

2019

Curriculum Change 2019-2020

Portland State University

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PSU Curricular Change Cycle: Annual

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Name & contact info of person updating this template: Andreen Morris andreen@pdx.edu 503-725-4596

Effective Term	New (N) Modified (M) Deleted (D)	Prefix	Course#	Course Title	Credits	Course Description	Type of Change (for modified classes only)
Fall 2019	M	Actg	421	Taxes	4	Provides students with a broad range of tax concepts, tax policies, and different types of taxpayers. Students should develop an understanding of how tax laws affect most business and personal financial decisions. Tax reporting, tax planning, and basic tax research skills will be emphasized. Prerequisite: Actg 381.	Title and description
Fall 2019	N	Actg	431	Not-For-Profit Accounting	2	Introduction to Not-for-Profit entities, how their legal and operational environments are different from businesses, and how accounting and financial reporting standards differ as a result. Prerequisite: Actg 382.	
Fall 2019	M	Anth	313U	Native American-Settler Relations	4	Consideration of the contacts, entanglements, exchanges and frictions between Native Americans and colonialist settler populations, including issues of decolonization, social and cultural change and persistence, and shifting governmental policies.	Title and description
Fall 2019	M	Anth	314U	Native Americans	4	Ethnographic survey of past and present North American Indigenous peoples, covering sense of place, negotiations and adjustments to colonialism, historical trajectories, and contemporary ways of life.	description
Fall 2019	M	Arch	225	Digital Graphics	4	A beginning computer graphics course that develops skills in digital design, visualization, representation and communication. Concepts and conventions are introduced as tools for rigorous design investigations. Prerequisite: Arch 121.	description
Fall 2019	M	Arch	425	Computational Design & Digital Making I	4	Focuses on computational design softwares & production workflows used in the architecture field. Arch 425 explores three dimensional methods for constructing, editing, visualizing and fabricating architectural ideas. This is the first course in a sequence of two: Arch 425 and Arch 426 which must be taken in sequence. Also offered at graduate-level as Arch 525 and may be taken only once for credit. Prerequisite: Arch 281.	Title and description
Fall 2019	M	Arch	426	Computational Design & Digital Making II	4	Focuses on advanced topics in the computational design and digital production of architecture. Arch 426 continues study of digital methods of architectural design generation and development. Instructor sets software and topics of investigation (e.g., parametric design, digital fabrication, physical computing). This is the second course in a sequence of two: Arch 425 and Arch 426 which must be taken in sequence. Also offered at graduate-level as Arch 526 and may be taken only once for credit. Prerequisite: Arch 425.	Title and description
Fall 2019	M	Arch	525	Computational Design & Digital Making I	4	Focuses on computational design softwares & production workflows used in the architecture field. Arch 525 explores three dimensional methods for constructing, editing, visualizing and fabricating architectural ideas. This is the first course in a sequence of two: Arch 525 and Arch 526 which must be taken in sequence. Also offered at undergraduate-level as Arch 425 and may be taken only once for credit.	Title and description
Fall 2019	M	Arch	526	Computational Design & Digital Making II	4	Focuses on advanced topics in the computational design and digital production of architecture. Arch 526 continues study of digital methods of architectural design generation and development. Instructor sets software and topics of investigation (e.g., parametric design, digital fabrication, physical computing). This is the second course in a sequence of two: Arch 525 and Arch 526 which must be taken in sequence. Also offered at undergraduate-level as Arch 426 and may be taken only once for credit.	Title and description
Fall 2019	M	ArH	311U	Survey of South and Southeast Asian Art	4	A survey of art and architecture of South and Southeast Asian art from prehistoric times to the 19th century. The art and architecture (including ceramics, sculpture, painting) of Asia will be presented in context of chronology, source (indigenous or foreign influence), site and in relation to the forces of each society's culture, religion, politics, geography, and history. Buddhism, Hinduism, Islamic architecture, painting, symbolism, and mythology are basic to the arts of Asia.	Title and description

Fall 2019	M	ArH	312U	Survey of Chinese Art	4	A survey of art and architecture of China from prehistoric times to the 21st -Century. The art and architecture, including ceramics, sculpture, painting, textiles, and other utilitarian implements (e.g., Chinese ritual bronze vessels) of China will be presented in context of chronology, source (indigenous or foreign influence), site and in relation to the forces of each society's culture, religion, politics, geography, and history. Shamanism, Confucianism, Taoism, Buddhism, Hinduism, symbolism, yin and yang philosophy, and mythology that are basic to the arts of China, the influence of central Asian art on Chinese art and Chinese influence on Korean art .	Title and description
Fall 2019	M	ArH	313U	Survey of Japanese Art	4	A survey of art and architecture of Japan from prehistoric times to the 21st century. The art and architecture (including archaeology, ceramics, sculpture, painting, textiles, and other utilitarian implements-- e.g., Samurai armors) of Japan will be presented in context of chronology, source (indigenous or foreign influence), site and in relation to the forces of each period's culture, religion, politics, geography, and history. Shintoism, mythology, Buddhism, Confucianism, are Taoism, are basic to the arts of Japan.	Title and description
Fall 2019	M	ArH	315U	Chinese Buddhist Art	4	A concentrated study of the Buddhist art of China and Central Asia. Buddhist art of caves of the Six-dynasties period (220-589 C.E.) to the Qing period will be covered in-depth. Basic concepts of Buddhism, such as Hinayana, Mahayana, and Tantric Buddhism; the Central Asian sources for Chinese Buddhist art and archaeology, arts related to specific sects; and the iconography and stylistic changes will be covered.	Course number and description
Fall 2019	M	ArH	316U	Japanese Buddhist Art	4	A survey of the Japanese Buddhist art and architecture, including: archaeology, sculpture, painting, Shingon Buddhist art, Zen garden and architecture, and ink paintings and Korean and Chinese sources through selected examples from the 6th century to the 18th century.	Course number and description
Fall 2019	M	ArH	317U	Chinese Painting	4	A concentrated study of the Chinese painting from the 3rd century B.C.E. to the 21st century.	Course number and description
Fall 2019	M	ArH	318U	Japanese Painting	4	A survey of Japanese painting from the 4th century to the 20th century. Buddhist paintings, ink paintings, and decorative paintings and modern paintings.	Course number and description
Fall 2019	M	ArH	319U	Modern Japanese Painting	4	Recent scholarship in the history of modern Japanese paintings and prints, from the Meiji, Taisho, and Showa periods covers major themes of Japan's westernization in a new light. The issues revolve around westernization: conflict and nationalism. New art forms, the revival of traditional styles, the reclining woman theme, and the gaze of subjects will be explored. Contemporary Japanese Art will be covered with critical thinking.	Course number and description
Fall 2019	N	ArH	355	Medieval Monsters	4	Explores visual and literary medieval representations of monsters such as griffins, gargoyles, and unicorns to better understand key concepts about the "natural" world, definitions of monster now and in the past, the relationship between monsters in medieval texts and those in art, and "monsters" as constitutive of the medieval in the popular imagination.	
Fall 2019	M	Art	230	Introduction to Drawing II	4	Second of a two-term sequence, this course continues to explore drawing as a means of personal expression with an emphasis on drawing from observation. Students deepen drawing strategies and continue to develop fluency in the language of line, shape, value, space, and color. This is the second course in a sequence of two: Art 131 and Art 230 and must be taken in sequence. Expected preparation for Art & Art History Majors: Art 115 or Art 101, Art 102, Art 103, Art 104, and Art 105. Prerequisite: Art 131.	Description and prerequisites
Fall 2019	M	Art	250	Life Drawing I	4	Developing skills for drawing the human figure from observation in a variety of poses and media. This is the first of a sequence of three classes. Develops skills in observation and perception. Later, analytic skills are combined with personal expression and invention. A variety of media is used to explore the implications of line and modeled form to explore the figure in compositional environments. The skeleton and muscles will be studied in relationship to the model poses. Expected preparation for Art & Art History Majors: Art 115 or Art 101, Art 102, Art 103, Art 104, and Art 105. Prerequisite: Art 131.	Description and prerequisites

Fall 2019	M	Art	255	Two-dimensional Animation	4	Studio introduction to principles and processes of two-dimensional animation composed in digital form. Storytelling and animation skills are developed in projects that apply tools and techniques for writing, staging, movement, timing, key framing, editing, and the use of sound and music. The language and aesthetics of animation are investigated through the design and production of a two-dimensional animation. Focus may be placed on either pixel or vector graphics. Project planning and workflow are explored in response to technical requirements for presenting the work in multiple media delivery formats. Expected preparation for Art & Art History Majors: Art 103 & Art 105.	Description
Fall 2019	M	Art	256	Three-dimensional Animation I	4	Studio introduction to principles and processes of three-dimensional modeling and animation composed in digital form. Projects apply tools and techniques for modeling, lighting, surface rendering, scene construction, animation sequencing, editing, and the integration of sound and music. The language and aesthetics of animation and cinematography are investigated through the design and production of a three-dimensional animation. Project planning and workflow are explored in response to technical requirements for presenting the work in multiple media delivery formats. Expected preparation for Art & Art History Majors: Art 101, Art 102, Art 103, Art 104, & Art 105.	Description
Fall 2019	M	Art	257	Introduction to Video Art	4	Introduction to fundamental techniques of digital video production in the context of contemporary art practices. Topics cover a range of experimental and non-narrative forms, focusing on artists' use of video and other related media theory. Technical information covered includes cinematography, camera operations and digital video editing. Expected preparation for Art & Art History Majors: Art 101, Art 102, Art 103, Art 104, & Art 105.	Description
Fall 2019	M	Art	260	Black and White Photography	4	Studio introduction to black and white photography using both film-based darkroom and digital imaging techniques, including 35mm camera controls, film processing, enlargement, digital image capture, and basic digital image adjustment. Assignments focus on two dimensional design principles of line, shape, pattern, texture, symmetry, asymmetry, and vantage point, and culminate in a coherent photo story. While learning basic photographic techniques, students discuss form, content, and the aesthetics of photographic image-making. Studio includes lecture, demonstration, critique, and supervised lab work. Students must furnish a focusing film camera with adjustable f-stops and shutter speeds. Automatic cameras must have manual override. Expected preparation for Art & Art History Majors: Art 101, Art 102, Art 103, Art 104, & Art 105.	Description
Fall 2019	M	Art	261	Digital Photography	4	Studio introduction to digital photography, exploring digital image capture, editing, and printing. Examination of the work of photographers with emphasis on conceptual development, the use of color, and digital craft, and mastery of basic digital camera controls. Course includes lectures, demonstrations, critique, and lab work. Students must provide own camera. Expected preparation for Art & Art History Majors: Art 101, Art 102, Art 103, Art 104, & Art 105.	Description
Fall 2019	M	Art	270	Introduction to Printmaking: Relief	4	A studio focused course concentrating on the planographic printmaking processes traditionally identified as "relief printmaking". This specialized technique will be presented utilizing the practice and concepts unique to historic, traditional/nontraditional and contemporary printmaking methodology. Monoprinting one of a kind image making and edition printing creating identical multiple images will be explored. Graphic languages developed through researching historical and contemporary influences will be presented to inspire and stimulate the students imagination and knowledge of graphic languages. Sequential thinking processes and theory will also be addressed. May be repeated twice for credit maximum 8 credits. Expected preparation for Art & Art History Majors: Art 115 or Art 101, Art 102, Art 103, Art 104, Art 105 & Art 131. Prerequisite: Art 101 and Art 131.	Description and prerequisites

Fall 2019	M	Art	271	Introduction to Printmaking: Etching	4	A studio focused course concentrating on the Intaglio method of Printmaking also identified as "Etching". This specialized technique will introduce basic theories, practice and concepts unique to historic, traditional/nontraditional and contemporary Printmaking methodology. Monoprinting (one of a kind image making processes) and edition printing -sequential image making will be explored. Technical processes of black and white drypoint, etching and softground will be at the core of the students investigation. Understanding manipulation of technical processes unique to etching, additive and subtractive processes will be equally explored. Graphic languages developed through researching historical and contemporary influences will be presented to inspire and stimulate the students imagination and knowledge of graphic languages. Sequential thinking processes and theory will also be addressed. Zinc and copper plates will be the central focus of this introductory course. May be repeated twice for credit. Maximum 8 credits. Expected preparation for Art & Art History Majors: Art 115 or Art 101, Art 102, Art 103, Art 104, and Art 105. Prerequisite: Art 131.	Description and prerequisites
Fall 2019	M	Art	281	Introduction to Painting	4	Course introduces basic principles of painting by exploring the use of color, form, composition and a variety of surface applications. Course assignments involve direct observational approaches presented through a variety of traditional and modern painting styles and techniques. Expected preparation for Art & Art History Majors: Art 115 or Art 101, Art 102, Art 103, Art 104, and Art 105. Prerequisite: Art 101 and Art 131.	Description and prerequisites
Fall 2019	M	Art	282	Introductory Painting Topics	4	Introductory topics in painting is based on various subjects of inquiry. Focusing on a specific material exploration and/or application, approaches will vary according to instructor. Prerequisites: Art 281.	Title, description, and prerequisites
Fall 2019	M	Art	291	Introduction to Sculpture	4	Introduction to the basic fundamentals to sculpture. Students gain command of specific sculptural processes and materials while engaging in assignments that develop ideation and critical thinking. Maximum 4 credits. Expected preparation for Art & Art History Majors: Art 115 or Art 101, Art 102, Art 103, Art 104, Art 105 & Art 131. Prerequisites: Art 117 or Art 102.	Description and prerequisites
Fall 2019	M	Art	292	Introductory Sculpture Topics	4	Introduction to specific topics in sculpture based on various subjects of inquiry. Focus on a specific theme, media, and/or process while engaging in assignments that develop ideation and critical thinking. This course may be repeated for up to 12 credits with different topics. Expected preparation for Art & Art History Majors: Art 115 or Art 101, Art 102, Art 103, Art 104, Art 105 & Art 131. Prerequisite: Art 291.	Description, prerequisites, title
Fall 2019	M	Art	294	Water Media	4	The techniques and uses of watercolor, gouache, and other water-based mediums with attention to unique characteristics as painting mediums. Collage and mixed media may be included with water-soluble pencils and crayons. Lectures on historic uses of these media and discussions of the aesthetic possibilities for layering and transparencies. Expected preparation for Art & Art History Majors: Art 101, Art 102, Art 103, Art 104, & Art 105.	Description
Fall 2019	M	Art	296	Digital Drawing and Painting	4	Studio course introducing concepts and processes in computer graphics through a set of defined problems examined through digital drawing and painting applications. Projects explore a range of tools and techniques used in the digital paint environment, including the acquisition of imagery. The unique features of digital tools and techniques are investigated in terms of their relationships with traditional materials and processes. A critical and conceptual framework is developed for the many uses of these tools in a fine art context through an emphasis on using the computer as an artist's tool and the inclusion of digital art forms and processes into the mixed media studio. Expected preparation for Art & Art History Majors: Art 101, Art 102, Art 103, Art 104, & Art 105.	Description

Fall 2019	M	Art	297	Book Arts	4	This mixed media class will explore the book as an art form. The relationship of images and/or words will be explored in relationship to narrative and sequential structures. Traditional and experimental methods of binding will be taught. Lectures on the history of the artist's book and issues in imagery and/or typography will be presented. Class emphasizes an experimental and conceptual approach that integrates content and form. Maximum 8 credits. Expected preparation for Art & Art History Majors: Art 101, Art 102, Art 103, Art 104, & Art 105.	Description
Fall 2019	N	Art	313	Textile Processes	4	This course is intended for upper division students wanting to incorporate 2D textile materials and processes into their established creative practice. Students gain exposure to sourcing and manipulating experience textiles through a combination of hand and digital processes - including submersion dye, block printing, hand and machine sewing, and digital fabric design. Students develop projects around the skills learned that intersect with goals for their individual practices. Prerequisite: Art 101 and upper-division standing.	
Fall 2019	N	Art	316	Fabric & Form	4	This course covers sculptural approaches to using textiles for studio art and design practices. Students will learn the fundamentals of flat patterning and sewn construction for 3D form, wearables, and installation. Students will learn techniques for manipulating commercial patterns, adding structure to fabric and pliable material, and advanced methods of machine sewing. Lectures and readings expose students to the history of fiber, the use of textiles in contemporary art, and applications in fashion and costume. Prerequisite: Art 215 or Art 315 and Art 102.	
Fall 2019	N	Art	322	History of Dress I	4	Throughout human history, dress and adornment have been vehicles for communicating both individual and collective identities. This course examines clothing and its context from Prehistory - 1900. This is the same course as TA 322 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	N	Art	323	History of Dress II	4	Throughout human history, dress and adornment have been vehicles for communicating both individual and collective identities. This course examines clothing and its context from 1900 to the present. This is the same course as TA 323 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	N	Art	331	Art and Privilege	4	Examines identity (personal, social, cultural) and privilege as they pertain to visual and socially engaged arts practices. Explores the definition(s) and impact of privilege from cultural, historical, racial, institutional, and economic perspectives via readings, films, discussions/debates, visits, and projects. Focuses on contemporary perspectives.	
Fall 2019	N	Art	416	Textile Arts Studio	4	Advanced studio course focusing on applications of textile arts including apparel and textile design, costuming, installation, sculptural fiber, and material studies. Also focuses on conceptual development, research, and production towards a cohesive body of work that reflect the individual intentions with textile processes. Prerequisite: Art 316 or Instructor Approval.	
Fall 2019	M	BA	325	Information Literacy & Technical Competence for Business Professionals	4	Presents the key information literacy skills future business leaders need to be successful. Data represent people, places, things, activities, and events in a business. Making sense of these data is the work of every business person at all levels of the organization. The course is designed to do three things: help students develop proficiency in MS Excel and Access software applications, (2) develop the thinking that is required for students to dive into data and make sense of it, and (3) introduce key information and technology related concepts of which every business person should be aware. Using adaptive technology (SimNet), the course is designed to provide students with working knowledge and a broad overview of applications they will utilize throughout their time at PSU and beyond. Students have long-term access to the SimNet library so the resource travels with them throughout their education and career.	Title and description

Fall 2019	N	BA	346U	Essentials of Entrepreneurship for Non-Business Majors	4	Team-based capstone course in the business minor that provides students experience developing a new business opportunity and transferable skills applicable to entrepreneurship, intrapreneurship, and the promotion of new initiatives within an organization. Students will develop a final project that involves determining the market potential and strategy for a business idea using collaboration tools to create a feasibility study and a business pitch.	Description
Fall 2019	M	Bi	417	Mammalian Physiology	4	Physiology of the mammalian cardiovascular, respiratory, renal and digestive systems with emphasis on homeostatic control and integration of these systems in normal and pathophysiological states. Also offered for graduate-level credit as Bi 517 and may be taken only once for credit. Prerequisites: Completion of Bi 320 with a C- or above.	Prerequisites
Fall 2019	M	Bi	418	Comparative Animal Physiology	4	Physiology of metabolic, respiratory, circulatory, excretory, muscle, and nervous systems with emphasis on a comparative ecological approach. Also offered for graduate-level credit as Bi 518 and may be taken only once for credit. Prerequisites: Completion of Bi 320 with a C- or above.	Description and prerequisites.
Fall 2019	N	Bi	460	Marine Biology of the Deep Sea	4	The deep sea is the largest, but least well-known, living space on the planet. This upper-division Biology majors course provides students with in-depth knowledge of deep sea, its inhabitants and their diverse life history strategies, and the anthropogenic factors shaping the deep sea as we know it. Classes will alternate between lectures and student-led discussions. Students will be expected to have knowledge of general biology prior to the start of the course. Prerequisites: Bi 211, Bi 212, and Bi 213. Concurrent enrollment is allowed only for Bi 213.	
Fall 2019	M	Bi	479	Plant Reproductive Biology	5	Covers the diversity processes and functions of sexual and asexual reproduction of plants. Students will learn about pollination, anatomy, morphology, and physiology of plant reproduction. They will develop an understanding of how biological processes contribute to the ecology and evolution of vegetative growth and flowering. Three hours of lecture and 5 hours of lab per week; there are 2 mandatory field trips. Also offered for graduate-level credit as Bi 579 and may only be taken once for credit. Prerequisites: Successful completion of Bi 330 with a C- or better.	Description
Fall 2019	N	Bi	579	Plant Reproductive Biology	5	Covers the diversity processes and functions of sexual and asexual reproduction of plants. Students will learn about pollination, anatomy, morphology, and physiology of plant reproduction. They will develop an understanding of how biological processes contribute to the ecology and evolution of vegetative growth and flowering. Three hours of lecture and 5 hours of lab per week; there are 2 mandatory field trips. Also offered for undergraduate-level credit as Bi 479 and may be taken only once for credit. Prerequisite: Successful completion of Bi 330 with a C- or better.	
Fall 2019	M	BSt	450	Topics in African/Caribbean	4	In-depth exploration of selected topics in African and/or Caribbean cultural history. Special attention will be given to thematic issues of broad application to the understanding of cultural interaction, continuity, and change. Prerequisites: BSt 203, BSt 204, BSt 206, or BSt 211.	Prerequisites
Fall 2019	D	BSt	470	African Art	4		
Fall 2019	D	BSt	570	African Art	4		
Fall 2019	N	CCJ	485	Offender Rehabilitation	4	Examines the history of the rehabilitative ideal in corrections. Students will develop an understanding of assessment and classification systems, treatment programs, as well as evidence-based theories and approaches to the treatment of offenders. Finally, this course will consider how correctional programs should be implemented, monitored and evaluated. Prerequisite: Sophomore standing, CCJ 200, or CCJ 300.	
Fall 2019	M	CCJ	535	Criminal Justice Policy	4	An advanced course in criminal justice policy analysis. Course examines the development, implementation, and outcomes of interventions designed to impact crime and the criminal justice system. Theories of criminal justice intervention will be studied across multiple levels: individual, organizational, community, and system. Emphasis is placed on the utilization of research findings to inform criminal justice policy and future research. Expected preparation: CCJ 520 and CCJ 530. Also offered as CCJ 635 and may be taken only once for credit.	Description

Fall 2019	M	CCJ	635	Criminal Justice Policy	4	An advanced course in criminal justice policy analysis. Course examines the development, implementation, and outcomes of interventions designed to impact crime and the criminal justice system. Theories of criminal justice intervention will be studied across multiple levels: individual, organizational, community, and system. Emphasis is placed on the utilization of research findings to inform criminal justice policy and future research. Expected preparation: CCJ 620 and CCJ 630. Also offered as CCJ 535 and may be taken only once for credit.	Description
Fall 2019	N	Ch	412a	MODULE: Coordination Chemistry	2	An exploration of bonding in metal complexes and the effect that bonding has on the properties of the complex. Including topics are: crystal field theory, molecular orbital theory, ligand field theory, pi-bonding, the chelate effect, electron counting. Also offered for graduate credit as Ch 512a and may only be taken once for credit. Prerequisite: Ch 411.	
Fall 2019	N	Ch	412b	MODULE: Bioinorganic Chemistry	2	This course examines the way in which coordination chemistry and biochemistry intersect. It will examine how the choice and/or coordination of particular metals affords properties beneficial to biological system. Also offered for graduate credit as Ch 512b and may only be taken once for credit. Prerequisite: Ch 412a.	
Fall 2019	N	Ch	446	Module: Biophysical methods I	2	This 5-week intensive course covers the principle methodologies used to study biological macromolecules at the 'atomic-level' (e.g. X-ray Crystallography, NMR Spectroscopy and Electron Microscopy). Students will learn the underlying principles, practical aspects and means for validation and assessment applied to these techniques. Also offered for graduate-level credit as Ch 546 and may be taken only once for credit. Prerequisites: (Ch 490 or Ch 350) and (Ph 203 or Ph 213).	
Fall 2019	N	Ch	470c	MODULE: Practical NMR Spectroscopy	2	This course will focus on the practical aspects of obtaining NMR spectroscopic data from instrumentation such as one would encounter in a research or industrial setting. Also offered for graduate-level credit as Ch 570c and may be taken only once for credit. Prerequisites: Ch 417 or Ch 442.	
Fall 2019	N	Ch	471a	MODULE: Biological NMR Spectroscopy	2	Nuclear magnetic resonance spectroscopy (NMR) of biological systems. The basic theory of NMR, its application to complex biological molecules and complexes. This course will bring the student an understanding of the application of NMR to biological systems, which is important because this is different to small-molecule NMR. There is also a large and expanding literature in biological NMR, that upon which students may be able to model their research projects. Also offered for graduate-level credit as Ch 571a and may be taken only once for credit. Prerequisite: Ch 470.	
Fall 2019	N	Ch	497	Module: Nucleic Acids	2	Chemical and physical features and functions of DNA and RNA primary, secondary and tertiary structures and protein recognition; unusual DNA structures; chromatin organization; thermodynamics of DNA sequence dependent stability, RNA secondary structure prediction and RNA folding; chemistry and thermodynamics of structure/functional mechanisms of ribozymes, large DNA-protein and RNA-protein complexes. Also offered for graduate-level credit as Ch 597 and may be taken only once for credit. Prerequisite: Ch 492.	
Fall 2019	N	Ch	498	MODULE: Protein Dynamics and Folding	2	This 5-week intensive course will develop an advanced understanding of the molecular forces that govern protein structure, folding and dynamics. We will discuss the theoretical aspects used to describe these principles, as well as the methods used to experimentally characterize and computationally model protein folding and dynamics. Also offered for graduate-level credit as Ch 598 and may be taken only once for credit. Prerequisites: (Ch 490 or Ch 350) and (Ph 203 or Ph 213) and Mth 251 and Mth 252.	
Fall 2019	N	Ch	512a	MODULE: Coordination Chemistry	2	An exploration of bonding in metal complexes and the effect that bonding has on the properties of the complex. Including topics are: crystal field theory, molecular orbital theory, ligand field theory, pi-bonding, the chelate effect, electron counting. Also offered for undergraduate credit as Ch 412a and may only be taken once for credit. Prerequisite: Ch 511.	

Fall 2019	N	Ch	512b	MODULE: Bioinorganic Chemistry	2	This course examines the way in which coordination chemistry and biochemistry intersect. It will examine how the choice and/or coordination of particular metals affords properties beneficial to biological system. Also offered for undergraduate credit as Ch 412b and may only be taken once for credit. Prerequisite: Ch 512a.
Fall 2019	N	Ch	546	Module: Biophysical methods I	2	This 5-week intensive course covers the principle methodologies used to study biological macromolecules at the 'atomic-level' (e.g. X-ray Crystallography, NMR Spectroscopy and Electron Microscopy). Students will learn the underlying principles, practical aspects and means for validation and assessment applied to these techniques. Also offered for undergraduate-level credit as Ch 446 and may be taken only once for credit. Prerequisites: (CH490 or CH350) and (PH203 or PH213).
Fall 2019	N	Ch	570c	MODULE: Practical NMR Spectroscopy	2	This course will focus on the practical aspects of obtaining NMR spectroscopic data from instrumentation such as one would encounter in a research or industrial setting. Also offered for undergraduate-level credit as Ch 470c and may be taken only once for credit. Prerequisites: Ch 417 or Ch 442.
Fall 2019	N	Ch	571a	MODULE: Biological NMR Spectroscopy	2	Nuclear magnetic resonance spectroscopy (NMR) of biological systems. The basic theory of NMR, its application to complex biological molecules and complexes. Also offered for undergraduate-level credit as Ch 471a and may be taken only once for credit. Prerequisite: Ch 470.
Fall 2019	N	Ch	597	Module: Nucleic Acids	2	Chemical and physical features and functions of DNA and RNA primary, secondary and tertiary structures and protein recognition; unusual DNA structures; chromatin organization; thermodynamics of DNA sequence dependent stability, RNA secondary structure prediction and RNA folding; chemistry and thermodynamics of structure/functional mechanisms of ribozymes, large DNA-protein and RNA-protein complexes. Also offered for undergraduate-level credit as Ch 497 and may be taken only once for credit. Prerequisite: Ch 592.
Fall 2019	N	Ch	598	MODULE: Protein Dynamics and Folding	2	This 5-week intensive course will develop an advanced understanding of the molecular forces that govern protein structure, folding and dynamics. We will discuss the theoretical aspects used to describe these principles, as well as the methods used to experimentally characterize and computationally model protein folding and dynamics. Also offered for undergraduate-level credit as Ch 498 and may be taken only once for credit. Prerequisites: (CH 490 or CH 350) and (PH 203 or PH 213) and Mth 251 and Mth 252.
Fall 2019	N	CE	511	Law & Civil/Environmental Engineering	4	Overview of legal issues relevant to civil and environmental engineers, including contract law, environmental law, professional liability/negligence, and property law. This course will consider legal decisions, statutes and administrative rules, and case studies relevant to the practice of civil and environmental engineering. Also offered for undergraduate-level credit as CE 411 and may be taken only once for credit. Prerequisite: Graduate-standing.
Fall 2019	N	CE	597	Transportation & Health	4	This course will introduce the linkages between transportation investments, public policy, and behaviors and various related public and individual health outcomes. The content is divided into four modules covering: a) healthy behaviors, b) exposure to unsafe conditions, c) disaster relief/emergency response and d) integration into practice/health impact analyses. Prerequisite: CE 351 or graduate standing.
Fall 2019	N	ChLa	340	Mayas, Aztecs, and Chicanos	4	Will focus on the flourishing of Mayan civilization and the cultural and artistic contributions of other Mesoamerican societies, such as the Aztecs, during the Classic and Post-Classic period. The fall of the Aztec so-called empire will be studied, including the first years of New Spain's viceregal society, which saw the beginning of class and race relations. Early-Mexican identity will be explored during this period, including its relations to Chicano identity.

Spring 2019	N	ChLa	345	Public Art: Mexican-American/Chicano Muralism	4	Introduces the historical background of public art and mural creation from the mural movement origins in Mexico to current community mural movements in the United States. Identifies a wide range of mural styles and trends. Considers practical information, skills, and techniques. Applies this base knowledge to formulate and evaluate a personal approach to mural art in the development of a mural proposal. Create along with the instructor a local mural project and/or public art project.	
Fall 2019	N	CI	540	Modeling with and Using Representations in Mathematics	3	Examine the role of modeling and representing in mathematics learning and teaching. Investigate ways in which teachers and students use representations and translations across representations in support of mathematics teaching and learning. Finally, consider how using representations support equitable teaching.	
Fall 2019	N	CI	541	Reasoning and Proving Across Mathematics	3	Examine the role of reasoning and proving across the mathematical domains. Investigate student conceptions of proof and the appropriate curriculum treatment of topics related to conjecturing, justifying, and generalizing. Design instructional and assessment tasks that elicit student thinking and formulate ways to move student thinking forward in mathematically productive ways.	
Fall 2019	N	Comm	319	Social Media	4	This course provides students with a deeper understanding of social media and its role in identity/personality, close and less close relationships, and societal change. Prerequisite: Comm 300.	
Fall 2019	N	Comm	448	Issues in Science & Environmental Communication	4	Centers on how we focus a critical lens on how issues in science and the environment are communicated. Students are asked to examine the question: "How do we know what we know?" by exploring how scientists, policy-makers, lay publics and mass media practitioners understand and communicate in this domain. Students examine how scientific meanings are produced in public arenas, ranging from such issues as childhood vaccines to the discovery of ancient mummies. Also offered for graduate-level credit as Comm 548 and may be taken only once for credit. Prerequisite: Comm 311.	
Fall 2019	N	Comm	548	Issues in Science & Environmental Communication	4	Centers on how we focus a critical lens on how issues in science and the environment are communicated. Students are asked to examine the question: "How do we know what we know?" by exploring how scientists, policy-makers, lay publics and mass media practitioners understand and communicate in this domain. Students examine how scientific meanings are produced in public arenas, ranging from such issues as childhood vaccines to the discovery of ancient mummies. Also offered for undergraduate-level credit as Comm 448 and may be taken only once for credit.	
Fall 2019	M	CR	306U	Nonviolence: History and Campaign Design	4	This course examines nonviolence from several perspectives, including units on philosophical and religious nonviolence, nonviolent communication, nonviolent response to personal attack, Gandhian nonviolence, Sharp strategic nonviolence, and the emergent field of nonviolent conflict forensics.	Title
Fall 2019	M	CR	310U	Conflict Resolution Values & Ethics	4	Undergraduate introduction to the study of foundational concepts in the field of conflict resolution. The course also introduces the impact that conflict resolution practice may have on the critique and construction of theory. Professional ethical issues and other dilemmas in conflict resolution practice are also studied.	Title
Fall 2019	M	CR	311U	Conflict Resolution Psychology	4	Introduction to the psychological research and insights that illuminate conflict resolution theory and practice. A dual focus on both methods and research.	Title
Fall 2019	M	CR	312	Intercultural Conflict Resolution	4	Intercultural conflict resolution explored through intercultural communication theory, and through study of its relationship to processes of conflict and outcomes of resolution. Considers how intercultural conflict resolution operates within ourselves, among ourselves, and in the personal, professional, and world-at-large through dialogue, interaction, and the creative arts.	Title
Fall 2019	N	CR	446	Human Rights and Conflict Resolution	4	Key actors and core elements to promoting human rights as a conflict resolution mechanism around the world. Also offered for graduate-level credit as CR 546 and may be taken only once for credit. Prerequisite: upper-division standing.	

Fall 2019	N	CR	447	Civil Society and Conflict Resolution	4	Explores the multi-faceted conflict resolution roles of civil society and non-governmental actors in helping societies experiencing strife, rebuild, manage and prevent conflict. Also offered for graduate-level credit as CR 547 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	M	CR	511	Research Methods in Conflict Resolution	4	Introduction to academic and applied research, and specifically research within the interdisciplinary field of Conflict Resolution. Students will develop literacy in reading and understanding research, and will gain experience collecting and evaluating data. Prerequisites: CR 512.	Description and credit hours
Fall 2019	M	CR	512	Foundations of Conflict Resolution	4	Introduction to full scope of the master's degree program, including advising and paths to degree. Students will survey models in the field of Conflict Resolution from both the humanities and social sciences. A particular focus will be given to the legal and ethical aspects of these models, along with a full exploration of legalities and professional ethics in conflict resolution practice. Expected preparation: 4 credits literature and 4 credits psychology or sociology.	Title and description
Fall 2019	M	CR	513	Advanced Values and Ethics in Conflict Resolution	4	Exploration of values and ethics in the field of conflict resolution. The course also examines the impact of conflict resolution on theory and practical philosophy.	Title and description
Fall 2019	M	CR	518	Psychology of Peace and Conflict	4	Introduction to the psychological research and insights that illuminate conflict resolution theory and practice. A dual focus on both methods and research will be maintained throughout the curriculum. Expected preparation: 3 credits psychology.	Title and description
Fall 2019	M	CR	522	Thesis and Project Preparation Seminar	1-4	Introduction to the culminating requirement of the CR graduate program distinguishes between the two options: thesis and project. Students discuss the different goals, activities, processes, and outcomes of the two options and review theses and projects written by predecessors.	Credit hours and grading option
Fall 2019	M	CR	526	Advanced Intercultural Conflict Resolution	4	Explores the ways in which cultural similarities or difference might influence the conflict resolution process. In this context, culture is defined broadly and will be considered as it plays a part in either the actuality or perceptions of our experience. Issues of power and marginality as they relate to dynamics of culture will be explored. Students explore and learn from other cultures and apply this learning in the evaluation and use of conflict resolution paradigms.	Title and description
Fall 2019	N	CR	530	Research and Professional Development Colloquium	1-4	Graduate students meet in a collaborative environment in order to learn from each other, from faculty members, from community partners, and from other experts and practitioners in the field of conflict resolution. Each week, presentations, dialogue, and case exploration will offer real-time learning about current issues in the discipline. Topics will include innovations in research, trends in the field, community activities, professionalization, and the many applied dimensions of conflict resolution, locally and globally.	
Fall 2019	N	CR	546	Human Rights and Conflict Resolution	4	Key actors and core elements to promoting human rights as a conflict resolution mechanism around the world. Also offered for undergraduate-level credit as CR 446 and may be taken only once for credit.	
Fall 2019	N	CS	430P	Internet, Web, & Cloud Systems	4	Covers modern networked computing systems and the abstractions they provide. Specifically, students will learn about and apply their knowledge of topics such as Internet protocols, virtual machines and containers, web servers and frameworks, and databases as well as their deployment in modern cloud environments. Also offered for graduate-level credit as CS 530 and may be taken only once for credit. Prerequisite: Upper-division standing and admission into the CS program.	
Fall 2019	M	CS	457	Functional Programming	4	Introduction to functional notation, recursion, higher-order functions, reasoning about functions, and models for the evaluation of applicative expressions. Use of functional languages. Also offered for graduate level credit as CS 557 and may be taken only once for credit. Prerequisites: Senior-standing and admission into the CS program.	Title and prerequisites

Fall 2019	M	CS	492	Malware Reverse Engineering	4	Studies the techniques malicious code developers employ to exploit vulnerable computer systems. The course explores the form and function of a range of malware while exploring how the increased mixing of code and data is now exposing us to an array of security vulnerabilities and exploits. Given these threats, the course will then examine modern defenses against malware and how they can be used to protect users. Also offered for graduate-level credit as CS 592 and may be taken only once for credit. Prerequisites: junior-standing and admission into the CS program.	Title and description
Fall 2019	M	CS	495	Web and Cloud Security	4	Covers web and cloud systems and how they can be subverted. The class will focus on the highest risk vulnerabilities, give students practical experience in how they work, and study how they can be prevented. The class will consist mostly of laboratory exercises focused on developing student skills in performing penetration testing. Also offered for graduate-level credit as CS 595 and may be taken only once for credit. Prerequisite: CS 201.	Title, description, and prerequisites
Fall 2019	M	CS	520	Object-Oriented Programming & Design	3	The fundamental concepts of object-oriented programming, including object-oriented modeling and design. The focus of the course will be to help students create programs that model their application domain, that exhibit that model to other programmers who read the code, and that are as a consequence maintainable and robust to change. Issues addressed may include data abstraction and modeling, the use and misuse of inheritance, higher-order data structures and their operations, reusability, refactoring, concurrency control, and usability. Includes programming assignments in an OO language. Also offered for undergraduate-level credit as CS 420 and may be taken only once for credit. Prerequisite: CS 553.	Title and description
Fall 2019	N	CS	530	Internet, Web, & Cloud Systems	4	Covers modern networked computing systems and the abstractions they provide. Specifically, students will learn about and apply their knowledge of topics such as Internet protocols, virtual machines and containers, web servers and frameworks, and databases as well as their deployment in modern cloud environments. Also offered for graduate-level credit as CS 430P and may be taken only once for credit. Prerequisite: Graduate-standing and admission into CS program.	
Fall 2019	M	CS	557	Functional Programming	3	Introduction to functional notation, recursion, higher-order functions, reasoning about functions, and models for the evaluation of applicative expressions. Use of functional languages. Also offered for undergraduate-level credit as CS 457 and may be taken only once for credit. Prerequisites: Graduate-standing and admission into the CS program.	Title and prerequisites
Fall 2019	M	CS	592	Malware Reverse Engineering	3	Studies the techniques malicious code developers employ to exploit vulnerable computer systems. The course explores the form and function of a range of malware while exploring how the increased mixing of code and data is now exposing us to an array of security vulnerabilities and exploits. Given these threats, the course will then examine modern defenses against malware and how they can be used to protect users. Also offered for undergraduate-level credit as CS 492 and may be taken only once for credit. Prerequisites: Admission into the CS program.	Title and description
Fall 2019	M	CS	595	Web and Cloud Security	3	Covers web and cloud systems and how they can be subverted. The class will focus on the highest risk vulnerabilities, give students practical experience in how they work, and study how they can be prevented. The class will consist mostly of laboratory exercises focused on developing student skills in performing penetration testing. Also offered for undergraduate-level credit as CS 495 and may be taken only once for credit.	Title and description

Fall 2019	M	CS	596	Network Management and Security	3	The class will focus on network security. In order to understand the network security problem, the course will include a review of various forms of network attacks. We will then review basic techniques in applied cryptography, and then secure protocols will be covered including network-layer security and various application-layer secure protocols. We then turn to network-side security management including both passive measures like firewall defense schemes including packet filters and bastion hosts, as well as active intrusion detection and response. Finally, we will cover protocols for protecting privacy and anonymity. Also offered for undergraduate-level credit as CS 496 and may be taken only once for credit. Prerequisite: CS 594.	Title and description
Fall 2019	M	Des	100	Introduction to Communication Design for Non-Art Majors	4	Introduction for non-art majors to communication design principles and methods used in composition. Lectures, readings, and projects enable creative application of design principles, color theory, and typography. Projects address formal concerns of visual communication design, visual literacy, design nomenclature, and design process through methods and strategies for creative problem-solving. Students demonstrate verbal and visual application of a design and compositional vocabulary, an effective design process, and skillful use of materials and tools. Projects do not require computer experience.	Prefix
Fall 2019	M	Des	111	Design Thinking	4	Introduction to the various creative strategies and methodologies designers use in practice. Specific attention is given to problem-solving techniques, and the incorporation of empathy and research within a design process. Prerequisite: Instructor approval for non-majors.	Prefix
Fall 2019	M	Des	120	Digital Design	4	Digital media is a creative tool for graphic designers. Lectures introduce current and creative practitioners as well as concepts of vector and raster graphics, including digital type, image and device resolution, file formats, and digital print technologies. Creative projects and exercises assist in developing fluency in computer graphics applications. Prerequisite: Art 101.	Prefix, title, description, prerequisite, corequisite
Fall 2019	M	Des	121	Introduction to Type and Communication Design	4	Introduction to typography and communication design. Methods, strategies and processes for thinking creatively are investigated through execution in both typography and communication design. Emphasis is placed on projects that address design principles, materials and tools. Prerequisite: Art 101 and Art 120. Concurrent enrollment is permissible for Art 120, but not Art 101.	Prefix and prerequisites
Fall 2019	M	Des	200	Digital Page Design I	4	Studio course introducing single and multi-page document design. Projects embody the entire process of creating a publication from concept, through compositional and typographic skills, clear use of hierarchy, and pre-press. Emphasis is placed on workflow and project management for production of documents in print and electronic media. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Open to non-majors with instructor's consent. Prerequisite: Des 120.	Prefix
Fall 2019	M	Des	210	Digital Page Design I	4	Studio course in digital image creation with an emphasis on raster and vector-based illustration. Hybrid illustration techniques of mixing handmade work with digital imagery and photography may also be explored. Basic ways in which form communicates meaning are parsed and explored. This course requires that students furnish a laptop computer that meets the departmental standards for hardware and software. See departmental site for requirements. Prerequisite: Des 120.	Prefix
Fall 2019	M	Des	224	Narrative and Communication Design	4	The theme for this course is narrative structures relating to printed matter and motion. Projects explore visual languages, storytelling, storyboards and the visual essay. Problem solving, idea generation, typography, point of view, conceptual thinking and composition are reinforced. Critical readings, group and individual critiques, and written assignments support visual design exploration. Prerequisites: (Art 121 and Art 120) or (Art 100 and Art 120).	Prefix and prerequisites

Fall 2019	M	Des	225	Communication Design Systems	4	Introduction to communication design systems, specifically relating to branding and data visualization. Students develop strong conceptual solutions and systems for managing projects with large amounts of information and branding applications. Emphasis is placed on the expansion of a strong design process and a continuing to develop a personal visual language. Theoretical approaches, critical readings, group and individual critiques, and written assignments support visual design exploration. Restricted to Graphic Design majors, and Graphic Design and Design Management minors. Prerequisite: Des 224.	Prefix
Fall 2019	M	Des	254	Typography I	4	First course in a sequence on typography. Builds on the principles introduced in Art 121. Projects focus on typography as medium and message. Typographic history, including the history of letterforms and the construction and use of grids. Design projects range from purely textual to problems that require the successful integration of typography and image. Conceptual solutions are emphasized. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Prerequisite: Art 121 and Art 120.	Prefix, description, and prerequisites
Fall 2019	M	Des	290	History of Modern Design	4	History of graphic design from c. 1800 to the present, focusing on the changes in style within the field, but also on the interconnection between design and other forms of expression. Open to non-majors.	Prefix
Fall 2019	M	Des	300	Digital Page Design II	4	Studio course in print design with an emphasis on digital pre-press. Creative projects with an emphasis on typographic solutions are developed through all stages of design and production and completed in a press run. Industry standards for design and production practices are examined. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Open to non-majors who have prerequisites and consent of the instructor. Prerequisite: Des 200 and Des 210 and formal acceptance into the third year by Sophomore Portfolio Review.	Prefix
Fall 2019	N	Des	302U	Design is Everywhere	4	Explores the work of designers and their work in every part of our lives, often invisibly. Shows how designers identify problems, engage with audiences to discover their needs, and craft appropriate solutions by exploring how design thinking strategies can be applied to real-world scenarios through collaborative, project-based experimentation, readings offering perspectives on designers and design topics, and critiques of design solutions. Prerequisites: Upper-division standing.	Prefix
Fall 2019	M	Des	310	Digital Imaging and Illustration II	4	Studio course in advanced composition using photo-illustration, vector illustration, and hybrid illustration techniques. Emphasis is placed on a conceptual approach to composition and creative process exemplified in the content, style, and execution of illustration projects. Open to non-majors with instructor's consent. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Open to non-majors who have prerequisites and consent of the instructor. Prerequisite: Des 210 and formal acceptance into the third year by Sophomore Portfolio Review.	Prefix
Fall 2019	M	Des	315	Professional Development	4	Focus on topics related to professional practices and preparation to enter the field of graphic design. Some professional practices covered are: Internship preparation, effective written and verbal presentation, contracts and copyrights, team dynamics, client meetings, and project management. Prerequisites: Formal acceptance into the third year by Sophomore Portfolio Review and upper-division standing.	Prefix

Fall 2019	M	Des	320	Communication Design Studio III	4	A sequence focusing on concept development and solutions for communication design problems. History, theoretical approaches, critical readings, group and individual critiques, and written assignments support visual design exploration. Des 320: Focus is placed on the narrative and information structures, Historical context and ethical design concerns are addressed. These courses require that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). This is the first course in a sequence of two: Des 320 and Des 321. Prerequisites: Des 225 and formal acceptance into the third year by Sophomore Portfolio Review.	Prefix
Fall 2019	M	Des	321	Communication Design Studio IV	6	The sequence focuses on concept development and solutions for communication design problems. History, theory, critical readings, critiques, and written assignments support visual design exploration. Des 321: Complex problems, focus on public communication, branding, and information design. This is the second course in a sequence of two: Des 320 and Des 321. Open to non-majors who have prerequisites and consent of the instructor. Prerequisite: Des 320.	Prefix
Fall 2019	M	Des	333	Friendorship: Design, Art and Social Change	4	Mentoring high school students through hands on creative projects around themes such as social justice, art literacy and community. This course should be of particular value and interest to students who have a desire to teach and inspire, increasing access to arts learning for under-served teens.	Prefix
Fall 2019	M	Des	340	Interaction Design Principles	4	Studio course dealing in the fundamentals of Interaction Design, incorporating the concepts of sound Graphic Design principles with User Experience processes. Students will examine a series of interfaces, learn to analyze their effectiveness, and create designs that better serve real human needs. Topics include User Interface design, Systems Thinking, and User Experience research methods. Prerequisite: Des 120 and Des 121.	Prefix
Fall 2019	M	Des	341	Interactive Media I	4	Interactive design for the Web focusing on principles of information architecture, navigation systems, and visual interface. HTML / CSS markup and the use of visual design tools. Creation and optimization of graphics in compressed formats. Introduction to Web production work-flow through development of site projects and a personal portfolio. Topics include usability and the aesthetics of web media. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Open to non-majors who have prerequisites and consent of the instructor. Prerequisites: Des 120 and Des 210; also formal acceptance into the third year by Sophomore Portfolio Review.	Prefix
Fall 2019	M	Des	342	Interactive Media II	4	Interactive design that expands on principles of information architecture, navigation systems, and visual interface through the exploration of advanced design and development techniques. Advanced Web production work-flow will be explored through development of site projects. Critical analysis of work in the field establishes vocabulary and principles for effective design, usability, and interactivity. Technical standards for cross-browser design, client-side scripting, advanced HTML / CSS and basic frame-based web animation. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Open to non-majors who have prerequisites and consent of the instructor. Prerequisites: Des 341 and formal acceptance into the third year of the graphic design program by Sophomore Portfolio Review.	Prefix
Fall 2019	M	Des	345	Interactive Media II	4	Motion graphics for graphic designers. Apply compositional and typographic skills to sequential story-telling, using self-generated graphic and photographic imagery. Emphasis on work flow, storyboards, and clear communication with increasingly conceptual projects. Introduction to essential After Effects skills. Prerequisite: Formal acceptance into the third year by Sophomore Portfolio Review. Open to non-majors who have prerequisites and consent from the instructor.	Prefix

Fall 2019	M	Des	353	Typeface Design	4	Focus on developing the skills and critical thinking necessary for producing digital typefaces. History, technology and contemporary practices of the industry. Basic lettering skills and theory explored, to aid in the primary focus of creating a functional, flexible and useful typeface. Prerequisite: Des 254.	Prefix
Fall 2019	M	Des	354	Typography II	4	The second course in a sequence on typography addressing more complex communication problems. An emphasis is placed on developing strong conceptual solutions and integrating text and image. Design, Art and Literary Theory is introduced and applied to the problem-solving process. Continued emphasis is placed on understanding design within a historical context. Projects to include large, multiple page formats, such as books, editorial design and annual reports. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Open to non-majors who have prerequisites and consent of the instructor. Prerequisites: Des 200 and Des 254 and formal acceptance into the third year of the graphic design program by Sophomore Portfolio Review.	Prefix
Fall 2019	N	Des	358	Video, Design & Community	4	Focus on collaboration in video production and community-based media. Production of a promotional/informational video for community organizations in Portland. History of community and independent media. Basic video and audio recording, post-production, interviewing, and group decision-making skills. This is the same course as Art 358 and may be taken only once for credit.	
Fall 2019	M	Des	367	Design Business Practices	4	Introduction to multidisciplinary, team-based, problem-solving practices in communication design. Majors in art/graphic design and non-art majors enroll in this course to form interdisciplinary teams working on hypothetical projects or case studies in current business problems, issues, and trends. Emphasis is placed on strategic design and planning, creative process, project management, and studio management. Students demonstrate skills in research, conceptual development, persuasive writing and communication, negotiation, initiative, collaboration, and team dynamics. May be taken twice for credit. Maximum 8 credits. Open to non-majors with instructor's consent. Prerequisites: For Non-art majors: Des 100, Des 120, Des 200, Des 224, and Des 290. For Art majors, Des 225 and Des 254, and Des 200 & Des 210.	Prefix
Fall 2019	M	Des	425	A+D Projects	4	Advanced development of graphic design skills with emphasis placed upon conceptual development, research, visual and written messages, multi-task time and materials management, budgets and production. Emphasis will be placed on studio management, teamwork and production. Prerequisites: Successfully pass the sophomore review. Instructor approval.	Prefix
Fall 2019	M	Des	440	Interactive Team	4	Interactive media design and development for internal and external community clients. Design solutions are presented, critiqued, and revised based on initial and ongoing client contact. Sites are developed, tested, and maintained on web servers. Team-based design and development process is coordinated through project management practices. Emphasis is placed on strategic and tactical design process, industry standards, usability studies, business proposals, design documents, and other professional practices. This course requires that students furnish a laptop computer that meets the departmental standards in terms of hardware and software (see departmental website for requirements). Prerequisites: Des 341 and Des 342.	Prefix
Fall 2019	M	Des	441	Interface Design	4	Studio course in Interaction Design, with an emphasis on design concepts and techniques in several media including mobile and non-conventional interfaces. Thorough examination of design trends, usability testing and prototyping, and communicating content within the interactive space. Topics include interaction design patterns, user experience, environmental design, information architecture, and understanding industry standards in UX design. Prerequisite: Des 341.	Prefix

Fall 2019	M	Des	470	Design Thesis I	4	Students pursue their own sustained, integrated body of work that demonstrates refinement of visual and verbal communication ideas. This course emphasizes independent working practices along with the role of theory and criticism. This is the first course in a sequence of two: Des 470 and Des 471 and must be taken in sequence. Prerequisites: Des 320, Des 321, and Des 354.	Prefix
Fall 2019	M	Des	471	Design Thesis II	4	Students pursue their own sustained, integrated body of work that demonstrates refinement of visual and verbal communication ideas. This course emphasizes independent working practices along with the role of theory and criticism. This is the second course in a sequence of two: Des 470 and Des 471 and must be taken in sequence. Prerequisite: Des 470.	Prefix
Fall 2019	M	Des	472	Communication Design Portfolio	6	Development of a design portfolio that presents the creative, conceptual, strategic and technical abilities of the designer. Independent exploration is expected, as well as consistent and professional written and verbal presentation. Emphasis is placed on professional skills required in the marketplace. Required course for all majors in design. Prerequisites: Des 321, Des 341, Des 354, and Des 470 and senior status in the major.	Prefix
Fall 2019	M	Ec	312	Macroeconomic Theory	4	Tools and models to analyze factors influencing the levels of output, employment and prices. Fundamentals of the theory of business cycles, economic growth, and inflation. The role of government in solving macroeconomic problems. Prerequisites: Ec 202; Ec 311 or Ec 415 or consent of instructor.	Prerequisites
Fall 2019	M	ECED	421	Supervision in Early Childhood Education Settings	3	Integrates theory and research of adult and professional development with supervisory models and practices appropriate for early childhood education settings. Expected preparation: Undergraduate early childhood education coursework or teaching experience with young children. Also offered for graduate-level credit as ECED 521 and may be taken only once for credit.	Prefix and course number
Fall 2019	M	ECED	422	Advanced Curriculum Design in Kindergarten/ Primary Grades	3	This course will consider growth and development characteristics of children ages 5-8 years and research on teaching for planning educational programs, curricula, instruction, environment, management, and guidance. Also offered for graduate level credit as ECED 522 and may be taken only once for credit.	Prefix and course number
Fall 2019	M	ECED	423	Leading in ECE Programs	4	Develop a strong sense of early childhood leadership identity through multiple lenses of directing, teamwork, and/or coordinating classroom pedagogy and practice. Explore leadership roles in schools for young children including: teachers, supervisors, children, and parents. Collaborative and relational dimensions of the early childhood profession are also explored. Also offered for graduate-level credit as ECED 523 and may be taken only once for credit. Prerequisite: Undergraduate early childhood education coursework or teaching experience with young children or instructor's approval.	Prefix and course number
Fall 2019	M	ECED	460	Inclusive Early Childhood Models	3	Presents different approaches to early childhood education with a focus on inclusion and consultation in typical early childhood settings. Provides a framework for recommended practices for supporting young children with disabilities in early childhood settings. Discusses the underlying concepts and application of developmentally appropriate practice. Also offered for graduate-level credit as ECED 560 and may be taken only once for credit. Prerequisite: Upper-division standing.	Prefix and course number
Fall 2019	M	ECED	472	Language and Literacy in Early Childhood Education	3	Helps teachers understand, assess, and promote early experiences with language that contribute to the process of becoming literate. Expected preparation: Undergraduate early childhood education coursework or teaching experience with young children. Also offered for graduate-level credit as ECED 572 and may be taken only once for credit.	Prefix
Fall 2019	M	ECED	476	Equity and Cultural Diversity in Early Childhood Education	3	Explore developmental early childhood education practices, emphasizing developmentally and culturally appropriate objectives as well as anti-bias learning goals. Develop awareness of quality teaching practices by exploring personal cultural history, gaining insights into living examples of difference, witnessing the effects of bias, and learning to support fairness and issues of equity in a classroom. Also offered for graduate-level credit as ECED 576 and may be taken only once for credit.	Prefix

Fall 2019	M	ECED	477	Learning Designs: Early Childhood Environments	3	Study of quality learning environments and design, emphasizing the roles of children's learning, adult engagement, and the environment as the third teacher. Investigate space planning, program layout, design theories, and aesthetic values. Also offered for graduate-level credit as ECED 577 and may be taken only once for credit. Prerequisite: Junior level standing or prior coursework in child development.	Prefix
Fall 2019	M	ECED	478	Constructivist Curriculum: Big Ideas in Early Childhood Education	3	Examines the possibilities of exploring big ideas deeply over time and across the curriculum with preschool and primary age children. Focuses on the ways that integrated curriculum and project work support children's learning and foster the connections necessary for them to construct knowledge. Students have the opportunity to develop resources and design classroom experiences related to big ideas. Also offered for graduate-level credit as ECED 578 and may be taken only once for credit. Prerequisite: Junior level standing or prior coursework in child development.	Prefix
Fall 2019	M	ECED	479	Young Child as Scientist	3	Explores developmentally appropriate science for preschool and primary age children, focusing on experimentation and problem-solving. Students experience and design activities for young children around three questions that derive from traditional science content: can I make it move, can I make it change, and how does it fit? In the process, students will learn more about constructivist teaching and curriculum, particularly as applied to science education. Also offered for graduate-level credit as ECED 579 and may be taken only once for credit. Prerequisite: Junior level standing or prior coursework in child development.	Prefix
Fall 2019	M	ECED	521	Supervision in Early Childhood Education Settings	3	Integrates theory and research of adult and professional development with supervisory models and practices appropriate for early childhood education settings. Expected preparation: Undergraduate early childhood education coursework or teaching experience with young children. Also offered for undergraduate-level credit as ECED 421 and may be taken only once for credit.	Prefix and course number
Fall 2019	M	ECED	522	Advanced Curriculum Design in Kindergarten/ Primary Grades	3	This course will consider growth and development characteristics of children ages 5-8 years and research on teaching for planning educational programs, curricula, instruction, environment, management, and guidance. Also offered for undergraduate-level credit as ECED 422 and may be taken only once for credit.	Prefix and course number
Fall 2019	M	ECED	523	Leading in ECE Programs	4	Develop a strong sense of early childhood leadership identity through multiple lenses of directing, teamwork, and/or coordinating classroom pedagogy and practice. Explore leadership roles in schools for young children including: teachers, supervisors, children, and parents. Collaborative and relational dimensions of the early childhood profession are also explored. Also offered for undergraduate-level credit as ECED 423 and may be taken only once for credit. Prerequisite: Undergraduate early childhood education coursework or teaching experience with young children or instructor's approval.	Prefix and course number
Fall 2019	M	ECED	550	Foundations in Early Childhood and Inclusive Education	4	Focus on foundations of and approaches to inclusive early childhood education. Learn about developmental and inclusive practices, develop foundational knowledge and examine and challenge assumptions about inclusive teaching and learning. Prerequisite: Admission to the Masters in Early Childhood Education: Inclusive Education and Curriculum and Instruction.	Prefix
Fall 2019	M	ECED	551	Child Development in Early C	4	Study a multicultural perspective of child development (i.e., physical, social and emotional, language and literacy, cognitive) for young children (prenatal – preschool) with a range of ability levels. Examine theories of development and how those theories apply to young children with differing ability levels. Prerequisite: Admission to the Masters in Early Childhood Education: Inclusive Education and Curriculum and Instruction.	Prefix
Fall 2019	M	ECED	553	Issues in Early Childhood and Inclusive Education	4	Study contemporary issues related to inclusion in early childhood programs for children of all ability levels. Identify and respond to critical issues in contemporary early childhood education as it relates to inclusion. Analyze those issues from a variety of perspectives. Prerequisite: Admission to the Masters in Early Childhood Education: Inclusive Education and Curriculum and Instruction.	Prefix and course number

Fall 2019	M	ECED	560	Inclusive Early Childhood Models	3	Presents different approaches to early childhood education with a focus on inclusion and consultation in typical early childhood settings. Provides a framework for recommended practices for supporting young children with disabilities in early childhood settings. Discusses the underlying concepts and application of developmentally appropriate practice. Also offered for undergraduate-level credit as ECED 460 and may be taken only once for credit.	Prefix and course number
Fall 2019	M	ECED	571	Play: Curriculum in Early Childhood Education	3	Study of stages of play, theory, research on play, cultural differences in play, and adult role in facilitation of play. Curriculum will be reviewed, developed, and integrated with a focus on play for teaching and learning, for child-centered approaches, and for meeting needs of special learners. Prerequisite: Undergraduate early childhood education coursework or teaching experience with young children.	Prefix
Fall 2019	M	ECED	572	Language and Literacy in Early Childhood Education	3	Helps teachers understand, assess, and promote early experiences with language that contribute to the process of becoming literate. Expected preparation: Undergraduate early childhood education coursework or teaching experience with young children. Also offered for undergraduate-level credit as ECED 472 and may be taken only once for credit.	Prefix
Fall 2019	M	ECED	573	Assessment and Technology in Early Childhood Education	3	Study of and experience with a range of developmentally appropriate assessment and technology strategies for use in diagnostic, formative, and summative evaluation of growth and development of young children and for appropriate educational decisions in early childhood education settings. Prerequisite: Undergraduate early childhood education coursework or teaching experience with young children.	Prefix
Fall 2019	M	ECED	576	Equity and Cultural Diversity in Early Childhood Education	3	Explore developmental early childhood education practices, emphasizing developmentally and culturally appropriate objectives as well as anti-bias learning goals. Develop awareness of quality teaching practices by exploring personal cultural history, gaining insights into living examples of difference, witnessing the effects of bias, and learning to support fairness and issues of equity in a classroom. Also offered for undergraduate-level credit as ECED 476 and may be taken only once for credit.	Prefix
Fall 2019	M	ECED	577	Learning Designs: Early Childhood Environments	3	Study of quality learning environments and design, emphasizing the roles of children's learning, adult engagement, and the environment as the third teacher. Investigate space planning, program layout, design theories, and aesthetic values. Also offered for undergraduate-level credit as ECED 477 and may be taken only once for credit. Prerequisite: Prior coursework in child development.	Prefix
Fall 2019	M	ECED	578	Constructivist Curriculum: Big Ideas in Early Childhood Education	3	Examines the possibilities of exploring big ideas deeply over time and across the curriculum with preschool and primary age children. Focuses on the ways that integrated curriculum and project work support children's learning and foster the connections necessary for them to construct knowledge. Students have the opportunity to develop resources and design classroom experiences related to big ideas. Also offered for undergraduate-level credit as ECED 478 and may be taken only once for credit. Prerequisite: Prior coursework in child development.	Prefix
Fall 2019	M	ECED	579	Young Child as Scientist	3	Explores developmentally appropriate science for preschool and primary age children, focusing on experimentation and problem-solving. Students experience and design activities for young children around three questions that derive from traditional science content: can I make it move, can I make it change, and how does it fit? In the process, students will learn more about constructivist teaching and curriculum, particularly as applied to science education. Also offered for undergraduate-level credit as ECED 479 and may be taken only once for credit. Prerequisite: Prior coursework in child development.	Prefix

Fall 2019	M	ECED	585	Dynamic Models of Infant/Toddler Development	3	Provides information on typical infant and toddler mental health development and strategies for working with young children and their families within a culturally sensitive context. Includes prenatal and postnatal development, brain development as well as theories of development including attachment, resiliency, and self-regulation are presented from a cross-disciplinary perspective. Content reflects recommended practices across disciplines when working with young children and their families.	Prefix
Fall 2019	M	ECED	590	Dynamic Models of Infant/Toddler Development	3	Designed to help educators see themselves as researchers so that they can conduct research in educational settings that contribute to the improvement of education. Knowledge of accessing and using research literature, the range of educational research paradigms and using appropriate research methods included. Students will develop a proposal for an action research project related to improving educational outcomes for all learners.	Prefix
Fall 2019	M	ECED	591	Action Research Implementation	3	Implementation of action research project designed in ECED 590. Discuss issues related to implementation of action research project designed in ECED 590. Learn skills to analyze data collected during implementation of action research proposal from surveys, interviews, focus groups, observation, journaling, writing and concept maps. Develop critical thinking abilities to analyze, synthesize and evaluate research results. Present final project in written paper. Prerequisite: ECED 590.	Prefix
Fall 2019	M	Eng	305U	Topics in Film	4	Study of film as text, including auteur, formalist, historical, and cultural perspectives. Course may be repeated for credit with different topics. Up to 8 credits of this course number can be applied to the English major.	Description, repeatability, and grading option
Fall 2019	M	Eng	422	African Fiction	4	Study of literary and cultural production from the African continent, focusing on topics such as colonialism, national liberation, globalization, gender, and the relationship between art and politics. Includes some consideration of the question of language and the appropriation of Western literary conventions. Also offered for graduate-level credit as Eng 522 and may be taken only once for credit. Prerequisites: Eng 300 and Wr 301.	Description, repeatability, and grading option
Fall 2019	N	Eng	489	Advanced Topics in Contemporary Literature	4	Study of specialized topics in late twentieth- and early twenty-first-century literature, focusing on specific literary movements, genres and forms, or modes of cultural representation. Topics may include postcolonialism, magic realism, posthumanism, queer theory, or digital/electronic literary forms. Course may be repeated for credit with different topics. Up to 8 credits of this course number can be applied to the English major. Prerequisite: Eng 300 and Wr 301.	
Fall 2019	N	Eng	497	Comics History	4	Study of comics art as a medium of visual narrative and its evolution through the history of the American comics industry. Topics include the diversity of comics and their storytelling power by investigating the distinctive qualities of seminal texts, their origins and precedents, their relationships to particular cultural moments, and their potential as inspiration and influence on later comics art. Also offered for graduate-level credit as Eng 597 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	N	Eng	597	Comics History	4	Study of comics art as a medium of visual narrative and its evolution through the history of the American comics industry. Topics include the diversity of comics and their storytelling power by investigating the distinctive qualities of seminal texts, their origins and precedents, their relationships to particular cultural moments, and their potential as inspiration and influence on later comics art. Also offered for undergraduate-level credit as 497 and may be taken only once for credit.	
Fall 2019	N	Epi	611	Epidemiology Doctoral Seminar II	2	This advanced doctoral-level course synthesizes across students' prior training in epidemiology, biostatistics, applied research, and the disciplines/content areas that are required for students' doctoral research. Building on this foundation, and drawing from doctoral students' and the instructor's expertise, this course aims to facilitate the intellectual development required to conduct and present original epidemiologic research. Prerequisite: Epi 610.	

Fall 2019	N	Epi	640	Research Proposal and Design	3	Provides an introduction to research design and proposal writing. It builds upon concepts of epidemiology and biostatistics to enable students to develop a study plan to conduct public health research that is efficient, effective, and ethical. Writing a research proposal is a skill necessary in the professional practice of public health. During this course, students will prepare a written proposal that includes a concise statement of the epidemiologic research question, testable hypotheses, appropriate specific aims, and a plan of work. Also offered as Epi 540 and may be taken only once for credit. Prerequisite: Epi 612.	
Fall 2019	N	Epi	668	Infectious Disease Epidemiology	2	Provides an introduction to infectious epidemiology, and includes fundamental topics such as outbreak investigation, public health communicable disease surveillance and reporting, biological concepts of disease introduction, evolution and spread, and design of population-based studies to evaluate features of infectious diseases (e.g., risk factors, method of spread, clinical features, disease prevalence). Will also introduce some of the categories of communicable diseases and highlight some features of the major diseases within each category. Also offered as Epi 568 and may be taken only once for credit. Prerequisite: Epi 512 and Bsta 512.	
Fall 2019	N	Epi	676	Chronic Disease Epidemiology	2	Gives students an understanding of the epidemiology of major chronic diseases in developed countries. It covers three aspects of chronic disease: 1) epidemiology methods used in their study, 2) epidemiologic findings and current status of epidemiologic research into various chronic diseases, and 3) the epidemiology of the major risk factors for chronic diseases. The course is based on presentations by researchers and public health practitioner experts on specific chronic disease topics. Also offered as Epi 576 and may be taken only once for credit. Prerequisite: Epi 612.	
Fall 2019	N	ESHH	512	Global & Planetary Health Concepts	3	Provides an introduction to Global and Planetary Health. It will focus on the factors that make public health a priority at regional and global scales. It will also address the underlying processes that determine public health in a range of regional settings. Also offered as ESHH for doctoral students and may be taken only once for credit.	
Fall 2019	N	ESHH	612	Global & Planetary Health Concepts	3	Provides an introduction to Global and Planetary Health. It will focus on the factors that make public health a priority at regional and global scales. It will also address the underlying processes that determine public health in a range of regional settings. Also offered as ESHH for master's students and may be taken only once for credit.	
Fall 2019	M	ESM	221	Applied Environmental Studies: Problem Solving	4	Environmental problem solving, sampling, design for quantitative sampling, and measurement. Prerequisites: ESM 220 or (ESM 101 and ESM 102); Math 111 (instructor will waive this prerequisite with an ALEKS score of >59).	Prerequisites
Fall 2019	N	ESM	440	The Ecology & Management of Wildfire	4	A field-based class offered jointly by the Departments of Environmental Science & Management and Geography. This class focuses on the complex challenges of managing wildfire in integrated social and ecological systems (SESs) and uses the western US as case study to focus on the biophysical and social science behind those challenges. The course adds field studies in NE Oregon to understand how integrated SESs manage wildfire and wildfire risks in practice. Also offered for graduate-level credit as ESM 540 and may be taken only once for credit. This is the same course as Geog 440 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	N	ESM	487	Environmental Justice	4	Explores the foundations of environmental justice theory and how they apply to historical, current and emerging global issues. This course explores philosophies of justice and fairness as they relate to environmental 'goods' and 'bads.' We will explore a variety of case studies, touching on interrelated topics including food justice, climate and energy justice, water justice and infrastructure supply and demand, etc. This course blends sociological perspectives with natural resource management and policy implications. Expected preparation ESM 335 or Geog 345U. Also offered for graduate-level credits as ESM 587 and may be taken only once for credit. Prerequisite: Upper division standing.	

Summer 2019	N	ESM	540	The Ecology & Management of Wildfire	4	A field-based class offered jointly by the Departments of Environmental Science & Management and Geography. This class focuses on the complex challenges of managing wildfire in integrated social and ecological systems (SESS) and uses the western US as case study to focus on the biophysical and social science behind those challenges. The course adds field studies in NE Oregon to understand how integrated SESS manage wildfire and wildfire risks in practice. Also offered for undergraduate-level credit as ESM 440 and may be taken only once for credit. This is the same course as Geog 540 and may be taken only once for credit.	
Fall 2019	N	ESM	587	Environmental Justice	4	Explores the foundations of environmental justice theory and how they apply to historical, current and emerging global issues. This course explores philosophies of justice and fairness as they relate to environmental 'goods' and 'bads.' We will explore a variety of case studies, touching on interrelated topics including food justice, climate and energy justice, water justice and infrastructure supply and demand, etc. This course blends sociological perspectives with natural resource management and policy implications. Expected preparation: ESM 335 or Geog 345U. Also offered for undergraduate-level credit as ESM 487 and may be taken only once for credit.	
Winter 2019	N	FILM	130	Introduction to Digital Filmmaking for Non-Film Majors	4	A video production course for non-film-majors seeking a basic introduction to digital filmmaking technology and the film production process. Introduces students to the basic uses of current digital film equipment: cameras, lighting kits, editing software, and on-set safety procedures. Offers a survey of media landscapes (fiction, non-fiction, commercial, and experimental forms), production disciplines (live-action, animation, game design, virtual reality, visual effects). There is no pre-requisite for the course.	
Fall 2019	M	FILM	231	Advanced Film Analysis	4	Builds upon the concepts related to the formal analysis of film and presents students with complementary, advanced methodologies, including genre study, narrative, historical research, and industry studies. Prerequisite: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	M	FILM	257	Narrative Film Production I	4	An introductory study of aesthetic, technical, and content-related principles of digital filmmaking in fictional narrative formats. Prerequisite: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	M	FILM	258	Documentary Film Production I	4	An introductory study of aesthetic, technical, and content-related principles of digital filmmaking in nonfiction, documentary formats. Prerequisite: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	M	FILM	280	Classical Film Theory	4	Introduces the significant trends of the first fifty years of Western film theory via primary and secondary source essays. Topics may include realism, authorship, conceptions of modernist representation, and Soviet montage. Prerequisite: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	M	FILM	358	Narrative Film Production II	4	An intermediate study of aesthetic, technical, and content-related principles of digital filmmaking in fictional narrative formats. Prerequisite: FILM 257.	Prerequisites
Fall 2019	M	FILM	359	Narrative Film Production III	4	An advanced study of aesthetic, technical, and content-related principles of digital filmmaking in fictional narrative formats. Prerequisite: FILM 358.	Prerequisites
Fall 2019	M	FILM	360	Topics in Film Production	4	Focused study of a variety of specialized skills and/or genres related to digital film production. From term to term, topics might include: Visual Effects; Music Videos; Web Cinema; Advanced Directing; Producing. Course may be repeated for credit with different topics. Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade; FILM 257 or FILM 258.	Description and prerequisites
Fall 2019	M	FILM	361	Documentary Film Production II	4	An intermediate study of aesthetic, technical, and content-related principles of digital filmmaking in nonfiction, documentary formats. Prerequisite: FILM 258.	Prerequisites
Fall 2019	M	FILM	362	Documentary Film Production III	4	An advanced study of aesthetic, technical, and content-related principles of digital filmmaking in nonfiction, documentary formats. Prerequisite: FILM 361.	Prerequisites

Fall 2019	M	FILM	363	Topics in Experimental Film and Media Production	4	Introduction to new scenarios for cinema and new reasons for deploying it in different spaces, particularly in public. In using various combinations of cameras, screens, projectors, participants, and spaces it challenges students to design and construct moving image-based works that address unique historical, spatial, and social situations and struggles in public and semi-public spaces. Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade; FILM 257 or FILM 258.	Prerequisites
Fall 2019	M	FILM	364	Sound: Production and Design	4	Students will study and apply production and post-production sound techniques for fiction and non-fiction film and video applications. The technical aspects and aesthetic considerations of storytelling through sound in lectures, screenings, demonstrations, exercises, creative projects, and class critiques will be assessed. Topics include: principles of sound, production sound recording equipment, positioning microphones, audio software, sound mixing, effects editing, using music, editing dialogue, and careers in production and post-production audio. Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade; FILM 257 or FILM 258.	Prerequisites
Fall 2019	M	FILM	365	Editing	4	Introduction to the fundamental theories of fiction and non-fiction editing techniques, technologies, and skills required to produce well-edited work. Topics include rhythm, continuity, style, space, and motion contextualized within global film practices. Learn how to use editing to shape and structure moving images and sound to invest them with intention, narrative and meaning. Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade; FILM 257 or FILM 258.	Prerequisites
Fall 2019	M	FILM	366	Digital Cinematography	4	Students will study and apply camera and lighting techniques for fiction and non-fiction film and video applications. We will address the technical aspects and aesthetic considerations of visual storytelling through lectures, screenings, demonstrations, exercises, creative projects and class critiques. Topics include: pre-production visualization, methods for shooting coverage, principles of composition, employing 2D and 3D space, the moving camera, using available light, production lighting techniques, how focal length impacts the shot, controlling depth of field, and managing exposure. Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade; FILM 257 or FILM 258.	Prerequisites
Fall 2019	M	FILM	374	Topics in Screenwriting	4	Course in screenwriting involving short and long form screenplays, the analysis of narrative structure for the screen, and the practical application screenwriting techniques. Course may be repeated for credit with different topics. Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	M	FILM	381	Film History I	4	A study of the evolution of film language from the silent era to the introduction of sound; how the influences of a broad range of cinematic art movements, including Expressionism, Impressionism, Surrealism and Poetic Realism, contributed to the classical Hollywood style. Also examines the artistic, economic and technological forces that led to the Hollywood studio system and the popularity of genres such as the western, the musical and the gangster film. Co-requisite: FILM 381L Film History I Lab (zero credits). Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade. Sophomore standing recommended.	Prerequisites
Fall 2019	M	FILM	382	Film History II	4	A study of the major artistic, economic and technological trends of motion picture production during the post-war era; how directors such as Hitchcock and Welles were able find a unique expression within the parameters of the classical style and the commercial pressures of the studios. Explores how world cinema movements presented aesthetic and political challenges to the Hollywood model. Co-requisite: FILM 382L Film History II Lab (zero credits). Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade. Sophomore standing recommended.	Prerequisites

Fall 2019	M	FILM	383	Film History III	4	A study of contemporary world film production from the struggles of an independent and avantgarde cinema to the CGI effects of today's blockbuster. Also examines how world cinema production has adapted to new digital technologies and the demands of a global market. Co-requisite: FILM 383L Film History III Lab (zero credits). Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade. Sophomore standing recommended.	Prerequisites
Fall 2019	M	FILM	484	Anatomy of a Movie	4	Operates as a case study of one well known, critically acclaimed film, examining the industrial, technical, cultural, and artistic elements in the film's production, exhibition and reception. Topics include studio ideology and production strategies, the star system, and historic context and meaning of films, independent cinema practices. Prerequisite: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	M	FILM	486	Topics in Film and the Moving Image	4	Concentrated study of genre, structure and style of a particular period, topic and/or figure in film and the moving image; for example, '70's Film & TV Renaissance, Irish Cinema, and/or Robert Altman. Prerequisites: FILM 131 and upper division standing. Prerequisites: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	M	FILM	487	Topics in International Film and the Moving Image	4	Concentrated study of national cinema (non-US) or national cinema movement. Students will consider the cinema in relation to: national context and cinematic history; other national/transnational cinemas; and independence and nationalism, censorship, and political and artistic movements. Examples include Irish Cinema, Italian Neorealism, and New Wave Cinemas. Prerequisite: FILM 131 and FILM 132, in which you must earn a minimum C+ grade.	Prerequisites
Fall 2019	N	Fin	419	Financial Data Analytics & Modeling	4	Applies analytical tools to analyze big data around financial issues faced by analysts, corporate managers, fund managers, and investors. Lectures and cases/projects reinforce concepts and provide the foundation to analyze real financial problems around such issues of estimating stock returns; stock risk; the effects of anti-takeover policies on corporate innovation; the influence of CSR ratings on firms' market values; and the impacts of management compensation and board governance on firm performance. Prerequisite: BA 303.	
Fall 2019	N	Fin	431	Financial Markets & Institutions	4	Introduces the operations, structure, and functions of financial markets and institutions and the important role they play in the financial decision-making process of a firm. Emphasis on financial markets and the aggregate economy, how these financial institutions measure and manage the unique risks to which they are exposed and the governing rules and regulations of financial markets and institutions that govern how risk is transferred. Prerequisite: BA 303.	
Fall 2019	N	Fr	344	Introduction to Francophone Literature	4	Literature in French from Africa and the Caribbean. Poetry, theater, and prose readings from representative authors. This is the fourth course in a sequence of four: Fr 341U, Fr 342U, Fr 343U, Fr 344. Expected preparation: Fr 301 or Fr 302. Prerequisite: Fr 203.	
Fall 2019	N	Geog	467	Community Resilience in Coupled Socio-Ecological Systems	4	Examines community vulnerability, adaptation, and resilience to environmental risks and hazards in the coupled human and natural systems from a geographical and spatial science perspective. Focuses on US and international case studies in major urban areas to investigate the questions of "why, when, for whom, and how" of community resilience across scales. Also offered for graduate-level credit as Geog 567 and may be taken only once for credit. Prerequisite: Geog 230.	
Fall 2019	N	Geog	567	Community Resilience in Coupled Socio-Ecological Systems	4	Examines community vulnerability, adaptation, and resilience to environmental risks and hazards in the coupled human and natural systems from a geographical and spatial science perspective. Focuses on US and international case studies in major urban areas to investigate the questions of "why, when, for whom, and how" of community resilience across scales. Also offered for undergraduate-level credit as Geog 467 and may be taken only once for credit.	
Fall 2019	N	GSCM	560	Supply Chain Modeling & Simulation	4	Introduces a variety of modeling and simulation techniques and can be used to explore a number of topics in supply chain management. Prerequisite: Admission into the program.	
Fall 2019	N	GSCM	571	Business Analytics I	4	Introduce students to key analytics methods dealing with statistics, probability, and forecasting. Prerequisite: Admission into the program.	

Fall 2019	N	GSCM	572	Business Analytics II	4	Focus on the use of mathematical programming and optimization methods to support decision-making related to supply chain management. Prerequisite: Admission into the program.	
Fall 2019	N	GSCM	573	New Product Introduction and Innovation	4	Apply supply chain management thinking into new product design and innovation process. Prerequisite: Admission into the program.	
Fall 2019	M	Geog	363U	Geography of sub-Saharan Africa	4	A survey course on the physical and human geography of the continent of Africa, focusing on the variability of the physical landscape, including geomorphology, vegetation, and climate and on the patterns and implications of cultural diversity. Examines links between natural resources, economic development, and environmental management on location, national and regional scales. Case studies from various countries and regions will be used.	Title
Fall 2019	M	Geog	413	Disturbance Biogeography of Pacific Northwest	4	Disturbances are important natural components of all ecosystems, including those in the Pacific Northwest. Disturbances also present risks to human society, yet these are difficult to assess, prevent and predict. This course will serve as an introduction to disturbance ecology in terrestrial ecosystems in the PNW (i.e. from theory to human modifications of nature), including volcanoes, insect outbreaks, wildfires, landslides, earthquakes, and floods among others. The course includes at least one mandatory day field trip. Also offered for graduate-level credit as Geog 513 and may be taken only once for credit. Prerequisites: Geog 210; Geog 313 or Bi 351 or Geog 313U.	Title and description
Summer 2019	N	Geog	440	The Ecology & Management of Wildfire	4	A field-based class offered jointly by the Departments of Environmental Science & Management and Geography. This class focuses on the complex challenges of managing wildfire in integrated social and ecological systems (SEEs) and uses the western US as case study to focus on the biophysical and social science behind those challenges. The course adds field studies in NE Oregon to understand how integrated SEEs manage wildfire and wildfire risks in practice. Also offered for graduate-level credit as Geog 540 and may be taken only once for credit. This is the same course as ESM 440 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	M	Geog	513	Disturbance Biogeography of Pacific Northwest	4	Disturbances are important natural components of all ecosystems, including those in the Pacific Northwest. Disturbances also present risks to human society, yet these are difficult to assess, prevent and predict. This course will serve as an introduction to disturbance ecology in terrestrial ecosystems in the PNW (i.e. from theory to human modifications of nature), including volcanoes, insect outbreaks, wildfires, landslides, earthquakes, and floods among others. The course includes at least one mandatory day field trip. Expected preparation: Geog 210, Geog 313 or Bio 357. Also offered for undergraduate-level credit as Geog 413 and may be taken only once for credit.	Title and description
Summer 2019	N	Geog	540	The Ecology & Management of Wildfire	4	A field-based class offered jointly by the Departments of Environmental Science & Management and Geography. This class focuses on the complex challenges of managing wildfire in integrated social and ecological systems (SEEs) and uses the western US as case study to focus on the biophysical and social science behind those challenges. The course adds field studies in NE Oregon to understand how integrated SEEs manage wildfire and wildfire risks in practice. Also offered for undergraduate-level credit as Geog 440 and may be taken only once for credit. This is the same course as ESM 540 and may be taken only once for credit.	
Fall 2019	N	HSMP	675	Advanced Health Policy	3	Provides students focusing on health policy analysis or advocacy the opportunity to explore specific areas of health policy in-depth. Taught as a seminar with students required to select two policy areas, develop readings and questions, and lead class discussion facilitated by the instructor. Coursework emphasizes the understanding, identification and development of successful and sustainable health policy including preparation of four brief, structured policy proposals. Also offered for graduate-level credit as HSMP 575 and may be taken only once for credit. Prerequisite: HSMP 671.	

Fall 2019	N	ISQA	481	Blockchain Fundamentals	4	This course introduces the fundamentals of blockchain technology and provides a comprehensive survey of the essential building blocks and unique characteristics of this innovative technology. Also offered for graduate-level credit as ISQA 581 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	482	Blockchain Fundamentals Lab	2	This course provides practice using technologies that will help students understand the core features of blockchain networks as well as the cryptocurrencies and smart contracts that they enable. Also offered for graduate-level credit as ISQA 582 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	483	Blockchain in Business	4	This course explores business uses of distributed ledger technology (DLT), including for transferring value, executing smart contracts, tracking chain of custody, and verifying identify. Also offered for graduate-level credit as ISQA 583 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	484	Blockchain in Business Lab	2	This course provides extensive hands-on practice using distributed ledger technologies and discussions about the appropriate uses of relational databases and various permissioned and permissionless blockchain systems. Also offered for graduate-level credit as ISQA 584 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	485	Blockchain Uses and Applications	4	This course explores current and proposed blockchain uses in variety of industries and sectors and enables students to design and develop distributed applications (DApps). Also offered for graduate-level credit as ISQA 585 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	486	Emerging Topics in Blockchain	2	This course explores current and future blockchain innovations and resources available for learning about blockchain developments. Also offered for graduate-level credit as ISQA 586 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	516	Multiple Regression with Business Applications	3	Presents some linear model building and evaluation techniques using multiple regression. The course is organized around applications to understand related and potentially causal factors in a management context with implications for management decision making. The goal is to construct and interpret regression models according to specified predictor variables that contribute to predicting the unknown value of the response variable of interest. Students who do not have familiarity with basic statistical analyses will be given access to a primer.	
Fall 2019	M	ISQA	521	Data Visualization	2	An essential component of Business Intelligence / Analytics is data visualization. This course prepares students to generate data visualizations with several standard software applications in analytics, and to interpret and communicate the results to an organization's decision makers.	Title and description
Fall 2019	N	ISQA	581	Blockchain Fundamentals	4	This course introduces the fundamentals of blockchain technology and provides a comprehensive survey of the essential building blocks and unique characteristics of this innovative technology. Also offered for undergraduate-level credit as ISQA 481 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	582	Blockchain Fundamentals Lab	2	This course provides practice using technologies that will help students understand the core features of blockchain networks as well as the cryptocurrencies and smart contracts that they enable. Also offered for undergraduate-level credit as ISQA 482 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	583	Blockchain in Business	4	This course explores business uses of distributed ledger technology (DLT), including for transferring value, executing smart contracts, tracking chain of custody, and verifying identify. Also offered for undergraduate-level credit as ISQA 483 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	584	Blockchain in Business Lab	2	This course provides extensive hands-on practice using distributed ledger technologies and discussions about the appropriate uses of relational databases and various permissioned and permissionless blockchain systems. Also offered for undergraduate-level credit as ISQA 484 and may be taken only once for credit. Prerequisite: Blockchain Primer.	

Fall 2019	N	ISQA	585	Blockchain Uses and Applications	4	This course explores current and proposed blockchain uses in variety of industries and sectors and enables students to design and develop distributed applications (DApps). Also offered for undergraduate-level credit as ISQA 485 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ISQA	586	Emerging Topics in Blockchain	2	This course explores current and future blockchain innovations and resources available for learning about blockchain developments. Also offered for undergraduate-level credit as ISQA 486 and may be taken only once for credit. Prerequisite: Blockchain Primer.	
Fall 2019	N	ITP	537	Instructional Design and Assessment	1-3	This yearlong course explores the theoretical frameworks and practical strategies that assist novice teachers in planning effective classroom curricula, assessments and instruction, while focusing on the developmental and learning needs of learners. Prerequisite: Admission to the Graduate Teacher Education Program (GTEP).	
Fall 2019	M	ITP	538	Integrated Methods	4	Emphasizes inquiry processes in the various content areas, and place-based, project based approaches to teaching and learning in grades PreK-8. Design integrated units of study that focus on social studies, art, music, and movement. Also offered for undergraduate-level credit at ITP 438 and may be taken only once for credit. Prerequisite: Admission to a teacher education program.	Title, description, credit hours
Fall 2019	M	ITP	539	Elementary Mathematics Methods	1-4	Emphasizes meaningful understanding of elementary-level mathematics content. Situates teaching, learning, and assessment within the context of state and national standards as well as research proven practices. Focuses on strategies for developing competence with teaching through problem solving and teaching students in a developmentally appropriate, culturally responsive manner.. Prerequisites: Admission to the Graduate Teacher Education Program.	Description, credit hours
Fall 2019	M	ITP	540	Foundations of Literacy	4	An introduction to literacy processes. Address teaching practices specifically for elementary learners in grades PK-3. Examine emergent and early reading processes, how to assess them, and how to support their development in classrooms. Literacy development characteristics and teaching approaches for students who are culturally and linguistically diverse are addressed explicitly in the course.	Credit hours
Fall 2019	M	ITP	543	Professional Collaboration in Elementary Education	1-3	This course over four terms facilitates collaborative professional learning centered on improvement of field based practices to support learners. Candidates will engage in systematic observation and examination of one's own practice and engage in a cycle of inquiry to systematically study their teaching and/or learning within their clinical experience. In addition, students design and implement their capstone project. Prerequisite: Must be admitted into a teacher education program.	Description
Fall 2019	D	ITP	544	Clinical Support for Elementary Teachers	3		
Fall 2019	M	Jpn	343	Topics in Japanese Literature (In Translation)	4	Introductory survey of Japanese literature from its beginnings to the present, including such works as The Man'yoshu, The Tale of Genji, plays by Zeami and Chikamatsu, Basho's haiku, and masterpieces of modern fiction. Jpn 341 focuses on classical and medieval literature; Jpn 342 focuses on Tokugawa and modern literature. Conducted in English. This is the third course in a sequence of three: Jpn 341, Jpn 342, and Jpn 343.	Description
Fall 2019	N	Jpn	345U	Manga Now!	4	Readings of new, critically acclaimed Japanese comic books and analysis of recent writings about the graphic-novel form. Readings of the manga are followed by a discussion of the artistic style, questions about Japanese society, and what kind of new developments are happening in the genre. Readings and discussions are in English. Expected preparation: Jpn 344.	Description

Fall 2019	N	Ling	431	Language, Identity, and Culture	4	Provides a systematic overview of theories and practices concerning the relationship of language, culture, and identity (personal and cultural). It will address common misconceptions about language and culture, and promote an understanding of the affective nature of language. Students will develop skills in analyzing information and data about culture and language, including variation in language use and thematic analysis of interview data. This course will focus on adult educational settings, domestic and global. Also offered for graduate-level credit as Ling 531 and may be taken only once for credit. Prerequisite: Sophomore-standing.	
Fall 2019	M	Ling	438	Second Language Acquisition	4	Introduction to main aspects of second language acquisition from sociolinguistic and psycholinguistic perspectives. Examines comprehension and production, stages in acquisition, cognitive processes, linguistic environment, individual variables, relationship between first and second language. Research project based on collection and analysis of language-learner language. Also offered for graduate-level credit as Ling 538 and may be taken only once for credit. Prerequisite: Sophomore standing.	Prerequisites
Fall 2019	N	Ling	457	Writing Workshop for Multilingual Graduate Students	2	The Graduate Writing Workshop is a 2-credit course designed to support multilingual graduate students with their existing writing projects. Students should have an existing writing project or regular written assignments that they wish to receive guidance on. Through seminar-style discussions and peer workshops, students will develop a critical awareness of their own writing needs and the conventions of American academic writing. Prerequisite: Graduate-student standing.	
Fall 2019	M	Ling	477	TESOL Methods I	4	The first in a two-course sequence on classroom teaching focused on theoretical and practical perspectives on classroom teaching and learning. Ling 477 and Ling 478 must be taken in sequence. Also offered for graduate-level credit as Ling 577 and may be taken only once for credit. Prerequisite: Sophomore standing.	Description and prerequisites
Fall 2019	N	Ling	513	Language, Identity, and Culture	4	Introduces students to the applications of phonetics and phonology to the teaching of English and other real-world problems. Students will learn how to describe the sound system of English, represent its phonology with basic formalisms, and compare this system to that of other languages. This knowledge will enable students to diagnose and remediate problems learners might have with the sound system of English.	
Fall 2019	N	Ling	521	Applied English Grammar	4	Offers graduate students a foundation in grammar terminology and skills for conducting and writing up analyses of language data to be applied in both research and teaching. The course examines patterns of language use across different registers of English and how other languages differ from English in encoding similar information. It also builds awareness of world varieties of English. Students will also become familiar with commonly used databases for conducting language research.	
Fall 2019	N	Ling	531	Language, Identity, and Culture	4	Provides a systematic overview of theories and practices concerning the relationship of language, culture, and identity (personal and cultural). It will address common misconceptions about language and culture, and promote an understanding of the affective nature of language. Students will develop skills in analyzing information and data about culture and language, including variation in language use and thematic analysis of interview data. This course will focus on adult educational settings, domestic and global. Also offered for undergraduate-level credit as Ling 431 and may be taken only once for credit.	
Fall 2019	M	Ling	538	Second Language Acquisition	4	Introduction to main aspects of second language acquisition from sociolinguistic and psycholinguistic perspectives. Examines comprehension and production, stages in acquisition, cognitive processes, linguistic environment, individual variables, relationship between first and second language. Research project based on collection and analysis of language-learner language.	Prerequisites

Fall 2019	M	Ling	565	Research in Language Teaching and Applied Linguistics	4	Introduces students to the basics of reading and writing about research in TESOL. It will develop the metalanguage necessary for discussing and critically evaluating research articles, skills for synthesizing research articles, and identifying and evaluating research methodologies. Students will also practice skills for proactively searching out information to better understand research so they can continue to be critical consumers of research as they enter the teaching profession. Prerequisites: Graduate-standing and completion of at least 12 credits in Applied Linguistics.	
Fall 2019	M	Ling	566	Culminating Workshop for TESOL and Applied Linguistics	4	Workshop for students in the MA TESOL program. As part of this course, students will develop a portfolio that contains revised work from previous courses (both language analysis and pedagogical), prepare a short public presentation, develop job application materials, and synthesize and reflect on what they have learned in the program. Prerequisites: Graduate-standing and completion of at least 36 credits in the MA TESOL program.	
Fall 2019	M	Ling	577	TESOL Methods I	4	The first in a two-course sequence on classroom teaching focused on theoretical and practical perspectives on classroom teaching and learning. Ling 577 and Ling 578 must be taken in sequence. Also offered for undergraduate-level credit as Ling 477 and may be taken only once for credit.	Description and prerequisites
Fall 2019	M	ME	240	Survey of Manufacturing Processes	2	Survey of manufacturing processes, including casting, forming, machining, joining, and nontraditional processes. Emphasis on process capabilities and limitations and design for manufacturability. Also includes topics in product design, material selection, and process planning. Prerequisite: ME 213.	Prerequisites
Fall 2019	M	ME	313	Analysis of Mechanical Components	4	Stress and deflection analysis of structural components including review of stress and strain; curved beams; pressure vessels, impact loading, stability, and energy methods. Failure theory of mechanical components under static and fatigue loads will also be discussed. Prerequisites: ME 213 (concurrent enrollment allowed), EAS 212, Mth 261.	Prerequisites
Fall 2019	N	ME	456	Mechatronics	4	Students will gain an understanding of mechatronic (mechanical-electrical) systems and apply this knowledge directly in hands-on lab experiments. They will build circuits, collect sensor data, use a microcontroller, and control a motor. The format of the course will be one lecture and one lab per week. Also offered for graduate-level credit as ME 556 and may be taken only once for credit. Prerequisite: ME 351.	
Fall 2019	N	ME	474	Rapid Prototyping, 3D Printing, and Additive Manufacturing	4	Focus on rapid prototyping during an engineering design cycle to provide a comprehensive understanding of the methods, physical processes, resulting part attributes, and applications for the most common 3D printing technologies used by engineers. Both direct and indirect manufacturing processes are covered as well as some exposure to rapid manufacturing. Other topics include processing, part quality and metrology, 3D scanning, mesh manipulation and repair, and mechatronics review. Also offered for graduate-level credit as ME 574 and may be taken only once for credit. Prerequisite: Upper division standing.	
Fall 2019	N	ME	574	Rapid Prototyping, 3D Printing, and Additive Manufacturing	4	Focus on rapid prototyping during an engineering design cycle to provide a comprehensive understanding of the methods, physical processes, resulting part attributes, and applications for the most common 3D printing technologies used by engineers. Both direct and indirect manufacturing processes are covered as well as some exposure to rapid manufacturing. Other topics include processing, part quality and metrology, 3D scanning, mesh manipulation and repair, and mechatronics review. Also offered for undergraduate-level credit as ME 474 and may be taken only once for credit.	
Fall 2019	N	Mgmt	548	Special Topics in HR Analytics	2	Selected topics in HR analytics for human resources professionals. Potential topics include Storytelling with Data for HR, HR Data Visualizations, Addressing Evidence-Based HR Questions, HR Metrics, Recruitment and Selection, Training, Performance Management, Reward Systems, and Workforce Planning and Mobility.	

Fall 2019	N	Mktg	440	Practicum: FIR NW Student Ad Agency	4	FIR NW is a student-run advertising agency within the School of Business that offers experience in development and execution of advertising, brand and communication strategy to solve business problems faced by community-based businesses and organizations. Requirements: Application and acceptance plus a minimum of 2 and a maximum of 3 terms in FIR NW. Open to students outside the business school. Two terms of MKTG 440: FIR NW waives MKTG 443. Prerequisite: Students must apply and be accepted into the program. Application involves submitting a resume and cover letter, and an interview with instructor.	
Fall 2019	M	Mktg	448	Digital Media Planning and Analytics	4	This course will dive deeply into the specific strategies and skills required to use digital media as part of an Integrated Marketing Communications (IMC) plan. The emphasis is on the fundamentals of web analytics as a tool for optimizing digital marketing strategies and marketing ROI. Web analytic tracking from various social media platforms is used to assess online customer behavior (i.e. website traffic, click-through rates, conversion rates), to evaluate multi-digital channel performance, and to serve as the basis for assessing cost of customer acquisition and marketing ROI across channels and between communication campaigns. Prerequisite: BA 311.	Title and description
Fall 2019	M	Mktg	462	Marketing Analytics	4	Designed to introduce fundamental marketing analytic concepts and best practices to support operational, organizational, and marketing decision making. Analytic tools applied to secondary data which includes consumer spending patterns (i.e. dollars spent, frequency of purchase and products/services purchased), market data (i.e. data captured at the point of sale), and/or individual data in response to marketing offers online (i.e. email or web advertisements) or in-store. This course will emphasize the analysis and modeling of customer information as a means of building and managing customer relationships and developing marketing strategy. Also offered for graduate-level credit as Mktg 562S and may be taken only once for credit. Prerequisites: BA 311 and BA 325.	Title, description, and prerequisites.
Fall 2019	M	Mktg	562S	Marketing Analytics	4	Designed to introduce fundamental marketing analytics concepts and best practices to support operational, organizational, and marketing decision making. Analytic tools applied to secondary data which includes consumer spending patterns (i.e. dollars spent, frequency of purchase and products/services purchased), market data (i.e. data captured at the point of sale), and/or individual data in response to marketing offers online (i.e. email or web advertisements) or instore. This course will emphasize the analysis and modeling of customer information as a means of building and managing customer relationships and developing marketing strategy. Also offered for undergraduate-level credit as Mktg 462 and may be taken only once for credit. Prerequisites: Mktg 512.	Title, description, and prerequisites.
Fall 2019	M	Mth	253	Calculus III	4	Introduction to differential equations, infinite series, parametric equations, polar coordinates, and conic sections. This is the third course in a sequence of three: Mth 251, Mth 252, and Mth 253, which must be taken in sequence. Prerequisite: Mth 252.	Description
Fall 2019	M	Mth	254	Calculus IIII	4	An introduction to differential and integral calculus of functions of several variables, including vector geometry, the calculus of vector valued functions, and applications. Prerequisites: Mth 253 or (Mth 252 and Mth 261).	Description
Fall 2019	N	Mth	255	Calculus V	4	Further study of multiple integrals, line and surface integrals, Green's theorem, Stokes' theorem, the divergence theorem, and applications. Prerequisite: Mth 254.	
Fall 2019	D	Mus	185	Guitar Orchestra	1		
Fall 2019	M	Mus	191	Group Lessons for Beginners I: Piano, Guitar or Voice	2	Class instruction in instruments or voice. Offerings include piano, guitar, and voice. Music majors in Mus 193 Class Piano should be enrolled in Mus 046 concurrently. This is the first course in a sequence of three: Mus 191, Mus 192, and Mus 193.	Title
Fall 2019	M	Mus	192	Group Lessons for Beginners II: Piano, Guitar or Voice	2	Class instruction in instruments or voice. Offerings include piano, guitar, and voice. Music majors in Mus 193 Class Piano should be enrolled in Mus 046 concurrently. This is the second course in a sequence of three: Mus 191, Mus 192, and Mus 193.	Title

Fall 2019	M	Mus	193	Group Lessons for Beginners III: Piano, Guitar or Voice	2	Class instruction in instruments or voice. Offerings include piano, guitar, and voice. Music majors in Mus 193 Class Piano should be enrolled in Mus 046 concurrently. This is the third course in a sequence of three: Mus 191, Mus 192, and Mus 193.	Title
Fall 2019	D	Mus	235	Wind and Percussion Instruments	1		
Fall 2019	M	Mus	241	Composition II	2	The course involves the study of 20th century composition techniques. Students will compose chamber works using techniques studied in the class. This is the second course in a sequence of three: Mus 240, Mus 241, and Mus 242 which must be taken in sequence. Prerequisite: Mus 113 and Mus 116.	Title
Fall 2019	M	Mus	242	Composition III	2	The course involves the study of 20th century composition techniques. Students will compose chamber works using techniques studied in the class. This is the third course in a sequence of three: Mus 240, Mus 241, and Mus 242 which must be taken in sequence. Prerequisite: Mus 113 and Mus 116.	Title
Fall 2019	M	Mus	271	Jazz Improvisation I	2	Introduces the fundamentals of jazz improvisation. Beginning jazz skills include scales, song forms, melodic patterns, and repertoire development. Instructor approval required. This is the first course in a sequence of three: Mus 271, Mus 272, and Mus 273.	Title
Fall 2019	M	Mus	272	Jazz Improvisation II	2	Introduces the fundamentals of jazz improvisation. Beginning jazz skills include scales, song forms, melodic patterns, and repertoire development. Instructor approval required. This is the second course in a sequence of three: Mus 271, Mus 272, and Mus 273.	Title
Fall 2019	M	Mus	273	Jazz Improvisation III	2	Introduces the fundamentals of jazz improvisation. Beginning jazz skills include scales, song forms, melodic patterns, and repertoire development. Instructor approval required. This is the third course in a sequence of three: Mus 271, Mus 272, and Mus 273.	Title
Fall 2019	M	Mus	291	Advanced Class Piano I	2	Advanced class instruction developing functional piano skills. Activities include performing scales, chords, and progressions in all keys. Students develop harmonization, sight reading, and improvisation skills. They perform simple piano pieces and accompaniments. Assessment by the instructor determines whether students are admitted, or should take basic Class Piano first. This is the first course in a sequence of three: Mus 291, Mus 292, and Mus 293.	Title
Fall 2019	M	Mus	292	Advanced Class Piano II	2	Advanced class instruction developing functional piano skills. Activities include performing scales, chords, and progressions in all keys. Students develop harmonization, sight reading, and improvisation skills. They perform simple piano pieces and accompaniments. Assessment by the instructor determines whether students are admitted, or should take basic Class Piano first. This is the second course in a sequence of three: Mus 291, Mus 292, and Mus 293.	Title
Fall 2019	M	Mus	293	Advanced Class Piano III	2	Advanced class instruction developing functional piano skills. Activities include performing scales, chords, and progressions in all keys. Students develop harmonization, sight reading, and improvisation skills. They perform simple piano pieces and accompaniments. Assessment by the instructor determines whether students are admitted, or should take basic Class Piano first. This is the third course in a sequence of three: Mus 291, Mus 292, and Mus 293.	Title
Fall 2019	D	Mus	316	Harmonic and Structural Analysis	2		
Fall 2019	D	Mus	319	Choral Arranging	2		
Fall 2019	D	Mus	332	String Instruments and Vocal Techniques	1		
Fall 2019	D	Mus	334	Vocal and Guitar Techniques	1		
Fall 2019	M	Mus	351	Accompanying	2	Theoretical and practical study of the art of accompanying vocal and instrumental solos and performing duo-sonatas.	Repeatability
Fall 2019	N	Mus	369	Music and Social Change	4	Examines the connection between music and social/political movements in the United States, with special emphasis on the tumultuous social, economic, and political challenges of the 20th Century. Students will identify the music of social change, its relationship with history, diversity, and social justice, and its place in the broader context of American Studies.	

Fall 2019	M	Mus	374U	World Music: Africa and the Middle East	4	Study of the major musical cultures of Africa and the Middle East. Explores social and cultural contexts, instrument types, and structural organization of the music. Emphasis on listening. This is the first course in a sequence of two, Mus 374U: Africa and Mus 375U: Asia.	Title and description
Fall 2019	M	Mus	375U	World Music: Asia	4	Study of the major musical cultures of Asia, examined through its unique regions. Explores social and cultural contexts, instrument types, and structural organization of the music. Emphasis on listening. This is the second course in a sequence of two, Mus 374U: Africa and the Middle East, and Mus 375U: Asia.	Title and description
Fall 2019	D	Mus	385	Guitar Orchestra	1		
Fall 2019	M	Mus	424	Instrumental Jazz Arranging I	2	In-depth study and application of the fundamentals of composing and arranging for small to large jazz ensembles. Subjects included are history, transposition, instruments, forms, harmonic and melodic construction, rhythm section, voicing, moving harmonization, score and part preparation, vocal arranging techniques, rehearsal techniques, and MIDI applications. Instructor approval required. This is the first course in a sequence of three: Mus 424, Mus 425, and Mus 426.	Title
Fall 2019	M	Mus	425	Instrumental Jazz Arranging II	2	In-depth study and application of the fundamentals of composing and arranging for small to large jazz ensembles. Subjects included are history, transposition, instruments, forms, harmonic and melodic construction, rhythm section, voicing, moving harmonization, score and part preparation, vocal arranging techniques, rehearsal techniques, and MIDI applications. Instructor approval required. This is the second course in a sequence of three: Mus 424, Mus 425, and Mus 426.	Title
Fall 2019	M	Mus	426	Instrumental Jazz Arranging III	2	In-depth study and application of the fundamentals of composing and arranging for small to large jazz ensembles. Subjects included are history, transposition, instruments, forms, harmonic and melodic construction, rhythm section, voicing, moving harmonization, score and part preparation, vocal arranging techniques, rehearsal techniques, and MIDI applications. Instructor approval required. This is the third course in a sequence of three: Mus 424, Mus 425, and Mus 426.	Title
Fall 2019	D	Mus	446	Coordinate Movement Master Class	1		
Fall 2019	D	Mus	447	Coordinate Movement Master Class	1		
Fall 2019	D	Mus	448	Coordinate Movement Master Class	1		
Fall 2019	M	Mus	471	Advanced Jazz Improvisation I	2	Advanced concepts of jazz improvisation. Principles of pentatonics, diminished harmonies, inside-outside playing, synthetic scales, and free improvisation. Instructor approval required. This is the first course in a sequence of three: Mus 471, Mus 472, and Mus 473.	Title
Fall 2019	M	Mus	472	Advanced Jazz Improvisation II	2	Advanced concepts of jazz improvisation. Principles of pentatonics, diminished harmonies, inside-outside playing, synthetic scales, and free improvisation. Instructor approval required. This is the second course in a sequence of three: Mus 471, Mus 472, and Mus 473.	Title
Fall 2019	M	Mus	473	Advanced Jazz Improvisation III	2	Advanced concepts of jazz improvisation. Principles of pentatonics, diminished harmonies, inside-outside playing, synthetic scales, and free improvisation. Instructor approval required. This is the third course in a sequence of three: Mus 471, Mus 472, and Mus 473.	Title
Fall 2019	D	Mus	482	Pedagogy	1		
Fall 2019	D	Mus	483	Pedagogy	1		
Fall 2019	M	Mus	485	Diction for Singers: Italian	2	Designed for singers and other musicians interested in classical vocal literature in Italian, this course presents the principles of lyric diction and provides practice in the skills needed to sing in Italian correctly, idiomatically, and expressively. This is the first course in a sequence of three: Mus 485, Mus 486, and Mus 487. Also offered for graduate-level credit as Mus 585 and may be taken only once for credit. Prerequisite: Upper-division standing.	Title and description
Fall 2019	M	Mus	486	Diction for Singers: German	2	Designed for singers and other musicians interested in classical vocal literature in German, this course presents the principles of lyric diction and provides practice in the skills needed to sing in German correctly, idiomatically, and expressively. This is the second course in a sequence of three: Mus 485, Mus 486, and Mus 487. Also offered for graduate-level credit as Mus 586 and may be taken only once for credit. Prerequisite: Upper-division standing.	Title and description

						Designed for singers and other musicians interested in classical vocal literature in French, this course presents the principles of lyric diction and provides practice in the skills needed to sing in French correctly, idiomatically, and expressively. This is the third course in a sequence of three: Mus 485, Mus 486, and Mus 487. Also offered for graduate-level credit as Mus 587 and may be taken only once for credit. Prerequisite: Upper-division standing.	Title and description
Fall 2019	M	Mus	487	Diction for Singers: French	2		
Fall 2019	D	Mus	517	Advanced Harmony	2		
Fall 2019	D	Mus	518	Advanced Harmony	2		
Fall 2019	D	Mus	519	Advanced Harmony	2		
						In-depth study and application of the fundamentals of composing and arranging for small to large jazz ensembles. Subjects included are history, transposition, instruments, forms, harmonic and melodic construction, rhythm section, voicing, moving harmonization, score and part preparation, vocal arranging techniques, rehearsal techniques, and MIDI applications. Instructor approval required. This is the first course in a sequence of three: Mus 524, Mus 525, and Mus 526. Also offered for undergraduate-level credit as Mus 424 and may be taken only once for credit.	Title
Fall 2019	M	Mus	524	Instrumental Jazz Arranging I	2		
						In-depth study and application of the fundamentals of composing and arranging for small to large jazz ensembles. Subjects included are history, transposition, instruments, forms, harmonic and melodic construction, rhythm section, voicing, moving harmonization, score and part preparation, vocal arranging techniques, rehearsal techniques, and MIDI applications. Instructor approval required. This is the second course in a sequence of three: Mus 524, Mus 525, and Mus 526. Also offered for undergraduate-level credit as Mus 425 and may be taken only once for credit.	Title
Fall 2019	M	Mus	525	Instrumental Jazz Arranging II	2		
						In-depth study and application of the fundamentals of composing and arranging for small to large jazz ensembles. Subjects included are history, transposition, instruments, forms, harmonic and melodic construction, rhythm section, voicing, moving harmonization, score and part preparation, vocal arranging techniques, rehearsal techniques, and MIDI applications. Instructor approval required. This is the third course in a sequence of three: Mus 524, Mus 525, and Mus 526. Also offered for undergraduate-level credit as Mus 426 and may be taken only once for credit.	Title
Fall 2019	M	Mus	526	Instrumental Jazz Arranging III	2		
Fall 2019	D	Mus	546	Coordinate Movement Master Class	1		
Fall 2019	D	Mus	547	Coordinate Movement Master Class	1		
Fall 2019	D	Mus	548	Coordinate Movement Master Class	1		
						Advanced concepts of jazz improvisation. Principles of pentatonics, diminished harmonies, inside-outside playing, synthetic scales, and free improvisation. Instructor approval required. This is the first course in a sequence of three: Mus 571, Mus 572, and Mus 573. Also offered for undergraduate-level credit as Mus 471 and may be taken only once for credit. Prerequisites: Mus 271, Mus 272, and Mus 273.	Title
Fall 2019	M	Mus	571	Advanced Jazz Improvisation I	2		
						Advanced concepts of jazz improvisation. Principles of pentatonics, diminished harmonies, inside-outside playing, synthetic scales, and free improvisation. Instructor approval required. This is the second course in a sequence of three: Mus 571, Mus 572, and Mus 573. Also offered for undergraduate-level credit as Mus 472 and may be taken only once for credit. Prerequisites: Mus 271, Mus 272, and Mus 273.	Title
Fall 2019	M	Mus	572	Advanced Jazz Improvisation II	2		
						Advanced concepts of jazz improvisation. Principles of pentatonics, diminished harmonies, inside-outside playing, synthetic scales, and free improvisation. Instructor approval required. This is the third course in a sequence of three: Mus 571, Mus 572, and Mus 573. Also offered for undergraduate-level credit as Mus 473 and may be taken only once for credit. Prerequisites: Mus 271, Mus 272, and Mus 273.	Title
Fall 2019	M	Mus	573	Advanced Jazz Improvisation III	2		
Fall 2019	D	Mus	582	Pedagogy	1		
Fall 2019	D	Mus	583	Pedagogy	1		
						Designed for singers and other musicians interested in classical vocal literature in Italian, this course presents the principles of lyric diction and provides practice in the skills needed to sing in Italian correctly, idiomatically, and expressively. This is the first course in a sequence of three: Mus 585, Mus 586, and Mus 587.	Title and description
Fall 2019	M	Mus	585	Diction for Singers: Italian	2		

Fall 2019	M	Mus	586	Diction for Singers: German	2	Designed for singers and other musicians interested in classical vocal literature in German, this course presents the principles of lyric diction and provides practice in the skills needed to sing in German correctly, idiomatically, and expressively. This is the second course in a sequence of three: Mus 585, Mus 586, and Mus 587. Also offered for undergraduate-level credit as Mus 486 and may be taken only once for credit.	Title and description
Fall 2019	M	Mus	587	Diction for Singers: French	2	Designed for singers and other musicians interested in classical vocal literature in French, this course presents the principles of lyric diction and provides practice in the skills needed to sing in French correctly, idiomatically, and expressively. This is the third course in a sequence of three: Mus 585, Mus 586, and Mus 587. Also offered for undergraduate-level credit as Mus 487 and may be taken only once for credit.	Title and description
Winter 2019	N	PA	559	Research Design and Analytic Methods for Administrative Leaders	3	This course provides administrative leaders with the essential principles to frame, develop, review and evaluate research proposals. It also addresses appropriate data collection and analysis methods that aligns with the purpose of the research and supports research conclusions and claims.	
Fall 2019	M	PA	578	Collaborative Governance Practicum	3	In this culminating practicum students participate in discussions with faculty experts and fellow students as they apply the knowledge and skills gained in core courses to a community-based problem, issue or project of their choosing. Prerequisites: PA 575, PA 576, and USP 584.	Prerequisites
Fall 2019	M	Per	341	Introduction to Persian Literature	4	Selected texts from classical and modern Persian poetry and prose including epic, lyric, and mystic traditions placed in historical contexts. Covers the most important genres such as the Qasida, the Ghazal, the Ruba'i and the Masnavi. Expected preparation: Per 302.	Prerequisites
Fall 2019	M	Ph	201	General Physics	4	Introductory physics for science majors. The student will explore topics in physics including Newtonian mechanics, electricity, and magnetism, thermal physics, optics, and modern physics. This is the first course in a sequence of three: Ph 201, Ph 202, and Ph 203 and must be taken in sequence. Prerequisite: Mth 112 or Mth 251. Corequisite: Ph 214.	Prerequisites
Fall 2019	M	Ph	284	Workshop for Ph 201/231 General Physics	1	Optional peer-led problem-solving sessions designed to promote the success of students in Ph 201, Ph 202, Ph 203 OR Ph 231, Ph 232, Ph 233 general physics sequence. Concurrent prerequisite: corresponding lecture course Ph 201 or Ph 231, Ph 202 or 232, Ph 203 or Ph 233. Pass/no pass only.	Title and prerequisites
Fall 2019	M	Ph	285	Workshop for Ph 202/232 General Physics	1	Optional peer-led problem-solving sessions designed to promote the success of students in Ph 201, Ph 202, Ph 203 OR Ph 231, Ph 232, Ph 233 general physics sequence. Concurrent prerequisite: corresponding lecture course Ph 201 or Ph 231, Ph 202 or 232, Ph 203 or Ph 233. Pass/no pass only.	Title and prerequisites
Fall 2019	M	Ph	286	Workshop for Ph 203/233 General Physics	1	Optional peer-led problem-solving sessions designed to promote the success of students in Ph 201, Ph 202, Ph 203 OR Ph 231, Ph 232, Ph 233 general physics sequence. Concurrent prerequisite: corresponding lecture course Ph 201 or Ph 231, Ph 202 or 232, Ph 203 or Ph 233. Pass/no pass only.	Title and prerequisites
Fall 2019	M	Ph	294	Workshop for Ph 211/221 General Physics (with Calculus)	1	Optional peer-led problem-solving sessions designed to promote the success of students in Ph 211, Ph 212, Ph 213 OR Ph 221, Ph 222, Ph 223 general physics sequence. Concurrent prerequisite: corresponding lecture course Ph 211, Ph 212, Ph 213. Pass/no pass only.	Title and prerequisites
Fall 2019	M	Ph	295	Workshop for Ph 212/222 General Physics (with Calculus)	1	Optional peer-led problem-solving sessions designed to promote the success of students in Ph 211, Ph 212, Ph 213 OR Ph 221, Ph 222, Ph 223 general physics sequence. Concurrent prerequisite: corresponding lecture course Ph 211, Ph 212, Ph 213. Pass/no pass only.	Title and prerequisites
Fall 2019	M	Ph	296	Workshop for Ph 213/223 General Physics (with Calculus)	1	Optional peer-led problem-solving sessions designed to promote the success of students in Ph 211, Ph 212, Ph 213 OR Ph 221, Ph 222, Ph 223 general physics sequence. Concurrent prerequisite: corresponding lecture course Ph 211, Ph 212, Ph 213. Pass/no pass only.	Title and prerequisites

Fall 2019	N	Ph	412	Quantum Mechanics II	4	Introduction to the three-dimensional Schrodinger equation and applications such as band theory, selection rules, and molecules. The first half of the course will focus on exactly solvable models and analytic solutions. The second half will emphasize approximation methods in quantum mechanics, including perturbation theory, the variational principle, and the WKB approximation. The use of scientific software and modeling to solve quantum mechanical problems will be emphasized. Also offered for graduate-level credit as Ph 512 and may be taken only once for credit. Prerequisites: Ph 411, Ph 311, and Mth 256.
Fall 2019	N	Ph	512	Quantum Mechanics II	4	Introduction to the three-dimensional Schrodinger equation and applications such as band theory, selection rules, and molecules. The first half of the course will focus on exactly solvable models and analytic solutions. The second half will emphasize approximation methods in quantum mechanics, including perturbation theory, the variational principle, and the WKB approximation. The use of scientific software and modeling to solve quantum mechanical problems will be emphasized. Also offered for undergraduate-level credit as Ph 412 and may be taken only once for credit. Expected preparation: Ph 434 or Mth 322. Prerequisites: Ph 511, Ph 311, and Mth 256.
Fall 2019	N	PHE	415	Native American Health: Decolonizing Health Equity	4	Provides an overview of socio-cultural determinants of health within a Native American context, and culturally responsive and community-centered solutions to achieve health equity with an emphasis on Native American experiences, wisdom, and healing. Prerequisite: Upper-division standing.
Fall 2019	N	Phl	448	Biomedical Ethics	4	Advanced study of central ethical issues in medicine, biomedical research, and health care systems, such as patient autonomy and medical paternalism, justice in provision of health services, protection of human subjects in research, and death, dying, and end of life care. Expected preparation: Phl 355. Also offered for graduate-level credit as Phl 548 and may be taken only once for credit. Prerequisite: Upper-division standing.
Fall 2019	N	Phl	548	Biomedical Ethics	4	Advanced study of central ethical issues in medicine, biomedical research, and health care systems, such as patient autonomy and medical paternalism, justice in provision of health services, protection of human subjects in research, and death, dying, and end of life care. Also offered for undergraduate-level credit as Phl 448 and may be taken only once for credit.
Fall 2019	D	PS	426	The Politics of the News	4	
Fall 2019	D	PS	428	The Politics of Law and Order	4	
Fall 2019	D	PS	453	Power Transitions: Past, Present, and Future	4	
Fall 2019	N	PS	475	Comparative Political Parties and Elections	4	Parties and elections are crucial elements of governance in countries around the world. But while these institutions are omnipresent, there are differences in the power and behavior of political parties as well as in the function and outcome of legislative electoral systems. In this course, we examine those differences with a focus on representation, party survival, and electoral behavior, and perform in-depth case studies of elections in such countries as Germany, Russia, Japan, and Brazil. Also offered for graduate-level credit as PS 575 and may be taken only once for credit. Prerequisite: Upper division standing.
Fall 2019	N	PS	569	Comparative Political Institutions	4	Examines the performance, capabilities, and overall function of governments worldwide. Emphasis on advanced analyses of theories and concepts in comparative politics, with a particular focus on institutions of the state.
Fall 2019	N	PS	575	Comparative Political Parties and Elections	4	Parties and elections are crucial elements of governance in countries around the world. But while these institutions are omnipresent, there are differences in the power and behavior of political parties as well as in the function and outcome of legislative electoral systems. In this course, we examine those differences with a focus on representation, party survival, and electoral behavior, and perform in-depth case studies of elections in such countries as Germany, Russia, Japan, and Brazil. Also offered for undergraduate-level credit as PS 475 and may be taken only once for credit.

Fall 2019	M	Psy	315	Careers in Psychology	4	The course combines career considerations with exploration of multiple aspects of psychology as a discipline and their relevance to student futures. Exposure to faculty, graduate students and employers will help ground decisions about employment and graduate school, broadening perspective on what it is to be a knowledgeable, psychologically literate citizen. Prerequisite: Psy 204.	Title
Fall 2019	N	Psy	425	Psychology of Black Manhood in America	4	Examines the psychological underpinnings of the Black male experience in American culture; looks at the "invisibility syndrome" and the impact of discrimination on mental, emotional, and physical health. In addition, consideration will also be given to understanding the ways racism, medical neglect and malpractice, stereotypes, and various forms of trauma negatively impacts perceptions of self. Prerequisite: Upper-division standing.	
Fall 2019	N	Psy	426	Psychology of Stigma & Social Inequality	4	Investigates the ways in which individuals perceive, respond to, perpetuate, and work to dismantle stigma and social inequality. We will delve into classic and contemporary work, touching on topics including: why do we stigmatize? How and why do we justify social inequality? How do stigma and social inequality affect our health, well-being, and interactions with others? We will also think deeply about how to apply our knowledge to current social issues and policy. Prerequisite: Upper-division standing.	
Fall 2019	N	Psy	428	Diversity, Prejudice and Intergroup Relations	4	Delves into social psychological research and theory on Prejudice, Diversity, and Intergroup Relations. From a social psychological perspective, it addresses both historical and contemporary perspectives on stereotyping, prejudice, and discrimination, including implicit bias, modern racism, social identity threats, and benevolent sexism. Example topics include the impact of prejudice in policing, education, work organizations, online mediums, and health care. The course also focuses on ways to reduce prejudice and counteract bias. Prerequisite: Upper-division standing.	
Fall 2019	N	Psy	458	Development & Education of African-Diaspora Children & Youth	4	Explores development from childhood through emerging adulthood for persons in the African-diaspora using a sociocultural psychology perspective. Individual African-American children and youths' interactions with local, distal, and sociohistorical contexts will be discussed as sources of developmental trajectories. Special attention will be given to schooling as a developmental context and critical psychology perspectives. Prerequisite: Upper-division standing.	
Fall 2019	N	Psy	463	Development and Education of Immigrant Children and Youth	4	This undergraduate seminar course will focus on the development and education of children and youth from immigrant backgrounds, primarily in the U.S. The course readings are selected to be broad in scope but will focus on original scholarship and current research on the education and development of immigrant children and adolescents. The course will cover topics such as acculturation, ethnic identity, school experiences, and major sources of risk and resilience among children from immigrant backgrounds. Prerequisite: Upper-division standing.	
Fall 2019	M	RE	573	Real Estate Economics	4	Looks at the economics of real estate and housing, including land rent, interest rates, apartment rents, and housing prices, using an economic framework. Basic concepts in urban economics such as urbanization and agglomeration, transportation costs and congestion, inequality and segregation, growth controls and sprawl, as well as amenities, externalities, and public goods are reviewed. Explores the technique most commonly used in real estate and housing economics: hedonic pricing. Explores the rationale and impact of government intervention in the private real estate market. This is the same course as USP 573 and may be taken only once for credit. Expected preparation: USP 515 or Fin 512.	Title and description

Fall 2019	M	Sci	353U	Radiation in the Environment	4	Examines sources of radiation and the hazards they represent. Students will explore the interaction of radiation with matter, including living tissue, and examine dosage and risk assessment. Topics include: fundamentals of electromagnetic radiation, nuclei and radioactive decay; cosmic background radiation and radon gas; nuclear chain reactions and atomic weapons; nuclear power generation, waste disposal and nuclear disasters; medical x-rays and non-ionizing radiation from microwaves and cellular phones. This is the same course as Ph 353U and may be taken only once for credit.	Description
Fall 2019	N	Sci	356U	Environmental Success Stories	4	A positive reflection on how and why we can approach environmental catastrophes with willingness and certainty that we can develop strategies to overcome current and future challenges. Case-studies, work with community organizations and evaluation of the literature will help students identify key elements of successful endeavors and create best-practices for successful environmental problem solving. Community connections will also focus on how to create sustainable and resilient solutions by identifying and supporting stakeholder values.	
Fall 2019	M	Soc	337U	Prejudice, Privilege, and Power	4	Examines the structuring of relationships between dominant and minority groups, including racial, ethnic, gender, religious, and cultural minorities, with primary emphasis on U.S. society. Covers basic concepts and theoretical approaches to the study of majority-minority group relations, including issues of oppression, privilege, adaptation, and intersectionality. Emphasizes the social construction of difference, as well as the structural and historical roots of dominant group privilege and unequal social, economic, and political power.	Title and description
Fall 2019	N	Soc	396	Social Research Methods, Social Statistics	4	Introduction to the range of techniques for analyzing social science data. Emphasis on the conceptualization, operationalization, and measurement of socially based phenomena. Topics include: level of measurement, operationalization, summary statistics, probability, hypothesis tests, and the use of data analysis software (SPSS). Prerequisite: Mth 95.	
Fall 2019	N	Span	311	Spanish Conversation	4	Practice of spoken Spanish through conversation, interviews, and listening to or viewing Spanish language broadcasts. Special language focus chosen by instructor, such as: pronunciation, word choice, the subjunctive, the sequence of tenses, or special time expressions. Prerequisites: 8 credits of Span 301, 301H, 302, 302H, 303, or 303H.	
Fall 2019	N	Span	312	Introduction to Teaching Spanish	4	Introduction to the field of teaching Spanish. Students will explore current practices through observation and reflection, as well as research and discuss a variety of issues related to Spanish language teaching. Students will identify and articulate their own beliefs about teaching, and develop individual plans for professional development. Course is conducted in Spanish. Prerequisite: 8 credits of Span 301, Span 302, or Span 303, or equivalent Spanish language proficiency.	
Fall 2019	M	Span	421	Major Topics: Peninsular Prose	4	Study, analysis, and critique of major prose works of Spain by authors such as Fernando de Rojas, Cervantes, Galdos, Unamuno, and Goytisolo. Also offered for graduate-level credit as Span 521. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	M	Span	422	Major Topics: Peninsular Drama	4	Study, analysis, and critique of major dramatic works of Spain by authors such as Lope de Vega, Tirso de Molina, Calderon de la Baraca, Zorrilla, Garcia Lorca, and Buero Vallejo. Also offered for graduate-level credit as Span 522. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	M	Span	423	Major Topics: Peninsular Poetry	4	Study, analysis, and critique of the poetry of Spain by authors such as Berceo, Gongora, Quevedo, Machado, Jimenez, and Cernuda. Also offered for graduate-level credit as Span 523. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	M	Span	427	Major Topics: Latin American Prose	4	Study, analysis, and critique of major prose works of Latin America by authors such as Garcia Marquez, Fuentes, Paz, Vargas Llosa, Mastretta, and Borges. Also offered for graduate-level credit as Span 527. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites

Fall 2019	M	Span	428	Major Topics: Latin American Drama	4	Study, analysis, and critique of major dramatic works of Latin America by authors such as Gambaro, Benedetti, Usigli, Diaz, and de la Parra. Also offered for graduate-level credit as Span 528. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	M	Span	429	Major Topics: Latin American Poetry	4	Study, analysis, and critique of major prose works of Latin America, by authors such as Dario, Huidobro, Vallejo, Neruda, Guillen, and Mistral. Also offered for graduate-level credit as Span 529. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	M	Span	430	Major Topics: Ibero-American Film	4	Study, analysis, and critique of films from Ibero-America on such topics as national film traditions, Cinema Novo, Third Cinema, violence, migration, gender studies, and globalization. Course may be repeated for credit when topics vary. Also offered for graduate-level credit as Span 530. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	M	Span	434	Major Topics: Peninsular Multiple Genres	4	Study, analysis, and critique of works in multiple genres on such topics as Medieval Literature, the Celestina, Women Writers, Literature of the Franco Years, the Poetry & Drama of Garcia Lorca, and the Generation of '98. Course may be repeated for credit when topics vary. Also offered for graduate-level credit as Span 534. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	M	Span	436	Major Topics: Latin American Multiple Genres	4	Study, analysis, and critique of works in multiple genres on such topics as Transvestism, Feminism, Sickness and Literature, Prose and Poetry of Borges, and Pre-Colombian Literature. Course may be repeated for credit when topics vary. Also offered for graduate-level credit as Span 536. Prerequisites: 4 credits of Span 341, Span 342, Span 343, Span 344, or Span 345.	Prerequisites
Fall 2019	N	SpEd	120	Career and Community Studies First Year of Study	2	This course will support first year students to actively engage in academic studies, employment, independent living and campus life. Students will meet with their CCS advisor, academic coach and peer navigator each week and attend a series of three seminars. Students will learn to more fully participate in their person-centered planning meetings, use their individualized supports, develop college goals, and practice skills that will be critical to their success during and after college.	
Fall 2019	N	SpEd	220	Career and Community Studies Second Year of Study	2	This course will support second year Career and Community Studies (CCS) students to increase their independence and engagement in college through a full range of individualized supports with seminar and workshop options to choose from each term. Students will learn to make decisions about academic course options, use their supports, expand their experiences on campus, discover career interests while on the job, speak up for themselves within planning meetings, and set college goals. Prerequisite: SpEd 120.	
Fall 2019	N	SpEd	320	Career and Community Studies Third Year of Study	2	This course will support third year Career and Community Studies (CCS) students to increase their independence and engagement in college through a full range of individualized supports with seminar and workshop options to choose from each term. Students will self manage their supports, use their voices and make informed decisions, expand their experiences on campus, deepen their awareness of career pathways, learn to lead their planning meetings, and meet their college goals. Prerequisites: SpEd 120 and SpEd 220.	
Fall 2019	N	SpEd	412	Diagnostic Assessment	3-4	The focus of this course is the legal requirements and professional skills required for conducting non-biased, standardized, academic assessments. Students will develop knowledge and skills in: collecting relevant background information; selecting, administering, and interpreting assessments; developing academic goals and objectives; preparing meaningful reports; and conducting meetings to convey assessment results. Also offered for graduate-level credit as SpEd 512 and may be taken only once for credit. Prerequisites: Admission to the program, Mth 211, Mth 212, and SpEd 418.	

Fall 2019	N	SpEd	420	Career and Community Studies Fourth Year of Study	2	This course will support fourth year Career and Community Studies (CCS) students to increase their independence and engagement in college through a full range of individualized supports with seminar and an ePortfolio workshop series each term. Students will set goals for finishing college, transition to a career-focused job off campus, expand their experiences in the community, develop a portfolio, lead their planning meetings, and direct their supports at college and in the community.	
Fall 2019	N	SpEd	425	Student Teaching	6-15	This full-time student teaching experience provides opportunities for students to apply, practice, and generalize concepts and skills learned in university courses. Students will have opportunities to observe and participate in the responsibilities of the special educator, and further develop their skills in instruction and classroom management. Also offered for graduate-level credit as SpEd 525. Prerequisites: Mth 211, Mth 212, SpEd 418 and admission to program.	
Fall 2019	N	SpEd	432	Inclusive Practices	2	This course prepares teacher candidates to use evidence-based practices to support students with diverse learning needs to gain access to the general education curriculum. Incorporating Universal Design for Learning as a framework, teacher candidates will plan, implement and assess study skills and learning strategies for students in all academic areas. Also offered for graduate-level credit as SpEd 532 and may be taken only once for credit. Prerequisites: Mth 211, Mth 212, SpEd 418 and admission to the program.	
Spring 2019	N	SpEd	554	Orientation and Mobility Practicum	1-3	Minimum 350 hour supervised internship for pre-service O&M specialists with individuals with visual impairment, ranging from school-aged students to adult vocational and geriatric populations, including diverse learners with additional disabilities and deafblindness. Integrates O&M coursework and field-based competencies tailored to pass the international ACVREP O&M examination. Prerequisites: SpEd 540, SpEd 541, SpEd 545, SpEd 549, SpEd 550, SpEd 551, and SpEd 552.	
Fall 2019	M	SpHr	370	Phonetics and Acoustics	4	A study of sounds used in speech, their acoustic properties, and their transcription utilizing the IPA; description of sounds, their symbolic nature, their production, and physical and psychological problems involved in their perception. The acoustical bases of speech and hearing will also be addressed.	Prerequisites
Fall 2019	M	SpHr	371	Anatomy and Physiology of Speech and Swallowing	4	A study of the anatomy and physiology of the respiratory, phonatory, and articulatory systems for speech, with applications to speech disorders. The physiology of swallowing and swallowing disorders is also covered.	Prerequisites
Fall 2019	N	SpHr	485	Bilingualism and Communication Disorders	4	Introduction to typical bilingual/bicultural development and communication disorders. Addresses language, cognitive and social-emotional characteristics of bilingual children and adults with communication disorders. Discussions on clinical challenges and general assessment and intervention approaches when working with bilinguals with communication disorders in Speech-Language pathology. Students participate in small group and class discussions, review related literature and participate in small projects. Prerequisite: SpHr 372U.	
Fall 2019	M	SW	339	Introduction to Oppression and Privilege	4	Introduction and exploration of diversity, oppression and privilege frameworks; intersectionality regarding the dynamics of race, ethnicity, gender, sexual orientation, religion, (dis) ability status, and class. The course will focus on theory, knowledge, values, and beginning skills to work with individuals in the area of social justice and social work. The course will have relevant knowledge, values, and skills pertaining to acquiring the BASW. Prerequisite: Admission to major.	Credit hours
Fall 2019	M	SW	341	Social Justice Practice	4	Engages in generalist social work policy practice to advance social and economic well-being and to deliver effective social work services through the lens of social justice. Prerequisite: admission to major; junior standing; SW 339, SW 340, SW 350.	Credit hours

Fall 2019	M	SW	351	Beginning Generalist Practice	4	Based on generalist social work practice principles, this course prepares students to begin practice with individuals, families, groups, communities, and organizations. The course focuses on helping students to develop beginning engagement skills with particular attention to social work values and ethics, self reflection, and the development of a professional self. Successful completion of this course is required for students to enter a field placement (SW 400). Prerequisite: SW 339, SW 340, SW 350.	Credit hours
Fall 2019	M	SW	431	Social Work Practice III	3	The third course in a four-course sequence, Social Work Practice I-IV, which prepares students to work with individuals, families, groups, and communities. BSW students take this sequence concurrently with their field placement. Prerequisites: SW 351, SW 430.	title and description
Fall 2019	M	SW	511	Field Seminar and Field Placement	1-4	Nine month agency-based 500 hour field placement with a concurrent field seminar. Supervised field placement and weekly field seminar to integrate theory and critical thinking. Apply generalist social work knowledge and skills in real world practice settings. Core component of MSW curriculum. Required three times in generalist year.	Title and description
Fall 2019	M	SW	512	Advanced Field Placement	1-4	Nine month agency-based 500 hour field placement. Supervised field placement to integrate advanced theory and skill building. Core component of MSW curriculum. Required three times in advanced year.	Description
Fall 2019	M	SW	521	Advanced Anti-Oppressive Practice	3	This course builds student capacity for anti-oppressive practice in the micro and mezzo practice arenas, with an emphasis on the micro levels of intervention. The focus is on the positional privilege of social worker and the oppression experiences of service users (clients) and communities. Prerequisites: SW 539 or SW 589.	Prerequisites
Fall 2019	M	SW	553	Racial Disparities	3	Reduce racial inequities in organizations requires gaining theory and practice skills. This course provides both, integrating heightened attention to policy, research and intervention approaches to reduce racial disparities in a wide array of human service systems. The course focuses on building individual, organizational and leadership efficacy for advancing racial equity. Prerequisites: SW 550 and SW 551, or SW 513.	Prerequisites
Fall 2019	M	SW	556	Advanced Clinical Practice in Integrated Health Care	3	Introduction to the direct practice of integrated health in primary care. Students will become knowledgeable of the roles of health providers working in primary care settings, theories and models of care, engagement, assessment, intervention, practice evaluation, and cross-cultural issues. Prerequisites: SW 530, SW 540 and SW 551, or SW 589.	Prerequisites
Fall 2019	M	SW	559	Community and Organization Research	3	Prepares for mezzo and macro research practices to create the evidence base for social change (building the research base to advance reforms), strengthening organizations (designing and using program evaluation to improve programs and organizations), and building the voice and influence of marginalized communities (including local and regional communities and organizational service users). Prerequisites: SW 550 and SW 551, or SW 513.	Prerequisites
Fall 2019	M	SW	562	Loss & Grief Across the Lifespan	3	Examination of loss and grief in relation to death and diverse non-death experiences across the lifespan. Review of theory, research, and best practices for social workers helping with bereavement processes, grief integration, and meaning making for individuals, families, and across communities. Unique cultural and spiritual perspectives discounted or devalued through dominant discourses are brought to light. Prerequisite: SW 530 or SW 589.	Prerequisites
Fall 2019	N	SW	565	Critical Disability Studies in Practice	3	Emphasizes deepening understanding of lived experiences of individuals with disability in the context of larger societal and community structures. Students will examine participation, community, health, mental health, education, academia, personal assistance services, violence, hate crime, and employment through critical disabilities studies theory and first person narratives. Through lectures, readings, guest speakers, assignments and discussions, students will engage with each other to encourage application of new concepts in current and future academic, professional, and personal lives.	

Summer 2019	M	SW	568	Interdisciplinary Community Mental Health Seminar	1-3	Seminar on interdisciplinary relationships among social work, psychiatry, and nursing; and on a variety of clinical, and policy topics. For students in community mental health placements and those working with individuals with severe and persistent mental illness. Jointly offered with OHSU's Department of Public Psychiatry. Enrollment is limited to six students per term and requires instructor approval.	Title, credit hours, repeatability
Summer 2019	N	SW	570	Brief Behavioral Interventions & Treatment	3	Prepares students to practice brief interventions with clients and families. They will develop skills in case conceptualization, assessment, intervention, and treatment planning using advanced therapeutic techniques and methods including solution-focused, cognitive-behavioral, and mindfulness with special focus on crisis intervention. Students will also gain knowledge and skills in anti-oppressive, culturally responsive practice.	
Fall 2019	M	SW	574	Social Work with Older Adults	3	Mental and physical frailties experienced by older adults are examined for their implications for adaptation and intervention. Mental disorders as they are uniquely characterized in late adulthood are reviewed, with special emphasis on age appropriate assessment. Psychosocial interventions for both community and institutionalized populations will include individual, family, group, and environmental approaches.	Title
Fall 2019	M	SW	640	Research Practicum and Seminar	3	Participation in a research study under the supervision of appropriate faculty. Opportunity to master research skills which fit the student's learning needs. Time on site working on the project is 100 hours. Seminar taken concurrently with practicum enables students to explore together their research experiences in their respective research projects. Students will gain deepening knowledge through comparison of experiences. Pass/no pass only. Prerequisite: SW 637.	Description and credit hours.
Fall 2019	M	SW	690	Teaching Practicum and Seminar	3	Focuses on the practical teaching aspects in various social work settings, including instruction in the classroom, and the facilitation of trainings and workshops. Salient theoretical and practical issues in adult learning are explored. Discusses curriculum planning and issues around human diversity and teaching. Supports student teaching experiences. This course requires to complete 65 hours of hands-on teaching-related experience. Prerequisite: SW 626.	Description
Fall 2019	N	SySc	342U	Systems Thinking for Social Change	4	Why are complex social problems like poverty, homelessness, and climate change so hard to solve? How can we identify effective leverage points for change? This interdisciplinary course addresses social challenges using the methods of systems thinking. We'll dig into real-world examples and learn how to create interactive systems "maps" using causal-loop diagramming. Causal mapping enables a rich understanding of context, interrelationships, and perspectives. Students will gain practical tools they can use in their future work.	
Winter 2019	N	SySc	411	Systems Theory	4	Surveys fundamental systems concepts and central aspects of systems theory. Gives an overview of the systems paradigm and the systems field as a whole. Topics include introductions to networks, set- and information-theoretic multivariate relations, dynamic systems, regulation and control, modeling, decision analysis, optimization, and game theory. Also offered for graduate-level credit as SySc 511 and may be taken only once for credit. Prerequisite: Upper-division standing and either CS 346U or any course labeled SYSC 3XXU or SYSC 4XXU.	
Winter 2019	N	SySc	414	System Dynamics	4	Introduces concepts and methodology to analyze dynamic behavior of systems with complex feedback loops. Emphasizes building computer models to enhance understanding, make predictions, and find ways to improve the performance of systems and processes. Models are defined via "rate" equations that are numerically integrated to simulate behavior. Also offered for graduate-level credit as SySc 514 and may be taken only once for credit. Prerequisite: Upper-division standing and either CS346U or any course labeled SYSC3xxU or SYSC4xxU.	

Fall 2019	N	SySc	418	System Sustainability and Organizational Resilience	4	Organizations are complex adaptive systems coupled with their environment, supply chains, strategic partners, and competitors. Survival depends on structural resilience market turbulence, and the environmental/political climate. Principles of emergent leadership and living systems are applied to various fields including strategic business management, environmental stewardship, health and public administration, technology management. Also offered for undergraduate-level credit as SySc 518 and may be taken only once for credit. Prerequisite: Upper-division standing and either CS346U or any course labeled SySc 3xxU or SySc 4xx.	
Fall 2019	M	SySc	511	Systems Theory	4	Surveys fundamental systems concepts and central aspects of systems theory. Gives an overview of the systems paradigm and the systems field as a whole. Topics include introductions to networks, set- and information-theoretic multivariate relations, dynamic systems, regulation and control, modeling, decision analysis, optimization, and game theory. Also offered for undergraduate-level credit as SySc 411 and may be taken only once for credit. Prerequisite: Graduate standing, calculus, probability, and computer programming.	Add 400-level section, change course description, change prerequisites
Fall 2019	M	SySc	514	Systems Dynamics	4	Introduces concepts and methodology to analyze dynamic behavior of systems with complex feedback loops. Emphasizes building computer models to enhance understanding, make predictions, and find ways to improve the performance of systems and processes. Models are defined via "rate" equations that are numerically integrated to simulate behavior. Also offered for undergraduate-level credit as SySc 414 and may be taken only once for credit. Prerequisite: Graduate standing.	Add 400-level section, change course description, change prerequisites
Fall 2019	M	SySc	518	System Sustainability and Organizational Resilience	4	Organizations are complex adaptive systems coupled with their environment, supply chains, strategic partners, and competitors. Survival depends on structural resilience market turbulence, and the environmental/political climate. Principles of emergent leadership and living systems are applied to various fields including strategic business management, environmental stewardship, health and public administration, technology management. Also offered for undergraduate-level credit as SySc 418 and may be taken only once for credit.	Add 400-level section
Fall 2019	M	TA	111	Stagecraft I	3	An introduction to backstage fundamentals and the tools and techniques used to build scenery. Also covered are technical drawings, stage machinery, and rigging. Corequisite: TA 114.	Title and description
Winter 2019	N	TA	112	Stagecraft II	3	This second course in a two-course sequence concerns stage lighting and sound. Students will learn to read lighting plots and to understand lighting instruments and controls. Sound equipment and its installation for production will be covered. This course requires a two-hour lab period per week and participation in departmental productions presented that term. This is the second course in a sequence of two: TA 111 and TA 112 and must be taken in sequence. Prerequisite: TA 111.	
Fall 2019	N	TA	114	Technical Theater Production I	1	Students gain hands-on proficiency in stagecraft while working on the department's current production.	
Winter 2019	N	TA	115	Technical Theater Production II	1	Students gain hands-on proficiency in stagecraft while working on the department's current production. Prerequisite: TA 111 and TA 114.	
Fall 2019	N	TA	316	Technical Theater Lab	2	Students gain advanced hands-on proficiency in stagecraft while working on the department's current production. Students will take on greater responsibilities on productions building on their experiences from the TA 114/TA 115 production labs. Prerequisite: TA 111, TA 112, TA 114, TA 115.	
Fall 2019	M	TA	333	Workshop Theater: Directing/Stage Management/Dramaturgy	1-2	For the School of Music and Theater productions. Offerings include stage manager, assistant director, dramaturg, choreography, and music direction. Participants are required to audition or interview for productions. Information about auditions/interviews is provided on the Theater Call Board outside of LH 127. Meeting times are arranged by the director. Most performances and rehearsals are held in the evening. Technical rehearsal for mainstage productions require a full weekend technical schedule. Course is repeatable for credit.	Description and credit hours

Fall 2019	M	TA	345	Topics in Acting	1-4	Intensive study of a particular subset of performance, for example, How 2 B Funny, Audition Techniques, Movement Performance or Stage Combat.	Repeatability
Fall 2019	M	TA	347	Mainstage Production	1-4	Through rehearsal and the stage production, students are challenged to pursue a commitment to individual excellence and collaboration, discover a passion for their discipline, and develop a firm grounding in the core components of live performance.	Credit hours
Fall 2019	M	TA	348	Acting for the Camera	4	An introduction to acting before the camera for film and video.	Prerequisites
Fall 2019	M	TA	474	Dramatic Writing I	4	A sequence in scriptwriting involving analysis of dramatic structure, practical application of scriptwriting techniques. This is the first course in a sequence of two: TA 474 and TA 475 which must be taken in sequence. Expected preparation: 8 credits of TA and/or English. Prerequisite: TA 201 Script Analysis or by permission of the instructor.	Prerequisites
Fall 2019	M	USP	302	Theory and Philosophy of Community Development	4	New approaches to the philosophy of community; theory and comparative practice; and case study of local theory and practice, presentation of an in-depth case study from the Pacific Northwest. Prerequisites: USP 301.	Prerequisites
Fall 2019	M	USP	411	Pedestrian and Bicycle Planning Lab	3	A practical approach to bicycle and pedestrian planning and design through a project-based course that focuses on all aspects of the planning process. Students research and develop solutions to a practical challenge in the Portland region and present recommendations in report and presentation form. Co-registered with USP 465 or USP 565 or have taken USP 465 or 565 within the past two years. Also offered for graduate-level credit as USP 511 and may be taken only once for credit. Prerequisites: Junior standing.	Change credits from 2 to 3
Fall 2019	N	USP	416	International Urban Issues Seminar	1	This seminar surveys research about local and regional planning issues in a global context. It brings speakers with international experiences to share their understanding of urban issues, and to reflect on cultural, economic, and socio-political dimensions of policy-making processes around the world that influence planning worldwide. Also offered for graduate-level credit as USP 516. Prerequisite: Upper-division standing.	
Fall 2019	M	USP	460	Community Development Field Seminar	2-6	Participant observation through placement in a community-based organization actively engaged in community development activities on behalf of a specific community, and critical reflection on the placement experience. Prerequisites: completion of the Community Development Core and at least one course or an equivalent from among those listed in Methods in Community Development. Prerequisites: Completion of the Community Development Core (USP 300U, 301, and 302) and at least one course from among those listed as Methods in Community Development (USP 350U, USP 430, USP 440, or USP 452).	Credit hours, prerequisites, and repeatability
Fall 2019	M	USP	427	Commercial District Revitalization	3	Examines the evolution and revitalization of commercial districts over time. It explores the role of commercial districts in contemporary urban regions, and introduces the concepts of commercial district management and other strategies for promoting vital urban centers. Through readings, field observations, classroom discussions, and a series of assignments, students will explore the interrelationships between the built environment, economic trends, and public policy in shaping the commercial districts we see today. Students should learn to understand commercial districts as complex and multifaceted places that are always changing and unpredictable, but often play a crucial role in a community's identity and purpose and in supporting affordability, equity, and sustainability. Also offered for graduate-level credit as USP 527 and may be taken only once for credit. Prerequisite: Upper-division standing.	Title and description
Fall 2019	M	USP	511	Pedestrian and Bicycle Planning Lab	3	A practical approach to bicycle and pedestrian planning and design through a project-based course that focuses on all aspects of the planning process. Students research and develop solutions to a practical challenge in the Portland region and present recommendations in report and presentation form. Co-registered with USP 465 or USP 565 or have taken USP 465 or 565 within the past two years. Also offered for undergraduate-level credit as USP 511 and may be taken only once for credit. Prerequisites: Junior standing.	Change credits from 2 to 3

Fall 2019	N	USP	516	International Urban Issues Seminar	1	This seminar surveys research about local and regional planning issues in a global context. It brings speakers with international experiences to share their understanding of urban issues, and to reflect on cultural, economic, and socio-political dimensions of policy-making processes around the world that influence planning worldwide. Also offered for undergraduate-level credit as USP 416.	
Fall 2019	M	USP	527	Commercial District Revitalization	3	Examines the evolution and revitalization of commercial districts over time. It explores the role of commercial districts in contemporary urban regions, and introduces the concepts of commercial district management and other strategies for promoting vital urban centers. Through readings, field observations, classroom discussions, and a series of assignments, students will explore the interrelationships between the built environment, economic trends, and public policy in shaping the commercial districts we see today. Students should learn to understand commercial districts as complex and multifaceted places that are always changing and unpredictable, but often play a crucial role in a community's identity and purpose and in supporting affordability, equity, and sustainability. Also offered for undergraduate-level credit as USP 427 and may be taken only once for credit.	Title and description
Fall 2019	M	USP	546	Real Estate Development II	3	Introduces students to persistent and emerging challenges of real estate development through analysis of case studies. Provides students the experience of developing a comprehensive and unified analysis of a commercial real estate project. Each student will submit a case study with greater specificity showing how the design, development, market, finance, construction, and management of the project are integrated. Students will work closely with industry participants and faculty to develop their analysis as well as alternative strategies for the project at critical stages of its development. Prerequisite: USP 523.	Description and credit hours
Fall 2019	M	USP	569	Sustainable Cities and Regions	3	This course explores the questions of whether and how cities can be sustainable -- and how they can continue as places that sustain cultures, economics, and nature. Basic technological and theoretical models of human-nature interaction will be considered, along with visionary possibilities for the future of cities and urban regions, globally and in Portland. Particular attention will be given to global-local interactions and to the strategies, programs, policies, and tools that can deliver sustainable and equitable development and advance environmental justice.	Description and credit hours
Fall 2019	M	USP	573	Real Estate Economics	4	Looks at the economics of real estate and housing, including land rent, interest rates, apartment rents, and housing prices, using an economic framework. Basic concepts in urban economics such as agglomeration, transportation costs and congestion, inequality and segregation, growth controls and sprawl, as well as amenities, externalities, and public goods are reviewed. Explores the technique most commonly used in real estate and housing economics: hedonic pricing. Explores the rationale and impact of government intervention in the private real estate market. This is the same course as RE 573 and may be taken only once for credit.	Title and description
Fall 2019	M	USP	624	Development Project Design	3	Provides an understanding of architectural practice, the value added by design, the intersection of design with broader community concerns and developer's objectives, and the management of the design process, including tools for decision analysis in all phases of the building design process. A primer on building systems and engineering and case studies of the major building types will be presented. Expected preparation: USP 523.	Description
Fall 2019	M	USP	697	Research Design 2	4	Research seminar required for students in urban studies doctoral program; open to MUS and other advanced graduate students. Students apply their substantive background and methodological training to develop all the components of a social science research paper: statement of focused research question, literature review, development of hypotheses, definition of appropriate methodology, design of data acquisition, and pilot testing of data acquisition strategy. Expected preparation: USP 614, USP 613, and USP 617.	Title and description

Fall 2019	M	UnSt	195	Career Exploration	1	Explores and explains the career planning process by engaging students in self-assessment and career exploration activities intended to assist them in choosing a major or career.	Title
Fall 2019	N	Wr	424	Grant Writing for Professional Writers	4	Introduces students training for careers as professional writers to the best practices in writing grants and managing the grant writing process across multiple sectors of the non-profit world and in academia. Students will work collaboratively and individually to develop business plans, identify potential funding sources, and begin preparing grants. Prerequisites: Also offered for graduate-level credit as Wr 524 and may be taken only once for credit.	
Fall 2019	N	Wr	431	Advanced Topics in Technical Writing Technologies	4	An introduction to a contemporary technology used by technical writers in industry. Students will produce a portfolio project to demonstrate proficiency in the technology. Students will also learn general strategies for learning new technologies as part of a professional practice. Also offered for graduate-level credit as Wr 531. Prerequisite: Upper-division standing.	
Fall 2019	N	Wr	432	Frameworks for Technical Writing	4	Introduces students to the many frameworks for understanding the fundamental questions that shape technical writing as a practice in industry and as a field of academic study, such as rhetoric, ethics, or social justice. Students will choose a framework to analyze and respond to a technical writing problem or situation of their choice and produce a portfolio to share findings. Also offered for graduate-level credit as Wr 532 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	N	Wr	433	Research Methods for Technical Writers	4	Introduces students to the research methods commonly practiced by professional technical writers. These methods include interviewing subject-matter experts, researching genre conventions, user research, website content analysis, and usability testing. Students will practice methods via client-projects with local community partners, so the methods taught in any given section of the course will be shaped by the needs of the client-project. Students will produce professional-quality project deliverables for the client and the program portfolio. Also offered for graduate-level credit as Wr 533 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Winter 2019	N	Wr	466	Digital Skills	4	Gives hands-on training in digital skills and surveys developmental trends in writing in computational environments: webpages, computer programs, word processing programs, multimodal essays. Learn core principles and methods of web design, web management, media history, and present-day uses of authoring software. Assess scholarly articles about writing and reading in computational environments. Also offered for graduate-level credit as Wr 566 and may be taken only once for credit. Prerequisite: Upper division standing.	
Fall 2019	N	Wr	478	Digital Marketing for Book Publishers	4	This course examines the contexts and impacts of digital book marketing on the book industry, authors, and readers. Also offered for graduate-level credit as Wr 578 and may be taken only once for credit. Prerequisite: Upper-division standing.	
Fall 2019	N	Wr	524	Grant Writing for Professional Writers	4	Introduces students training for careers as professional writers to the best practices in writing grants and managing the grant writing process across multiple sectors of the non-profit world and in academia. Students will work collaboratively and individually to develop business plans, identify potential funding sources, and begin preparing grants. Prerequisites: Also offered for undergraduate-level credit as Wr 424 and may be taken only once for credit.	
Fall 2019	N	Wr	531	Advanced Topics in Technical Writing Technologies	4	An introduction to a contemporary technology used by technical writers in industry. Students will produce a portfolio project to demonstrate proficiency in the technology. Students will also learn general strategies for learning new technologies as part of a professional practice. Also offered for undergraduate-level credit as Wr 431.	

Fall 2019	N	Wr	532	Frameworks for Technical Writing	4	Introduces students to the many frameworks for understanding the fundamental questions that shape technical writing as a practice in industry and as a field of academic study, such as rhetoric, ethics, or social justice. Students will choose a framework to analyze and respond to a technical writing problem or situation of their choice and produce a portfolio to share findings. Also offered for undergraduate-level credit as Wr 432 and may be taken only once for credit.
Fall 2019	N	Wr	533	Research Methods for Technical Writers	4	Introduces students to the research methods commonly practiced by professional technical writers. These methods include interviewing subject-matter experts, researching genre conventions, user research, website content analysis, and usability testing. Students will practice methods via client-projects with local community partners, so the methods taught in any given section of the course will be shaped by the needs of the client-project. Students will produce professional-quality project deliverables for the client and the program portfolio. Also offered for undergraduate-level credit as Wr 433 and may be taken only once for credit.
Fall 2019	N	Wr	579	Researching Book Publishing	4	Students will learn about qualitative and quantitative book publishing research methods and work through stages of their final research paper for the Book Publishing Master's Program. Students will emerge from the course with a measurable, right-sized research question, a methodology plan, and sample paper outlines that refine their critical thinking skills. There will also be an industry-based research project that students develop and carry out.