its normal and abnormal characteristics. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4230	4230	Problem Solving Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on problem solving and reasoning. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4240	4240	Attn Perform Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on attention and performance. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4270	4270	Cog Neuro Capstone	Psychology	3	Current topics and controversies in cognitive neuroscience. How different research traditions are integrated to inform and advance present-day understanding of the relationship between brain and behavior. Integrated Writing course.	UG	Lecture
Fall 2017	PSY4280	4280	Psych Game Theory Cap	Psychology	3	Psychological aspects of game theory that allow us to understand strategic decision-making in business, diplomacy, and personal life.	UG	Seminar
Fall 2017	PSY4300	4300	Abnormal Psych Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on select topics within abnormal psychology. Topic will vary. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4310	4310	Clinical Psychology Cap	Psychology	3	Communication-intensive seminar integrating knowledge within clinical psychology. Integrated Writing course.	UG	Seminar

Fall 2017	PSY4320	4320	Develop Psychopath Cap	Psychology	3	Concepts and principles of developmental psychopathology and their connections to childhood/adolescent disorder and the evolution of personality pathology.	UG	Lecture
Fall 2017	PSY4330	4330	Personal Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on personality, including theory, research, and application. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4360	4360	Development Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on current theory, research, and applied issues in selected aspects of development across the lifespan. Topic will vary. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4370	4370	Psychology of Aging Cap	Psychology	3	Communication-intensive seminar integrating knowledge on theories, methods, and research related to human aging. Focus on both current research and applications from psychology. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4400	4400	Ind/Org Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on industrial/organizational psychology. Topics will vary. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4410	4410	Industrial Psy Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on industrial psychology. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4420	4420	Organizational Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge on organizational psychology. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4430	4430	Psychometrics Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on psychometrics. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4440	4440	Work Stress Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on work stress. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4500	4500	Social Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on social psychology. Topic will vary by title. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4510	4510	Cross-Cul Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge on cross-cultural psychology. Explores national differences in perception, cognition, and self-concept as well as in personality dynamics and interpersonal interactions, and addresses the challenges of globalization. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4520	4520	Prejudice Research Cap	Psychology	3	Discusses research on the topics of stereotyping, prejudice, discrimination, and related phenomena. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4530	4530	Psy and the Law Cap	Psychology	3	Communication-intensive seminar integrating knowledge within forensic psychology. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4600	4600	Human Factors Cap	Psychology	3	Communication-intensive seminar integrating knowledge on human factors psychology. Topics will vary. Integrated Writing course.	UG	Seminar

Fall 2017	PSY4610	4610	Human-Comp Interface Cap	Psychology	3	Communication intensive seminar integrating knowledge on human-computer interface issues. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4620	4620	Ergonomics Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on ergonomics. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4630	4630	Human Error Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on human error. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4640	4640	Psych Religion Capstone	Psychology	3	Communication-intensive seminar examining differences between science and religion as ways to explain reality. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4700	4700	Adv Topics Percept Cap	Psychology	3	Communication-intensive seminar integrating knowledge on perception. Topics vary. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4710	4710	Sig Det Theory Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge on signal detection theory in psychology. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4720	4720	Select Visual Attn Cap	Psychology	3	Communication-intensive seminar integrating knowledge on selective visual attention. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4730	4730	Hearing Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on the perception of hearing. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4740	4740	Space and Time Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on space and time. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4900	4900	Behavioral Neuro Cap	Psychology	3	Communication-intensive seminar integrating knowledge within behavioral neuroscience. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4910	4910	Psychobio of Stress Cap	Psychology	3	Communication-intensive seminar integrating knowledge on the psychobiology of stress. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4920	4920	Clinical Neuro Cap	Psychology	3	Communication-intensive seminar integrating knowledge on clinical neuroscience. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4930	4930	Behav Neuro Ed Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on behavioral neuroscience education. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4940	4940	Animal Behavior Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on animal behavior. Topics will include evolution, natural and sexual selection, and mating systems. Integrated Writing course.	UG	Seminar
Fall 2017	PSY4941	4941	Animl Beh Cp w/FldSdyAbr	Psychology	5	Communication-intensive seminar integrating knowledge on animal behavior. Topics will include evolution, natural and sexual selection, and mating systems. Integrated Writing course.). It also includes an educational trip abroad (e.g.,Poland) in order to perform the critical experiential part of course work in engaging and interesting environment while at the same time being exposed to international scientific community and cooperation.	UG	Lecture/Lab Combination
Fall 2017	PSY4950	4950	Sex & Endocrinology Cap	Psychology	3	Communication-intensive seminar integrating knowledge on sexuality and endocrinology. Integrated Writing course.	UG	Seminar

Fall 2017	PSY4960	4960	Fetal Behavior Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on fetal behavior including both normal and abnormal (teratological) development. Integrated Writing course.	UG	Seminar
Fall 2017	PSY5000	5000	PSY Core Topics	Psychology	1	A selected topic in a core area of psychology. The topic and structure of this course will vary according to the discretion of the instructor.	GR	Lecture
Fall 2017	PSY5040	5040	Industrial and Org Psy	Psychology	3	Scientific psychological principles, procedures, and methods applied to human behavior in organizations.	GR	Lecture
Fall 2017	PSY5070	5070	Tests & Measures	Psychology	3	Introduction to the use, application, evaluation, and development of psychological tests and measures including ability, aptitude, attitude, standardized, or normed measures.	GR	Lecture
Fall 2017	PSY5090	5090	Psy of Health Behavior	Psychology	3	Survey of the psychology of health care. The focus is both theoretical and practical, emphasizing the integration of physiological and psychological knowledge.	GR	Lecture
Fall 2017	PSY5110	5110	Abnormal Psychology	Psychology	3	Facts and theories pertaining to abnormal behavior. Topics include classification and diagnosis, and causes and treatment of abnormal behavior.	GR	Lecture
Fall 2017	PSY5130	5130	Methods in Clinical Psyc	Psychology	4	This course provides students with a critical knowledge of qualitative research methods in psychology and with competencies necessary to carry out this kind of research in conjunction with quantitative methods and independently in its own right. The course includes a focus on the history of use, the philosophical foundations, and the scientific status of qualitative research methods in psychology.	GR	Lecture
Fall 2017	PSY5130L	5130L	Meth in Clinical Psyc Lab	Psychology	0	Required laboratory for PSY 5130.	GR	Lab
Fall 2017	PSY5210	5210	Cognition and Learning	Psychology	3	Theories, methodologies, and applications in the areas of attention, perception, visual imagery, memory, expert performance, decision making, and problem solving. Emphasis on how the brain performs cognitive functions.	GR	Lecture
Fall 2017	PSY5310	5310	Psychology Personality	Psychology	3	Survey of contemporary perspectives in personality psychology. Compares research methods, assessment strategies, and applications.	GR	Lecture
Fall 2017	PSY5410	5410	Lifespan Development Psy	Psychology	3	Survey of theory, research, and methodological issues in the study of development across the lifespan.	GR	Lecture
Fall 2017	PSY5510	5510	Social Psychology	Psychology	3	Current theories and experimental findings examining the situational and social causes underlying people's attitudes, beliefs, and behaviors.	GR	Lecture
Fall 2017	PSY5600	5600	Engineering Psychology	Psychology	3	Introduction to the study of human factors in the design and operation of machine systems.	GR	Lecture
Fall 2017	PSY5610	5610	Conditioning & Learning	Psychology	3	Introduction to experimental findings and contemporary theories of conditioning, learning, and motivation.	GR	Lecture



Fall 2017	PSY5710	5710	Perception	Psychology	3	Examines active processes by which organisms gather, interpret, and respond to environmental stimuli.	GR	Lecture
Fall 2017	PSY5830	5830	Cognitive Neuro Methods	Psychology	4	The course will provide an introduction to the research methods used in cognitive neuroscience, giving students a hands-on experience with the design of neuroscientific experiments, data collection, data analysis, as well as communication of data through writing.	GR	Lecture
Fall 2017	PSY5910	5910	Behavioral Neurosci I	Psychology	3	Physiological mechanisms of behavior. Basic neuroanatomy and neurophysiology, neuronal development and function, psychopathology, reproduction, learning, sleep, and stress.	GR	Lecture
Fall 2017	PSY5920	5920	Behavioral Neurosci II	Psychology	3	Learning and memory, reinforcement systems, ingestive behavior, sensory and motor systems, psychopharmacology, and addictive processes.	GR	Lecture
Fall 2017	PSY6000	6000	PSY Capstone Topics	Psychology	1	A selected psychology capstone topic. The topic will vary according to the discretion of the instructor.	GR	Seminar
Fall 2017	PSY6010	6010	Adv Research Methods	Psychology	4	Advanced methods in selected areas of psychology.	GR	Lecture/Lab Combination
Fall 2017	PSY6020	6020	Adv Exp Design: Programs	Psychology	4	Use of canned computer programs such as SPSS, SAS, and BIOMED in the design, analysis, and interpretation of behaviorally oriented research.	GR	Lecture/Lab Combination
Fall 2017	PSY6030	6030	Practicum in Applied Psy	Psychology	3	Supervised work in an applied psychological setting consistent with students' individual interests (e.g., mental health agency, industrial, or organizational setting). Graded pass/unsatisfactory.	GR	Practicum
Fall 2017	PSY6040	6040	Independent Reading	Psychology	1	Specific topics selected by students and instructor. Graded pass/unsatisfactory.	GR	Independent Study
Fall 2017	PSY6060	6060	Independent Research	Psychology	1	Original problems for investigation. Graded pass/unsatisfactory.	GR	Independent Study
Fall 2017	PSY6100	6100	Applied Psych Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on applied psychology. Topic will vary by title.	GR	Seminar
Fall 2017	PSY6110	6110	Positive Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge within Positive Psychology.	GR	Seminar
Fall 2017	PSY6120	6120	Applied Sports Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge within Sports Psychology.	GR	Seminar
Fall 2017	PSY6130	6130	Psy in Film Cap	Psychology	3	Communication-intensive seminar integrating knowledge examining psychology in film.	GR	Seminar
Fall 2017	PSY6140	6140	Cond and Learning Cap	Psychology	3	Communication-intensive seminar integrating knowledge within conditioning and learning.	GR	Seminar
Fall 2017	PSY6200	6200	Cognitive Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on Cognitive Psychology. Topics will vary.	GR	Seminar

Fall 2017	PSY6210	6210	Info Processing Cap	Psychology	3	Communication-intensive seminar integrating knowledge on information processing skills such as selective attention, pattern recognition, reading, problem solving, and human performance.	GR	Seminar
Fall 2017	PSY6220	6220	Psycholinguistics Cap	Psychology	3	Communication-intensive seminar integrating knowledge on language: its development during the first years of life, its biological basis, its normal and abnormal characteristics.	GR	Seminar
Fall 2017	PSY6230	6230	Problem Solving Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on problem solving and reasoning.	GR	Seminar
Fall 2017	PSY6270	6270	Cog Neuro Capstone	Psychology	3	This graduate course will introduce students to current topics and controversies in cognitive neuroscience. The course will demonstrate how different research traditions are integrated to inform and advance present-day understanding of the relationship between brain and behavior.	GR	Lecture
Fall 2017	PSY6300	6300	Abnormal Psych Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on select topics within Abnormal Psychology. Topic will vary.	GR	Seminar
Fall 2017	PSY6310	6310	Clinical Psychology Cap	Psychology	3	Communication-intensive seminar integrating knowledge within Clinical Psychology.	GR	Seminar
Fall 2017	PSY6330	6330	Personal Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on personality, including theory, research, and application.	GR	Seminar
Fall 2017	PSY6360	6360	Development Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on current theory, research, and applied issues in selected aspects of development across the lifespan. Topic will vary.	GR	Seminar
Fall 2017	PSY6370	6370	Psychology of Aging Cap	Psychology	3	Communication-intensive seminar integrating knowledge on theories, methods, and research related to human aging. Focus on both current research and applications from psychology.	GR	Seminar
Fall 2017	PSY6400	6400	Ind/Org Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on industrial/organizational psychology. Topics will vary.	GR	Seminar
Fall 2017	PSY6410	6410	Industrial Psy Cap	Psychology	3	Writing and oral communication intensive seminar integrating knowledge on Industrial Psychology.	GR	Seminar
Fall 2017	PSY6420	6420	Organizational Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge on Organizational Psychology.	GR	Seminar
Fall 2017	PSY6430	6430	Psychometrics Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on psychometrics.	GR	Seminar
Fall 2017	PSY6440	6440	Work Stress Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on work stress.	GR	Seminar
Fall 2017	PSY6500	6500	Social Psych Cap	Psychology	3	Communication-intensive seminar integrating knowledge on Social Psychology. Topic will vary by title.	GR	Seminar

Fall 2017	PSY6510	6510	Cross-Cul Psy Cap	Psychology	3	Communication-intensive seminar integrating knowledge on Cross-Cultural Psychology. Explores national differences in perception, cognition, and self-concept as well as in personality dynamics and interpersonal interactions, and addresses the challenges of globalization.	GR	Seminar
Fall 2017	PSY6520	6520	Prejudice Research Cap	Psychology	3	Discusses research on the topics of stereotyping, prejudice, discrimination, and related phenomena.	GR	Seminar
Fall 2017	PSY6530	6530	Psy and the Law Cap	Psychology	3	Communication-intensive seminar integrating knowledge within Forensic Psychology.	GR	Seminar
Fall 2017	PSY6600	6600	Human Factors Cap	Psychology	3	Communication-intensive seminar integrating knowledge on human factors psychology. Topics will vary.	GR	Seminar
Fall 2017	PSY6610	6610	Human-Comp Interface Cap	Psychology	3	Communication intensive seminar integrating knowledge on human-computer interface issues.	GR	Seminar
Fall 2017	PSY6620	6620	Ergonomics Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on ergonomics.	GR	Seminar
Fall 2017	PSY6630	6630	Human Error Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on human error.	GR	Seminar
Fall 2017	PSY6700	6700	Adv Topics Percept Cap	Psychology	3	Communication-intensive seminar integrating knowledge on perception. Topic will vary by title. Integrated Writing course.	GR	Seminar
Fall 2017	PSY6720	6720	Select Visual Attn Cap	Psychology	3	Communication-intensive seminar integrating knowledge on selective visual attention.	GR	Seminar
Fall 2017	PSY6730	6730	Hearing Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on the perception of hearing.	GR	Seminar
Fall 2017	PSY6740	6740	Space and Time Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on space and time.	GR	Seminar
Fall 2017	PSY6900	6900	Behavioral Neuro Cap	Psychology	3	Communication-intensive seminar integrating knowledge within behavioral neuroscience.	GR	Seminar
Fall 2017	PSY6910	6910	Psychobio of Stress Cap	Psychology	3	Communication-intensive seminar integrating knowledge on the psychobiology of stress.	GR	Seminar
Fall 2017	PSY6920	6920	Clinical Neuro Cap	Psychology	3	Communication-intensive seminar integrating knowledge on clinical neuroscience.	GR	Seminar
Fall 2017	PSY6930	6930	Behav Neuro Ed Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on behavioral neuroscience education.	GR	Seminar
Fall 2017	PSY6940	6940	Animal Behavior Capstone	Psychology	3	Communication-intensive seminar integrating knowledge on animal behavior. Topics will include evolution, natural and sexual selection, and mating systems.	GR	Seminar

Fall 2017	PSY6941	6941	Animl Beh Cp w/FldSdyAbr	Psychology	5	Communication-intensive seminar integrating knowledge on animal behavior. Topics will include evolution, natural and sexual selection, and mating systems. It also includes an educational trip abroad (e.g., Poland) in order to perform the critical experiential part of course work in engaging and interesting environment while at the same time being exposed to international scientific community and cooperation.	GR	Lecture/Lab Combination
Fall 2017	PSY6950	6950	Sex & Endocrinology Cap	Psychology	3	Communication-intensive seminar integrating knowledge on sexuality and endocrinology.	GR	Seminar
Fall 2017	PSY6960	6960	Behav Embry & Terat Cap	Psychology	3	Communication-intensive seminar integrating knowledge on behavioral embryology and teratology.	GR	Seminar
Fall 2017	PSY7010	7010	Dsgn & Quant	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.	GR	Lecture/Lab Combination
Fall 2017	PSY7020	7020	Dsgn	Psychology	4	Continuation of PSY 701.	GR	Lecture/Lab Combination
Fall 2017	PSY7030	7030	Personality Structure	Psychology	3	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 2017	PSY7040	7040	Social Psychology	Psychology	3	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	Seminar
Fall 2017	PSY7050	7050	Cognition	Psychology	3	Phenomena, principles, and problems of human cognition and learning.	GR	Lecture
Fall 2017	PSY7060	7060	Perception	Psychology	4	Study of the active processes by which organisms gather, interpret, and respond to environmental stimuli.	GR	Lecture
Fall 2017	PSY7900	7900	Independent Research	Psychology	1	Research conducted under faculty supervision. Student must not have defended their Master's thesis yet.	GR	Independent Study

Fall 2017	PSY7910	7910	Internship	Psychology	1	Internship in private or governmental organizations under the direction of a faculty advisor. Student must not have defended their Master's thesis prior to enrollment in this course. Does not count for graduate credit toward the M.S. degree in psychology. Graded pass/unsatisfactory.	GR	Internship
Fall 2017	PSY7990	7990	Thesis Research	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	Independent Study
Fall 2017	PSY8000	8000	Graduate HF/IO Seminar	Psychology	0	Weekly discussions of topics in Human Factors or Industrial/Organizational Psychology.	GR	Seminar
Fall 2017	PSY8020	8020	Stress, Cognition, Hlth	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	Seminar
Fall 2017	PSY8090	8090	Topics in Human Factors	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 2017	PSY8110	8110	Appl. of Visual Science	Psychology	3	Study of visual systems including psychophysical measurement, temporal and spatial properties, display criteria, colorimetry, and visual system modeling.	GR	Lecture
Fall 2017	PSY8120	8120	Cortical Vis. Processes	Psychology	3	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	Seminar
Fall 2017	PSY8130	8130	Fund. Motion Perception	Psychology	3	A detailed introduction to visual motion perception, covering historical, psychophysical, neural, computational, and applied perspectives.	GR	Seminar
Fall 2017	PSY8140	8140	Psychoacoustics	Psychology	3	Advanced examination of auditory psychophysics and perceptual processes involving consideration of peripheral and central auditory physiology whenever possible.	GR	Lecture
Fall 2017	PSY8150	8150	Binaural Hearing	Psychology	3	Examines the psychophysical and physiological basis of binaural and spatial hearing. Topics include binaural detection, sound localization, the cocktail-party effect, models of spatial hearing, and 3-dimensional audio displays.	GR	Lecture
Fall 2017	PSY8210	8210	Paradigms in Exp. Psych.	Psychology	3	The topic of scientific revolutions (as described by Kuhn) and how they apply to experimental psychology is described. Students will learn about the concepts of normal vs. revolutionary science, the rational vs. conventional rules of science and scientific paradigms. Students will analyze paradigmatic shifts occurring in experimental psychology over the past century, including behaviorism, information processing, and ecological approaches to psychology.	GR	Seminar

Fall 2017	PSY8220	8220	Spatial Knowledge	Psychology	3	This course explores research and concepts of spatial knowledge acquisition, processing and use. Relevant theories will be reviewed and critically evaluated from contemporary and historical perspectives. Importance and potential applications of spatial processing for human factors applications will be considered.	GR	Seminar
Fall 2017	PSY8230	8230	Psycholinguistics	Psychology	4	This course introduces students to the major concepts and theories in the area of psycholinguistics, the study of language processes, primarily in humans.	GR	Seminar
Fall 2017	PSY8240	8240	Reasoning	Psychology	3	This course will provide an overview of problem solving theory in the context of laboratory, academic and workplace tasks. Upon completion, students will be able to relate fundamental research to support the analysis of complex workplace cognition.	GR	Seminar
Fall 2017	PSY8250	8250	Attention	Psychology	3	The course covers the major theoretical views of human attention in the literature, their implications on human performance in complex, dynamic systems, and their implications on human factors applications.	GR	Seminar
Fall 2017	PSY8260	8260	Decision Making	Psychology	3	The course covers the major theoretical viewpoints of judgment and decision making in the literature. The emphasis is on understanding the nature of human decision making and the implications on designing decision aids, training, and policy making.	GR	Lecture
Fall 2017	PSY8270	8270	Cognitive Neuroscience	Psychology	3	This graduate course will introduce students to current topics and controversies in cognitive neuroscience. The course will demonstrate how different research traditions are integrated to inform and advance present-day understanding of the relationship between brain and behavior.	GR	Lecture
Fall 2017	PSY8280	8280	Topics in Human Factors	Psychology	3	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	Seminar
Fall 2017	PSY8290	8290	Learning w/ Disabilities	Psychology	3	This course will introduce students to the major perspectives and cross-disciplinary theories in the area of human learning, to provide a foundation for the consideration of physical activities in this process. Upon completion of this course, students will be able to analyze learning activities for their joint cognitive, physical and social components, thereby extending contemporary theories of learning to the unique demands of learning with disabilities.	GR	Seminar
Fall 2017	PSY8310	8310	Cognitive Systems Engin.	Psychology	3	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	Seminar

Fall 2017	PSY8320	8320	Ecological Interface Des	Psychology	3	Examination of critical factors in the design of effective computer interfaces, including display, from a cognitive systems engineering and ecological interface design perspective. Design principles discussed include direct perception, direct manipulation, and visual momentum.	GR	Seminar
Fall 2017	PSY8340	8340	Engineering Psychology	Psychology	4	A survey of psychological principles and methods pertinent to issues of human-machine interactions. It is emphasized that basic and applied research inform each other and are both necessary for advancing the field.	GR	Lecture
Fall 2017	PSY8350	8350	Aviation Psychology	Psychology	3	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 2017	PSY8420	8420	Mental Workload	Psychology	3	This course reviews the major theories and practices of mental workload measurement, including a review of the research relevant to them. Applications to human factors will be discussed.	GR	Seminar
Fall 2017	PSY8430	8430	Physical Ergonomics	Psychology	2	This addresses the physical demands of work, with an emphasis on cognitive work in technical settings.	GR	Seminar
Fall 2017	PSY8440	8440	Task Analysis/Work Analy	Psychology	3	This course extends the theoretical understanding of human capabilities to the analysis of human behavior in complex work settings. The course covers the ergonomic, cognitive and socio-technical aspects of human behavior that influence any realistic work setting.	GR	Seminar
Fall 2017	PSY8450	8450	Bayesian Analyses	Psychology	3	This course is an intro to applying Bayesian data analysis. We will cover the necessary probability theory to understand Bayes rule and to derive posterior distributions for simple models. We will discuss MCMC approaches to estimating posteriors including Gibbs sampling and the basics of Hamiltonian MCMC. In the latter half of the course, we will implement and explore a number of variations of generalized linear models, ranging in complexity from t-tests to hierarchical ordinal regression.	GR	Lecture
Fall 2017	PSY8500	8500	Seminar in I/O	Psychology	0	Weekly discussions of topics in Industrial/Organizational Psychology.	GR	Seminar
Fall 2017	PSY8590	8590	Topics in Indus/Organiz	Psychology	2	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	Seminar
Fall 2017	PSY8610	8610	Personnel Psychology	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	Seminar

Fall 2017	PSY8620	8620	Organizational Behavior	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 2017	PSY8630	8630	Psychometrics	Psychology	2	The course focuses on the unique methodological challenges faced by I/O researchers. Theory, causation, and experimental validity are reviewed. Various research designs (e.g., experiments, quasi-experiments, correlation and regression analysis, ethnographic study) are discussed. Methods of data collection (e.g., unobtrusive measurement, survey, qualitative) are reviewed. Methods of data analysis (e.g., structural equation modeling, multilevel modeling, meta-analysis) are reviewed.	GR	Seminar
Fall 2017	PSY8640	8640	Res Methods I/O Psy	Psychology	4		GR	Seminar
Fall 2017	PSY8710	8710	Psychology of Leadership	Psychology	2	Designed to explore the theories, research, and practice of leadership in work organizations from a psychological perspective.	GR	Seminar
Fall 2017	PSY8720	8720	Work Motivation	Psychology	2	Work motivation theories are examined in terms of their empirical support and practical usefulness. Factors and processes influencing effort, intentions, performance, and other job behaviors are discussed.	GR	Seminar
Fall 2017	PSY8730	8730	Training in Organization	Psychology	2	This course will address theories, issues, and research in training. The purpose will be to discuss factors and processes involved in training needs assessment, design, and evaluation as well as learning processes, individual difference and motivational factors affecting training, and selected special topics.	GR	Seminar
Fall 2017	PSY8740	8740	Teams in Organizations	Psychology	2	This course will address theories, issues, and research relating to workplace teams. The purpose will be to discuss definitions of teams as well as their development, composition, and functioning.	GR	Seminar
Fall 2017	PSY8750	8750	Job Attitudes	Psychology	3	An overview of the theoretical, methodological and empirical literature on job attitudes.	GR	Lecture
Fall 2017	PSY8760	8760	Job Performance	Psychology	2	Seminar with in-depth coverage of job performance. Topics will include: dimensionality of job performance, measurement techniques and common errors, and various other IO and HF topics related to job performance.	GR	Seminar
Fall 2017	PSY8770	8770	Org. Dev. & Change	Psychology	2	Overview of the systems approach to organizational diagnosis, planning, and intervention in human service organizations. Behavioral interventions are emphasized.	GR	Seminar
Fall 2017	PSY8780	8780	Organizational Theory	Psychology	2	Seminar with in-depth coverage of organizational theory.	GR	Seminar
Fall 2017	PSY8790	8790	Legal Issues in I/O Psyc	Psychology	2	Course will explore established, current, and emerging legal issues in Industrial/Organizational Psychology.	GR	Seminar



Fall 2017	PSY9010	9010	Signal Detection Theory	Psychology	3	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 2017	PSY9020	9020	Manual Control	Psychology	3	Description of human control processes and their models. Analyses of human skills and skill typology.	GR	Lecture
Fall 2017	PSY9025	9025	Intro to MATLAB	Psychology	2	This course will introduce students to the use of MATLAB in psychological research. We will cover the basics of the MATLAB environment, including the interface, data types, control flow, and plotting.	GR	Lecture
Fall 2017	PSY9030	9030	Comp Cognitive Modeling	Psychology	3	In this course, we will learn how to develop computational cognitive models within a unified theory of the human mind referred to as a cognitive architecture. We will briefly review a number of existing cognitive architectures and discuss their main applications. Then, we will study one of the most popular cognitive architectures, ACT-R, and will learn to develop a few simple models that account for human behavior in a number of classic paradigms from experimental psychology.	GR	Lecture
Fall 2017	PSY9035	9035	Math Models of Cognition	Psychology	2	1) Math & stats tools for models of cognition: random vars, prob density & dist funct's & cond'l prob.2) Methods for comparing models. This will include BIC, AIC, & chi-square tests.3) Models of response selection inc. Luce choice & Gen'l Context Model and Gen'l Recog. Theory.4) Models of RT: Time series analysis & stochastic processes. Choice + RT models: Linear Ballistic Accumulator & various diffusion models. Systems Factorial Technology for modeling cog with mult sources of info.	GR	Lecture
Fall 2017	PSY9040	9040	Neural Networks	Psychology	3	Examines neural networks as models of perception and cognition. Topics include perceptrons, pattern associators, backpropagation, and self-organizing networks. Students apply neural networks to a topic of their interest using MATLAB.	GR	Lecture
Fall 2017	PSY9050	9050	Quasi-Experimentation	Psychology	4	Issues in design and analysis for field settings are reviewed. These issues include quasi-experimental design, validity, and statistical analysis.	GR	Seminar
Fall 2017	PSY9060	9060	Multivariate Methods	Psychology	4	Issues in multivariate analysis are reviewed using statistical software programs. These issues include path analysis, principle components analysis, confirmatory factor analysis, and structural regression models.	GR	Lecture

Fall 2017	PSY9070	9070	Multilevel Modeling Psy	Psychology	4	At the conclusion of the course, students will have a working knowledge of the basics of multilevel modeling. They will be able to estimate and interpret basic two-level models, growth models, and multilevel mediation models using specialized software. Students will be able to critically examine research using multilevel modeling.	GR	Lecture
Fall 2017	PSY9080	9080	Item Response Theory	Psychology	4	Issues in item response theory (IRT) are reviewed using statistical software programs. These issues include basic dichotomous and polytomous IRT models, model fit, and differential item functioning.	GR	Lecture
Fall 2017	PSY9090	9090	Meta-Analysis	Psychology	1	Introduction to the use of meta-analytic methods in psychology.	GR	Lecture
Fall 2017	PSY9100	9100	Hst of Psychology	Psychology	3	Major trends in the development of psychology from its beginning to the present.	GR	Lecture
Fall 2017	PSY9800	9800	Qualifying Exam Prep	Psychology	1	Reading of relevant material for students to prepare to take the qualifying exam for PhD candidacy.	GR	Independent Study
Fall 2017	PSY9900	9900	Independent Research	Psychology	1	Research conducted under faculty supervision for students who have completed their Master's thesis.	GR	Independent Study
Fall 2017	PSY9910	9910	Internship	Psychology	1	Internship in private or governmental organizations under the direction of a faculty advisor. Student must have successfully defended their Master's thesis prior to enrollment. Does not count for graduate credit toward the Ph.D. degree in psychology. Graded pass/unsatisfactory.	GR	Internship
Fall 2017	PSY9990	9990	Dissertation Research	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	Independent Study
Fall 2017	PTX4950	4950	Honors Pharmacology Res	Pharmacology/To xicology	1	Experiential learning for honors program students interested in basic biomedical research. Tutorial with laboratory.	UG	Lab
Fall 2017	PTX4990	4990	Undergraduate Research	Pharmacology/To xicology	1	Experimental learning in assigned clinical and research laboratories. Students present papers, and seminars are given by professionals and experts from a variety of clinical and research fields.	UG	Independent Study
Fall 2017	PTX6001	6001	Biochemistry	Pharmacology/To xicology	3	This course provides an introduction to the application of biochemistry to the pharmacology program. Students will learn fundamental concepts in the structural and thermodynamic aspects of the organization of proteins. The kinetics and thermodynamics of protein-ligand interactions are discussed for non-cooperative, cooperative, and allosteric binding events. The use of mechanistic and kinetic information in enzyme characterization and drug action are discussed.	GR	Lecture

Fall 2017	PTX6002	6002	Cell Biology	Pharmacology/Toxicology	3	This course will explore the organization, function, and structures of eukaryotic cells. Fundamentals of subcellular organization and biological chemistry will provide a foundation for understanding the molecular and energetic aspects of cells. The course will then cover membrane function as well as cellular signaling pathways with a particular emphasis on understanding how these pathways are useful targets of pharmaceutical agents.	GR	Lecture
Fall 2017	PTX6003	6003	Intro to Pharmacology	Pharmacology/Toxicology	3	This course provides an introduction to basic concepts in drug action. Students will become acquainted with the types of pharmacological agents, their general mechanisms for influencing cell behavior, the duration of effective action, and the vocabulary and delivery of pharmacological agents.	GR	Lecture
Fall 2017	PTX6010	6010	Intro to Biochemistry	Pharmacology/Toxicology	3	This course provides an introduction to the application of biochemistry to pharmacology. Students will learn fundamental concepts in the structural and thermodynamic aspects of the organization of proteins.	GR	Lecture
Fall 2017	PTX7000	7000	Biostats for Health Prof	Pharmacology/Toxicology	2	Introduction to the basic principles and applications of statistical methods as they are applied to data arising in the health professions.	GR	Lecture
Fall 2017	PTX7001	7001	Cellular Pharm & Tox	Pharmacology/Toxicology	3	Modern toxicology focuses on understanding the mechanism of action of chemicals at the cellular level. This course will explore a spectrum of cellular mechanisms of toxicity providing a broad perspective of cutting edge research in toxicology.	GR	Lecture
Fall 2017	PTX7002	7002	Journal Club	Pharmacology/Toxicology	1	WSU faculty driven course. Students are presented with current literature on a specific topic. The students will give presentations on the material.	GR	Lecture
Fall 2017	PTX7003	7003	Biokinetics/Biodynamics	Pharmacology/Toxicology	3	The course will track the absorption, distribution, inactivation and elimination of drugs and toxins. It will also present the principles of drug/toxin actions which underly their observed effects.	GR	Lecture
Fall 2017	PTX7010	7010	Research Techniques	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 theory behind the topic.	GR	Lecture/Lab Combination
Fall 2017	PTX7011	7011	Thesis Develop Workshop	Pharmacology/Toxicology	1	Students will learn how to develop thesis proposals and how to present research projects. Students will learn about requirements and receive instructions for preparing oral proposals. A step-by-step program will guide students toward assembling complete presentations.	GR	Lecture

Fall 2017	PTX7012	7012	Introduction to Research	Pharmacology/Toxicology	3	Three practical laboratory experiences in three week rotations each. The students will spend 3 weeks in 3 laboratories and each rotation will be concluded with a 2 page summary, signed by the laboratory PI. Upon completion the Pharm & Tox student should have a laboratory picked to complete thesis work	GR	Lab
Fall 2017	PTX7020	7020	Laboratory Management	Pharmacology/Toxicology	3	The topics are designed to give students laboratory management experience along with a short weekly lecture that will provide background information on the theory behind the project.	GR	Lecture
Fall 2017	PTX7021	7021	Effective Sci Writing:P1	Pharmacology/Toxicology	3	Students are required to independently write a 10-15 page scientific reviews on a current topic in Pharmacology & Toxicology with input from the adviser.	GR	Lecture
Fall 2017	PTX7022	7022	Effective Sci Writing:P2	Pharmacology/Toxicology	3	Students will independently write a 10-15 page scientific review on a current topic in Pharmacology & Toxicology with at least 25 references.	GR	Lecture
Fall 2017	PTX7110	7110	Journal Club	Pharmacology/Toxicology	1	WSU faculty driven course. Students are presented with current literature on around a specific topic. The students will give presentations on the material.	GR	Seminar
Fall 2017	PTX7120	7120	Journal Club	Pharmacology/Toxicology	1	WSU faculty driven course. Students are presented with current literature on around a specific topic. The students will give presentations on the material.	GR	Seminar
Fall 2017	PTX7130	7130	P&T Journal Club-Summer	Pharmacology/Toxicology	1	WSU P&T faculty driven course. Students are presented with current literature on around a specific topic. The students will give presentations on the material.	GR	Seminar
Fall 2017	PTX7200	7200	Biokinetics/Biodynamics	Pharmacology/Toxicology	3	The course will track the absorption, distribution, inactivation and elimination of drugs and toxins. It will also present the principles of drug/toxin actions which underly their observed effects.	GR	Lecture
Fall 2017	PTX7300	7300	Cellular Pharm & Tox	Pharmacology/Toxicology	3	Modern toxicology focuses on understanding the mechanism of action of chemicals at the cellular level. This course will explore a spectrum of cellular mechanisms of toxicity providing a broad perspective of the cutting edge of research in toxicology.	GR	Lecture
Fall 2017	PTX7400	7400	Laboratory Management	Pharmacology/Toxicology	3	The topics are designed to give students laboratory management experience along with a short weekly lecture that will provide background information on the theory behind the project.	GR	Lecture

Fall 2017	PTX7500	7500	Research Techniques	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/Lab Combination
Fall 2017	PTX7600	7600	Biostats for Health Prof	Pharmacology/Toxicology	3	Introduction to the basic principles and applications of statistical methods as they are applied to data arising in the health professions.	GR	Lecture
Fall 2017	PTX8000	8000	Selected Topics	Pharmacology/Toxicology	1	Topics vary.	GR	Lecture
Fall 2017	PTX8001	8001	Lab Safety	Pharmacology/Toxicology	1	In this course we discuss the environmental, health, and safety requirements for laboratory workers. The topics will include hazard communication, laboratory-specific hazards, and general laboratory practices. The regulatory agencies and committee that oversee laboratory operations will also be reviewed. This course has been approved for continuing education or contact hours for the Ohio Environmental Protection Agency's Water and Wastewater Operator Certification Program.	GR	Lecture
Fall 2017	PTX8002	8002	Principles of Biomed Res	Pharmacology/Toxicology	1	Principles of Biomedical Research is appropriate for students that will be involved in biomedical research. PBR provides a lecture and student interactive series designed to introduce students to the basics of biomedical research.	GR	Lecture
Fall 2017	PTX8004	8004	Apply Med Chem Defense	Pharmacology/Toxicology	3	Provide an understanding of chemical threat agent history, toxicology, and medical intervention. The course will also introduce requirements for research for working with highly toxic chemicals, animal models, and medical/environmental countermeasures.	GR	Lecture
Fall 2017	PTX8005	8005	Med.Bio.Defense	Pharmacology/Toxicology	3	This course will provide an overview understanding of the most important biodefense and emerging infectious agents, their epidemiology, pathogenesis, animal models, and medical/environmental countermeasures with reference to regulatory requirements.	GR	Lecture
Fall 2017	PTX8006	8006	Case Study Chem Defense	Pharmacology/Toxicology	3	This course will provide an opportunity for students to review historical chemical and biological scenarios to evaluate means, methods, motivation and effects of such uses.	GR	Lecture
Fall 2017	PTX8013	8013	Communication in Science	Pharmacology/Toxicology	3	A crash course in bringing clarity, plain language and fun to scientific communications.	GR	Lecture

Fall 2017	PTX8014	8014	Integr Pharm/Tox Methods	Pharmacology/Toxicology	3	This course provides basic and general principles on animal handling, caring and experimental design. It instructs basic techniques in drug dosing and administration, animal surgery, tissue sample collection. Emphasizes Biomedical Science's current methods.	GR	Lecture/Lab Combination
Fall 2017	PTX8016	8016	Neuropharmacology	Pharmacology/Toxicology	3	The aim of this course is to give an overview of neuropharmacology that includes basic principles of drug action in neurons, a description of major neurotransmitter systems in the brain and their pharmacology, with examples of their clinical and therapeutic relevance. The emphasis is on mental illness. The course is designed for graduate students in medicine and biomedical sciences.	GR	Lecture
Fall 2017	PTX8040	8040	Good Laboratory Practice	Pharmacology/Toxicology	3	GLP regulations are a set of international standards developed to ensure quality and reliability of safety data submitted to regulatory authorities. This course is a study of the standards and principles governing the conduct of pharm/tox studies.	GR	Lecture
Fall 2017	PTX8050	8050	Toxinology	Pharmacology/Toxicology	3	Toxinology is the branch of biology that studies toxins and the organisms that produce them. The learning outcome of this course is to develop a clearer understanding of the chemical structures, functions and biological activities of various toxins produced by organisms such as snakes, scorpions, spiders, marine invertebrates, fungus, plants and microbes.	GR	Lecture
Fall 2017	PTX8060	8060	Six Sigma, Green Belt	Pharmacology/Toxicology	3	This course is an introduction to the tools and techniques of the lean six sigma philosophy of management that focuses on eliminating defects through practices that emphasize understanding, measuring, and improving processes.	GR	Lecture
Fall 2017	PTX8061	8061	Six Sigma, Black Belt	Pharmacology/Toxicology	3	This course is an introduction to the tools and techniques of the lean six sigma philosophy of management that focuses on eliminating defects through practices that emphasize understanding, measuring, and improving processes. The Black Belt course focuses on the advanced analytical tools for process improvement. Topics covered in the Green Belt course will only be explored at a deeper level.	GR	Lecture
Fall 2017	PTX8070	8070	Cell Culture Training	Pharmacology/Toxicology	1	This is a two day course that focuses on the introduction of the basic principal and techniques of cell culture. The course will cover cell culture definition, cell culture types, cell culture environment, cell culture wares and the protocols for cell culture techniques. In addition, there will be hands-on teaching of cell culture techniques which will include making cell culture medium, changing medium, thawing cells, freezing cells, sub culturing cells and counting cell numbers.	GR	Lecture

Fall 2017	PTX8080	8080	Wound Healing	Pharmacology/Toxicology	3	This is a translational medicine class that connects wound healing (skin anatomy and physiology phases of wound healing) with wound care (wound closure and the reconstructive ladder in plastic surgery).	GR	Lecture
Fall 2017	PTX8100	8100	Med CHM/RAD/NUC Defense	Pharmacology/Toxicology	3	This course will provide an understanding of the chemical, radiological, and nuclear threat, related toxicology/pathogenesis and medical intervention. The course will also introduce requirements for Government and Contract Research standards for working with highly toxic materials, study design, development, and execution to include issues with regard to Good Laboratory Practices, Institutional Animal Care and Use Committee, Quality Assurance, and safety pharmacology.	GR	Lecture
Fall 2017	PTX8110	8110	Alt Healthcare Sys India	Pharmacology/Toxicology	3	The course includes a two week visit to Alvas Ayurvedic Medical College, Moodabidre, Mangalore, India where students will witness the way Ayurveda is practiced and integrated with modern medicine. This course is primarily designed to introduce a natural way of providing health care that is practiced in India as a complimentary health care system.	GR	Lecture
Fall 2017	PTX8120	8120	Case Studies CBRN Defense	Pharmacology/Toxicology	3	This course will provide an opportunity for students to review historical chemical and biological scenarios to evaluate means, methods, motivation and effects of such uses.	GR	Lecture
Fall 2017	PTX8130	8130	NanoMedicine	Pharmacology/Toxicology	3	Nanotechnology is an interdisciplinary field that encompasses aspects of biology, chemistry, and physics. This course will focus on three themes: the development and characterization of NMs, their potential applications in medicine/biomedical applications, and their potential toxicological risks for human health.	GR	Lecture
Fall 2017	PTX8140	8140	Human Studies Research	Pharmacology/Toxicology	3	All research projects that involve human subjects require review and approval at the institutional level for both regulations covering human subjects research and/or regulations under HIPAA (Health Insurance Portability and Accessibility Act). A well-crafted research proposal makes completion of the review process at each institution easier. In this class we will develop a petition, complete CITI training, and engage in dialogue on the topic.	GR	Lecture
Fall 2017	PTX8200	8200	Communications in Scienc	Pharmacology/Toxicology	3	A crash course in bringing clarity, plain language and fun to scientific communications.	GR	Lecture

Fall 2017	PTX8210	8210	Med. Bio. Defense	Pharmacology/Toxicology	3 This course will provide an in depth understanding of biological warfare threat agent pathogenesis, toxicology, and medical intervention. The course will also introduce requirements for Government and Contract Research standards for working with highly pathogenic microorganisms, study design, development, and execution to include issues with regard to Good Laboratory Practices, Institutional Animal Care and Use Committee, Quality Assurance, and safety pharmacology.	GR	Lecture
Fall 2017	PTX8300	8300	Integr Pharm/Tox Methods	Pharmacology/Toxicology	3 This course provides basic and general principles on animal handling, caring and experimental design. It instructs basic techniques in drug dosing and administration, animal surgery, tissue sample collection. Emphasizes Biomedical Science's current methods.	GR	Lecture/Lab Combination
Fall 2017	PTX8400	8400	Neuropharmacology	Pharmacology/Toxicology	3 The aim of this course is to give an overview of neuropharmacology that includes basic principles of drug action in neurons, a description of major neurotransmitter systems in the brain and their pharmacology, with examples of their clinical and therapeutic relevance. The emphasis is on mental illness. The course is designed for graduate students in medicine and biomedical sciences.	GR	Lecture
Fall 2017	PTX8500	8500	Good Laboratory Practice	Pharmacology/Toxicology	3 GLP regulations are a set of international standards developed to ensure quality and reliability of safety data submitted to regulatory authorities. Overview of standards and principles governing the conduct of pharm/tox studies.	GR	Lecture
Fall 2017	PTX8600	8600	Prin Biomedical Research	Pharmacology/Toxicology	1 Principles of Biomedical Research is appropriate for students that will be involved in biomedical research. PBR provides a lecture and student interactive series designed to introduce students to the basics of biomedical research.	GR	Lecture
Fall 2017	PTX9000	9000	Intro to Research	Pharmacology/Toxicology	3 Three practical laboratory experiences in three week rotations each. The students will spend 3 weeks in 3 laboratories and each rotation will be concluded with a 2 page summary, signed by the laboratory PI. Upon completion the Pharm Tox student should have a laboratory picked to complete thesis work.	GR	Lecture/Lab Combination
Fall 2017	PTX9100	9100	Pharmacology Grad Reseac	Pharmacology/Toxicology	1 As part of the Thesis Track Pharmacology & Toxicology graduate students will participate in laboratory research.	GR	Lab
Fall 2017	PTX9120	9120	Scientific Writing 1	Pharmacology/Toxicology	3 Students are required to independently write a 10-15 page scientific reviews on a current topic in Pharmacology & Toxicology with input from the adviser.	GR	Independent Study
Fall 2017	PTX9200	9200	Pharm Clinical Research	Pharmacology/Toxicology	1 This class is designed to give pharmacology and medical students supervised research involving human subjects.	GR	Clinical



Fall 2017	PTX9220	9220	Scientific Writing 2	Pharmacology/Toxicology	3	Students will independently write a 10-15 page scientific review on a current topic in Pharmacology & Toxicology with at least 25 references.	GR	Independent Study
Fall 2017	REL2040	2040	Bible, Qur'an & West Cul	Religion	3	Introduction to the textual formation, early historical development, and influence of Judaism, Christianity, and Islam. Integrated Writing course.	UG	Lecture
Fall 2017	REL2050	2050	What Is Religion?	Religion	3	Explores the meaning of religion by looking at various ways in which people experience and express it. Diverse examples of religion and religious life are considered.	UG	Lecture
Fall 2017	REL2060	2060	Asian Religions	Religion	3	General introduction to the major religious traditions of South Asia and East Asia: Hinduism, Buddhism, Confucianism, Daoism. Zen. and Shinto.	UG	Lecture
Fall 2017	REL2070	2070	Western Religions	Religion	3	General introduction to the major religious traditions of Judaism, Christianity, Islam, and other selected religious traditions.	UG	Lecture
Fall 2017	REL2320	2320	Nonwestern Religions	Religion	3	Introduction to the academic study of major nonwestern religious traditions of the world, examining their historical development, fundamental doctrines and beliefs, practices, institutions, and cultural expressions. Integrated Writing course. Credit will not be given for REL 2320 Nonwestern Religions for students who have already successfully completed CST 2320 Nonwestern Religions.	UG	Lecture
Fall 2017	REL3100	3100	Topics in Judaism	Religion	3	Topics vary.	UG	Lecture
Fall 2017	REL3110	3110	Judaism: Faith & People	Religion	3	Judaism as a religious faith and people, with special reference to formative historical, social, ethnic, and cultural factors.	UG	Lecture
Fall 2017	REL3120	3120	Modern Jewish Thought	Religion	3	Major themes and issues in the works of contemporary Jewish thinkers (e.g., Borowitz, Herberg, Fackenheim, Kaplan, Rothschild, Heschel, Rubenstein, and Weisel).	UG	Lecture
Fall 2017	REL3200	3200	Topics in Christianity	Religion	3	Examination of selected topics related to the history and practice of Christianity.	UG	Lecture
Fall 2017	REL3210	3210	Christianity	Religion	3	Examination of the historical development of Christianity from biblical times to the present, with an emphasis on the diversity of religious beliefs, practices, and institutions.	UG	Lecture
Fall 2017	REL3300	3300	Topics in Islam	Religion	3	Problems, approaches, and topics in the field of Islam. Topics vary.	UG	Lecture
Fall 2017	REL3310	3310	Introduction to Islam	Religion	3	Origin and development of Islam, including contemporary issues.	UG	Lecture
Fall 2017	REL3320	3320	Islam in Modern World	Religion	3	Study of how Muslim thinkers and theologians have responded to the challenges of the modern era.	UG	Lecture
Fall 2017	REL3400	3400	Topics in Asian Religion	Religion	3	Studies in the religious dimension of Asian cultures with attention to historical, social, and aesthetic perspectives.	UG	Lecture

Fall 2017	REL3410	3410	Chinese Religions	Religion	3	Introductory survey of religious thought and practice in Chinese history and culture. Primary focus on Confucianism, Daoism, and Buddhism. Themes examined include religion and politics in Chinese history, human nature and self-cultivation, and conceptions of the sage in Chinese religions.	UG	Lecture
Fall 2017	REL3420	3420	Japanese Religions	Religion	3	Survey of historical and contemporary religious life in Japan. Primary focus will be on both early Shinto and later nationalistic Shinto, the varieties of Japanese Buddhism, and Japanese New religions. Topics examined include religious doctrine, faith and devotion, self-cultivation and enlightenment, monasticism, and religion and the state.	UG	Lecture
Fall 2017	REL3430	3430	Buddhism	Religion	3	Introduction to Buddhism, focusing on its historical origins in India and its spread to neighboring regions. Examines the life and teachings of the Buddha, rituals and practices among Buddhist monastics and laity, and early Buddhist art and architecture. Reading from historical Buddhist sources and documentary films about living Buddhist communities.	UG	Lecture
Fall 2017	REL3440	3440	Hinduism	Religion	3	Explores major beliefs and practices of Hinduism.	UG	Lecture/Recitation Combination
Fall 2017	REL3450	3450	Daoism	Religion	3	Survey of the various expressions of Daoism in Chinese religious and intellectual history. Includes classical Daoist writings and contemporary expressions of Daoism.	UG	Lecture
Fall 2017	REL3460	3460	Confucianism	Religion	3	Survey of Confucianism in Chinese history, including classical expressions of Confucian thought, influential Neo-Confucian thinkers and the modern fate of Confucianism in Chinese society and culture. Topics include Heaven, human nature and self-cultivation, conceptions of the sage, and Confucian political philosophy.	UG	Lecture
Fall 2017	REL3470	3470	Zen Buddhism	Religion	3	Survey of the history, doctrines, and practices of Zen Buddhism in China, Japan, and the West. Focus on important contributions and innovations of seminal figures. Particular attention also devoted to Zen meditative practices.	UG	Lecture
Fall 2017	REL3480	3480	Hindu Mythology	Religion	3	Examines relationship of Hindu sacred narratives and Hindu beliefs and practices. Addresses myth, its significance for the study of religion, and the intellectual issues at stake in reading mythology across cultures.	UG	Lecture
Fall 2017	REL3490	3490	Hindu Goddesses	Religion	3	Explores conceptualizations of the divine feminine in Hinduism, combines textual, historic, and anthropological resources to understand the nature of the various Hindu goddesses and how they are worshipped.	UG	Lecture

Fall 2017	REL3510	3510	Comp. Asian Mysticism	Religion	3 Examination of the religious phenomenon and category of "mysticism" in various Asian traditions including Daoism, Hinduism, and Buddhism (both early Indian Buddhism and Japanese Zen).	UG	Lecture
Fall 2017	REL3520	3520	Western Mysticisms	Religion	3 Mysticism and the history of its literary legacy within Judaism, Christianity and Islam. Integrated Writing course.	UG	Lecture
Fall 2017	REL3530	3530	Asian Religious Ethics	Religion	3 Explores ethics and morality as construed in a variety of Asian religious traditions including Hinduism, Buddhism, Jainism, and Confucianism. Reading of primary sources ranging from analytic ethical debates to popular folktales in which moral and immoral behavior figure prominently. Exposure to a variety of cultural approaches to universal human problems and critical reading of primary sources.	UG	Lecture
Fall 2017	REL3540	3540	Asian Religions Ecology	Religion	3 An examination of Asian religious perspectives (Confucianism, Daoism, Buddhism, and Shinto) on the meaning and value of the natural world and the relationship between human beings and nature. Focus will be on environmental ethics in comparative Asian perspective.	UG	Lecture
Fall 2017	REL3550	3550	Human Rights in China	Religion	3 A survey of the debate on human rights in China in relation to events in modern Chinese history. Examines the impact of Confucianism on current Chinese thinking regarding modernization, democratization, and human rights. Examines other regions, including Singapore, Taiwan, and Tibet. Integrated Writing course.	UG	Lecture
Fall 2017	REL3600	3600	Topics Amer Religion	Religion	3 Selected topics related to the history and practice of religion in America.	UG	Lecture
Fall 2017	REL3610	3610	Religion in America	Religion	3 Historical exploration of the variety of forms of religious expression in America and the role of religion in American life.	UG	Lecture
Fall 2017	REL3620	3620	New Religious Mov Amer	Religion	3 New religious movements in America, including Shakers, Mormons, Seventh-Day Adventists, Jehovah's Witnesses, and Christian Scientists. Integrated Writing course.	UG	Lecture
Fall 2017	REL3630	3630	Women Religion America	Religion	3 Role of women in American religious history, with special reference to the diversity of women's religious experiences.	UG	Lecture
Fall 2017	REL3640	3640	Religion & Pol in Amer	Religion	3 Examination of both the historical and the contemporary relation between religion and politics in the United States, with special reference to the legal principle of church/state separation.	UG	Lecture
Fall 2017	REL3700	3700	Topics in Biblical Lit	Religion	3 Examines 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.	UG	Lecture
Fall 2017	REL3720	3720	Pentateuch	Religion	3 Patriarchal narratives and Mosaic legislation of the Pentateuch or Torah, the initial five books of the Bible.	UG	Lecture

Fall 2017	REL3730	3730	Genesis	Religion	3	Biblical book of Genesis as the foundation of the Bible and of values and concerns of western civilization. Explores ancient Mesopotamian creation and flood myths as sources for these tales.	UG	Lecture
Fall 2017	REL3740	3740	Prophets and History	Religion	3	Historical context of Biblical prophecies.	UG	Lecture
Fall 2017	REL3750	3750	Intro New Testament	Religion	3	Introduction to the literature, history, and religion of early Christianity.	UG	Lecture
Fall 2017	REL3760	3760	The Four Gospels	Religion	3	Literary and historical study of the four Gospels in the Christian Bible, aiming to discern their purposes in writing, reconstruct their communities, and reflect on the meaning of their presentations of Jesus. Some attention to the problem of the historical Jesus.	UG	Lecture
Fall 2017	REL3770	3770	The Letters of Paul	Religion	3	Literary and historical study of the letters of Paul. When and why they were written, and how they fit into the development of the early Jesus movement. Some consideration of the biography of Paul and his influence. Integrated Writing course	UG	Lecture
Fall 2017	REL3780	3780	Apocalypse of John	Religion	3	A literary and historical study of the Book of Revelation in its original setting with a consideration of its ongoing influence.	UG	Lecture
Fall 2017	REL3790	3790	Topics in Greco-Rom Rels	Religion	3	Examination of selected topics related to the practice of religion in the Greco-Roman world. Integrated Writing course.	UG	Lecture
Fall 2017	REL3810	3810	Anthropology of Religion	Religion	3	(also listed as ATH 4020) Introduction to the anthropological study of religions of the world and how they relate to other domains of human cultural existence. Examples of contemporary nonwestern religions and other world religions. Integrated Writing course	UG	Lecture
Fall 2017	REL3820	3820	Sociology of Religion	Religion	3	(Also listed as SOC 3110) General 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.	UG	Lecture
Fall 2017	REL3900	3900	Topics in Phil of	Religion	3	Selected topics in the philosophy of religion.	UG	Lecture
Fall 2017	REL3930	3930	Faith and Reason	Religion	3	Introduction to issues in philosophy of religion. Topics vary.	UG	Lecture
Fall 2017	REL3940	3940	Existentialism	Religion	3	Introduction to 20th century philosophical and literary movement. Emphasis on concrete existence and passions over abstract rationality, conception of self as a product of radically free acts of self-creation, affirmation of uncertainty and absurdity as inescapable elements of the human condition, and rejection of traditional ethical systems	UG	Lecture
Fall 2017	REL4100	4100	Seminar on Judaism	Religion	3	Topics Vary. Integrated Writing course.	UG	Seminar
Fall 2017	REL4500	4500	Seminar Amer Religion	Religion	3	Selected topics related to the history and practice of religion in America. Integrated Writing course.	UG	Seminar

Fall 2017	REL4810	4810	Independent Study	Religion	1	Faculty-directed, individualized study on student-selected topics. Limited to majors and advanced students. Permission of department and a minimum 3.0 GPA required.	UG	Independent Study
Fall 2017	REL4930	4930	Seminar in Religion	Religion	3	Intensive study and discussion of a significant topic in religion studies. Students will conduct semester long research projects culminating in a seminar paper. Titles vary. Integrated Writing course.	UG	Seminar
Fall 2017	REL4970	4970	Senior Project	Religion	3	Guided research culminating in a major paper on a topic chosen by the student and the instructor. Students develop a comprehensive bibliography, prepare a detailed outline, and write and revise the final project. May be completed for Honors.	UG	Independent Study
Fall 2017	REL5100	5100	Topics in Judaism	Religion	3	Topics vary.	GR	Lecture
Fall 2017	REL5110	5110	Judaism: Faith & People	Religion	3	Examination of Judaism as a religious faith and people, with special reference to formative historical, social, ethnic, and cultural factors.	GR	Lecture
Fall 2017	REL5120	5120	Modern Jewish Thought	Religion	3	Examination of the major themes and issues in the works of contemporary Jewish thinkers (e.g., Borowitz, Herberg, Fackenheim, Kaplan, Rothschild, Heschel, Rubenstein, and Weisel).	GR	Lecture
Fall 2017	REL5200	5200	Topics in Christianity	Religion	3	Examination of selected topics related to the history and practice of Christianity.	GR	Lecture
Fall 2017	REL5210	5210	Christianity	Religion	3	Examination of the historical development of Christianity from biblical times to the present, with an emphasis on the diversity of religious beliefs, practices, and institutions.	GR	Lecture
Fall 2017	REL5300	5300	Topics in Islam	Religion	3	Topics on Islamic religion and religious practices.	GR	Lecture
Fall 2017	REL5310	5310	Introduction to Islam	Religion	3	Introduction to the Islamic belief systems and practices, from the rise of Islam to the modern era.	GR	Lecture
Fall 2017	REL5320	5320	Islam in Modern World	Religion	3	Study of how Muslim thinkers and theologians have responded to the challenges of the modern era.	GR	Lecture
Fall 2017	REL5400	5400	Topics in Asian Religion	Religion	3	Studies in the religious dimension of Asian cultures, with emphasis on historical, social, and aesthetic perspectives.	GR	Lecture
Fall 2017	REL5410	5410	Chinese Religions	Religion	3	Introductory survey of religious thought and practice in Chinese history and culture. Primary focus will be on Confucianism, Daoism, and Buddhism. Themes examined include: religion and politics in Chinese history, human nature and self-cultivation, and conceptions of the sage in Chinese religions.	GR	Lecture

Fall 2017	REL5420	5420	Japanese Religions	Religion	3	Historical and contemporary survey of religious life in Japan. Primary focus on Shinto, both early Shinto and later nationalistic Shinto, the varieties of Japanese Buddhism, and Japanese new religions. Topics include: religious doctrine, faith and devotion, self-cultivation and enlightenment, monasticism, and religion and the state.	GR	Lecture
Fall 2017	REL5430	5430	Buddhism	Religion	3	Exploration of Buddhism in terms of its philosophy, rituals, art, architecture, and social practices, with particular emphasis on its origins in South Asia and its spread to the regions of Southeast Asia and Tibet. Study of how to read and critically analyze Buddhist texts and think about Buddhism in historic and anthropological terms.	GR	Lecture
Fall 2017	REL5440	5440	Hinduism	Religion	3	Exploration of some of the major beliefs and practices of Hinduism, an ancient, widely practiced, and amazingly diverse religious tradition.	GR	Lecture/Recitation Combination
Fall 2017	REL5450	5450	Daoism	Religion	3	A survey of the various expressions of Daoism in Chinese religious and intellectual history. Includes classical Daoist writings such as: Inward Training, the Daode jing, and the Zhuangzi. Topics include religion and politics, cosmology, self-cultivation, and the Daoist sage. Focus will also include more contemporary expressions of Daoism such as: influential Western interpretations of Daoism, Daoism and ecology, and Daoist body cultivation.	GR	Lecture
Fall 2017	REL5460	5460	Confucianism	Religion	3	A survey of Confucianism in Chinese history beginning with various classical expressions of Confucian thought such as: Confucius Analects, Mencius, and Xunzi. Focus on two influential Neo-Confucian thinkers: Zhu Xi and Wang Yangming. Consideration of the modern fate of Confucianism in Chinese society and culture. Important topics include: heaven, human nature and self-cultivation, conceptions of the sage, and Confucian political philosophy.	GR	Lecture
Fall 2017	REL5470	5470	Zen Buddhism	Religion	3	Survey of the history, doctrines, and practices of Zen Buddhism in China, Japan, and the West. Focus on important contributions and innovations of seminal figures in the tradition such as: Bodhidharma, Huineng, and Linji in China; and Eisai, Dogen, and Hakuin in Japan. Particular attention devoted to Zen meditative practices, understandings of enlightenment, influence on art and culture, and distinctiveness as a school of Buddhism.	GR	Lecture

Fall 2017	REL5480	5480	Hindu Mythology	Religion	3	Exploration of the following questions: What is myth and why is it significant for the study of religion? Can we speak of a Hindu mythology? How have Hindus organized their sacred narratives and what kinds of religious themes do these stories convey? How are Hindu sacred narratives related to Hindu beliefs and practices? How have scholars analyzed Hindu mythic traditions? What intellectual issues are at stake in reading mythology across cultures?	GR	Lecture/Recitation Combination
Fall 2017	REL5490	5490	Hindu Goddesses	Religion	3	Exploration of conceptualizations of the divine feminine in one of the oldest, largest, and most complex religious traditions in the world, Hinduism. Approach combines textual, historic, and anthropological resources to understand the nature of the various Hindu goddesses and how they are worshipped.	GR	Lecture
Fall 2017	REL5510	5510	Comp. Asian Mysticism	Religion	3	Examination of the religious phenomenon and category of mysticism in various Asian traditions including Daoism, Hinduism, and Buddhism (both early Indian Buddhism and Japanese Zen). Particular topics include: the nature of mystical and religious experience in general; the relationship between religious experience and other aspects of religions, such as religious practice, doctrine, and language; and the question of the universality of mystical experience.	GR	Lecture
Fall 2017	REL5520	5520	Western Mysticism	Religion	3	Studies expressions of spirituality by exploring mysticism in Judaism, Christianity, and Islam.	GR	Lecture
Fall 2017	REL5530	5530	Asian Religious Ethics	Religion	3	Exploration of ethics and morality as construed in a variety of Asian religious traditions including Hinduism, Buddhism, Jainism, and Confucianism. Reading of primary sources ranging from analytic ethical debates to popular folktales in which moral and immoral behavior figure prominently. Exposure to a variety of cultural approaches to universal human problems and critical reading of primary sources.	GR	Lecture
Fall 2017	REL5540	5540	Asian RELS and Ecology	Religion	3	An examination of Asian religious perspectives (Confucianism, Daoism, Buddhism, and Shinto) on the meaning and value of the natural world and the relationship between human beings and nature. Focuses on environmental ethics in comparative Asian perspective.	GR	Lecture

Fall 2017	REL5550	5550	Human Rights in China	Religion	3	Survey of the debate on human rights in China in relation to events in modern Chinese history such as: the fall of imperial rule, the Nationalist and Communist revolutions, the Cultural Revolution, and the Tiananmen Square massacre. Focus to include measuring the impact of Confucianism on current Chinese thinking regarding the themes of modernization, democratization, and human rights. Examination extends beyond China to other regions including Singapore, Taiwan, and Tibet.	GR	Lecture
Fall 2017	REL5600	5600	Topics in Am Religion	Religion	3	Examination of selected topics related to the history and practice of religion in America.	GR	Lecture
Fall 2017	REL5610	5610	Religion in America	Religion	3	Historical exploration of the variety of forms of religious expression in America and the role of religion in American life.	GR	Lecture
Fall 2017	REL5620	5620	New Religious Movements	Religion	3	Examines a variety of new religious movements in America, including Shakers, Mormons, Seventh-Day Adventists, Jehovah's Witnesses, and Christian Scientists.	GR	Lecture
Fall 2017	REL5630	5630	Women & Religion in Amer	Religion	3	Examination of the role women have played in American religious history, with special reference to the diversity of women's religious experiences.	GR	Lecture
Fall 2017	REL5640	5640	Religion & Pol in Amer	Religion	3	Examination of both the historical and the contemporary relation between religion and politics in America, with special reference to the legal principle of church/state separation.	GR	Lecture
Fall 2017	REL5700	5700	Topics in Biblical Liter	Religion	3	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 2017	REL5720	5720	Pentateuch	Religion	3	Examines patriarchal narratives and Mosaic legislation in the Pentateuch or Torah as the bedrock of the Bible.	GR	Lecture
Fall 2017	REL5730	5730	Genesis	Religion	3	Examines Genesis as the foundation of the Bible in context with cultural tales such as the ancient Mesopotamian creation and flood myths.	GR	Lecture
Fall 2017	REL5740	5740	Prophets and History	Religion	3	Examines historical context of Biblical prophets and prophecies in terms of historical, religious, national, and moral implications.	GR	Lecture
Fall 2017	REL5750	5750	New Testament Intro	Religion	3	Introduction to the literature, history, and religion of early Christianity.	GR	Lecture
Fall 2017	REL5760	5760	Four Gospels	Religion	3	Literary and historical study of the four Gospels in the Christian Bible, aiming to discern their purposes in writing, reconstruct their communities, and reflect on the meaning of their presentations of Jesus. Some attention to the problem of the Historical Jesus.	GR	Lecture



Fall 2017	REL5770	5770	Letters of Paul	Religion	3	Literary and historical study of the letters of Paul, aiming to discover when and why they were written and how they fit into the development of the early Jesus movement. Some consideration of the biography of Paul and his influence.	GR	Lecture
Fall 2017	REL5780	5780	Apocalypse of John	Religion	3	A literary and historical study of the Book of Revelation in its original setting with a consideration of its ongoing influence.	GR	Lecture
Fall 2017	REL5790	5790	Topics in Greco-Rom Rels	Religion	3	Examination of selected topics related to the practice of religion in the Greco-Roman world.	GR	Lecture
Fall 2017	REL5810	5810	Anthropology of Religion	Religion	3	(Also listed as ATH 6020) 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 2017	REL5820	5820	Sociology of Religion	Religion	3	(Also listed as SOC 5110.) 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 2017	REL5900	5900	Topics in Phil of Reliq	Religion	3	Examination of selected topics related to the philosophy of religion.	GR	Lecture
Fall 2017	REL5930	5930	Faith & Reason	Religion	3	Issues in the philosophy of religion. Topics vary.	GR	Lecture
Fall 2017	REL5940	5940	Existentialism	Religion	3	(Also listed as PHL 5090.) Introduction to 20th century philosophical and literary movement. Emphasis on concrete existence and the passions over abstract rationality, conception of self as a product of radically free acts of self-creation, affirmation of uncertainty and absurdity as inescapable elements of the human condition, and rejection of traditional ethical systems.	GR	Lecture
Fall 2017	REL6100	6100	Seminar on Judaism	Religion	3	Examines problems, approaches, and topics in the field of Judaism. Topics vary.	GR	Seminar
Fall 2017	REL6500	6500	Seminar on Am Religion	Religion	3	Seminar examining selected topics related to the history and practice of religion in America.	GR	Seminar
Fall 2017	REL6810	6810	Independent Study	Religion	1	Faculty-directed, individualized study on student-selected topics. Limited to advanced students. Permission of faculty and a minimum 3.5 GPA required.	GR	Independent Study
Fall 2017	REL6930	6930	Seminar in Religion	Religion	3	Intensive study and discussion of a significant topic in religious studies. Students will conduct semester long projects culminating in a seminar paper. Titles vary.	GR	Seminar
Fall 2017	RHB2010	2010	Intro to Rehab Sevices	Rehabilitation	3	Philosophy, history and legislation of rehabilitation services and career options. Students visit rehabilitation agencies and interact with populations and agencies they may serve as a rehabilitation provider.	UG	Lecture

Fall 2017	RHB2020	2020	Community Resources	Rehabilitation	3	Preparation in becoming professional consumers of rehabilitation resources. Learning how to identify, write, and submit a grant and effective strategies of teamwork are also components of course. Students will volunteer in a rehabilitation agency. Integrated Writing course. Service Learning course.	UG	Lecture
Fall 2017	RHB3010	3010	Med Aspect Disabilities	Rehabilitation	3	Study of medical terminology and disorders that usually require rehabilitation intervention. Additional topics include the impact of disabling conditions on vocational and social activities. Attention given to the pharmacological aspects of treating disabilities.	UG	Lecture
Fall 2017	RHB3020	3020	Pharmacology for Rehab	Rehabilitation	3	Introduction to pharmacological information and the variable effects of medication on a person.	UG	Lecture
Fall 2017	RHB3030	3030	Employ People Disability	Rehabilitation	3	Overview of career development and placement techniques. Various methods of accessing the career market, occupation information, and various strategies used to assist people in becoming employed.	UG	Lecture
Fall 2017	RHB3040	3040	Rehab Case Management	Rehabilitation	3	Interviewing, case recording, writing rehabilitation plans with appropriate justifications, and case management.	UG	Lecture
Fall 2017	RHB3050	3050	Addictions & Application	Rehabilitation	3	Provides an overview of the historical, attitudinal, social-cultural, and psycho-physiological impact of addictions. Special attention given to emerging abuse and dependency issues and interventions used to address them.	UG	Lecture
Fall 2017	RHB3610	3610	Rehab Services for Vets	Rehabilitation	3	Background information on military services, specific issues related to active military service, services for veterans, and disability factors.	UG	Lecture
Fall 2017	RHB3620	3620	Drug & Alcohol Abuse	Rehabilitation	3	Basic concepts, social policy, and approaches related to alcohol and drug use including the addiction process, costs of abuse to the individual, family, and society, and successful approaches to dealing with abuse.	UG	Lecture
Fall 2017	RHB3630	3630	Behavioral Analysis	Rehabilitation	3	Introduction to applied behavior analysis. Principles and interventions related to applied behavior analysis as well as potential benefits of applied behavior analysis treatment.	UG	Lecture
Fall 2017	RHB3631	3631	Behavioral Analysis II	Rehabilitation	3	Development of applied behavioral analysis plans and assessing intervention strategies.	UG	Lecture
Fall 2017	RHB3640	3640	Community Accessibility	Rehabilitation	3	Physical accessibility requirements and issues in the community based on title III of the Americans with Disabilities Act.	UG	Lecture
Fall 2017	RHB3650	3650	Rehab & Corrections	Rehabilitation	3	Introduction to rehabilitation students to corrections. Students will learn about correctional programs and barriers to community reentry for ex-offenders.	UG	Lecture

Fall 2017	RHB3660	3660	Wellness for Helpers	Rehabilitation	3	Importance of wellness and stress management to maximize their career potential in the social service field. Physiological, psychological, and social elements associated with stress. Various approaches to enhance overall wellness and lessen life stress.	UG	Lecture
Fall 2017	RHB3670	3670	Creation of EBP	Rehabilitation	3	Basic concepts in research as applied to the rehabilitation field, including theory, design, variables, measurement, hypothesis testing, and validity.	UG	Lecture
Fall 2017	RHB3680	3680	Impact of HIV	Rehabilitation	3	Introduction to HIV and the populations impacted. Overview of the history, stereotypes and prejudices, prevention and treatment, and specific impact on subpopulation of HIV.	UG	Lecture
Fall 2017	RHB3700	3700	Independent Study Rehab	Rehabilitation	1	Independent study.	UG	Independent Study
Fall 2017	RHB3710	3710	International Rehab	Rehabilitation	3	Introduction to rehabilitation around the globe. Overview of the historical treatment, societal perceptions, services, and outcomes of people with disabilities internationally.	UG	Lecture
Fall 2017	RHB3720	3720	International Counseling	Rehabilitation	3	Introduction to counseling and mental health services around the globe. Overview of the historical treatment, societal perceptions, services, and outcomes of people with severe mental illnesses internationally.	UG	Lecture
Fall 2017	RHB3810	3810	Intro Disability Studies	Rehabilitation	3	Introduction to the interdisciplinary field of disability studies, with a focus on the critical analysis of key theoretical views, historical and current sociocultural understandings of embodiment, difference, power, disability culture, justice, and activism.	UG	Lecture
Fall 2017	RHB3820	3820	Disability Justice	Rehabilitation	3	Focuses on disability culture, justice, and history, including community access, independent living/self-determination, and inclusion. Examines various disability policy frameworks and applications, person-centered perspectives on delivery of services and supports, and methods of facilitating change.	UG	Lecture
Fall 2017	RHB3830	3830	Disability Studies Cap	Rehabilitation	3	Provides culminating experience of the minor, focusing on integration and application of interdisciplinary research and theory within disability studies relative to students major, research interests, and professional goals.	UG	Lecture
Fall 2017	RHB4010	4010	Dev Disabilities	Rehabilitation	3	Study of the etiology, eligibility, and rehabilitation of individuals with developmental disabilities. Behavioral observations, evidenced based research study and site visits to rehabilitation facilities are components of course. Service Learning course.	UG	Lecture
Fall 2017	RHB4020	4020	Career Assessment	Rehabilitation	3	Provides training in comprehensive vocational and career evaluation and assessment strategies. Integrated Writing course.	UG	Lecture

Fall 2017	RHB4040	4040	Assisted Tech Ind Living	Rehabilitation	3	History, legislation, and philosophy of independent living and assistive technology; includes experience using AT equipment, accessibility study, and an independent living project.	UG	Lecture
Fall 2017	RHB4070	4070	Prin of Rehab Counseling	Rehabilitation	3	Focuses on the development of basic skills and attitudes associated with rehabilitation counseling. Interview style and format are examined along with listening and responding techniques associated with holistic approaches.	UG	Lecture/Lab Combination
Fall 2017	RHB4700	4700	Special Topics	Rehabilitation	1	Independent study in areas of interest to students that are not readily available in any existing course. Topics vary. May be taken for letter grade or pass/unsatisfactory.	UG	Independent Study
Fall 2017	RHB4900	4900	Rehab Internship	Rehabilitation	1	Placement in a community agency that addresses disabilities will provide the student with the integration of skills learned in program. Minimum of 400 hours at an approved site.	UG	Internship
Fall 2017	RHB6700	6700	Rehab Workshop	Rehabilitation	1	Workshop courses to meet the needs of rehabilitation professionals as well as providing courses on as needed basis to meet special interest needs. Titles vary.	GR	Seminar
Fall 2017	RHB7000	7000	Foundations of Rehab	Rehabilitation	3	Explores the historical issues of rehabilitation counseling, working with people who have disabilities, and people first terminology. Additional components include interviewing an individual who has a disability and visiting a rehabilitation facility.	GR	Lecture
Fall 2017	RHB7020	7020	Medical Aspects Seminar	Rehabilitation	3	Chronic illness and disability are conceptualized with the goal of helping clients achieve optimal functioning. Several conditions are reviewed such as traumatic brain injury, intellectual and developmental disorders. Pharmacological issues are also studied.	GR	Lecture
Fall 2017	RHB7040	7040	Psychosocial Rehab	Rehabilitation	3	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	Lab
Fall 2017	RHB7070	7070	Biopsychosoc Aspects	Rehabilitation	3	Discovery and understanding of biological, psychological, social and spiritual processes associated with addictions. Identification and implementation of current assessment and intervention strategies utilized in the planning and treatment of addictions are addressed.	GR	Lecture
Fall 2017	RHB7110	7110	Voc Eval & Assessment	Rehabilitation	3	Theoretical orientation, development and utilization of work samples, situational assessments, analysis of work relevant data for hypothesis testing and communicating significant vocational data, and job placement strategies which facilitates employment of people with disabilities.	GR	Lecture

Fall 2017	RHB7200	7200	Case Management	Rehabilitation	3	Assists students in conducting intake interviews, case recording, facilitation of multidisciplinary teams, writing rehabilitation plans with appropriate justifications and measureable outcomes, and case management skills.	GR	Lecture
Fall 2017	RHB7300	7300	Epidemiology Addictions	Rehabilitation	3	Theory and practice of a variety of treatment modalities and settings. Explores interdisciplinary treatment planning, evidence based practices, family, individual and group interventions, systems, holistic intervention strategies, recovery supports including self-help groups.	GR	Lecture
Fall 2017	RHB7310	7310	Treatment of Addictions	Rehabilitation	12	Theory and practice of a variety of treatment modalities and settings. Explores interdisciplinary treatment planning, evidence based practices, family, individual and group interventions, systems, holistic intervention strategies, recovery supports including self-help groups.	GR	Lecture
Fall 2017	RHB7700	7700	Independent Reading	Rehabilitation	1	Independent study in areas of interest to students but not readily available in any existing course.	GR	Independent Study
Fall 2017	RHB8650	8650	Rehab Counseling Pract	Rehabilitation	3	Demonstrate basic skills, techniques, and competencies learned in previous coursework while delivering rehabilitation counseling services to consumers. The practicum experience is determined individually between the student, university supervisor and site supervisor.	GR	Practicum
Fall 2017	RHB8670	8670	Rehab Couns Internship	Rehabilitation	1	Opportunity to utilize all skills, techniques, and competencies acquired in previous coursework while delivering rehabilitation counseling services to consumers. The internship experience is determined individually between the student, university supervisor and site supervisor.	GR	Internship
Fall 2017	RST2610	2610	Regional St: Japan	Regional Studies	3	Concepts, theories, and evidence describing and analyzing Japan's culture and development with special emphasis on the natural environment. Focuses on Japan's development and the impact of globalization family, work, religious, political, arts, and housing culture. Integrated Writing course.	UG	Lecture
Fall 2017	RST2620	2620	Regional Studies: China	Regional Studies	3	Introduction to the historical, cultural, economic, and political reality of the world's most populous country, highlighting the cultural contributions of China's rich history, not only in the creation of modern Chinese culture but its impact on other cultures. Integrated Writing course.	UG	Lecture
Fall 2017	RST2710	2710	Regional Studies: Africa	Regional Studies	3	Introduction to African environments; diversity of cultural heritages; changes due to modernization; colonialism, slavery, and independence; a brief survey of the relations of Africa to other non-Western regions; and the contribution of Africa to world civilization. Integrated Writing course.	UG	Lecture

Fall 2017	RST2810	2810	Regional Studies L Amer	Regional Studies	3	Survey of non-Western societies including Indians, mestizos, blacks, and the peasantry, from pre-Columbian and African origins to the present, in terms of ideology, organization, social structure, culture, and economic activities. Integrated Writing course.	UG	Lecture
Fall 2017	RST2910	2910	Regional Studies MidEast	Regional Studies	3	Introduction to the history, peoples, cultures, and geography of the Middle East from Mauritania to Pakistan from the seventh century to the present. Integrated Writing course.	UG	Lecture
Fall 2017	RST2920	2920	Regional Studies: India	Regional Studies	3	India's role in regional and global affairs and the impact of history, culture and politics in the development of India and South Asia. Integrated Writing course.	UG	Lecture
Fall 2017	RUS1010	1010	Beginning Russian I	Russian	3	Communicative introduction into Russian language and culture. Study of vocabulary and structure of the Russian language; practice in speaking, listening, reading, and writing. Taught in Russian.	UG	Lecture
Fall 2017	RUS1020	1020	Beginning Russian II	Russian	3	Communicative introduction to Russian language and culture. Study of vocabulary and structure of the Russian language; practice in speaking, listening, reading, and writing. Taught in Russian.	UG	Lecture
Fall 2017	RUS2010	2010	Intermediate Russian I	Russian	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Taught in Russian.	UG	Lecture
Fall 2017	RUS2020	2020	Intermediate Russian II	Russian	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing. Taught in Russian.	UG	Lecture
Fall 2017	SAA4100	4100	Spcl Topics: Res Life	Student Affairs in Higher Ed	1	Topics related to the training of Residence Life staff and student leaders.	UG	Lecture
Fall 2017	SAA4110	4110	Spcl Topics: Campus Prgm	Student Affairs in Higher Ed	1	Topics related to the development of student organizations and student leaders.	UG	Lecture
Fall 2017	SAA6620	6620	Spec Topics Stu Affairs	Student Affairs in Higher Ed	1	Topics related to the various functional areas and/or current issues in student affairs in higher education will be offered. Past topics have included Working with Students with Disabilities, Supervision Skills, Job Search in High Education, and Working with the Media.	GR	Seminar
Fall 2017	SAA6630	6630	Career Dev. Theory	Student Affairs in Higher Ed	2	A variety of career development theories are explored including application to specific client cases. Focus will be on developing helping skills and building effective relationships as well as technology resources available to career advisors.	GR	Lecture
Fall 2017	SAA6640	6640	Career Assessment	Student Affairs in Higher Ed	2	Analyze formal and informal assessment approaches to the career development process. Explore and evaluate job search strategies and resources for clients. A variety of career development theories are discussed and applied to client cases.	GR	Lecture

Fall 2017	SAA6650	6650	Career Program & Service	Student Affairs in Higher Ed	2	Learn to develop effective career development programs and services for use with individuals and groups including diverse populations. Applying career development ethical standards and guidelines to client cases will be emphasized.	GR	Lecture
Fall 2017	SAA6651	6651	Study Abroad in SAHE	Student Affairs in Higher Ed	3	Provides students with foundational knowledge and skills in study abroad practice and research in higher education.	GR	Lecture
Fall 2017	SAA6652	6652	Int'l Internship in SAHE	Student Affairs in Higher Ed	3	This higher education field-based experience provides students with supervision and advanced professional practice in direct service delivery and organizational consultation outside of the continental United States.	GR	Internship
Fall 2017	SAA6660	6660	Helping Skills for SAHE	Student Affairs in Higher Ed	3	Designed to help apply various psychological theories, models and counseling techniques to enhance helping relationships formed in student affairs work.	GR	Lecture
Fall 2017	SAA6670	6670	Career Dev Adv/Assess	Student Affairs in Higher Ed	3	Focus of the course will be on developing the helping relationship, career planning strategies, applying career development models and theories to cases, and understanding how different types of career assessments aid or hinder the career development process.	GR	Lecture
Fall 2017	SAA6680	6680	Career Dev Prog/Employ	Student Affairs in Higher Ed	3	Focus of the course will be on understanding group facilitation dynamics, working with and understanding individuals from diverse backgrounds, applying Career Development Facilitator ethical guidelines to real world situations, writing and critiquing job search correspondence, evaluating interviewing models, and developing appropriate career programs for various individuals and groups.	GR	Lecture
Fall 2017	SAA7600	7600	Intro Stu Aff Higher Ed	Student Affairs in Higher Ed	3	An overview of the history, philosophy, organization, and structure of student services. Various student affairs functions and professional competencies are presented. Current and future trends and issues in student affairs are considered.	GR	Lecture
Fall 2017	SAA7610	7610	Student Dev Theory	Student Affairs in Higher Ed	3	Studies theories of student development and their use in research and practice in student affairs, focusing specifically on college students.	GR	Lecture
Fall 2017	SAA7620	7620	Stu Aff Higher Ed Admin	Student Affairs in Higher Ed	3	Surveys student services in colleges and universities. Consideration is given to the organization, administration, and rationale of these services, within the context of the entire institution.	GR	Lecture
Fall 2017	SAA7630	7630	Diversity Issues	Student Affairs in Higher Ed	1	Multidisciplinary learning opportunity for students to explore and broaden their understanding of multicultural issues, privilege and oppression in the United States of America, with particular attention paid to these issues within higher education and student affairs.	GR	Lecture

Fall 2017	SAA7640	7640	Prog Eval/Assmnt High Ed	Student Affairs in Higher Ed	3	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 2017	SAA7650	7650	Internship I in SAHE	Student Affairs in Higher Ed	1	This field-based experience provides students with practice and supervision in areas of interest in SAHE.	GR	Internship
Fall 2017	SAA7660	7660	Adv Sem in Stu Affairs	Student Affairs in Higher Ed	3	Provides an opportunity for advanced students to explore current issues and future trends in higher education with focus on the influence on student affairs practice.	GR	Seminar
Fall 2017	SAA7670	7670	Internship II in SAHE	Student Affairs in Higher Ed	1	This field-based experience provides students with advanced practice and supervision in areas of interest in SAHE.	GR	Internship
Fall 2017	SAA7680	7680	Finance & Budget in SAHE	Student Affairs in Higher Ed	3	Current and emerging trends for funding higher education and budget models utilized provide the focus of this course. University budget and financial statements will be analyzed, budget proposals developed, and budget reduction techniques explained.	GR	Lecture
Fall 2017	SAA7690	7690	Design Diverse Learn Exp	Student Affairs in Higher Ed	3	Learning to design structured group experiences, from conception through program delivery and evaluation is the class focus. Training skills for exploring controversial issues including gender, role, class, language, spirituality, sexuality, and politics are covered.	GR	Lecture/Lab Combination
Fall 2017	SCM3070	3070	Ops & Supply Ch Mgt	Supply Chain Management	3	Major management decision areas in the design and production of goods and services. Strategic issues, planning and control systems, integrated quality management, and project management.	UG	Lecture
Fall 2017	SCM3200	3200	Basics of SCM	Supply Chain Management	3	Fundamentals of supply chain management, including the strategic role of the supply chain, key drivers of supply chain performance, and analytical tools and techniques for supply chain analysis. Cases and in-class exercises.	UG	Lecture
Fall 2017	SCM3300	3300	Quality & Process Mgmt	Supply Chain Management	3	Principles of process and quality improvement using Six Sigma principles, value stream mapping, and Baldrige assessment.	UG	Lecture
Fall 2017	SCM3330	3330	Planning for SCM	Supply Chain Management	3	Planning and control of productive activities in supply chains; planning of inventories and production quantities. Management of physical and information flows and control information systems.	UG	Lecture
Fall 2017	SCM3340	3340	Global SCM	Supply Chain Management	3	Management of the logistics function in supply chains, including physical distribution activities such as transportation, facility location and materials handling.	UG	Lecture



Fall 2017	SCM4250	4250	Supply Chain Info Mgmt	Supply Chain Management	3	Practices and technologies for managing supply chain information in organizations. Business processes underlying supply chains, information analysis, intra- and inter-organizational information systems, business process automation, and business intelligence for supply chain activities between an organization and its partners	UG	Lecture
Fall 2017	SCM4600	4600	Supply Management	Supply Chain Management	3	This course covers the nature of sourcing in modern organizations, how sourcing executes business strategy, legal aspects of sourcing including agency role and types of contracts, and negotiation principles. Integrated Writing course	UG	Lecture
Fall 2017	SCM4770	4770	Special Studies in SCM	Supply Chain Management	1	Topics vary.	UG	Independent Study
Fall 2017	SCM4800	4800	Special Topics in SCM	Supply Chain Management	3	Focuses on one area of emerging trend of supply chain management.	UG	Lecture
Fall 2017	SCM4810	4810	Intern in Management Sci	Supply Chain Management	3	Faculty-supervised internship in management science. Students work in a firm or public agency, participate in seminars, and submit reports for completion of the course.	UG	Internship
Fall 2017	SCM4950	4950	Project in SCM	Supply Chain Management	3	Practical experience in analyzing, designing, implementing, evaluating, and developing supply chain management for businesses and non-profit organizations. Service Learning course.	UG	Lecture
Fall 2017	SCM7810	7810	Special Studies in SCM	Supply Chain Management	1	Intensive reading or research in a selected field of supply chain management. Individualized instruction with varying topics. Permission of the instructor and departmental approval required. This course has a fee that is non-refundable once the term begins.	GR	Independent Study
Fall 2017	SCM7870	7870	SC Prj Mgt & Transform	Supply Chain Management	3	Planning, organizing and control or transformation projects in supply chains. Strategic role of supply chain projects, types and appropriate planning methods for supply chain projects, risk management, value considerations, project scheduling and resource management. This course has a fee that is non-refundable once the term begins.	GR	Seminar
Fall 2017	SCM7880	7880	Foundations of SCM	Supply Chain Management	3	Strategic role of integrated supply chain management; supply chain design and dynamics; supply chain frameworks and customer-focused design. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	SCM7890	7890	Global Logistics & Trade	Supply Chain Management	3	Explores issues involved in management and design of global supply chain. Topics include trade agreements, quality considerations, total cost calculations, international transportation, security issues and third party resources. This course has a fee that is non-refundable once the term begins.	GR	Lecture

Fall 2017	SCM7910	7910	Perf Meas & SC Transform	Supply Chain Management	3	Demand management strategies that an organization can use to efficiently combine demand with supply. Course also covers how to manage an organization's forecasting efforts for use in supply chain planning. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	SCM7920	7920	SC Design & Integration	Supply Chain Management	3	The course studies models that explore the key issues associated with the design and management of supply networks. Special attention will be given to integration of supply chain decisions and consequential difficulties. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	SCM7930	7930	SC Ops and Control	Supply Chain Management	3	Advanced topics in manufacturing and service operations, including process planning and design; inventory systems, scheduling and queuing. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	SCM7940	7940	Tot Qual Mgt & Lean Sup	Supply Chain Management	3	Process and quality improvement, Six Sigma principles, value stream mapping, Baldrige assessment, benchmarking performance measurement and lean principles. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	SCM7950	7950	Info Tech & Supply Chain	Supply Chain Management	3	Information technology as an enabler of improved supply chain performance. Managing material and information outside the factory walls. Includes supply chain technology, ERP systems, e-business and collaborative technologies, synchronizing technologies, and RFID. Recommended processes for the evaluation, selection, and implementation of appropriate technologies. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	SCM7960	7960	Strategic Sourcing	Supply Chain Management	3	Strategic sourcing, including the tactical and functional operations of purchasing as well as proactive establishment, management, and optimization of the firm's supply base of goods and services and to improve supply chain performance. This course has a fee that is non-refundable once the term begins.	GR	Lecture
Fall 2017	SCM7990	7990	SCM Capstone Project	Supply Chain Management	1	Student completes a comprehensive supply chain management project either individually or in a small team. The objectives of the project are to (a) develop a feasible solution for a significant business problem in the supply chain of the sponsoring organization; (b) demonstrate how the solution provides value to the sponsoring organization; and (c) provide a review of relevant best practice and research in the field of supply chain management related to the topic of the project. This course has a fee that is non-refundable once the term begins.	GR	Practicum

Fall 2017	SCM7990 R	7990R	SCM Capstone Project Rec	Supply Chain Management	0	Required recitation for SCM 7990.	GR	Practicum
Fall 2017	SLI2990	2990	Skill Development in SLI	Sign Language Interpreting	1	Reinforcement of basic interpreting skills, either expressively or receptively. Enables students to acquire the skills and confidence necessary for success in upper level Sign Language Interpreting courses. Credits are not applicable as SLI program electives.	UG	Independent Study
Fall 2017	SLI3000	3000	Ethics & Laws in Interp	Sign Language Interpreting	3	Ethical standards of practice, legal rights and federal legislation impacting deaf and interpreters. Critical thinking, self-awareness, emotional intelligence, and application of the Code of Professional Conduct will be emphasized.	UG	Lecture
Fall 2017	SLI3200	3200	Current Topics in Deaf	Sign Language Interpreting	3	Study of the linguistic, cultural, and societal context of the Deaf community in America. Both historical and contemporary aspects of Deaf identity will be included, with an emphasis on the central role that ASL plays in the lives of Deaf individuals. Integrated Writing course.	UG	Lecture
Fall 2017	SLI3400	3400	Linguistics of ASL	Sign Language Interpreting	3	Linguistic analysis of American Sign Language and spoken languages. Includes the study of phonology, morphology, syntax, semantics and other linguistic topics.	UG	Lecture
Fall 2017	SLI3510	3510	ASL Discourse Analysis	Sign Language Interpreting	3	Investigates English and American Sign Language discourse features, focusing on language used in real world situations. Considers specialized settings and emphasizes interpretation strategies such as discourse mapping.	UG	Lecture
Fall 2017	SLI3520	3520	Interpreter Ethics Forum	Sign Language Interpreting	3	Interactional class focuses on ethical situations that arise in a sign language interpreters work. Ethical dilemmas will be debated, while exploring in-depth the RID Code of Professional Conduct and other ethical standards.	UG	Lecture
Fall 2017	SLI3530	3530	Consecutive Interpreting	Sign Language Interpreting	3	Focuses on consecutive interpreting, working to and from ASL and English. Students will determine when, where, and why to use consecutive interpreting, note-taking and mapping, and strategies to manage the discourse.	UG	Lecture
Fall 2017	SLI3540	3540	Adv Sign to Eng Interp	Sign Language Interpreting	3	Facilitates interpreter's ability to improve sign to voice interpreting skills, deliver a coherent message, using correct English grammar and syntax, while choosing appropriate vocabulary and register. Includes strategies for clarification and correction.	UG	Lecture
Fall 2017	SLI3550	3550	Interpreter Mentoring	Sign Language Interpreting	3	Mentoring and maintaining good relationships with interpreting colleagues. Includes self-assessment techniques, improvement plans, and cognitive and emotional strategies for providing and receiving professional feedback.	UG	Lecture
Fall 2017	SLI3560	3560	Signing Exact English	Sign Language Interpreting	3	Signing Exact English sign system, used in many educational settings. Vocabulary, affixes, concomitant skills, and fluency in both signing and sign to English.	UG	Lecture

Fall 2017	SLI3570	3570	Business of Interpreting	Sign Language Interpreting	3	Explains the business and professional aspects of interpreting for the Deaf. Taxes, scheduling, peer relations, professional behavior, and communication with consumers, both hearing and Deaf. will be covered.	UG	Lecture
Fall 2017	SLI3580	3580	Adv ASL for Interpreters	Sign Language Interpreting	3	An advanced American Sign Language (ASL) course designed for interpreters for the Deaf. Focus will be on natural use of language and grammatical features while reviewing sentence structure, register, prosodic features and boundary markers.	UG	Lecture
Fall 2017	SLI3600	3600	ASL to English Interpret	Sign Language Interpreting	4	Students advance their skills in producing equivalent spoken English messages in natural, idiomatic language from signed source messages. Continuation of English and ASL vocabulary development, interpreting analysis skills, and strategies for team interpreting.	UG	Lecture
Fall 2017	SLI3800	3800	Advanced Interpreting I	Sign Language Interpreting	4	Enhancement of the ability to interpret between the source and target languages of ASL and English. Interpreting models, consecutive and team interpreting will be explored. Students will increase interpreting analysis and mental visualization skills.	UG	Lecture
Fall 2017	SLI4200	4200	Educational Interpreting	Sign Language Interpreting	3	Theoretical foundations related to best practices and educational interpreter performance. National, state, and local standards/requirements will be covered, including the EIPA. Educational settings and communication methods for Deaf and Hard of Hearing students will be discussed along with social, cognitive, and language development and the interpreters role in facilitating student independence and self-advocacy.	UG	Lecture
Fall 2017	SLI4400	4400	Specialized Interpreting	Sign Language Interpreting	3	Specialty settings of medical, mental health, legal, Deaf-Blind or oral interpreting. Discussions include ethical decision making, specialized vocabulary and legal ramifications. Students will demonstrate specialized vocabulary and sign competence. Integrated Writing course.	UG	Lecture
Fall 2017	SLI4510	4510	Ed Interp: Eng. to Sign	Sign Language Interpreting	3	Enhancing English to sign skills for interpreters working in K-12 educational settings with deaf students. Proficiency related to the requisite skills for the Educational Interpreter Performance Assessment (EIPA).	UG	Lecture
Fall 2017	SLI4520	4520	Ed Interp: Sign to Eng.	Sign Language Interpreting	3	Enhancing sign to English skills for interpreters working in K-12 educational settings with deaf students. Emphasizes requisite skills for the Educational Interpreter Performance Assessment (EIPA).	UG	Lecture

Fall 2017	SLI4530	4530	Deaf-Blind Interpreting	Sign Language Interpreting	3 Overview of role of the interpreter and necessary skills when working with individuals who are Deaf-Blind. Introduction to etiology of deaf-blindness, its impact on communication, and basic sighted-guide techniques. Focus on tactile interpreting skills	UG	Lecture
Fall 2017	SLI4540	4540	Mental Health Interpret	Sign Language Interpreting	3 An introduction to mental health interpreting will prepare Interpreters to work with Deaf clients, providing appropriate and culturally affirming services, promote teamwork and understanding of mental health service providers and improve individual interpreting skills	UG	Lecture
Fall 2017	SLI4550	4550	Interpreting for Theater	Sign Language Interpreting	3 Provides students with basic skills in musical performance and theatrical interpreting. Script analysis and translation, theater basics, character development, and interpreter issues will be addressed as well as musical styles and interpretation.	UG	Lecture
Fall 2017	SLI4560	4560	Legal Interpreting	Sign Language Interpreting	3 Introduces the American legal system and interpreting for the Deaf in that setting. Arrest, Miranda Warning, questioning, and court settings will be discussed including ethical issues and interpretation practice.	UG	Lecture
Fall 2017	SLI4570	4570	Medical Interpreting	Sign Language Interpreting	3 An introductory course for interpreters working in medical settings with Deaf patients. Medical terminology, signed vocabulary, anatomical systems, medications, doctor/hospital specialties, and ethical concerns in this discipline will be covered and medical scenarios interpreted	UG	Lecture
Fall 2017	SLI4580	4580	RID Certification Prep	Sign Language Interpreting	3 Assists students in preparation for the Registry of Interpreters for the Deaf (RID) national certification test. Ethical discussions, sign and voice performances and analyses, and review of written materials will be included.	UG	Lecture
Fall 2017	SLI4600	4600	Advanced Transliterating	Sign Language Interpreting	4 Enhancement of ability to produce an equivalent message, working simultaneously between the source and target languages of signed and spoken English, focusing on team interpreting, working lengthy segments of discourse, and settings with multiple consumers	UG	Lecture
Fall 2017	SLI4710	4710	Variable Topics in SLI	Sign Language Interpreting	1 Selected topics in the areas of interpreting or deafness are addressed on a workshop or a one-time course basis. Subject matter and titles vary.	UG	Lecture
Fall 2017	SLI4800	4800	Advanced Interpreting II	Sign Language Interpreting	4 Continues enhancement of ability to produce an equivalent message, working between ASL and English. Interpreting culturally rich language will be investigated, and expanded to idiomatic expressions, higher registers, and working lengthy segments of discourse.	UG	Lecture

Fall 2017	SLI4900	4900	SLI Senior Capstone	Sign Language Interpreting	3	Student will identify a community or professional need or area of interest, develop project plan to benefit the community and/or profession. Student completes program portfolio and conducts critical self-assessment, demonstrating appreciation for lifelong learning.	UG	Lecture
Fall 2017	SM1010	1010	Scientific Literacy	Science and Mathematics	4	Collaborative skills-driven course designed to develop the critical thinking and reasoning skills associated with scientific inquiry. Work involves interdisciplinary units in the physical and natural sciences that focus on hypothesis generation, experimental design, data collection, objective evaluation of empirical evidence, and argumentation. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	SM1990	1990	Topics in Science & Math	Science and Mathematics	1	Challenging opportunities for academically talented students to work in small study groups with university research professors in Mathematics, Biological Sciences, Chemistry, Geological Sciences, Physics and Psychology.	UG	Independent Study
Fall 2017	SM2100	2100	Scientific Inquiry	Science and Mathematics	3	Introduction to the WSU COSM Applying Scientific Knowledge (ASK) Program, which expands student research opportunities by integrating the research experience into actual coursework. The program starts with this course, a research methods /design course in which students develop skills to execute, analyze and communicate science. They build on this knowledge by becoming part of a "research stream" cohort for the following two semesters.	UG	Lecture/Lab Combination
Fall 2017	SM4000	4000	Senior Capstone in ISS	Science and Mathematics	3	A survey course designed as a capstone to the Integrated Science Studies program. Invited speakers in the natural sciences will discuss their work. Students will evaluate scientific literature and present independent research projects. Integrated Writing course.	UG	Seminar
Fall 2017	SOC2000	2000	Intro to Sociology	Sociology	3	Introduction to the processes through which individuals become members of groups, organizations, institutions, and societies, and how human social interactions lead to changes in social life and structures. Integrated Writing course. Multicultural Competence course.	UG	Lecture
Fall 2017	SOC2010	2010	Simulated Society	Sociology	1	SIMSOC is a learning game designed to supplement the materials covered in introductory sociology courses. The game involves students as members of a simulated society. May be taken for letter grade or pass/unsatisfactory. Prerequisite or corequisite: Soc 2000<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D-/b>	UG	Lecture

Fall 2017	SOC2020	2020	Simulated Society II	Sociology	1	Builds on experience of Simulated Society and analyzes societal processes; small group interaction stratification, leadership roles, political and economic philosophies; and minority relations. Students simulate a society and analyze experience. May be taken for letter grade or pass/unsatisfactory.<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D+</b>	UG	Lecture
Fall 2017	SOC2200	2200	Social Problems	Sociology	3	Analyzes how social problems are identified, legitimated and addressed in contemporary society. Uses major theoretical perspectives to evaluate and analyze social problems, develops proposals for addressing them, and compares and contrasts social problems in cross-cultural context. Considers the impact of social structure on generating social problems and the role of social movements in constructing and resolving social problems.	UG	Lecture
Fall 2017	SOC2210	2210	Explore Social Problems	Sociology	3	Focuses on specific social problems. Topics vary.	UG	Lecture
Fall 2017	SOC3000	3000	Internship in CJ/Family	Sociology	3	Supervised field experience in criminal justice and family agencies. Requires readings, activity log, progress report, and final synthesis paper. Must be prearranged with departments internship coordinator at least one term prior to placement.	UG	Internship
Fall 2017	SOC3100	3100	Sociology of the Family	Sociology	3	Sociological analysis of the development of the family and the its relationship to society and the individual. Topics include courtship, marriage, parenthood, adulthood, and aging.	UG	Lecture
Fall 2017	SOC3110	3110	Sociology of Religion	Sociology	3	Explores the influence that various religions have on society and, in turn, on the effect of social structure and culture on religion. Attention given to American religiosity as well as religion in other cultures.	UG	Lecture
Fall 2017	SOC3200	3200	Explore Social Problems	Sociology	3	Focuses on specific social problems. Topics vary.	UG	Lecture
Fall 2017	SOC3210	3210	Sociology of Deviance	Sociology	3	Extensive exploration of the various sociological approaches to the study of deviance and social disorganization with emphasis on contemporary sociological theory and research.<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D or Undergraduate level SOC 2200 Minimum Grade of D+</b>	UG	Lecture
Fall 2017	SOC3220	3220	Juvenile Delinquency	Sociology	3	Problems of definition and treatment of delinquency. Preparation for further study and work with delinquents.	UG	Lecture
Fall 2017	SOC3230	3230	Intensive Alcohol Ed	Sociology	1	Observation of and participation in intensive alcohol education program which presents individuals with factual material about the effects of substance abuse.	UG	Lecture

Fall 2017	SOC3240	3240	Drug & Alc Intv Workshop	Sociology	2	Participant observation of the intervention and treatment of drug and alcohol problems including therapy and counseling groups, client/therapist contact, and professionals practicing intervention and confrontation techniques. This course has a fee that is non-refundable once the term begins.	UG	Lecture/Lab Combination
Fall 2017	SOC3300	3300	Social Organization	Sociology	3	Theories and analysis of social organization in its historical and present context. Emphasis on the interrelationship between individuals, the family, and other institutions.	UG	Lecture
Fall 2017	SOC3310	3310	Social Change	Sociology	3	Explanations of social change in modern societies. Emphasis on identification of sources of change, effects of change throughout society, major trends, and issues for the future.	UG	Lecture
Fall 2017	SOC3320	3320	Sociology of Work	Sociology	3	Investigation, analysis, and discussion of contemporary theories focusing on the relationship of the individual to work.	UG	Lecture
Fall 2017	SOC3400	3400	Sociological Analysis	Sociology	3	Course focuses on quantitative methods to analyze and interpret data in the social sciences. Completion of Math 1450 (or equivalent) prior to taking this course is strongly recommended.	UG	Lecture
Fall 2017	SOC3410	3410	Intro Research Methods	Sociology	3	Methodological issues required for sociological investigation, including the link between theory and research, ethical issues, operationalization, measurement, sampling, quantitative and qualitative research design, and theory building. Prior completion of SOC 2000 is strongly recommended. Integrated Writing course.	UG	Lecture
Fall 2017	SOC3500	3500	Sociological Theory	Sociology	3	Introduction to sociological theory focused primarily on the ideas, concepts, assumptions, imagery and classical roots of major contemporary theoretical orientations. Integrated Writing course.	UG	Lecture
Fall 2017	SOC3510	3510	Individual and Society	Sociology	3	Focused upon the intersection of individual and collective realities, this course explores theoretical arguments and extant empirical research concerning how society emerges from the interactions of individuals and how individual consciousness emerges from society.	UG	Lecture
Fall 2017	SOC3520	3520	Social Psychology	Sociology	3	Scientific approach to exploring human expression through the application of contemporary and historic research.	UG	Lecture
Fall 2017	SOC3600	3600	Social Inequality	Sociology	3	Structures, theories and consequences of social inequality. This course explores the patterns of inequality, as well as early and contemporary theories of stratification.	UG	Lecture
Fall 2017	SOC3610	3610	Sociology of Gender	Sociology	3	Examines how gender is created and negotiated across space and place. Also examines how gender and gender inequality intersect with other social constructs like race, social class, the media, culture, sexuality, work, family, and violence.	UG	Lecture



Fall 2017	SOC3620	3620	Race and Ethnicity	Sociology	3	Study of intergroup, racial, and ethnic group relations including the processes and consequences of conflict, prejudice, and discrimination.	UG	Lecture
Fall 2017	SOC3700	3700	Criminology	Sociology	3	Analysis of major categories of criminal conduct, theories of crime causation, and patterns of criminal activity with particular attention to factors such as class, race, sex, and age.	UG	Lecture
Fall 2017	SOC3710	3710	Comparative Crim Jus	Sociology	3	Cross cultural approach examining select criminal justice systems in Europe, Asia, the Middle East, Latin America, and Africa as compared to the U.S. involving such transnational crimes as terrorism, hijacking, drug smuggling and organized crime networks. <b>Department Managed Prerequisite(s):</b> Undergraduate level SOC 3700 Minimum Grade of D- <b>Department Managed Prerequisite(s):</b> Undergraduate level SOC 3700 Minimum Grade of D-	UG	Lecture
Fall 2017	SOC3720	3720	Policing in Society	Sociology	3	History and theories of policing and review of the role and function of police.	UG	Lecture
Fall 2017	SOC3730	3730	Soc Courts Law Justice	Sociology	3	Critical examination of the US court system: its structure, key processes, and ability to attain justice. Special attention to race, class, and other influential social forces.	UG	Lecture
Fall 2017	SOC3740	3740	Penology	Sociology	3	Historical development and critical assessment of penal institutions. Field visits to selected institutions.	UG	Lecture
Fall 2017	SOC3800	3800	Demography	Sociology	3	Introduction to factors influencing the structure and growth of human populations and the social consequences of population change. Emphasizes patterns of fertility, mortality, and migration in today's societies and methods and materials used to study populations.	UG	Lecture
Fall 2017	SOC3810	3810	Medical Sociology	Sociology	3	Introduction to the social dimensions of health and illness; consideration of patterns of disease, along with the organization, provision, and delivery of medical services.	UG	Lecture
Fall 2017	SOC4000	4000	Sociological Imagination	Sociology	3	Culminating experience integrating theory, methods, and other core concepts from the discipline. Topics vary. Integrated Writing course.	UG	Seminar
Fall 2017	SOC4070	4070	Directed Readings	Sociology	1	Readings in areas of specialized interest. Topics vary.	UG	Independent Study
Fall 2017	SOC4080	4080	Independent Study	Sociology	1	Research project in an area of specialized interest in sociology. Minimum 3.0 grade point average.	UG	Independent Study
Fall 2017	SOC4081	4081	Independent Study	Sociology	1	Research project in an area of specialized interest in sociology. Integrated writing course.	UG	Independent Study
Fall 2017	SOC4090	4090	Studies in Selected Subj	Sociology	1	Problems, approaches, and topics in the field of sociology. Topics vary. Credit will not be awarded for repetition of courses with identical topic titles. <b>Department Managed Prerequisite(s):</b> Undergraduate level SOC 20000 Minimum Grade of D or Undergraduate level SOC 2200 Minimum Grade of D- <b>Department Managed Prerequisite(s):</b> Undergraduate level SOC 20000 Minimum Grade of D or Undergraduate level SOC 2200 Minimum Grade of D-	UG	Lecture

Fall 2017	SOC4091	4091	Studies in Selected Subj	Sociology	1	Problems, approaches, and topics in the field of sociology. Topics vary. Credits will not be awarded for repetition of course with identical topic titles. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D or Undergraduate level SOC 2200 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4100	4100	Political Anthropology	Sociology	3	Cross-cultural focus on the anthropological study of political life. Presents evolutionary and historical approaches to political institutions, and classic anthropological analyses of political institutions. Investigates recent developments in the study of politics as a contemporary problem. Integrated Writing course.	UG	Lecture
Fall 2017	SOC4300	4300	Intl Migration & Intgrtn	Sociology	3	Examines the dynamics of international migration and immigration, immigrant adaptation and incorporation, and the U.S. response to immigration.<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D or Undergraduate level SOC 2200 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4310	4310	Urban Sociology	Sociology	3	Examines the role of cities in past and present societies, the social and cultural implications of urban living, and special problems associated with city life.<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D and Undergraduate level SOC 3620 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4320	4320	Neighbor and Communities	Sociology	3	Theoretical, methodological, and substantive issues related to neighborhoods and communities. Emphasis on residential differentiation, segregation, neighborhood change, and neighborhood effects.	UG	Lecture
Fall 2017	SOC4400	4400	Qualitative Methods	Sociology	3	Qualitative research methods, including interviews, focus groups, case studies, and observational research. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4410	4410	Applications Rsch Mthd	Sociology	3	Advanced social research techniques. Students design and carry out a full-scale research project within a seminar-like class setting. Integrated Writing course.	UG	Lecture
Fall 2017	SOC4420	4420	Ethnographic Methods	Sociology	3	Explores the meaning, scope and dilemmas of ethnography using both a hands-on ethnographic project and a wide array of readings. Integrated Writing course.	UG	Lecture
Fall 2017	SOC4500	4500	Sociological Theory	Sociology	3	Readings in an area of specialized interest in sociological theory. Topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	SOC4600	4600	Sociology of Sexuality	Sociology	3	Explores issues of sexual identity and sexual behavior. Also addresses how social institutions affect sexuality. Theories of sexuality, such as social constructionism and essentialism are reviewed. Integrated Writing course.	UG	Lecture

Fall 2017	SOC4610	4610	Gender and Crime	Sociology	3	Examines how crime and the criminal justice system are shaped by gendered social forces. Specifically addresses how these forces affect crime-related constituencies including perpetrators, workers, victims/survivors, and society as a whole	UG	Lecture
Fall 2017	SOC4620	4620	Elite Crime in Cinema	Sociology	3	A theoretical and critical examination of how cinema exposes elite crime and deviance.<b> Department Managed Prerequisite(s): Undergraduate level SOC 2000 Minimum Grade of D or Undergraduate level SOC 2200 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4630	4630	Race,Work & Family	Sociology	3	Investigates African Americans' labor force participation/location and consequences for families in the Post-Civil Rights era. Topics include national employment statistics for African Americans and persons of color, race/ethnicity-based employment predictions, and statistics on the fastest growing occupations in the U.S. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level SOC 3620 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4640	4640	Gender and Sexuality	Sociology	3	Explores gender and sexuality constructions from a global perspective. Topics include the effects of globalization, colonization and imperialism, as well as transnational feminist and LGBTQA activism.<b> Department Managed Prerequisite(s): Undergraduate level SOC 3610 Minimum Grade of D and Undergraduate level SOC 4600 Minimum Grade of D and Undergraduate level WMS 2000 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4700	4700	Explaining Crime	Sociology	3	Theories of crime and how they operate within society as part of our understanding of the criminal justice system. Integrated Writing course.	UG	Lecture
Fall 2017	SOC4710	4710	Victimology	Sociology	3	A comprehensive examination of victims of crime in both the United States and internationally. Also explores the role and impact of the criminal justice system on crime victims.<b> Department Managed Prerequisite(s): Undergraduate level SOC 3700 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC4800	4800	Aging and HIV	Sociology	3	Socio-historical overview of the impact of HIV/AIDS on adults 50 and older.	UG	Lecture
Fall 2017	SOC4810	4810	Health Vulnerable Pops	Sociology	3	Overview of health vulnerability and health disparity and key historical events/periods in the development of the American healthcare system, particularly for vulnerable populations. Social, public health, and theoretical issues influencing the multi-faceted barriers to healthcare for specific vulnerable populations	UG	Lecture

Fall 2017	SOC4820	4820	Social Gerontology	Sociology	3	Study of social aspects of aging, the needs of the aging population, and society's response to those needs. A life course perspective that incorporates cultural, economic, historical and structural contexts provides the framework for examining aging-related issues, particularly in regards to the impact on quality of life for older adults.	UG	Lecture
Fall 2017	SOC4830	4830	Sex Drugs & HIV	Sociology	3	Examines sexual behavior, substance abuse, stress, stressful life events and stigma associated with HIV/AIDS. Integrated Writing course. <b> Department Managed Prerequisite(s): Undergraduate level SOC 3000 Minimum Grade of D and Undergraduate level SOC 3620 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SOC5000	5000	Internship in CJ/Family	Sociology	3	Supervised field experience in criminal justice and family agencies. Requires readings, activity log, progress report, and final synthesis paper. Must be prearranged with departments internship coordinator at least one term prior to placement.	GR	Internship
Fall 2017	SOC5100	5100	Sociology of the Family	Sociology	3	Sociological analysis of family development over its life cycle. Involved is the relationship of the family to society and the individual. Topics include courtship, marriage, parenthood, adulthood, and aging.	GR	Lecture
Fall 2017	SOC5110	5110	Sociology of Religion	Sociology	3	Explores the role of religion in society. Religion is viewed not only as a fundamental institution within our social structure, but also as a meaning system (a set of symbols, values, myths, and rituals) and a belonging system (a set of social networks and emotional bonds). Examines the influence that various religions have on society and, in turn, on the effect of social structure and culture on religion. Attention given to American religiosity as well as religion in other cultures.	GR	Lecture
Fall 2017	SOC5210	5210	Sociology of Deviance	Sociology	3	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 2017	SOC5220	5220	Juvenile Delinquency	Sociology	3	Problems of definition and treatment of delinquency; preparation for further study and work with delinquents.	GR	Lecture
Fall 2017	SOC5300	5300	Social Organization	Sociology	3	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 2017	SOC5310	5310	Social Change	Sociology	3	Explanations of social change in modern societies. Emphasis on identification of sources of change, effects of change throughout society, major trends, and issues for the future.	GR	Lecture
Fall 2017	SOC5320	5320	Sociology of Work	Sociology	3	Investigation, analysis, and discussion of contemporary theories focusing on the relationship of the individual to work.	GR	Lecture

Fall 2017	SOC5600	5600	Social Inequality	Sociology	3	Structures, theories and consequences of social inequality. This course explores the patterns of inequality, as well as early and contemporary theories of stratification.	GR	Lecture
Fall 2017	SOC5610	5610	Sociology of Gender	Sociology	3	Examines how gender is created and negotiated across space and place. Also how gender and gender inequality intersect with other social constructs, such as race, social class, the media, culture, sexuality, work, family, and violence.	GR	Lecture
Fall 2017	SOC5620	5620	Race and Ethnicity	Sociology	3	The study of intergroup, racial, and ethnic group relations, including the processes and consequences of conflict, prejudice, and discrimination.	GR	Lecture
Fall 2017	SOC5700	5700	Criminology	Sociology	3	Provides an analysis of major categories of criminal conduct, theories of crime causation, and patterns of criminal activity with particular attention to factors such as class, race, sex, and age.	GR	Lecture
Fall 2017	SOC5710	5710	Comparative CJ	Sociology	3	A cross cultural approach examining select criminal justice systems in Europe, Asia, the Middle East, Latin America and Africa as compared to the U.S., involving such transnational crimes as terrorism, hijacking, drug smuggling and organized crime networks.	GR	Lecture
Fall 2017	SOC5720	5720	Policing in Society	Sociology	3	Discussion of the history and theories of policing while reviewing the role and function of the police.	GR	Lecture
Fall 2017	SOC5730	5730	Courts, Law, & Justice	Sociology	3	Critical examination of 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 2017	SOC5740	5740	Penology	Sociology	3	Historical development and critical assessment of penal institutions. Field visits to selected institutions.	GR	Lecture
Fall 2017	SOC5800	5800	Demography	Sociology	3	Introduction to factors influencing the structure and growth of human populations and the social consequences of population change. Patterns of fertility, mortality, and migration in today's societies are emphasized, and methods and materials used to study populations are presented.	GR	Lecture
Fall 2017	SOC5810	5810	Medical Sociology	Sociology	3	Introduction to and understanding of the social dimensions of health and illness. Consideration of patterns of disease, along with the organization, provision and delivery of medical services.	GR	Lecture
Fall 2017	SOC6070	6070	Directed Readings	Sociology	1	Readings in areas of specialized interest. Topics vary.	GR	Independent Study
Fall 2017	SOC6080	6080	Independent Study	Sociology	1	Research project in an area of specialized interest in Sociology.	GR	Independent Study
Fall 2017	SOC6081	6081	Independent Study in Soc	Sociology	1	Research project in an area of specialized interest in Sociology.	GR	Independent Study

Fall 2017	SOC6090	6090	Studies in Selected Sbj.	Sociology	1	Problems, approaches, and topics in the field of sociology. Topics vary.	GR	Lecture
Fall 2017	SOC6091	6091	Studies in Selected Subj	Sociology	1	Problems, approaches, and topics in the field of sociology. Topics vary. Credit will not be awarded for repetition of courses with identical topic titles.	GR	Lecture
Fall 2017	SOC6100	6100	Political Anthropology	Sociology	3	Focuses on the anthropological study of political life cross-culturally. Presents evolutionary and historical approaches to political institutions, and classic anthropological analyses of political institutions. Investigates recent developments in the study of politics as a contemporary problem.	GR	Lecture
Fall 2017	SOC6300	6300	Sociology of Immigration	Sociology	3	Provides an understanding of the dynamics of international migration and immigration, immigrant adaptation and incorporation, and the U.S. response to immigration.	GR	Lecture
Fall 2017	SOC6310	6310	Urban Sociology	Sociology	3	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 2017	SOC6320	6320	Neighborhoods & Cmmts.	Sociology	3	Theoretical, methodological, and substantive issues related to neighborhoods and communities in social life. Emphasis on residential differentiation, segregation, neighborhood change, and neighborhood effects.	GR	Lecture
Fall 2017	SOC6400	6400	Qualitative Methods	Sociology	3	Provides students with an appreciation of a variety of qualitative research techniques including interviews, focus groups, case studies, and observational research.	GR	Lecture
Fall 2017	SOC6410	6410	Application of Methods	Sociology	3	Advanced course in social research techniques providing students the opportunity to design and carry out full-scale research project related to their major interest areas.	GR	Lecture/Lab Combination
Fall 2017	SOC6420	6420	Ethnographic Methods	Sociology	3	Explores the meaning, scope and dilemmas of ethnography using both a hands-on ethnographic project and a wide array of readings.	GR	Lecture
Fall 2017	SOC6600	6600	Sociology of Sexuality	Sociology	3	Explores issues of sexual identity and sexual behavior. Also addresses how social institutions affect sexuality. Theories of sexuality such as social constructionism and essentialism are also reviewed.	GR	Lecture
Fall 2017	SOC6610	6610	Gender and Crime	Sociology	3	Examination of how crime and the criminal justice system are shaped by gendered social forces. Specifically addresses how these forces affect crime-related constituencies including perpetrators, workers, victims/survivors, and society as a whole.	GR	Lecture
Fall 2017	SOC6620	6620	Elite Crime in Cinema	Sociology	3	A theoretical and critical examination of how cinema exposes elite crime and deviance.	GR	Lecture

Fall 2017	SOC6640	6640	Gender and Sexuality	Sociology	3	Explores gender and sexuality constructions from a global perspective. Topics include the effects of globalization, colonization and imperialism, as well as transnational feminist and LGBTQA activism.<b> Department Managed Prerequisite(s): Undergraduate level SOC 3610 Minimum Grade of D or Undergraduate level SOC 4600 Minimum Grade of D or Undergraduate level WMS 2000 Minimum Grade of D</b>	GR	Lecture
Fall 2017	SOC6700	6700	Explaining Crime	Sociology	3	Provides 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 2017	SOC6710	6710	Victimology	Sociology	3	A comprehensive examination of victims of crime in both the United States and internationally. Also explores the role and impact of the criminal justice system on crime victims.	GR	Lecture
Fall 2017	SOC6800	6800	Aging and HIV	Sociology	3	Socio-historical overview of the impact of HIV/AIDS on adults ages 50 and older.<b> Department Managed Prerequisite(s): Graduate level SW 6620 Minimum Grade of D or Graduate level SOC 6820 Minimum Grade of D</b>	GR	Lecture
Fall 2017	SOC6810	6810	Health Vulnerable Ppltns	Sociology	3	Provides an overview of the concepts of health vulnerability and health disparity and identifies key historical events/periods in the development of the American healthcare system, particularly for vulnerable populations. Develops a comprehensive understanding of social, public health, and theoretical issues influencing the multi-faceted barriers to healthcare utilization for specific vulnerable populations.	GR	Lecture
Fall 2017	SOC6820	6820	Social Gerontology	Sociology	3	Provides students with an understanding of social gerontology, its origins, and present domains of focus. A life course perspective that incorporates cultural, economic, historical and structural contexts provides the framework for examining aging-related issues, particularly with regard to the impact on quality of life for older adults.	GR	Lecture
Fall 2017	SOC6830	6830	Sex, Drugs, & HIV	Sociology	3	Study of etiology, social determinants, and social-psychological corollaries of HIV/AIDS. Examines sexual behavior, substance abuse, stress, stressful life events and stigma associated with HIV/AIDS.	GR	Lecture
Fall 2017	SOM701	701	Year 4 Medical Study	School of Medicine	24		MD	Other
Fall 2017	SOM702	702	Year 4 Medical Study	School of Medicine	24		MD	Other
Fall 2017	SOM703	703	Year 3 Medical Study	School of Medicine	24		MD	Clinical
Fall 2017	SOM704	704	Year 3 Medical Study	School of Medicine	24		MD	Clinical

Fall 2017	SOM705	705	Year 1 Medical Study	School of Medicine	24		MD	Lecture
Fall 2017	SOM706	706	Year 1 Medical Study	School of Medicine	24		MD	Lecture
Fall 2017	SOM707	707	Year 2 Medical Study	School of Medicine	24		MD	Lecture
Fall 2017	SOM708	708	Year 2 Medical Study	School of Medicine	24		MD	Lecture
Fall 2017	SPM7010	7010	Current Issues Amer Spts	Sports Management	3	This course identifies and analyzes the current issues impacting American sports. Emphasis is placed on how those issues and trends affect sport administrators, coaches, and fans.	GR	Seminar
Fall 2017	SPM7020	7020	Fiscal Mgt in Sport	Sports Management	1	This course explores the financial principles related to managing sports organizations. Budget development, management, and accountability are explored and current practices presented.	GR	Seminar
Fall 2017	SPM7030	7030	Acad Supp Stu Athletes	Sports Management	1	This course will explore the academic experience of student athletes in the context of the demands of their sport and how support services are organized and delivered to address distinctive academic needs.	GR	Seminar
Fall 2017	SPM7040	7040	Recreation Management	Sports Management	1	This course explores directing and managing the program, services, and business operations of recreation and intramural sports programs. Organization principles and current issues are presented.	GR	Seminar
Fall 2017	SPM7050	7050	Compliance & Regulation	Sports Management	1	This course focuses on the NCAA legislative process and bylaws governing the operations of an athletics program. Included topics are those bylaws related to eligibility, amateurism, recruiting and financial aid.	GR	Seminar
Fall 2017	SPM7060	7060	Facilities and Event Mgt	Sports Management	1	This course focuses on the planning, designing, operations and management of physical education, athletics, recreation, health and fitness, and aquatics facilities. Included are the development, planning, scheduling and implementation of daily and major events.	GR	Seminar
Fall 2017	SPM7080	7080	Mkt & Pub Relations Spt	Sports Management	3	This course explores the marketing and public relations aspects of sports programs and sporting events. Current issues and accepted practices and techniques are presented.	GR	Seminar
Fall 2017	SPN1010	1010	Beginning Spanish I	Spanish	3	Communicative introduction to Spanish language and Hispanic cultures. Study of the vocabulary and structure of the Spanish language; practice in speaking, listening, reading, and writing. Taught in Spanish.	UG	Lecture
Fall 2017	SPN1020	1020	Beginning Spanish II	Spanish	3	Communicative introduction into Spanish language and Hispanic cultures. Study of the vocabulary and structure of the Spanish language; practice in speaking, listening, reading, and writing. Taught in Spanish.	UG	Lecture



Fall 2017	SPN2010	2010	Intermediate Spanish I	Spanish	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Taught in Spanish.	UG	Lecture
Fall 2017	SPN2020	2020	Intermediate Spanish II	Spanish	3	Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Taught in Spanish.	UG	Lecture
Fall 2017	SPN2110	2110	IntSpnI: LawEnfcmtSocWk	Spanish	3	Intermediate Spanish with emphasis on law enforcement and social work contexts. Taught in Spanish.	UG	Lecture
Fall 2017	SPN2120	2120	IntSpnII: LawEnfcmtSocWk	Spanish	3	Continued study of intermediate Spanish with emphasis on law enforcement and social work contexts. Taught in Spanish.	UG	Lecture
Fall 2017	SPN2210	2210	Interm Spn I for Medical	Spanish	3	Intermediate level Spanish course with service component. Grammar, vocabulary, oral and written communication skills, cultural sensitivity training in the context of the medical profession. Service-learning course.	UG	Lecture
Fall 2017	SPN2220	2220	Inter Spn II for Medical	Spanish	3	Intermediate level Spanish course with service component. Grammar, vocabulary, oral and written communication skills, cultural sensitivity training in the context of the medical profession.	UG	Lecture
Fall 2017	SPN3110	3110	Spanish Conversation I	Spanish	3	Practice in oral use of Spanish emphasizing the culture of the Hispanic world.	UG	Lecture
Fall 2017	SPN3120	3120	Spanish Conversation II	Spanish	3	Practice in oral use of Spanish emphasizing the culture of the Hispanic world.	UG	Lecture
Fall 2017	SPN3210	3210	SPN Conv and Writing	Spanish	3	Oral and written composition in Spanish; writing techniques and grammar review. Taught in Spanish. Integrated Writing course.	UG	Lecture
Fall 2017	SPN3220	3220	Adv SPN Conv and Writing	Spanish	3	Conversational and writing techniques and grammar review; literary and/or film and/or media analysis incorporating targeted grammar, vocabulary, and stylistic devices. Taught in Spanish. Integrated Writing course.	UG	Lecture
Fall 2017	SPN3250	3250	Business Spanish I	Spanish	3	An introduction to the language of business Spanish with insight into Spain and Latin America within the global economy. Integrated Writing course.	UG	Lecture
Fall 2017	SPN3260	3260	Business Spanish II	Spanish	3	Study of the business culture behind Spanish. Development of the communication skills and intercultural understanding. Use of Spanish in international business. Integrated Writing course.	UG	Lecture
Fall 2017	SPN3310	3310	Survey of Spanish Lit	Spanish	3	Historical survey of Spanish literature from the Middle Ages to contemporary period.	UG	Lecture
Fall 2017	SPN3320	3320	Survey of Spanish-American L	Spanish	3	Historical survey of Spanish-American Literature. Reading of prose, poetry, and plays by Spanish-American writers. From pre-Columbian times to the present.	UG	Lecture

Fall 2017	SPN3430	3430	Spanish Culture	Spanish	3	Study of Spanish culture with emphasis on its uniqueness among the family of nations. Taught in Spanish. Spanish majors who take SPN 3430 may not take ML 3030 for credit.	UG	Lecture
Fall 2017	SPN3440	3440	Spanish-American Culture	Spanish	3	Study of Spanish-American culture with emphasis on its uniqueness among the family of nations. Taught in Spanish. Spanish majors who take SPN 3440 may not take ML 3040 for credit.	UG	Lecture
Fall 2017	SPN3610	3610	Spanish Phonology	Spanish	3	Study of the vowel and consonant sound system of Spanish. Spanish phonetics and intonation.	UG	Lecture
Fall 2017	SPN3700	3700	Internship in Spanish	Spanish	3	Supervised use of Spanish in workplace settings. Must complete an application available from the Department of Modern Languages. Minimum time commitment 135 hours a semester, including a minimum of 120 hours of on-site work. Senior standing and advisor permission required.	UG	Internship
Fall 2017	SPN3810	3810	Applied Elem Spn Instruc	Spanish	3	Spanish majors assist elementary course instructors in conducting classes. For Spanish majors and minors only.	UG	Independent Study
Fall 2017	SPN3810	3810	Applied Elem Spn Instruc	Spanish	3	Spanish majors assist elementary course instructors in conducting classes. For Spanish majors and minors only.	UG	Internship
Fall 2017	SPN3980	3980	Studies in Selec Subj	Spanish	1	Individual research project approved and supervised by a full-time faculty member. Taught in Spanish.	UG	Lecture
Fall 2017	SPN3990	3990	Studies in Selected Subj	Spanish	1	Problems, approaches, and topics in the field of Spanish. Topics vary.	UG	Lecture
Fall 2017	SPN4030	4030	Adv Studies: Lang Civili	Spanish	3	Topics vary. Conducted in Spanish.	UG	Seminar
Fall 2017	SPN4310	4310	Sem Spanish Lit	Spanish	3	Intensive study of selected topics in Spanish peninsular literature. Background lectures, oral reports, and discussions. Topics vary.	UG	Seminar
Fall 2017	SPN4320	4320	Sem in Spanish-Amer Lit	Spanish	3	Intensive study of selected topics in Spanish-American literature. Background lectures, oral reports, and discussions. Topics vary.	UG	Seminar
Fall 2017	SPN4500	4500	Senior Honors Project	Spanish	3	Capstone project for Spanish majors involving independent research, service learning, or a creative project. Topics vary. Taught in Spanish.	UG	Independent Study
Fall 2017	SPN4710	4710	Spanish As a World Lang	Spanish	3	Linguistic and social history of the Spanish language. Language variation in Spain, Latin America, United States, and other areas of the world where Spanish is spoken.	UG	Seminar
Fall 2017	SPN4810	4810	Independ Read Adv Studen	Spanish	3	Topics vary.	UG	Independent Study
Fall 2017	SPN4830	4830	Business in L. America	Spanish	3	This course studies, in both English and Spanish, fundamental concepts of doing business, managing, and marketing in Latin America. Examines cultural, institutional, behavioral and management systems and their operations in Latin America.	UG	Seminar

Fall 2017	SPN5110	5110	Spanish Conversation I	Spanish	3	Practice in the oral use of Spanish emphasizing the culture of the Hispanic world.	GR	Lecture
Fall 2017	SPN5120	5120	Spanish Conversation II	Spanish	3	Practice in oral use of Spanish emphasizing the culture of the Hispanic world.	GR	Lecture
Fall 2017	SPN5210	5210	SPN Conv and Writing	Spanish	3	Oral and written composition in Spanish; writing techniques and grammar review. Taught in Spanish.	GR	Lecture
Fall 2017	SPN5220	5220	Adv SPN Conv and Writing	Spanish	3	Conversational and writing techniques and grammar review; literary and/or film and/or media analysis incorporating targeted grammar, vocabulary, and stylistic devices. Taught in Spanish.	GR	Lecture
Fall 2017	SPN5250	5250	Business Spanish I	Spanish	3	An introduction to the language of business Spanish with insight into Spain and Latin America within the global economy.	GR	Lecture
Fall 2017	SPN5260	5260	Business Spanish II	Spanish	3	Study of the business culture behind Spanish. Development of communication skills and intercultural understanding. Use of Spanish in International Business.	GR	Lecture
Fall 2017	SPN5310	5310	Survey of Spanish Lit	Spanish	3	Historical survey of Spanish literature from the Middle Ages to the present.	GR	Lecture
Fall 2017	SPN5320	5320	Survey of Span-Amer Lit	Spanish	3	Reading of prose, poetry, and plays by Spanish-American writers. From pre-Columbian times to the present.	GR	Lecture
Fall 2017	SPN5430	5430	Spanish Culture	Spanish	3	A comprehensive review of the diverse cultures of Spain.	GR	Lecture
Fall 2017	SPN5440	5440	Spanish Amer Culture	Spanish	3	A comprehensive review of the diverse cultures of Hispanic America.	GR	Lecture
Fall 2017	SPN5810	5810	Applied Elem Spn Instr	Spanish	3	Assistance for elementary course instructors in conducting classes.	GR	Lecture
Fall 2017	SPN5900	5900	Foreign Lang Institute	Spanish	1	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 2017	SPN5990	5990	Studies in Selected Subj	Spanish	1	Graduate level research and writing in the field of Spanish. Topics vary.	GR	Lecture
Fall 2017	SPN6030	6030	Adv Studies: Lang Civil	Spanish	3	Topics vary. Conducted in Spanish.	GR	Seminar
Fall 2017	SPN6110	6110	SPN Instr Practicum I	Spanish	1	Observe elementary and/or intermediate level classes; teach mini-units on culture, language, and literature using the Proficiency Method and the National Standards for Language Teaching.	GR	Practicum
Fall 2017	SPN6120	6120	SPN Instr Practicum II	Spanish	1	Peer teachers observe and assist in elementary and/or intermediate level classes; continuation of practicum from SPN 6110.	GR	Practicum
Fall 2017	SPN6130	6130	SPN Instr Practicum III	Spanish	1	Peer teachers observe elementary and/or intermediate level classes; continuation of practicum from SPN 6120.	GR	Practicum

Fall 2017	SPN6310	6310	Sem in Spanish Lit	Spanish	3	Intensive study of selected topics in peninsular literature. Background lectures, oral reports, and discussions. Titles vary.	GR	Seminar
Fall 2017	SPN6320	6320	Sem in Spanish-Amer Lit	Spanish	3	Readings and reports in the novel, poetry, and drama of selected Spanish-American authors. Representative works of Borges, Garcia Marquez, Rulfo, Paz, Vargas Llosa, Sanchez, and others.	GR	Seminar
Fall 2017	SPN6500	6500	Undergrad Research in Sp	Spanish	1	Topics vary.	GR	Independent Study
Fall 2017	SPN6710	6710	Spanish As a World Lang	Spanish	3	Linguistic and social history of the Spanish language. Language variation in Spain, Latin America, United States, and other areas of the world where Spanish is spoken.	GR	Seminar
Fall 2017	SPN6810	6810	Ind Read Grad Students	Spanish	3	Independent reading for graduate students.	GR	Independent Study
Fall 2017	SPN6830	6830	Latin American Business	Spanish	3	This course studies, in both English and Spanish, fundamental concepts of doing business, managing and marketing in Latin America. Examines cultural, institutional and behavioral and management systems and their operation in Latin America.	GR	Seminar
Fall 2017	SRV2000	2000	Engaged Citizenship	Service Learning	3	Rights, privileges and responsibilities of citizenship in our democracy and the world. Develops skills for engaged citizenship through community-based activities and service-learning projects. Integrated Writing course.	UG	Lecture/Lab Combination
Fall 2017	SRV4000	4000	Engaged Citizenship Capstone	Service Learning	3	Culminating experience of the Citizen Scholar Certificate Program. Students design and complete a service-learning project, produce a scholarly paper in connection with the project and compile a portfolio to demonstrate their development as citizens through the Citizen Scholar Certificate program. Project proposals must be approved by the Office of Service-Learning prior to enrollment in the course.	UG	Independent Study
Fall 2017	SRV4010	4010	Service-Learning Intern	Service Learning	3	Internship with community organization addressing a community-defined need. Field experience integrated with in-class course work focusing on engaged citizenship themes. Site selected with guidance of instructor prior to registration. Registration by Service-Learning department permission. Service-learning intensive course (110 field hours)	UG	Internship
Fall 2017	STT1600	1600	Statistical Concepts	Statistics	4	Fundamentals of statistics, including descriptive statistics, probability, confidence intervals, and testing hypotheses, as well as the basics of Chi-square tests, regression and correlation, and analysis of variance. This course has a one hour per week lab that uses Excel software.	UG	Lecture/Lab Combination

Fall 2017	STT2640	2640	Elementary Statistics	Statistics	4	Numerical and graphical methods for finding and summarizing important features of data. Principles of designing experiments for collecting data. Introduction to probability. Confidence intervals and hypothesis testing introduction. Applications to means, proportions, two-sample comparisons, contingency tables, linear regression, and analysis of variance. Use of statistical computing package to apply methods and illustrate concepts.	UG	Lecture
Fall 2017	STT3420	3420	Prob Stat Mid Schl Tchr	Statistics	3	Probability and statistical methods applied to real problems. Scientific method of investigation. Data collection, organization, display, and analysis. Empirical and axiomatic probability, simulation, variation, sampling, expected values, and statistical inference. Probability and uncertainty.	UG	Lecture/Lab Combination
Fall 2017	STT3600	3600	Applied Statistics I	Statistics	3	Introduction to probability, random variables and their expectations, some commonly used discrete and continuous distributions, concept of random sampling and sampling distributions. Use of computer software packages for simulating, summarizing, and displaying data.	UG	Lecture
Fall 2017	STT3610	3610	Applied Statistics II	Statistics	3	Introduction to statistics, standard statistical methods for estimation of parameters and hypothesis testing, introduction to regression analysis and analysis of variance techniques, exposure to data analysis using packaged computer programs.	UG	Lecture
Fall 2017	STT3630	3630	Engineering Statistics	Statistics	3	Introduction to probability, distributions, and statistical methods; using calculus to develop the necessary theory. Use of computer software package (e.g., Matlab) for statistical analysis.	UG	Lecture
Fall 2017	STT3860	3860	Ind Read Stat and Prob	Statistics	1	Topics vary.	UG	Independent Study
Fall 2017	STT3960	3960	Topics in Stat and Prob	Statistics	1	Titles vary.	UG	Independent Study
Fall 2017	STT4110	4110	Applied Time Series	Statistics	3	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.	UG	Lecture
Fall 2017	STT4210	4210	Sampling Design	Statistics	3	Classical sampling designs including simple random sampling, stratified sampling, multi-stage sampling, cluster sampling, and systematic sampling; using auxiliary information and ratio estimators; unequal probability sampling, detectability and line transect methods; composite and ranked-set sampling.	UG	Lecture

Fall 2017	STT4240	4240	Stat Quality Control	Statistics	3	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.	UG	Lecture
Fall 2017	STT4260	4260	Survival Analysis	Statistics	3	Censoring and truncation, survival and hazard functions, estimation and hypothesis tests, Cox proportional hazards model, diagnostics of the Cox model; state-of-the-art software for survival analysis models.	UG	Lecture
Fall 2017	STT4300	4300	Biostatistics	Statistics	3	The statistical methods suitable for analysis of data arising in biological and related studies. Estimation and hypothesis testing are reviewed. Methods include one and two sample tests, simple and multiple regression, and analysis of variance.	UG	Lecture
Fall 2017	STT4310	4310	Stat Meth Clinical Trial	Statistics	3	Basic clinical design methodology, types of clinical trials, analysis of trial data, and statistical issues that commonly arise in clinical trials.	UG	Lecture
Fall 2017	STT4610	4610	Theory of Statistics I	Statistics	4	Probability, random variables, density and distribution functions, expectation, moment generating functions, special discrete and continuous distributions; joint, marginal and conditional distributions; independence, properties of expected values, functions of random variables, order statistics, transformations, limiting distributions, convergence in distribution, central limit theorem, statistics and sampling distributions.	UG	Lecture
Fall 2017	STT4620	4620	Theory of Statistics II	Statistics	4	Point estimation, properties of estimators, sufficiency and completeness, single parameter interval estimation, hypothesis testing, most powerful and UMP tests, likelihood ratio tests; the multivariate normal distribution, random vectors and covariance matrices; linear and quadratic forms. The general linear model and the Cochran-Fisher theorem. Hypothesis testing and confidence regions for a vector of parameters.	UG	Lecture
Fall 2017	STT4640	4640	Computational Statistics	Statistics	3	Random number generation and Monte Carlo methods. The bootstrap and permutation tests. Numerical methods for optimization related to maximum likelihood estimation; nonparametric density estimation, classification and regression trees. Software used for the course includes SPLUS or R.	UG	Lecture
Fall 2017	STT4660	4660	Statistical Methods I	Statistics	4	Simple linear regression and correlation analysis. Concepts of matrix algebra, the matrix approach for regression and multiple regression. The general linear model. An introduction to generalized linear models and logistic regression. One-way analysis of variance. Statistical software packages will be used. Integrated Writing course.	UG	Lecture

Fall 2017	STT4670	4670	Statistical Methods II	Statistics	4	Continuation of STT 4660. Randomization and replication. One and two-way analysis of variance, multiple comparisons, analysis of covariance. Multi-factor experiments. Non-parametric methods. Block designs. Mixed- and random-effects models, including repeated measures. Nested factors; split-plot designs; confounding and fractions for 2k factorial experiments. Integrated Writing course.	UG	Lecture
Fall 2017	STT4860	4860	Ind Read Stat and Prob	Statistics	1	Independent study in statistics and probability.	UG	Independent Study
Fall 2017	STT4920	4920	Undergrad Statistics Sem	Statistics	3	Detailed study of a single statistics topic chosen by the student with the approval of the instructor. Integrated Writing course.	UG	Seminar
Fall 2017	STT4960	4960	Topics in Stat and Prob	Statistics	1	Topics in statistics and probability.	UG	Independent Study
Fall 2017	STT5600	5600	Applied Statistics I	Statistics	3	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.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2310 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	STT5610	5610	Applied Statistics II	Statistics	3	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.<b> Department Managed Prerequisite(s): Graduate level STT 5600 Minimum Grade of D</b></h>	GR	Lecture
Fall 2017	STT5860	5860	Ind Read Stat and Prob	Statistics	1	Independent reading in statistics and probability.	GR	Independent Study
Fall 2017	STT5910	5910	Statistics for Nursing	Statistics	0.5	Coverage of concepts, principles, interpretation and practical rules of thumb for advanced statistical methods used in nursing research.	GR	Lecture
Fall 2017	STT5960	5960	Topics in Stat and Prob	Statistics	1	May be taken for letter grade or pass/unsatisfactory. Titles vary.	GR	Independent Study
Fall 2017	STT6110	6110	Applied Time Series	Statistics	3	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.<b> Department Managed Prerequisite(s): (Undergraduate level STT 3610 Minimum Grade of D or Graduate level STT 5610 Minimum Grade of D)</b></h>	GR	Lecture

Fall 2017	STT6210	6210	Sampling Design	Statistics	3	Classical sampling designs including simple random sampling, stratified sampling, multi-stage sampling, cluster sampling, and systematic sampling; Using auxiliary information and ratio estimators; Unequal probability sampling, detectability and line transect methods; composite and ranked-set sampling.<b> Department Managed Prerequisite(s): Graduate level STT 6610 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT6240	6240	Stat Quality Control	Statistics	3	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.<b> Department Managed Prerequisite(s): (Undergraduate level STT 3610 Minimum Grade of D or Undergraduate level STT 3630 Minimum Grade of D)</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT6260	6260	Survival Analysis	Statistics	3	Censoring and truncation, survival and hazard functions, estimation and hypothesis tests, Cox proportional hazards model; diagnostics of the Cox model; state-of-the-art software for survival analysis models.<b> Department Managed Prerequisite(s): (Undergraduate level STT 3610 Minimum Grade of D or Undergraduate level STT 5610 Minimum Grade of D)</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT6300	6300	Biostatistics	Statistics	3	Statistical methods suitable for analysis of data arising in biological and related studies. Estimation and hypothesis testing are reviewed. Methods include one and two sample tests, simple and multiple regression, and analysis of variance.<b> Department Managed Prerequisite(s): Undergraduate level STT 2640 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT6310	6310	Stat Meth Clinical Trial	Statistics	3	Basic clinical design methodology, types of clinical trials, analysis of trial data, and statistical issues that commonly arise in clinical trials.<b> Department Managed Prerequisite(s): (Undergraduate level STT 3610 Minimum Grade of D or Graduate level STT 5610 Minimum Grade of D) or Graduate level STT 6300 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT6460	6460	Stat Methods Engineers	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. Analysis of variance, techniques for interpretation of research data, with extensive use of statistical software. Includes factorial experiments, fixed and random effects, crossed and nested factors, and repeated measures.<b> Department Managed Prerequisite(s): (Undergraduate level STT 3610 Minimum Grade of D or Graduate level STT 5610 Minimum Grade of D)</b></td><td>GR</td><td>Lecture</td>



Fall 2017	STT6610	6610	Theory of Statistics I	Statistics	4	Probability, random variables, density and distribution functions, expectation, moment generating functions, special discrete and continuous distributions; joint, marginal and conditional distributions; independence, properties of expected values, functions of random variables, order statistics, transformations, limiting distributions, convergence in distribution, central limit theorem, statistics and sampling distributions.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2220 Minimum Grade of D+ /b>	GR	Lecture
Fall 2017	STT6620	6620	Theory of Statistics II	Statistics	4	Point estimation, properties of estimators, sufficiency and completeness, single parameter interval estimation, hypothesis testing, most powerful and UMP tests, likelihood ratio tests, maximum likelihood estimation (mle) and computational approaches to determine mle's. The multivariate normal distribution, random vectors and covariance matrices; linear and quadratic forms. The general linear model, Cochran-Fisher theorem. Hypothesis testing and confidence regions for a vector of parameters.<b> Department Managed Prerequisite(s): Graduate level STT 6610 Minimum Grade of D+ /b>	GR	Lecture
Fall 2017	STT6640	6640	Computational Statistics	Statistics	3	Random number generation and Monte Carlo methods. The bootstrap and permutation tests. Numerical methods for optimization related to maximum likelihood estimation. Nonparametric density estimation. Monte Carlo Markov Chain (MCMC) methods. Classification and regression trees. Software used for the course includes SPLUS or R.<b> Department Managed Prerequisite(s): Graduate level STT 6610 Minimum Grade of D+ /b>	GR	Lecture
Fall 2017	STT6660	6660	Statistical Methods I	Statistics	4	Simple linear regression and correlation analysis. Concepts of matrix algebra, the matrix approach for regression and multiple regression. The general linear model. An introduction to generalized linear models. Single factor analysis of variance and multiple comparisons. Nonparametric methods. Statistical software packages will be used.<b> Department Managed Prerequisite(s): Undergraduate level MTH 2530 Minimum Grade of D and (Undergraduate level STT 2640 Minimum Grade of D or Undergraduate level STT 3610 Minimum Grade of D+ ) /b>	GR	Lecture

Fall 2017	STT6670	6670	Statistical Methods II	Statistics	4	Randomization and replication. One and two-way analysis of variance, multiple comparisons, analysis of covariance. Multi-factor experiments. Block designs. Mixed- and random-effects models, including repeated measures. Nested factors; split-plot designs; confounding and fractions for $2^k$ factorial experiments.<b> Department Managed Prerequisite(s): Graduate level STT 6660 Minimum Grade of D</b>	GR	Lecture
Fall 2017	STT6860	6860	Ind Read Stat and Prob	Statistics	1	Independent reading in statistics and probability.	GR	Independent Study
Fall 2017	STT6960	6960	Topics in Stat and Prob	Statistics	1	Topics in statistics and probability.	GR	Independent Study
Fall 2017	STT7020	7020	Stochastic Processes	Statistics	3	Stationary processes, Markov chains, Poisson processes, pure birth process, queuing processes, inventory problems, traffic flow problems, introduction to financial processes.<b> Department Managed Prerequisite(s): Graduate level STT 6610 Minimum Grade of D</b>	GR	Lecture
Fall 2017	STT7140	7140	Environmental Statistics	Statistics	3	Statistical techniques for the modeling and analysis of environmental data including advanced regression techniques, generalized linear models, and random effects. Also modeling of spatial and time-series environmental data, including spatio-temporal analysis, using appropriate software. Applications and case studies.<b> Department Managed Prerequisite(s): Graduate level STT 6670 Minimum Grade of D</b>	GR	Lecture
Fall 2017	STT7300	7300	Adv Topics Biostatistics	Statistics	3	Statistical theory and analysis of data relating to advanced topic in biostatistical applications.<b> Department Managed Prerequisite(s): Graduate level STT 6620 Minimum Grade of D and Graduate level STT 6670 Minimum Grade of D</b>	GR	Lecture
Fall 2017	STT7400	7400	Categoric Data Analysis	Statistics	3	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. Multi-graph representations. Repeated categorical response data and generalized linear mixed effects models.<b> Department Managed Prerequisite(s): (Graduate level STT 6620 Minimum Grade of D and Graduate level STT 6670 Minimum Grade of D)</b>	GR	Lecture

Fall 2017	STT7440	7440	Multivariate Analysis	Statistics	3	Matrix theory, multivariate distributions, likelihood ratio tests, MANOVA, principal component and factor analysis, canonical correlation analysis, finite mixture models and the EM algorithm, and classification techniques.<b> Department Managed Prerequisite(s): (Undergraduate level MTH 2320 Minimum Grade of D and Graduate level STT 6670 Minimum Grade of D)</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT7620	7620	Adv Topics Linear Models	Statistics	3	The generalized linear model. Logistic and Poisson regression, multinomial responses, log-linear models and contingency tables. Maximum likelihood estimation. Model selection, diagnostics. Generalized linear mixed effects models and repeated measurements. Computer software is used to analyze the data sets.<b> Department Managed Prerequisite(s): (Graduate level STT 6620 Minimum Grade of D and Graduate level STT 6660 Minimum Grade of D)</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT7670	7670	Appl Regression Analysis	Statistics	3	Multiple linear regression with introduction to more complicated models, including nonlinear models and weighted least squares. Up-to-date computing techniques including nonparametric regression techniques.<b> Department Managed Prerequisite(s): Graduate level STT 6660 Minimum Grade of D</b></td><td>GR</td><td>Lecture</td>
Fall 2017	STT7860	7860	Ind Read Stat and Prob	Statistics	1	Independent reading in statistics and probability.</td><td>GR</td><td>Independent Study</td>
Fall 2017	STT7910	7910	Statistical Consulting	Statistics	2	Consultation with graduate students and faculty on statistical problems arising from research projects.<b> Department Managed Prerequisite(s): (Graduate level STT 6620 Minimum Grade of D and Graduate level STT 6670 Minimum Grade of D)</b></td><td>GR</td><td>Practicum</td>
Fall 2017	STT7920	7920	Biostat Consulting	Statistics	2	Consultation with clients on biostatistical problems, under the direct supervision of a professional statistical consultant.<b> Department Managed Prerequisite(s): Graduate level STT 6620 Minimum Grade of D and Graduate level STT 6670 Minimum Grade of D</b></td><td>GR</td><td>Practicum</td>
Fall 2017	STT7960	7960	Topics in Stat and Prob	Statistics	1	Topics in statistics and probability.</td><td>GR</td><td>Independent Study</td>
Fall 2017	STT8990	8990	Graduate Research	Statistics	1	Supervised thesis research.</td><td>GR</td><td>Independent Study</td>

Fall 2017	SW2700	2700	Intro to Social Work	Social Work	3	Includes an introduction to: the historical development of social work as a profession, the major fields of practice, social systems theory, the ecological perspective on social problems, and the tenets and value base of the profession. The course includes an introduction to foundation knowledge, the skills and values needed for the profession, the development of critical thinking, self awareness, problem solving skills and an appreciation of diversity.	UG	Lecture
Fall 2017	SW2710	2710	Intro to Social Welfare	Social Work	3	Study of federal and state social welfare in the United States, with an emphasis on policies that reduce poverty, oppression, and discrimination. Study the values and ethics that form the foundation of social services. 48 hour agency observation required	UG	Lecture
Fall 2017	SW2720	2720	Multicultural Competence	Social Work	3	This course provides an introduction to the methods of inquiry in the social sciences used to develop the knowledge and skills required to work and relate in a multicultural world. Content covers the historical development of discrimination in the U.S. and the need for multicultural competency to be an engaged and informed citizen in a democratic society. Integrated Writing course	UG	Lecture
Fall 2017	SW2910	2910	Data Analysis	Social Work	3	Quantitative and qualitative analysis of social science research. Includes theory and application of descriptive and inferential quantitative statistics, using Statistical Package for Social Sciences. Includes theory and application of qualitative data analysis.<b> Department Managed Prerequisite(s): Undergraduate level MTH 1450 Minimum Grade of D or Undergraduate level MTH 2240 Minimum Grade of D or Undergraduate level MTH 2280 Minimum Grade of D or Undergraduate level MTH 2300 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SW3000	3000	Research Methods in LA	Social Work	3	Introduces social science and humanities majors to research design, and the kinds of data produced, in describing, explaining, and understanding social problems.	UG	Lecture
Fall 2017	SW3700	3700	Hum Behav Soc Env	Social Work	3	Analysis of human behaviors in order to guide assessment, intervention, and evaluation of micro, mezzo, and macro social work practice.	UG	Lecture
Fall 2017	SW3750	3750	Hum Behav Soc Env -Macro	Social Work	3	Analysis of groups, systems, and community organizations in order to guide assessment, intervention, and evaluation of social work practice. Includes theories such as systems theory, social justice, oppression, and basic human rights.<b> Department Managed Prerequisite(s): Undergraduate level SW 3700 Minimum Grade of D</b>	UG	Lecture

Fall 2017	SW3800	3800	Social Work Practice I	Social Work	3	Focus on ethics and an introduction to practice skills. Field observation required to apply skills related to ethics, rapport building, interviewing techniques, and bio-psycho-social assessment. Integrated Writing course. <b> Department Managed Prerequisite(s): Undergraduate level SW 3750 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SW3890	3890	Selected Topics in SW	Social Work	1	Selected topics related to current issues in social work practice; readings, research, and discussion. Topics vary.	UG	Lecture
Fall 2017	SW3990	3990	Independent Study SW	Social Work	1	Independent research on social work topic. Requires 3.0 GPA and completed independent study form.	UG	Independent Study
Fall 2017	SW4620	4620	Social Gerontology I	Social Work	3	Study of the social aspects of aging, the needs of the aging population, and society's response to those needs. A life course perspective that incorporates cultural, economic, historical, and structural contexts provides the framework for examining aging-related issues, particularly in regards to the impact on quality of life for older adults.	UG	Lecture
Fall 2017	SW4700	4700	Soc and Econ Justice	Social Work	3	Examination of how social welfare policy affects service delivery and active engagement in policy practice to promote social and economic justice. Integrated Writing course.	UG	Lecture
Fall 2017	SW4730	4730	Child Welfare I	Social Work	3	Framework for categorizing child welfare problems. Historical and current examination of legislation, policies, programs, and services to address child welfare needs including the role of the child welfare worker.	UG	Lecture
Fall 2017	SW4735	4735	Child Welfare II	Social Work	3	Addresses the developmental and permanence needs of children in the child welfare system.	UG	Lecture
Fall 2017	SW4740	4740	Child Welfare II	Social Work	3	Addresses the developmental and permanence needs of children in the child welfare system.	UG	Lecture
Fall 2017	SW4800	4800	Gerontology Practicum	Social Work	3	Supervised learning under direction of the Gerontology Certificate Director and staff from a social service agency serving older adults. <b> Department Managed Prerequisite(s): Undergraduate level SW 4620 Minimum Grade of D or Undergraduate level SOC 4820 Minimum Grade of D</b>	UG	Practicum
Fall 2017	SW4810	4810	Social Work Practice II	Social Work	3	Develops a framework for understanding micro-inclusive practice interventions with individuals and families. Integrated Writing course. <b> Department Managed Prerequisite(s): Undergraduate level SW 3700 Minimum Grade of D and Undergraduate level SW 3750 Minimum Grade of D and Undergraduate level SW 3800 Minimum Grade of D and Undergraduate level SW 4800 Minimum Grade of D</b>	UG	Lecture

Fall 2017	SW4820	4820	Social Work Practice III	Social Work	3	Develops a framework for understanding mezzo-to-macro inclusive practice interventions in groups within organizations throughout communities of varying types.<b> Department Managed Prerequisite(s): Undergraduate level SW 3700 Minimum Grade of D and Undergraduate level SW 3750 Minimum Grade of D and Undergraduate level SW 3755 Minimum Grade of D and Undergraduate level SW 4900 Minimum Grade of D</b>	UG	Lecture
Fall 2017	SW4850	4850	Gero Cert Project	Social Work	3	Applied research in an agency setting that serves older adults under the guidance of the gerontology certificate director.<b> Department Managed Prerequisite(s): Undergraduate level SW 4620 Minimum Grade of D or Undergraduate level SOC 4820 Minimum Grade of D</b>	UG	Seminar
Fall 2017	SW4860	4860	SW Field Practicum I	Social Work	3	First of two field practicum courses where students apply generalist social work practice knowledge to practice in agency settings. Individual learning experiences under the supervision of an agency field instructor, with guidance from the faculty-field liaison.<b> Department Managed Prerequisite(s): Undergraduate level SW 3700 Minimum Grade of D and Undergraduate level SW 3750 Minimum Grade of D and Undergraduate level SW 3800 Minimum Grade of D and Undergraduate level SW 4900 Minimum Grade of D</b>	UG	Practicum
Fall 2017	SW4870	4870	SW Field Seminar I	Social Work	3	Faculty-field liaison utilizes individual and group feedback to assist students in applying generalist social work practice knowledge while planning, implementing, and processing activities at their practicum sites. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level SW 3700 Minimum Grade of D and Undergraduate level SW 3750 Minimum Grade of D and Undergraduate level SW 3800 Minimum Grade of D and Undergraduate level SW 4900 Minimum Grade of D</b>	UG	Seminar
Fall 2017	SW4880	4880	SW Field Practicum II	Social Work	3	Individual learning experiences under the supervision of an agency field instructor, with guidance from the faculty-field liaison.<b> Department Managed Prerequisite(s): Undergraduate level SW 4860 Minimum Grade of D and Undergraduate level SW 4870 Minimum Grade of D</b>	UG	Practicum
Fall 2017	SW4890	4890	SW Field Seminar II	Social Work	3	Faculty-field liaison utilizes individual and group feedback to assist students in applying generalist social work practice knowledge while planning, implementing, and processing activities at their practicum sites.<b> Department Managed Prerequisite(s): Undergraduate level SW 4860 Minimum Grade of D and Undergraduate level SW 4870 Minimum Grade of D</b>	UG	Seminar

Fall 2017	SW4900	4900	Social Work Research	Social Work	3	Basic skills of quantitative and qualitative social research methodology and techniques of gathering, analyzing and interpreting data. Evaluation of research reports for relevance to practice with at-risk populations.	UG	Lecture
Fall 2017	SW6110	6110	Social Welfare Policy I	Social Work	0	Provides overview of social welfare and social work as a profession in context of social work values and ethics. Includes critical analysis of historical and current interactions of social welfare policies, programs, and services with diverse recipient populations.	GR	Lecture
Fall 2017	SW6130	6130	Social Work Ethics	Social Work	0	Addresses ethical dimensions of social work in policy and law and frameworks for decision-making. Teaches skills for professional self-care to decrease incidents of vicarious trauma.	GR	Lecture
Fall 2017	SW6150	6150	Cultural Comp in SW	Social Work	0	Provides conceptual framework for effective social work practice with persons from diverse backgrounds. Addresses interlocking, complex configuration of personal and cultural identity, while facilitating understanding and respect for diverse populations. Gives students culturally appropriate interventions for use with affected groups.	GR	Lecture
Fall 2017	SW6160	6160	Grad SW Research I	Social Work	0	First of three research courses required in MASW program. Basic skills of quantitative and qualitative social research methodology and techniques of gathering, analyzing and interpreting data. Evaluation of research reports for relevance to practice with at-risk populations. Development of initial research or evaluation design for social work practice.	GR	Lecture
Fall 2017	SW6170	6170	HBSE I	Social Work	0	Employs social systems approach as the primary foundation for understanding individuals, families, and groups. Utilizes theories about human behavior to develop foundation to learn effective social work practice.	GR	Lecture
Fall 2017	SW6210	6210	SW Practice I	Social Work	3	Development of an understanding of the knowledge base and values of social work practice; acquisition of basic skills through the use of role-playing and simulated interviewing process. Attention given to micro levels systems, emphasizing the interactions of micro systems with mezzo and macro level systems.	GR	Lecture
Fall 2017	SW6220	6220	SW Practice II	Social Work	0	Approaches social work macro practice from an advanced generalist perspective as a way to engage organizations and communities in the larger society. Includes application, purposes and objectives of social work practice with organizations and communities with diverse populations and at-risk groups. Teaches skills to advance social and economic justice with clients in communities and organizations. <b>Department Managed Prerequisite(s): Graduate level SW 6210 Minimum Grade of D- </b>	GR	Lecture

Fall 2017	SW6410	6410	Con Foc Area F&C:Pract	Social Work	3	Focus area course related to families and children. Provides the knowledge, skills, and values needed for advanced generalist social workers to engage, assess, intervene, and evaluate direct practice with children and families. Includes DSM and other diagnostic tools that apply to children and families. Discussion of clinical interventions with children and families.	GR	Lecture
Fall 2017	SW6420	6420	Con Foc F & C: Pol	Social Work	0	Provides knowledge, skills, and values needed for advanced generalist social workers to engage, assess, intervene, and evaluate policy practice with children and families. Includes policies and programs that specifically target positive outcomes for children and families.	GR	Lecture
Fall 2017	SW6450	6450	Con Foc Older Ad Pract	Social Work	0	Provides students with understanding of advanced generalist practice with older adults. Utilizes life course perspective incorporating cultural, economic, historical and structural contexts to examine aging-related issues, particularly the impact on quality of life of older adults.	GR	Lecture
Fall 2017	SW6460	6460	Con Foc Older Adults Pol	Social Work	3	Provides knowledge, skills, and values needed for advanced generalist social workers to engage, assess, intervene, and evaluate policy practice with older adults. Includes policies and programs that specifically target positive outcomes for older adults.	GR	Lecture
Fall 2017	SW6610	6610	SW Field Ed I	Social Work	1	Completion of 300 hours of field education. Provides opportunity for students to engage in selected and organized activities with clients that apply the social work skills, knowledge, and values learned in the classroom. Meeting with a range of clients, encountering diversity, and growing self-awareness and abilities to help clients of various backgrounds.	GR	Internship
Fall 2017	SW6620	6620	Social Gerontology I	Social Work	3	Study of the social aspects of aging, the needs of the aging population, and society's response to those needs. A life course perspective that incorporates cultural, economic, historical and structural contexts provides the framework for examining aging-related issues, particularly in regards to the impact on quality of life for older adults.	GR	Lecture
Fall 2017	SW6640	6640	SW Field Ed Seminar I	Social Work	1	Designed to integrate Field Education I experience and coursework. Offered concurrently with foundation fieldwork.	GR	Seminar
Fall 2017	SW6730	6730	Child Welfare I	Social Work	3	Framework for categorizing child welfare problems. Historical and current examination of legislation, policies, programs, and services to address child welfare needs, including the role of the child welfare worker.	GR	Lecture
Fall 2017	SW6735	6735	Child Welfare II	Social Work	3	Addresses the developmental and permanence needs of children in the child welfare system.	GR	Lecture



Fall 2017	SW6740	6740	Child Welfare II	Social Work	3	Addresses the developmental and permanence needs of children in the child welfare system.	GR	Lecture
Fall 2017	SW6800	6800	Gerontology Practicum	Social Work	3	Supervised learning under direction of the Gerontology Certificate Director and staff from a social service agency serving older adults.<b> Department Managed Prerequisite(s): Graduate level SW 6620 Minimum Grade of D or Graduate level SOC 6820 Minimum Grade of D</b>	GR	Practicum
Fall 2017	SW6850	6850	Gero Cert Project	Social Work	3	Applied research in an agency setting that serves older adults under the guidance of the gerontology certificate director.<b> Department Managed Prerequisite(s): Graduate level SW 6620 Minimum Grade of D or Graduate level SOC 6820 Minimum Grade of D</b>	GR	Independent Study
Fall 2017	SW6880	6880	Gero Cert Project	Social Work	3	Applied research in an agency setting that serves older adults under the guidance of the gerontology certificate director.	GR	Independent Study
Fall 2017	SW6890	6890	Selected Topics in SW	Social Work	0	Selected topics related to current issues in social work practice; readings, research, and discussion. Topics vary.	GR	Lecture
Fall 2017	SW6950	6950	SW Foundation Topics	Social Work	0	Topics include content in human behavior in the social environment, social welfare policies and programs, social work practice. and social work research.	GR	Lecture
Fall 2017	SW6990	6990	Independent Study SW	Social Work	1	Independent research on social work topic.	GR	Independent Study
Fall 2017	SW7160	7160	Grad SW Research II	Social Work	0	Data analysis component of social science research and program evaluation. Covers procedures for rigorous, valid, reliable, and credible collection and analysis of quantitative and qualitative data to arrive at decisions that improve interventions and contribute to knowledge. Continued development of research design for student's culminating research project.<b> Department Managed Prerequisite(s): Graduate level SW 6160 Minimum Grade of D</b>	GR	Lecture
Fall 2017	SW7170	7170	SW Capstone	Social Work	0	Implementation of a culminating research project following a rigorous qualitative and/or quantitative design to collect and analyze data to inform agency practice and/or policy decisions. Successful completion of culminating research project required for graduation.<b> Department Managed Prerequisite(s): Graduate level SW 6160 Minimum Grade of D</b>	GR	Lecture

Fall 2017	SW7230	7230	SW Assessment & DSM	Social Work	0	Teaches advanced generalist social work direct practice skills with individuals, families, and small groups. Skills applied during following stages of social work intervention: Engagement, Assessment, Intervention, and Evaluation. Content includes accurate application of DSM and other clinical assessment tools, and application of social work clinical treatment models.<b> Department Managed Prerequisite(s): Graduate level SW 6210 Minimum Grade of D and Graduate level SW 6220 Minimum Grade of D</b>	GR	Lecture
Fall 2017	SW7240	7240	Agency Administration	Social Work	0	Teaches advanced generalist social work direct practice skills with communities and organizations. Skills applied during stages of social work intervention: Engagement, Assessment, Intervention, and Evaluation. Content includes community organization, locality development, advocacy, legislative policy change, and grant writing to support funding of social service organizations.<b> Department Managed Prerequisite(s): Graduate level SW 7230 Minimum Grade of D</b>	GR	Lecture
Fall 2017	SW7610	7610	AS Prof Dev Seminar	Social Work	1	A forum for students to integrate field experience and social work knowledge and to maintain contact with the assigned Faculty Field Liaison. Offered concurrently with fieldwork. Advisor and field director approval required	GR	Lecture
Fall 2017	SW7620	7620	SW Field Ed II	Social Work	1	Completion of 300 hours of field education experience in the community. Provides the opportunity for students to engage in selected and organized activities, with or on behalf of clients, that apply the social work skills, knowledge, and values learned in the classroom	GR	Internship
Fall 2017	SW7630	7630	SW Field Ed III	Social Work	1	Completion of 300 hours of field education experience in the community. Provides the opportunity for students to engage in selected and organized activities, with or on behalf of clients, that apply the social work skills, knowledge, and values learned in the classroom	GR	Internship
Fall 2017	SW7650	7650	SW Field Ed Seminar II	Social Work	0	Integrates Field Education II experiences and coursework. Offered concurrently with advanced generalist fieldwork and competencies.	GR	Seminar
Fall 2017	SW7660	7660	SW Field Ed Seminar III	Social Work	1	Integrates the Field Education III experiences and coursework. Offered concurrently with advanced generalist fieldwork and competencies.	GR	Seminar
Fall 2017	TAD2000	2000	Business Law	Technical Admin	3	The study of law as it relates to business organizations and transactions. Nature and classification of law, courts, torts, contracts, corporations, and negotiable instruments.	UG	Lecture

Fall 2017	TEG2910	2910	Main Fund/indust Mech	Technical Engineering	8	Standard maintenance tasks including the application of standards of metrology and basic material structures and concepts of mechanical advantage and how it applies to industrial machinery.	UG	Lecture/Lab Combination
Fall 2017	TEG2920	2920	Indus Elect Fluid Power	Technical Engineering	7	Identification and construction of basic electrical, motor and motor control and fluid power circuits. Includes diagnostics and the repair of simple circuits and controls.<b> Department Managed Prerequisite(s): Undergraduate level TEG 2910 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	TEG2930	2930	Basic Mach & Welding	Technical Engineering	6	Identification and operation of proper welding and machining operations.	UG	Lecture/Lab Combination
Fall 2017	TEG2940	2940	Indust Controls/PLCS	Technical Engineering	4	Construction and modification of complete relay logic and Programmable Logic Control Systems.<b> Department Managed Prerequisite(s): Undergraduate level TEG 2920 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	TEG2950	2950	Automation Systems	Technical Engineering	5	Self-paced learning module applying theory to application in a working automated system. Learners will construct or modify an existing system and deal with new applications and tasks added to the system operation.<b> Department Managed Prerequisite(s): Undergraduate level TEG 2974 Minimum Grade of D</b>	UG	Lecture/Lab Combination
Fall 2017	TEN0850	0850	Basic Writing	Technical English	3	Grammar, sentence structure, paragraph development, essay writing, and proofreading. Cannot be applied toward graduation. Graded pass/unsatisfactory.	UG	Lecture
Fall 2017	TFI2050	2050	Business Finance	Technical Finance	3	Basic concepts, principles, and analytical techniques of financial management. Emphasis on planning and managing assets, and financial structure decisions. Topics include asset management, capital budgeting, cost of capital, financial leverage, and the demands for funds in the business sector of the economy.	UG	Lecture
Fall 2017	TH1000	1000	Musical Theatre Voice	Theatre	1	Weekly musical theatre singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH1020	1020	Intro Technical Theatre	Theatre	3	Theory and practice of theatre technology including study of theatre organization, scenery construction, lighting and sound technology, and backstage operating systems.	UG	Lecture
Fall 2017	TH1050	1050	Ballet Mus Theatre II	Theatre	2	Group classes continuing to introduce musical theatre majors to fundamentals of ballet technique.	UG	Studio
Fall 2017	TH1060	1060	Music Theory for Actors	Theatre	2	Introduces basics of rhythm, melody, sight-singing, and musical theatre piano in a group class.	UG	Lecture/Lab Combination
Fall 2017	TH1070	1070	Music Theory Actors II	Theatre	2	Develops student understanding of rhythm, melody, sight-singing, and musical theatre piano in a group class.	UG	Lecture/Lab Combination
Fall 2017	TH1150	1150	Singing for the Actor I	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio

Fall 2017	TH1160	1160	Singing for the Actor II	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH1200	1200	Make-up for the Theatre	Theatre	1	Theory and practice of stage make-up.	UG	Lecture/Lab Combination
Fall 2017	TH1240	1240	Theatre Graphics I: Fund	Theatre	3	Drawing for the theatrical designer with emphasis on fundamentals.	UG	Studio
Fall 2017	TH1440	1440	Acting I	Theatre	3	Introduction to fundamental aspects of acting, including imagination, personalization, pursuit of the objective, use of tactical choices and beginning use of text with introduction to script analysis.	UG	Lecture/Lab Combination
Fall 2017	TH1450	1450	Acting I	Theatre	3	Exploration of acting through the lens of characters in more demanding scenes from established scripts, using script analysis as the foundation for acting choices.	UG	Lecture/Lab Combination
Fall 2017	TH1470	1470	Acting Aesthetics	Theatre	2	Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work.	UG	Lecture/Lab Combination
Fall 2017	TH1480	1480	Acting Aesthetics	Theatre	2	Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work.	UG	Lecture/Lab Combination
Fall 2017	TH1510	1510	Intro to Perf Process	Theatre	3	Introduction to the working methods of the actor and director. Includes exploration of process through acting and directing exercises as well as discussion of the director's collaboration with the production's design team.	UG	Lecture
Fall 2017	TH1570	1570	Singing Mus Theatre I	Theatre	2	Private singing lessons for Musical Theatre.	UG	Studio
Fall 2017	TH1580	1580	Singing Mus Theatre II	Theatre	2	Private singing lessons for musical theatre.	UG	Studio
Fall 2017	TH2000	2000	Acting/Tech Practicum	Theatre	1	Designed to give actors and technician/designers an opportunity to receive academic credit for significant involvement in departmental or approved, supervised professional productions. Project will carry specific requirements and obligations to be agreed upon in writing by faculty supervisors and the student.	UG	Practicum
Fall 2017	TH2020	2020	Sound Design	Theatre	3	Introduction to the craft and art of sound design. Emphasis on physics of sound, signal flow, basic equipment usage and maintenance. Includes theory and practices for both reinforced sound and sound scores for the theatre.	UG	Lecture/Lab Combination
Fall 2017	TH2100	2100	Theatre Technology	Theatre	2	Participation in the operation of a production shop. Fundamentals of theatre technology, emphasizing basic processes and materials. Participation in selected department productions required.	UG	Lab
Fall 2017	TH2140	2140	Theatre Western Culture	Theatre	3	Introduction to the many arts of the theatre including the roles of the actor, playwright, director, designer, critic, and audience. Selected scripts from representative historical periods are examined as an aid in understanding the theatrical event.	UG	Lecture

Fall 2017	TH2150	2150	Singing Mus Theatre III	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH2160	2160	Singing for Actor IV	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH2190	2190	Stage Lighting I	Theatre	3	Introduction to the principles, theories and mechanics of theatrical lighting design Includes instruments, control, dimming, basic electricity and lighting paperwork.	UG	Lecture/Lab Combination
Fall 2017	TH2200	2200	Stagecraft	Theatre	3	In-depth study of scenery technology and its techniques. Advanced scenery construction and materials; metalworking; motorized scenery; stage rigging and its equipment; and First Aid and CPR.	UG	Lecture/Lab Combination
Fall 2017	TH2220	2220	Theatre Production	Theatre	1	Practical experience in technical theatre through serving on run crew for theatre department productions. For non-Design/Technology majors.	UG	Practicum
Fall 2017	TH2250	2250	Th Graph II Media Color	Theatre	3	Black and white media and basic color theories, materials, and techniques used in designing for the theatre.	UG	Studio
Fall 2017	TH2260	2260	Graphics II: Drafting	Theatre	3	Introduction to and practice with the basic tools, materials and techniques used in drafting scenic designs for the theatre.	UG	Lecture/Lab Combination
Fall 2017	TH2290	2290	Fabric Dye Modification	Theatre	3	Basic techniques of dyeing and modifying fabric. Includes aging and distressing of costumes.	UG	Studio
Fall 2017	TH2380	2380	Movement I	Theatre	2	Study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. A range of established disciplines will be incorporated in this study.	UG	Studio
Fall 2017	TH2390	2390	Movement I	Theatre	2	Continued study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. A range of established disciplines will be incorporated in this study.	UG	Studio
Fall 2017	TH2400	2400	Movement II	Theatre	2	Introduction of techniques such as modified Laban Movement Analysis and the study of Kinesics (body language). Emphasis on expanding tactical and casting range of actors.	UG	Studio
Fall 2017	TH2410	2410	Movement II	Theatre	2	Training in group and solo movement/vocal techniques, intended to expand the flexibility and strength of the actor's instrument, awareness, responsiveness, and instinctual choices.	UG	Studio
Fall 2017	TH2440	2440	Acting II	Theatre	3	Exploration of a role through intensive application of acting, movement, voice and speech and text analysis skills. Emphasis on deep personalization of character objectives and tactical range. Study of audition skills and techniques.	UG	Lecture/Lab Combination
Fall 2017	TH2450	2450	Acting II	Theatre	3	Continues training with monologues and scenes. Emphasis is on non-classical, contemporary scripts.	UG	Lecture/Lab Combination

Fall 2017	TH2500	2500	Script Analysis	Theatre	3	Introduces students to a variety of methods for examining theatrical texts.	UG	Lecture
Fall 2017	TH2540	2540	Speech I	Theatre	2	Techniques in voice and speech to strengthen and expand the student's instrument and skills.	UG	Lecture/Lab Combination
Fall 2017	TH2550	2550	Speech II	Theatre	2	Techniques in voice and speech to strengthen and expand the student's instrument and skills.	UG	Lecture/Lab Combination
Fall 2017	TH2570	2570	Singing Mus Theatre III	Theatre	2	Private singing lessons for musical theatre.	UG	Studio
Fall 2017	TH2580	2580	Singing Mus Theatre IV	Theatre	2	Private singing lessons for musical theatre.	UG	Studio
Fall 2017	TH3010	3010	Intro Theatrical Design	Theatre	3	Explores the collaborative process between director and designers, which results in a specific visual approach to a production. Emphasizes designer progression from script analysis and research to realization of the design.	UG	Lecture
Fall 2017	TH3150	3150	Singing for the Actor V	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH3160	3160	Singing for Actor VI	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH3190	3190	Stage Lighting II	Theatre	3	Theory and practice of lighting the stage for various styles of productions. Emphasis on concept development, collaboration and script interpretation. Includes projects in stage electrics.	UG	Lecture/Lab Combination
Fall 2017	TH3200	3200	Applied Theatre Tech I	Theatre	3	Practical study in technical execution. Emphasis on daily operation of theatre production facilities and shops. Participation in all major department productions required.	UG	Lab
Fall 2017	TH3210	3210	Scene Painting I	Theatre	3	Introduction to the materials and techniques used in traditional scene painting, from basic skills (including wet-blending, spattering, scumbling) to the manipulation of light, shadow and texture to create three-dimensional effects.	UG	Lecture/Lab Combination
Fall 2017	TH3220	3220	Scene Painting II	Theatre	3	Further development of skills taught in Scene Painting I, with addition of translucencies, portraiture, landscape, poster graphics, and carving architectural detail in foam.	UG	Lecture/Lab Combination
Fall 2017	TH3250	3250	Set Design	Theatre	3	Scenic design and the dynamics of stage space use. Includes project design work emphasizing period research, communicating ideas visually with the director and production team, and designing for different types of spaces.	UG	Lecture/Lab Combination
Fall 2017	TH3260	3260	Costume Design	Theatre	3	Costume design for the theatre. Includes project design work with an emphasis on professional technique and period design.	UG	Studio
Fall 2017	TH3280	3280	Decorative Style: Ages	Theatre	3	Development of dominant characteristics of the history of architecture, furniture, and ornamental design and how they relate to abstract elements of taste, design, composition, and color.	UG	Lecture

Fall 2017	TH3290	3290	Costume History	Theatre	3	History of costume and fashion from prehistoric to modern times and fashion and how it relates to theatre.	UG	Lecture
Fall 2017	TH3320	3320	Automated Lighting	Theatre	3	Introduction to automated lighting emphasizing skills needed to operate moving lights and effectively program consoles. Aesthetic and practical considerations regarding the use of moving lights in theatrical productions.	UG	Lecture/Lab Combination
Fall 2017	TH3330	3330	Computer Graphics TH I	Theatre	3	Introduction to computer-aided drafting programs. Basic skills developed through several projects including orthographic projections, designer's elevations, groundplans and light plots.	UG	Lecture/Lab Combination
Fall 2017	TH3340	3340	Costume Construction	Theatre	3	Advanced stitching techniques necessary for costume construction.	UG	Studio
Fall 2017	TH3350	3350	Costume Crafts	Theatre	3	Creative, innovative, and often inexpensive alternatives for the creation of jewelry applique, embellishments, armor, crowns, and basic millinery techniques for theatrical production.	UG	Studio
Fall 2017	TH3360	3360	Pattern Draft & Draping	Theatre	3	Basic principles of pattern drafting, flat patterning, and draping of the female bodice.	UG	Studio
Fall 2017	TH3370	3370	Acting Musical Theatre I	Theatre	3	Musical theatre acting skills using contemporary texts to integrate fundamental acting and singing techniques.	UG	Studio
Fall 2017	TH3380	3380	Acting Musical Theatre II	Theatre	3	Musical theatre acting skills using texts from the nineteenth and early to mid-twentieth centuries. Emphasis on mastering a range of performance styles.	UG	Studio
Fall 2017	TH3390	3390	Musical Theatre Workshop	Theatre	3	Exploration of the creation of large-scale musical works using acting, movement and vocal techniques with emphasis on ensemble singing, movement and acting leading to enhanced ensemble performance skills.	UG	Studio
Fall 2017	TH3400	3400	Movement III	Theatre	2	Further training in group and solo movement/vocal techniques, intended to expand flexibility and strength of the actor's instrument, awareness, responsiveness, and instinctual choices.	UG	Studio
Fall 2017	TH3440	3440	Acting III	Theatre	3	Training in approaches to such playwrights as the Greeks, Shakespeare, Moliere, Restoration and 18th century playwrights, etc. Builds on fundamentals learned in the first two years of the Professional Actor Training Program.	UG	Lecture/Lab Combination
Fall 2017	TH3450	3450	Acting III	Theatre	3	Training in approaches to a range of texts by playwrights from the early and late Modern period such as Ibsen, Chekhov, Shaw, Williams, Miller, O'Neill and others. Emphasis on understanding the acting conventions associated with these styles.	UG	Lecture/Lab Combination
Fall 2017	TH3470	3470	One Person Shows	Theatre	2	Elements necessary in the development of a one person show resulting in a solo performance.	UG	Lecture/Lab Combination

Fall 2017	TH3500	3500	Directing	Theatre	3	Problems of script selection and interpretation, casting, rehearsing, and performance. Techniques of composition and movement; the proscenium stage and open stage. Preparation of the prompt book.	UG	Lecture/Lab Combination
Fall 2017	TH3510	3510	Stage Management	Theatre	3	Skills and processes required of the working stage manager. Explores practical solutions to problems of stage management.	UG	Lecture/Lab Combination
Fall 2017	TH3520	3520	Stage Management II	Theatre	3	Skills and processes required of the working stage manager. Explores practical solutions to problems of stage management in opera, dance, and unions.	UG	Lecture/Lab Combination
Fall 2017	TH3540	3540	Speech II	Theatre	2	Techniques in voice and speech to strengthen and expand the student's instrument and skills. Applications made to specified acting texts.	UG	Lecture/Lab Combination
Fall 2017	TH3560	3560	Speech III	Theatre	2	Techniques in voice and speech to strengthen and expand the student's instrument and skills. Applications made to classical acting texts.	UG	Lecture/Lab Combination
Fall 2017	TH3570	3570	Singing Mus Theatre V	Theatre	2	Private singing lessons for musical theatre.	UG	Studio
Fall 2017	TH3580	3580	Singing Mus Theatre VI	Theatre	2	Private singing lessons for musical theatre.	UG	Studio
Fall 2017	TH3720	3720	MT History/Lit I	Theatre	3	Covers history of Musical Theatre from its roots in early lyric theatre and popular variety entertainments to the birth of the modern Book Musical. Reading, viewing and discussion of significant examples from major periods while studying historical, artistic and social contexts for these works. Integrated Writing course	UG	Lecture
Fall 2017	TH3730	3730	MT History/Lit II	Theatre	3	Covers history of the Musical Theatre beginning with the Golden Age of the Musical in the mid-Twentieth century through the birth of the Rock Musical to the present state of the art form. Reading, viewing and discussing significant examples from major periods while studying historical, artistic and social contexts for these works. Integrated Writing course	UG	Lecture
Fall 2017	TH3760	3760	Design Studio	Theatre	2	Study of theatrical costume, scenery, lighting and/or sound design. Includes theoretical and practical design work with an emphasis in the area of interest.	UG	Studio
Fall 2017	TH3800	3800	History and Lit I	Theatre	3	Explores a variety of theatrical texts and pertinent history from early historical eras. Integrated Writing course.	UG	Lecture
Fall 2017	TH3810	3810	Theatre Hist./Lit. II	Theatre	3	Exploration of a variety of later theatrical texts and pertinent history. Integrated Writing course.	UG	Lecture
Fall 2017	TH3840	3840	Intro to Dramatic Wrtg	Theatre	3	Theory and practice of techniques of dramatic writing emphasizing writing of original plays.	UG	Lecture
Fall 2017	TH3900	3900	Projects in Theatre	Theatre	1	Advanced individual work.	UG	Practicum



Fall 2017	TH3990	3990	Selected Subjects	Theatre	1	Variable content dealing with problems, approaches, and topics in the field of theatre.	UG	Lecture/Lab Combination
Fall 2017	TH4100	4100	Stage Manage Practicum	Theatre	1	Participation in departmental theatre stage management activities. Specific assignments determined at initial meeting.	UG	Practicum
Fall 2017	TH4130	4130	Acting Professionally	Theatre	3	Students assemble audition pieces, interview skills, financial plans, resumes, headshots, web-sites, and information about various markets, unions, and employment opportunities, in preparation for a professional career in acting.	UG	Lecture/Lab Combination
Fall 2017	TH4150	4150	Singing for Actor VII	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH4160	4160	Singing for Actor VIII	Theatre	1	Private singing lessons for acting, theatre studies and dance majors only.	UG	Studio
Fall 2017	TH4200	4200	Applied Theatre Tech II	Theatre	2	Advanced study in technical execution. Emphasis on daily operation of theatre production facilities and shops. Participation in all major department productions required.	UG	Lab
Fall 2017	TH4240	4240	Adv Design Studio I	Theatre	3	Intensive study of theatrical costume, scenery, lighting, and/or sound design with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the student's area of design.	UG	Studio
Fall 2017	TH4250	4250	Adv Design Studio II	Theatre	3	Continued intensive study of theatrical costume, scenery, lighting, and/or sound design with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the student's area of design.	UG	Studio
Fall 2017	TH4290	4290	Advanced Theatre Crafts	Theatre	3	Theatre design and technology, such as furniture building, advanced lighting or sound design, make-up, prosthetics and special effects. Topics vary.	UG	Lecture/Lab Combination
Fall 2017	TH4330	4330	Comp Graphics Theatre II	Theatre	3	Tools and techniques available to produce paint elevations, projections, and theatrical designs using existing and created images.	UG	Studio
Fall 2017	TH4340	4340	Theatrical Rigging	Theatre	2	Design and use of rigging systems in theatrical settings. Proper selection and use of rigging hardware and equipment and fall protection.	UG	Lecture/Lab Combination
Fall 2017	TH4350	4350	Portfolio Preparation	Theatre	3	Prepares upper-division students for the professional world. Portfolio formats, both traditional and digital. Effective techniques for the presentation of portfolios and employment strategies.	UG	Studio
Fall 2017	TH4360	4360	Graphics II: Rendering	Theatre	3	Further development of skills used in creating theatrical renderings, costume plates and lighting sketches. Figure drawing, depiction of light and shadow, and traditional and non-traditional media and techniques.	UG	Lecture/Lab Combination

Fall 2017	TH4370	4370	Musical Actor Seminar	Theatre	3	Mastery of professional placement and career development skills in musical theatre and other acting professions. Includes preparation of varied audition selections and promotional materials.	UG	Seminar
Fall 2017	TH4400	4400	Movement IV	Theatre	2	Beginning training in underlying principles and specific techniques in stage combat. Emphasis on three weapons styles, which may include unarmed, single sword, rapier and dagger, broadsword, quarterstaff, smallsword, etc.	UG	Studio
Fall 2017	TH4410	4410	Movement IV	Theatre	2	Training in three weapons styles in preparation for the Skills Proficiency Test at the end of the semester. Adjudicator from Society of American Fight Directors evaluates rehearsed and choreographed fight scenes performed publicly by students.	UG	Lecture/Lab Combination
Fall 2017	TH4440	4440	Acting IV	Theatre	3	Application of the principles of realistic, contemporary, and verse based drama to musical theatre texts. Structured as a scene study class in which students develop songs as monologues and in scene work.	UG	Lecture/Lab Combination
Fall 2017	TH4450	4450	Acting IV	Theatre	3	Student actors are trained in approaches to a range of twentieth and twenty-first century texts, doing scenes and/or monologues from such playwrights as Albee, Shepard, Mamet, Ruhl, Rebeck, LaBute, etc. Emphasis on contemporary acting texts and styles.	UG	Lecture/Lab Combination
Fall 2017	TH4540	4540	Speech V	Theatre	2	Emphasis on learning dialects.	UG	Lecture/Lab Combination
Fall 2017	TH4570	4570	Singing Mus Theatre VII	Theatre	2	Private singing lessons for Musical theatre.	UG	Studio
Fall 2017	TH4580	4580	Singing Mus Theatre VIII	Theatre	2	Private singing lessons for musical theatre.	UG	Studio
Fall 2017	TMG2040	2040	Fund of Management	Technical Management	3	Management skills, global management skills, organizational behavior, communication and technology management skills.	UG	Lecture
Fall 2017	TMG2100	2100	Personnel Management	Technical Management	3	Characteristics, purposes, objectives, and techniques of supervision and coordination of the work of others. Employment interviewing, training procedures, supervision, and improvement of human relations.	UG	Lecture
Fall 2017	TMG2700	2700	Production Management	Technical Management	3	Introduction to the production system, including product parts manufacture, process routing, quality standards, work measurement, work methods, scheduling, and inventory control.	UG	Lecture
Fall 2017	TMG2800	2800	Small Business Mgt	Technical Management	3	Stresses business management functions important to small businesses, including single ownership, partnership, incorporation, capitalization and financing requirements, legal requirements, production, and marketing arrangements.	UG	Lecture

Fall 2017	TTW6450	6450	Intro Transition	Transition to Work	3	Overview of the impact of Career Technical Education and Special Education processes on the transition of students with exceptionalities from high school to adulthood, particularly in the area of employment.	GR	Lecture
Fall 2017	TTW6460	6460	Voc Eval/Job Placement	Transition to Work	3	Theoretical orientation, development and utilization of data for hypothesis testing and communicating vocational data. Includes career development theories and job placement strategies and techniques to facilitate employment of people with disabilities	GR	Lecture
Fall 2017	TTW6470	6470	TTW Int: Career Assess	Transition to Work	1	Students assigned to an experienced career assessment professional in the field for observing, discussing, researching, and practicing skills in the area of career assessment, particularly those related to transition of individuals with disabilities	GR	Internship
Fall 2017	TTW6480	6480	TTW Int: Voc Sped	Transition to Work	1	Students assigned to an experienced vocational special educator in the field for observing, discussing, researching, and practicing skills in the area of vocational special education, particularly those related to transition of individuals with disabilities	GR	Internship
Fall 2017	TTW6490	6490	TTW Int: Job Trning Cord	Transition to Work	1	Students assigned to an experienced job training coordinator in the field for observing, discussing, researching, and practicing skills in the area of job placement, particularly those related to collaborating with support agencies for transition	GR	Internship
Fall 2017	TTW6500	6500	TTW Int: Wrk Stdy	Transition to Work	1	Students assigned to an experienced Transition to Work Coordinator in the field for observing, discussing, researching, and practicing skills in coordinating direct and related transition services for students with various disabilities.	GR	Internship
Fall 2017	UH1010	1010	Honors First Year Sem	University Honors	1	Information and activities designed to enhance the success of new students in the University Honors Program. Introduces students to interdisciplinary studies, the hallmark of honors education.	UG	Seminar
Fall 2017	UH2010	2010	Studies in Humanities	University Honors	3	Explores the humanities comparatively, stressing similarities and differences in themes, methods, materials, theoretical constructs, and problems. Focuses on such topics as humanity and freedom or the city and the individual. Integrated Writing course	UG	Seminar
Fall 2017	UH2020	2020	Studies Social Sciences	University Honors	3	Explores the social sciences comparatively, stressing similarities and differences in themes, methods, materials, theoretical constructs, and problems. Focuses on such topics as people and groups or institutions and bureaucracies. Integrated Writing course	UG	Seminar
Fall 2017	UH4000	4000	Univ Honors Seminar	University Honors	3	Emphasis on broadly interdisciplinary topics or issues. Integrated Writing course.	UG	Seminar

Fall 2017	URS2000	2000	Grow/Change Urb Society	Urban Affairs	3	Interdisciplinary view of growth and change in urban societies around the globe. Case studies illustrate how urbanization, technology development and the administrative state intertwine and affect economic and population growth and change. Integrated Writing course.	UG	Lecture
Fall 2017	URS3000	3000	Foundation Urban Affairs	Urban Affairs	3	Interdisciplinary introduction to the field of urban affairs. Reviews ideas related to cities and the meaning of urban life. Integrated Writing course.	UG	Lecture
Fall 2017	URS3100	3100	The American City	Urban Affairs	3	Intensive study of aspects of American urban experiences with an emphasis on qualitative research including class, gender, race, and ethnicity.	UG	Lecture
Fall 2017	URS3200	3200	Comm/Reg Planning I	Urban Affairs	3	Development of city planning as a professional discipline that has significantly shaped urban spaces. Explores planning practices and theories related to spatial patterns and design, including location theory and democratic processes.	UG	Lecture
Fall 2017	URS3210	3210	City Politics	Urban Affairs	3	Overview of urban and metropolitan politics and problems. Examination of how cities and metropolitan areas are governed: the changing structure of local government, the powers afforded localities, opportunities for citizen participation, and possibilities for regional cooperation. Study of key urban service areas: schools, land use and zoning, policing, economic development, urban planning, etc.	UG	Lecture
Fall 2017	URS3250	3250	Urban Youth	Urban Affairs	3	Diverse experiences of urban youth and effect of urban experiences on students, teachers, schools, and communities. Methods for providing resource access for all.	UG	Lecture
Fall 2017	URS3300	3300	Ethics in Public Service	Urban Affairs	3	Study of what constitutes ethical behavior in public service, and the ethical role of public service professionals. Integrated Writing course.	UG	Lecture
Fall 2017	URS3450	3450	Public Administration	Urban Affairs	3	Nature and scope of public administration, administrative law, and public interest in the administrative process.	UG	Lecture
Fall 2017	URS3460	3460	Public Personnel Admin	Urban Affairs	3	Methods of employment, training, compensation, and employee relations in various levels of civil service. Examines organizations of public employees.	UG	Lecture
Fall 2017	URS3980	3980	Quantitative Research	Urban Affairs	3	Introduces students to research and data collection methods and investigates what makes research useful, valid, and ethical. Credit will not be given to students who have already completed URS 4980. Integrated Writing course.	UG	Lecture
Fall 2017	URS4200	4200	Public Mgt Strategies	Urban Affairs	3	Investigates urban management and various techniques to achieve public service goals, including efficiency, quality, and effectiveness. Study of program design, planning, fiscal management, resource allocation through budgeting, program development, and organizational development.	UG	Lecture

Fall 2017	URS4210	4210	Pubic Leadership Change	Urban Affairs	3	Examines leadership role of the public and nonprofit administrators in formulating programs, policies, and service delivery options. Explores topics such as managing internal and external environments, improving productivity and effectiveness, policy/program creation, and the dynamics of change	UG	Lecture
Fall 2017	URS4230	4230	Public Budgeting	Urban Affairs	3	Local fiscal institutions and 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	UG	Lecture
Fall 2017	URS4240	4240	Public Labor Relations	Urban Affairs	3	Examines collective bargaining, the negotiation process, impasse resolution, and contract and grievance administration in local government.	UG	Lecture
Fall 2017	URS4260	4260	Public Admin Global Soc	Urban Affairs	3	Places American public administration traditions and practices into comparative perspective. Examines the extent to which globalization has affected the practice of public administration around the world and global trends that have become apparent in administrative reform today	UG	Lecture
Fall 2017	URS4270	4270	Public Policy Analysis	Urban Affairs	3	Study of the policy development process and its relationship to past and current urban issues.	UG	Lecture
Fall 2017	URS4280	4280	Criminal Justice Org Mgt	Urban Affairs	3	Examines bureaucratic and scientific management theory, as well as human relations and system theory, to understand the structure, functions, culture and behavior of criminal justice organizations. Examines motivation, group behavior and communication and leadership with such organizations	UG	Lecture
Fall 2017	URS4290	4290	Issues Urban Management	Urban Affairs	3	Issues and topics related to community development agencies and local governments in metropolitan areas.	UG	Lecture
Fall 2017	URS4300	4300	Nonprofit Administration	Urban Affairs	3	Examines the organizational and managerial foundations of nonprofit organizations. Explores areas such as the nature and mission of nonprofit organizations, evaluating performance, resource development/fund raising, and managing volunteers	UG	Lecture
Fall 2017	URS4310	4310	Philanthropy/Grant making	Urban Affairs	3	Philanthropy, fundraising, grant writing and grant making. Includes series of experiential learning activities demonstrating how nonprofit organizations secure financial resources. Culminates with students awarding grants to local organizations	UG	Lecture
Fall 2017	URS4320	4320	Managing Volunteer Org	Urban Affairs	3	Management principles for volunteer organizations including program design, recruitment, retention, training, placement and assessment.	UG	Lecture
Fall 2017	URS4330	4330	Strategic Planning	Urban Affairs	3	Theory and practice of strategic thinking, planning, and management in public and nonprofit organizations.	UG	Lecture

Fall 2017	URS4340	4340	Fundraising/Grant writing	Urban Affairs	3	Examines the concepts and processes fundamental to fundraising and grant writing. Exploration of tools, techniques and skills needed to raise funds and write grant proposals.	UG	Lecture
Fall 2017	URS4390	4390	Issues-Nonprofit Admin	Urban Affairs	3	Issues and topics related to the administration of nonprofit organizations.	UG	Lecture
Fall 2017	URS4400	4400	Comm/Reg Planning II	Urban Affairs	3	Examination of the links between urban planning and urban administration, and investigation of planning as a profession and a process.	UG	Lecture
Fall 2017	URS4410	4410	Cities and Technology	Urban Affairs	3	Studies 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.	UG	Lecture
Fall 2017	URS4430	4430	Administrative Law	Urban Affairs	3	Constitutional foundations of administrative law and the legal context of federal, state and local administrative rule making and adjudication.	UG	Lecture
Fall 2017	URS4450	4450	Community Development	Urban Affairs	3	Evolution of community development theory and practice in the U.S and the process of community building and asset-based community development in a service learning format. Develops understanding of how to help community members define community needs and identify community assets and learn how to analyze and present qualitative data.	UG	Lecture
Fall 2017	URS4460	4460	Transportation Principle	Urban Affairs	3	Principles related to developing and managing public and human service transportation systems. Role of public and human service transportation in society, history and geography of public transportation, and spatial, funding, organizational, cost benefit, labor, and customer service issues.	UG	Lecture
Fall 2017	URS4470	4470	Pub/Hum Service Trans	Urban Affairs	3	Principles of developing and managing public and human service transportation systems including its role in society, the history and geography of public transportation, and funding, organizational, cost benefit, labor, and customer service issues.	UG	Lecture
Fall 2017	URS4480	4480	Public Works	Urban Affairs	3	Community infrastructure with an emphasis on capital improvements programming. Community development of street, water, and sewer systems, solid waste management, and code enforcement.	UG	Lecture
Fall 2017	URS4490	4490	Issues in Metro Develop	Urban Affairs	3	Explores issues that impact metropolitan development as well as the impact of development. Topics include pollution, international development, housing and transportation.	UG	Lecture
Fall 2017	URS4500	4500	Issues in Metro Planning	Urban Affairs	3	Issues related to planning metropolitan environments. Topics include housing, growth and regionalism.	UG	Lecture
Fall 2017	URS4900	4900	Special Topics	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.	UG	Lecture

Fall 2017	URS4940	4940	Youth & Comm Engagement	Urban Affairs	3	Examines the pedagogies that encourage youth in developing the capacity to participate responsibly and effectively in the civic life of their communities. Centered on a field-based learning experience.	UG	Seminar
Fall 2017	URS4950	4950	Urban Affairs Internship	Urban Affairs	3	Senior-level internship in the offices of a local public agency.	UG	Internship
Fall 2017	URS4960	4960	Transit Internship	Urban Affairs	3	Senior-level internship in the offices of a local public transit agency.	UG	Internship
Fall 2017	URS4970	4970	Nonprofit Internship	Urban Affairs	3	Senior-level internship in a local nonprofit agency.	UG	Internship
Fall 2017	URS4990	4990	Applied Research Project	Urban Affairs	3	Involves students in the process of researching and writing a senior seminar paper. Integrated Writing course.	UG	Seminar
Fall 2017	URS6200	6200	Public Mgt. Strategies	Urban Affairs	3	Investigates urban management and various techniques to achieve public service goals, including efficiency, quality, and effectiveness. Study of program design, planning, fiscal management, resource allocation through budgeting, program development and organizational development	GR	Lecture
Fall 2017	URS6210	6210	Pub. Leadership & Change	Urban Affairs	3	Examines the leadership role of the public and nonprofit administrators in formulating programs, policies, and service delivery options. Explores topics such as managing internal and external environments, improving productivity and effectiveness, policy/program creation, and the dynamics of change	GR	Lecture
Fall 2017	URS6230	6230	Ethics & Leadership	Urban Affairs	3	A systematic study of ethics and leadership in public service. Examines models of contemporary leadership and ethical reasoning, and the relevant roles, obligations, values, standards, codes of conduct, and strategies for resolving ethical dilemmas within the context of organizations, communities, and governance	GR	Lecture
Fall 2017	URS6240	6240	Pub. Sec. Lab. Relations	Urban Affairs	3	Examines collective bargaining, the negotiation process, impasse resolution, and contract and grievance administration in local government.	GR	Lecture
Fall 2017	URS6260	6260	PA in a Global Society	Urban Affairs	3	Places American public administration traditions and practices into comparative perspective. Explores the similarities and differences between administrative work in the U.S. and other countries around the world. Examines the extent to which globalization has affected the practice of public administration as well as global trends that have become apparent in administrative reform today	GR	Lecture
Fall 2017	URS6270	6270	Public Policy Analysis	Urban Affairs	3	Study of the policy development process and its relationship to past and current urban issues. Focuses on a current urban issue through discussion, reading, and research.	GR	Lecture

Fall 2017	URS6290	6290	Issues in Urb. Mgt.	Urban Affairs	3	Explores issues and topics related to the administration of community development agencies and local governments in metropolitan areas.	GR	Lecture
Fall 2017	URS6300	6300	Nonprofit Administration	Urban Affairs	3	Examines the organizational and managerial foundations of nonprofit organizations. Explores 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.	GR	Lecture
Fall 2017	URS6320	6320	Managing Volunteer Org	Urban Affairs	3	Prepares students to design, plan and evaluate volunteer programs. Topics address management principles including program design, recruitment, retention, training, and placement and assessment.	GR	Lecture
Fall 2017	URS6340	6340	Fundraising/Grant Write	Urban Affairs	3	Examines the concepts and processes fundamental to fundraising and grant writing. Explores tools, techniques and skills needed to raise funds and write grant proposals.	GR	Lecture
Fall 2017	URS6390	6390	Issues-Nonprofit Admin	Urban Affairs	3	Exploration of issues and topics related to the administration of nonprofit organizations.	GR	Lecture
Fall 2017	URS6400	6400	Comm./Regional Planning	Urban Affairs	3	Explores links between urban planning and urban administration, and planning as a profession and a process.	GR	Lecture
Fall 2017	URS6410	6410	Cities and Technology	Urban Affairs	3	Studies 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 2017	URS6430	6430	Administrative Law	Urban Affairs	3	Examines the constitutional foundations of administrative law and the legal context of federal, state and local administrative rule making and adjudication.	GR	Lecture
Fall 2017	URS6440	6440	Adv. GIS Apps	Urban Affairs	4	Study of advanced geo-spatial analysis techniques using ArcView and ArcGIS software. GIS analysis and technology used to describe spatial elements of public and private sector development issues and to forecast change.	GR	Lecture
Fall 2017	URS6450	6450	Community Development	Urban Affairs	3	Explores evolution of community development theory and practice in the U.S and examines the process of community building and asset-based community development. Topics include how to help community members define community needs and identify community assets, analyze and present qualitative data, and develop critical thinking and problem-solving skills as they relate to community development.	GR	Lecture
Fall 2017	URS6460	6460	Transportation Principle	Urban Affairs	3	Overview of principles related to developing and managing public and human service transportation systems. Examination of the role of public and human service transportation in society, history and geography of public transportation, and spatial, funding, organizational, cost benefit, labor, and customer service issues.	GR	Lecture



Fall 2017	URS6480	6480	Public Works	Urban Affairs	3	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 2017	URS6490	6490	Issues in Metro Dev.	Urban Affairs	3	Explores issues that impact metropolitan development as well as the impact of development. Topics include pollution, international development, housing and transportation.	GR	Lecture
Fall 2017	URS6500	6500	Issues in Metro Planning	Urban Affairs	3	Examination of a range of topics related to planning metropolitan environments. Topics include housing, growth and regionalism.	GR	Lecture
Fall 2017	URS6900	6900	Special Topics	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	Lecture
Fall 2017	URS6950	6950	MPA Internship	Urban Affairs	3	A one semester supervised internship of at least 300 hours in a selected public, nonprofit or public-service private agency. Arranged in consultation with student's adviser or intern director.	GR	Internship
Fall 2017	URS6960	6960	Transit Internship	Urban Affairs	3	A one semester supervised internship of at least 300 hours in a selected public, nonprofit or public-service transit agency. Arranged in consultation with student's adviser or intern director.	GR	Internship
Fall 2017	URS6970	6970	NLA Internship	Urban Affairs	3	A one quarter supervised internship of at least 300 hours in a selected nonprofit agency. Arranged in consultation with Director of American Humanics.	GR	Internship
Fall 2017	URS7000	7000	Foundations/Tools of PA	Urban Affairs	3	Examines the legal and political variables and tools that affect the management and operation of local governments and nonprofit agencies. Special emphasis is placed on Ohio.	GR	Lecture
Fall 2017	URS7010	7010	Budgeting & Fiscal Mgt	Urban Affairs	3	Focuses on budget processes and financial management practices in the public and nonprofit sectors.	GR	Lecture
Fall 2017	URS7020	7020	Planning and Evaluation	Urban Affairs	3	Addresses the theory and practice of strategic thinking, planning, and management in public and nonprofit organizations and familiarizes students with the major concepts, skills and approaches to program evaluation.	GR	Lecture
Fall 2017	URS7030	7030	Organization Theory	Urban Affairs	3	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 2017	URS7040	7040	Human Resources in PA	Urban Affairs	3	Examines personnel functions such as job evaluation, recruitment and selection, performance appraisal, compensation, training, labor relations, and affirmative action.	GR	Lecture

Fall 2017	URS7050	7050	Quantitative Analysis	Urban Affairs	3	Survey of the fundamental concepts for statistical analysis of public affairs research. Emphasis on characteristics of distributions and random variables, diagnostic techniques, the tests of assumptions of each analysis and multiple and logistic regression	GR	Lecture
Fall 2017	URS7055	7055	Res Meth & Quant Anal	Urban Affairs	3	Combines a focus on different aspects of policy evaluation by obtaining facts and analyzing information on the impact of public programs with a survey of the methodologies and concepts for analyzing the efficiency and effectiveness of decision-making, information management, and processes of public organizations	GR	Lecture
Fall 2017	URS7060	7060	Research Methods	Urban Affairs	3	Focuses on different aspects of policy evaluation by obtaining facts and analyzing information on the impact of public programs. Deals with controversy over the use of objective performance indicators and citizen surveys as program performance measures	GR	Lecture
Fall 2017	URS7070	7070	MPA Capstone Project	Urban Affairs	3	Capstone research project for the master's degree in public administration.	GR	Independent Study
Fall 2017	URS7080	7080	MPA Applied Res. Project	Urban Affairs	3	Research project for the master's degree in public administration	GR	Independent Study
Fall 2017	URS7090	7090	MPA Thesis	Urban Affairs	1	Under the supervision of a thesis committee and chair, students select a public 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	Independent Study
Fall 2017	URS7220	7220	MPA Directed Study	Urban Affairs	3	If previous knowledge and/or experience in a selected core course is demonstrated, URS 7220 may be substituted for the selected core course.	GR	Lecture
Fall 2017	UVC1000	1000	College Success Topics	University College	1	Variable topics, including study strategies, returning to learning for veterans, returning to learning for adults, Phoenix program.	UG	Lecture
Fall 2017	UVC1010	1010	First Year Seminar	University College	1	Students experience opportunities to build their collegiate identity by clarifying their values while engaging the campus community and experiencing diversity. Students also explore learning strategies to set goals, plan their courses, develop their communication skills, and explore careers while learning to achieve overall health and wellness	UG	Seminar
Fall 2017	UVC1020	1020	FYS Service Learning	University College	1	Success within selected major. Focuses on critical thinking, faculty mentors, career exploration, professionalism, ethics, financial literacy and goal setting through service learning.	UG	Seminar

Fall 2017	UVC1040	1040	Critical Reading	University College	2	Critical analysis of content area readings. Recognizing organizational patterns, point of view, propaganda and persuasive writing; analyzing arguments; distinguishing fact from opinion; making inferences; understanding logical reasoning; interpreting graphic illustrations; drawing conclusions	UG	Lecture
Fall 2017	UVC1090	1090	SD Prior Lrng Assessment	University College	0	Helps students identify areas of learning to have evaluated for college-level equivalency. Guides students in this self-paced curriculum through the preparation and compilation of all components required for the evaluation of a portfolio of prior learning through LearningCounts.org	UG	Independent Study
Fall 2017	UVC1095	1095	Prior Lrng Assessment	University College	3	Helps students identify areas of learning to have evaluated for college-level equivalency. Guides students through the preparation and compilation of all components required for the evaluation of a portfolio of prior learning through LearningCounts.org	UG	Independent Study
Fall 2017	UVC1110	1110	Athletes Interest Group	University College	0	National Collegiate Athletic Association regulations. Required for all new student athletes.	UG	Seminar
Fall 2017	WGS1000	1000	Sex Health & Diversity	Women, Gender, and Sexuality	3	Introduces students to the interdisciplinary study of sexuality, focusing on sexual health from a diverse and comprehensive (i.e. including sexual pleasure) perspective. Topics covered may include: sexual anatomy and function, sexual and gender identity, sexual behavior, communication, and virginity.	UG	Lecture
Fall 2017	WGS2000	2000	Intro Women & Gender	Women, Gender, and Sexuality	3	Introduces students to feminist thought and activism. Explores the importance of gender as a category of analysis to understand social, cultural, political, and economic forces. Credit will not be given for WGS 2000 to students who have completed WMS 2000. Integrated Writing course	UG	Lecture
Fall 2017	WGS3000	3000	Intro Sexuality Studies	Women, Gender, and Sexuality	3	Introduction to how individual identities and social expressions of sexuality are shaped and reflected by cultural, political, historical, psychological, and biological contexts. Students with credit for WMS 3010 cannot receive credit for WGS 3000.	UG	Lecture
Fall 2017	WGS3050	3050	Topics Sexuality Studies	Women, Gender, and Sexuality	3	Issues, approaches, and topics in the field of sexuality studies. Titles and topics vary.	UG	Lecture
Fall 2017	WGS3200	3200	Women Multicultural Pers	Women, Gender, and Sexuality	3	Issues, approaches, and topics in women and gender studies. Explores racial, ethnic, cultural, and other differences among women within the U.S. Titles and topics vary.	UG	Lecture
Fall 2017	WGS3250	3250	Women Multicultural Pers	Women, Gender, and Sexuality	3	Issues, approaches, and topics in women and gender studies. Explores racial, ethnic, cultural, and other differences among women within the U.S. Titles and topics vary. Integrated Writing course.	UG	Lecture

Fall 2017	WGS3500	3500	Feminist Activism	Women, Gender, and Sexuality	3	Explores contemporary womens movements at local and national levels to understand different forms of feminist activism and encourage civic engagement. Service Learning course.	UG	Lecture
Fall 2017	WGS3600	3600	Feminist/Sexuality Theor	Women, Gender, and Sexuality	3	Major concepts and themes in feminist, gender, and sexuality theories and applicability of theory to historical and contemporary concerns. Explores gender-based oppression in connection to race-based, class-based, and other forms of oppression. Integrated Writing course. Students with credit for WMS 4500 cannot receive credit for WGS 3600.	UG	Lecture
Fall 2017	WGS3700	3700	Research Methods in LA	Women, Gender, and Sexuality	3	Introduces social science and humanities majors to research design, and the kinds of data produced, in describing, explaining, and understanding social problems.	UG	Lecture
Fall 2017	WGS3800	3800	Selected Subjects	Women, Gender, and Sexuality	3	Issues, approaches, and topics in women's studies. Topics vary.<b> Department Managed Prerequisite(s): Undergraduate level WMS 2000 Minimum Grade of C or Undergraduate level WGS 2000 Minimum Grade of C.</b>	UG	Lecture
Fall 2017	WGS4000	4000	Topics Gender&Sexuality	Women, Gender, and Sexuality	3	Issues, approaches, and topics in the field of gender and sexuality studies. Titles and topics vary. Integrated Writing course.	UG	Lecture
Fall 2017	WGS4050	4050	Topics Gender&Sexualtiy	Women, Gender, and Sexuality	3	Issues, approaches, and topics in the field of gender and sexuality studies. Titles and topics vary.	UG	Lecture
Fall 2017	WGS4200	4200	Women Intl Perspective	Women, Gender, and Sexuality	3	Issues, approaches and topics in women and gender studies, with focus on racial, ethnic, cultural, and other differences among women outside of the U.S. Topics and titles vary.	UG	Lecture
Fall 2017	WGS4250	4250	Women Intl Perspective	Women, Gender, and Sexuality	3	Racial, ethnic, cultural, and other differences among women outside of the U.S. Focus may be on one nation, region, or a comparative perspective, including a comparative perspective with U.S. women. Topics and titles vary. Integrated Writing course	UG	Lecture
Fall 2017	WGS4500	4500	Topics Feminist Theory	Women, Gender, and Sexuality	3	Issues, approaches and topics in feminist theory. Titles and topics vary. Integrated Writing.	UG	Lecture
Fall 2017	WGS4700	4700	Feminist Research Method	Women, Gender, and Sexuality	3	Examines feminist methodologies and methods of research with emphasis on qualitative inquiry and/or mixed methods. Students with credit for WMS 4790 cannot receive credit for WGS 4700.	UG	Lecture
Fall 2017	WGS4800	4800	Selected Subjects	Women, Gender, and Sexuality	3	Issues, approaches, and topics in women's studies. Topics vary. Integrated Writing course.<b> Department Managed Prerequisite(s): Undergraduate level WGS 3600 Minimum Grade of C.</b>	UG	Lecture

Fall 2017	WGS4900	4900	Ldrshp&Action for Change	Women, Gender, and Sexuality	3	Coordinates internship experience with in-class coursework to provide advanced practice and supervision in the field of women, gender, and sexuality studies. Site selected with guidance of instructor prior to course registration. Service Learning Intensive.<b> Department Managed Prerequisite(s): Undergraduate level WGS 3600 Minimum Grade of C</b>	UG	Lecture
Fall 2017	WGS4990	4990	Independent Study	Women, Gender, and Sexuality	1	Supervised individual research on selected topics. Limited to students with minimum 3.0 GPA. Student must submit application for Independent Study to the Program Director at least 6 weeks prior to the start of the semester in which the independent study will be conducted.<b> Department Managed Prerequisite(s): Undergraduate level WGS 3600 Minimum Grade of C</b>	UG	Independent Study
Fall 2017	WGS5050	5050	Topics Sexuality Studies	Women, Gender, and Sexuality	3	Issues, approaches, and topics in the field of sexuality studies. Titles and topics vary.	GR	Lecture
Fall 2017	WGS5200	5200	Women Mult. Persp.	Women, Gender, and Sexuality	3	Issues, approaches, and topics in women and gender studies, which may include womens history, politics, religion, or contributions to literature, film, and art. Explores racial, ethnic, cultural, and other differences among women within the U.S. Titles and topics vary.	GR	Lecture
Fall 2017	WGS5800	5800	St in Selected Subjects	Women, Gender, and Sexuality	3	Issues, approaches, and topics in the field of women's studies. Titles vary. Topics vary.	GR	Lecture
Fall 2017	WGS6000	6000	Topics Gender/Sexuality	Women, Gender, and Sexuality	3	Issues, approaches, and topics in the field of gender and sexuality studies. Titles and topics vary.	GR	Lecture
Fall 2017	WGS6200	6200	Women Intl Persp.	Women, Gender, and Sexuality	3	Issues, approaches and topics in women and gender studies, with focus on racial, ethnic, cultural, and other differences among women outside of the U.S. Titles and topics vary.	GR	Lecture
Fall 2017	WGS6500	6500	Topics Feminist Theory	Women, Gender, and Sexuality	3	Issues, approaches and topics in feminist theory. Titles and topics vary.	GR	Lecture
Fall 2017	WGS6700	6700	Research Methods	Women, Gender, and Sexuality	3	Examines feminist methodologies and methods of research with emphasis on qualitative inquiry and/or mixed methods.	GR	Lecture
Fall 2017	WGS6800	6800	Selected Subjects	Women, Gender, and Sexuality	3	Issues, approaches, and topics in women's studies. Topics vary.	GR	Lecture

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