Spring 2026 Electives/Advanced Seminars

View Course Schedules online: https://class-schedule.app.utah.edu/main/1264/index.html

Classroom assignments may change between the time you register. and when classes begin. Please check your class schedule for the latest information before attending class.

Please note you may need Permission Codes to register. Please contact the Department Coordinator or Instructor.

Frequent/Recommended MB & BC Electives

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
7654	BIOL 6500	3.0	Advanced Statistical Modeling for Biologist	Frederick Adler & David Bowling	M, W	2:00PM -3:30PM	JTB 320
Full Semester		*Frequent MB Elective; Counts as 2 electives* This course is designed for life science graduate students with a perhaps rusty background in mathematics and statistics who wish to become real practitioners of the art of modern statistics. The course is based on the R programming language.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
8635	CHEM 7150	2.0	Bioinorganic Chemistry	Valerie Pierre	T, TH	10:45AM - 12:05PM	HEB 2002
Second Half		*Frequent BC Elective* This course provides a broad overview of metal sites in biology and is intended for students at the interface of Chemistry, Biology, Biophysics, and related disciplines. It focuses on our current understanding of the role of metals in the structure and function of proteins and nucleic acids, metalloproteins as elaborated inorganic complexes, physical methods used to study metal sites with emphasis on the synergism between model complexes and biochemical studies, and applications in medicine. Three lectures, one discussion per week for 7.5 weeks.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
8637	CHEM 7470	2.0	Nucleic Acid Chemistry	Cynthia Burrows	M, W, F	9:35AM - 10:40AM	TBBC 2429
First Half		*Frequent BC & MB Elective* This is a one half semester course that focuses on the application of organic chemistry to the study and manipulation of nucleic acids. Topics include chemical synthesis of DNA and RNA, nucleoside and oligomer analogs, chemistry of DNA damage and repair, nucleic acid-targeted drugs and binding agents. Prerequisite: 2 semesters undergraduate organic chemistry.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
17339	H GEN 6060	3.0	Applied Computational Genomics	Aaron Quinlan	T, TH	10:30AM - 12:00PM	EHSEB 5100B
Full Semester		*Frequent MB & BC Elective; Counts as 2 electives* This course will provide a comprehensive introduction to fundamental concepts and experimental approaches in the analysis and interpretation of experimental genomics data. It will be structured as a series of lectures covering key concepts and analytical strategies. A diverse range of biological question enabled by modern DNA sequencing technologies will be explored including sequence alignment, the identification of genetic variation, structural variation, and ChIP-seq and RNA-seq analysis. Students will learn and apply the fundamental data formats and analysis strategies that underlie computational genomics research. The primary goal of the course is for students to be grounded in theory and have the ability to conduct independent genomic analyses. (Instructor has requested students complete the 'Intro to R for Data Analysis' workshop at https://utah.catalog.instructure.com/browse/ds-learn/courses/introduction-to-r-for-data-analysis. Contact department for info.)					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
16589	H GEN 6091	1.5	Evolution & Development	Gabrielle Kardon & Michael Shapiro	T, TH	1:15PM - 2:45PM	EHSEB 3420
Second Half		*Frequent MB Elective* This course will explore the molecular, developmental, and genetic mechanisms underlying evolutionary change, with an emphasis on current research in animal biology. Topics include regulatory networks and signaling pathways, modularity, developmental constraints, origin of animals, molecular/developmental origin of diverse body plans and appendages, and genetics of speciation. The class will consist of both lectures and discussions of current literature. Suitable for graduate students at all levels.					

Spring 2026 Electives/Advanced Seminars

View Course Schedules online: https://class-schedule.app.utah.edu/main/1264/index.html

Classroom assignments may change between the time you register. and when classes begin. Please check your class schedule for the latest information before attending class.

Please note you may need Permission Codes to register. Please contact the Department Coordinator or Instructor.

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
16590	H GEN 6092	2.0	Evolutionary Genetics and Genomics	Ellen Leffler	M, W, F	9:30AM - 10:20AM	EHSEB 5100C
First Half		*Frequent MB Elective* This course will cover the fundamentals of population and evolutionary genetics with an emphasis on molecular and sequence-level approaches, including practical exercises in computational analysis aimed at students at all levels of experience. Lectures will cover both theory and experimental studies of the forces that shape genetic variation within and between species.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
16577	H GEN 6421	1.5	Genes of Complex Disease	Lynn Jorde	T, TH	2:00PM - 3:00PM	EHSEB 2600
First Half		*Frequent MB Elective* Course work addresses issues relevant to the identification of genes underlying susceptibility to complex disorders. Subjects covered include advantages and disadvantages of isolates versus large population, utilization of affected sibling pairs, discordant sibling pairs and extended families. Methods taught include traditional case-control association methods and family based methods. Other subjects include locus and allelicheterogeneity, phenotypic heterogeneity, gene-gene and gene-environment interactions and density of polymorphic markers.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
16575	H GEN 6481	1.5	Cellular Signaling	Charles Murtaugh	M, W, F	10:45AM - 11:35AM	EHSEB 4100C
First Half		*Frequent BC & MB Elective* This course will examine the mechanisms of a variety of eukaryotic signal transduction pathways, and explore how these pathways affect the behavior of cells within developing and adult tissues. The material will include readings and discussion of the primary literature, and emphasize experimental techniques and analyses.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
15131	MDCRC 6530	2.0	Utilization of Animal Models in the Development of Clinical Research Projects	Anthea Letsou	W	1:00PM - 2:30PM	EHSEB 2938
Full Semester		*Frequent MB Elective* It is now possible to precisely modify any DNA sequence within the genome of the mouse. This course emphasizes using mouse models to dissect the genetic basis of human disease. Deletion of genes using homologous recombination will be covered extensively as will other methods of gene inactivation (anti-sense constructs, inhibitory RNA, etc.). New experimental systems for modeling human disease in zebra fish and C. elegans will also be covered. *Med-2-Grad Core Course Requirement*					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
6770	PATH 7320	1.5	Topics in Immunology	Matthew L. Bettini	T, TH	1:00PM -2:30PM	EEJMRB 4420
First Half		*Frequent MB Elective* This course will address core topics in immunology including cellular and molecular mechanisms of innate and adaptive immune responses to infection, vaccines, autoimmunity and cancer immunology and immunotherapies. *This class is specifically geared toward 1st year MB students*					

Spring 2026 Electives/Advanced Seminars

View Course Schedules online: https://class-schedule.app.utah.edu/main/1264/index.html

Classroom assignments may change between the time you register. and when classes begin. Please check your class schedule for the latest information before attending class.

Please note you may need Permission Codes to register. Please contact the Department Coordinator or Instructor.

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
17786	PH TX 7114	2.0	Principles of Toxicology	Cameron Metcalf & Philip Moos	T, TH	12:30PM - 2:30PM	EHSEB 2938
Second Half		*Frequent BC* General principles, testing procedures, toxic responses, and target organ toxicities. This course is designed to familiarize students with adverse effects that chemicals may produce based on the dose, exposure and hazard of those chemicals. There will be a focus on mechanisms of toxicity in different organ systems (Neurotoxicology, cardiovascular, lungs, skin and kidney toxicology) that are relevant based on common exposure. The course will also cover environmental toxicology, toxic effects of pesticides, and natural products.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
7059	PHCEU 7011	3.0	Fundamentals of Pharmacokinetics	Taslim Al-Hilal, Shreya Goel, James Herron, Ryan Nelson, Shawn Owen	W, F	10:30AM - 12:00PM	EHSEB 4100B
Full Semester		*Frequent BC Elective; Counts as 2 electives* This course will review fundamental aspects of pharmacokinetics with an emphasis on understanding concepts for compartmental and non-compartmental modeling, physiologic modeling, and modeling of targeted drug delivery systems. The goal of the course is to understand how these techniques can be used to optimize drug delivery. *Prerequisite: PHCEU 7010, or Special Permission from Instructor*					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
15946	PH TX 7113	2.0	Essentials of Pharmacology and Drug Development	Farzana Alam & Martin Golkowski	T, TH	12:30PM - 2:30PM	EHSEB 2938
First Half		*Frequent BC & MB Elective* This course is designed to provide basic didactic information in the underlying concepts of pharmacology for the beginning graduate student. The primary emphasis of the course is to provide new graduate students in the Department of Pharmacology and Toxicology, or other graduate students in the biomedical sciences (Neuroscience, Biological Chemistry, or Molecular Biology programs) with fundamental knowledge about pharmacology and drug treatment. It is anticipated that students who complete this course would be able to apply these fundamental concepts to more advanced curricula and research endeavors in the disciplines of pharmacology and toxicology.					

Spring 2026 Electives/Advanced Seminars

View Course Schedules online: https://class-schedule.app.utah.edu/main/1264/index.html

Classroom assignments may change between the time you register. and when classes begin. Please check your class schedule for the latest information before attending class.

Please note you may need Permission Codes to register. Please contact the Department Coordinator or Instructor.

Additional Electives

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
17881	ANAT 7760	3.0	Stem Cell Workshop	Oleksandr Shcheglovitov	T, TH	2:00PM - 3:30PM	EHSEB 2958
Full Semester		*Counts as 2 electives* The course will begin with a lecture series on the fundamentals of stem cell biology and the use of stem cells, in particular induced-pluripotent stem cells (iPSC), as models for the study of development and disease. Following the lecture series, each student will present a journal article related to a lecture topic, and write the Specific Aims page of a hypothetical grant application based on one of the discussion papers. Lab sessions will provide students with practical hands-on techniques required for reprogramming, culturing, and cryopreserving iPSCs.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
7657	BIOL 5120	3.0	Gene Expression	Michael Werner	M, W, F	10:45AM - 11:35AM	ASB 210
Full Semester		*Counts as 2 electives* How cells decode the information in their genomes and regulate the processing, localization, and degradation of RNA and proteins. Exploration of the role of gene expression in cell differentiation and disease. Reading from the current research literature. It is recommended that BIOL 2030 is completed prior to taking this course. ***Note – Tuition Benefit does NOT pay for differential tuition charges. Please be sure to check tuition bills and coverage.***					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
7746	BIOL 5210	3.0	Cell Structure & Function	Nick Vierra	T, TH	10:45AM - 12:05PM	AEB 320
Full Semester		*Counts as 2 electives* This course offers a detailed exploration of the structure-function relationships that underlie cellular function through lectures and reading of primary research literature. The course will cover key topics such as membrane biology, organelles, the cytoskeleton, and the diverse signaling pathways that regulate cellular activities. ***Note – Tuition Benefit does NOT pay for differential tuition charges. Please be sure to check tuition bills and coverage.***					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
7804	BIOL 5255	4.0	Prokaryotic Genetics (Class & Lab)	Kelly Hughes	Class: M, W / Lab: M-F	Class: 2:00PM - 3:20PM / Lab 1:00PM - 3:30PM	JTB 110 / JTB 340
Full Semester		*Counts as 2 electives* This course requires registration for a lab and/or discussion section. Students will be automatically registered for this lecture section when registering for the pertinent lab and/or discussion section. The course fee covers digital course materials through the Instant Access program. Students may request to opt out here: https://portal.verba.io/utah/login A project-oriented lecture/laboratory on use of experimental and analytical tools of modern genetics using bacteria and their viruses. It is recommended that BIOL 2020 and BIOL 2030 be completed prior to taking this course. ***Note – Tuition Benefit does NOT pay for differential tuition charges. Please be sure to check tuition bills and coverage.***					

Spring 2026 Electives/Advanced Seminars

View Course Schedules online: https://class-schedule.app.utah.edu/main/1264/index.html

Classroom assignments may change between the time you register. and when classes begin. Please check your class schedule for the latest information before attending class.

Please note you may need Permission Codes to register. Please contact the Department Coordinator or Instructor.

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
7662	BIOL 5920	3.0	Advanced Eukaryotic Genetics	Nitin Phadnis	M, W, F	11:50AM - 1:45PM	ST E1105
First Half		This course builds upon BIOL 2030, and is designed to give students a deeper understanding of the experimental basis of modern eukaryotic genetics. Topics to be covered include: chromosome recombination and segregation; DNA mutation and repair: gene expression and gene disruption; finding and characterizing mutants; analyzing gene function in time and space; gene interactions and pathways. ***Note – Tuition Benefit does NOT pay for differential tuition charges. Please be sure to check tuition bills and coverage.***					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
7861	BIOL 5960	3.0	Cell Biology & Microscopy	Adam Hefel & Nathan Okerlund	T, TH. F	TH/12:25PM - 1:45PM T, F/12:55PM-03:55PM	TH/HEB 2002 T, F/BIOL 180
Full Semester		*Counts as 2 electives* This course will focus on fundamental experiments of optics and molecular biology. In lectures, we will trace the foundation of microscopy through optics— from Newton's work with prisms, through Hooke's and van Leeuwenhoek's microscopes, to modern light and confocal microscopy. We will also discuss how microscopy has established fundamental theories such as the cell theory and synapse theory, and how it is used today to study cell and organelle function. In parallel, the laboratory sections of this course will use modern methods to recreate these classic experiments and train students in experimental design and best practices. Pre-requisite: BIOL 2020 or 2021. This course counts as an L2 lab in the Biology major. Please request a permission code here: https://www.biology.utah.edu/permission-codes/ This course is not available to students who took BIOL 3960 Spring 2023 or BIOL 5960 Spring 2024 or Spring 2025. ***Note – Tuition Benefit does NOT pay for differential tuition charges. Please be sure to check tuition bills and coverage.***					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
7661	BIOL 6530	3.0	Biological Chemistry	David Blair	T, TH	10:45AM - 12:05PM	HEB 2008
Full Semester		*Counts as 2 electives* Structure and function of biomolecules, metabolism, and regulation.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
7960	BIOL 7961	1.0	Advanced Topics in Biochemistry and Molecular Biology	Baldomero Olivera	M, W	3:30PM - 5:30PM	BIOL 306
Second Half		Topics of special interest taught when justified by student and faculty interest. Content varies from year to year.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
7961	BIOL 7962	1.0	Advanced Topics in Cell and Developmental Biology	Markus Babst & Nicholas Vierra	M, W	3:30PM - 5:30PM	BIOL 306
First Half		Topics of special interest taught when justified by student and faculty interest. Content varies from year to year.					
Class #	**Catalog #**	**C.H.**	**Course Title**	**Lead Instructor**	**Day**	**Time**	**Bldg/Room**
1322	BMI 6105	3.0	Statistics for Biomedical Informatics	Greg Stoddard	Online	Online	Online
Full Semester		*Counts as 2 electives* This class covers a wide range of statistical methods, from basic statistics to regression methods, including the special topics of diagnostic tests, bootstrap and Monte Carlo simulation, and missing data imputation. The emphasis is on application and practice, using the statistical software Stata, rather than statistical theory and formulas. Data management, basic statistical programming, and computer graphics using Stata are taught. Epidemiology principles, such as confounding, bias, and causation are also covered. Non-BMI students will need permission codes to register. Please contact Amy.parkin@utah.edu ***Note – Tuition Benefit does NOT pay for differential tuition charges. Please be sure to check tuition bills and coverage.***					

Spring 2026 Electives/Advanced Seminars

View Course Schedules online: https://class-schedule.app.utah.edu/main/1264/index.html

Classroom assignments may change between the time you register. and when classes begin. Please check your class schedule for the latest information before attending class.

Please note you may need Permission Codes to register. Please contact the Department Coordinator or Instructor.

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
1358	BMI 6114	3.0	Applied Deep Learning in Biomedicine	Abdulmalek Al-Gahmi & Gianfranco Doretto	T, TH	5:00PM - 6:30PM	421 WA 1470
Full Semester		*Counts as 2 electives* This course is an applied introduction to deep learning, a branch of machine learning, that aims to understand and practice the development and application of modern neural networks. In that vein, the course will provide students with a working knowledge of deep learning fundamentals that presents a start point for using more advanced techniques in their future careers. The course will start by reviewing and implementing the main mathematics, statistics, and machine learning principles that will be required during the course. Then, the students will learn how deep learning algorithms extract layered high-level representations of data in order to optimize feature learning, cluster analysis, and classification machine learning tasks. Hands-on activities will provide students with the experience of implementing deep learning architectures for mainly biomedicine applications. ***Note – Tuition Benefit does NOT pay for differential tuition charges. Please be sure to check tuition bills and coverage.***				

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
8632	CHEM 7020	2.0	Introduction to Spectroscopy I	Michael Morse	M, W, F	11:00AM - 12:05PM	HEB 2010
First Half		This course provides an introduction into the application of time-dependent quantum mechanics and perturbation theory in modern spectroscopy. Students will learn to derive selection rules and properties of electronic, vibrational and rotational transitions in atomic and molecular systems. This course covers topics useful for chemists, physicists, and engineers with a solid background in quantum mechanics.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
8634	CHEM 7130	2.0	Solid-State Chemistry	Luisa Whittaker-Brooks	M, W, F	9:35AM - 10:40AM	HEB 2006
First Half		This course is intended for graduate students in Chemistry, Physics, and Material Science & Engineering with a need to understand the fundamental aspects of solid-state materials and their properties. A broad overview covering the unique aspect of the synthesis, characterization, structure and properties with respect to solids are provided.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
8636	CHEM 7160	2.0	Organometallic Chemistry I	Matthew Sigman	T, TH	9:10AM - 10:30AM	HEB 2010
First Half		This course is intended for graduate students in Chemistry with interests in the intersection of organic and inorganic chemistry. Organometallic chemistry is defined by metal complexes performing chemical reactions might involve intermediates containing transition metal-carbon bonds. The course will introduce fundamental concepts of both inorganic and organic chemistry and the application of these concepts to designing and applying catalytic chemical reactions to target directed organic synthesis, chemical biology, and material science.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
8638	CHEM 7520	2.0	Computational Chemistry Laboratory	Ryan Steele	M, W, F	11:00AM - 12:05PM	HEB 2002
Second Half		This course provides an introduction to electronic structure theory. Coverage includes (a) a theoretical foundation of computational methodology and (b) the practical usage of computational software packages as research tools. The course is useful for all branches of chemistry, as well as physics, engineering, and biology.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
8639	CHEM 7780	2.0	Surface Chemistry	Scott Anderson	M, W, F	8:20AM - 9:25AM	HEB 2010
First Half		This course is a half semester introduction to the physics and chemistry of solid surfaces, with about equal emphasis on scientific questions and on the spectroscopic and other methods used to probe surfaces. The focus is decidedly practical, and the course is intended for graduate students needing to understand surface properties in their future research, or for those interested in learning how to analyze surfaces.					

Spring 2026 Electives/Advanced Seminars

View Course Schedules online: https://class-schedule.app.utah.edu/main/1264/index.html

Classroom assignments may change between the time you register. and when classes begin. Please check your class schedule for the latest information before attending class.

Please note you may need Permission Codes to register. Please contact the Department Coordinator or Instructor.

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
6323	NEUSC 6050	4.0	Principles of Systems Neuroscience	Adam Douglass	T, TH, F	10:45AM - 12:05PM	EHSEB 3430
Full Semester		*Counts as 2 electives* Perhaps the most essential function of the brain is to generate behaviors that maximize an animal's well-being in a dynamically changing environment. Doing so requires often-enormous numbers of neurons to work together in a highly coordinated way. In this course, we will learn about the principles that govern such activity within neural circuits and how they shape an animal's ability to sense, learn, plan and ultimately adapt to its environment. Our approach will use a combination of didactic lectures and group discussion that emphasizes the primary systems neuroscience literature, and the myriad quantitative and experimental techniques that are used to understand the brain.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
17496	ONCSC 6700	1.5	Cell Cycle Events: Mechanisms	Josh Andersen & Bruce Edgar	TH	10:00AM - 12:00PM	HCI-South 6th Floor Conference Room
First Half		This course is designed for Molecular Biology and Biological Chemistry graduate students. Regulated cell division is critical to normal cell function, whether during development, regeneration, or in tissue maintenance. This course will give students an in-depth view of the mechanisms of cell division and proliferative control. The course will be structured around classic and current literature reporting advances in the understanding of cell cycle events. Through discussion we'll consider how these events are integrated, and how mechanistic knowledge impacts our understanding of and approach to human disease. This will often relate to implications for cancer (therapeutic sensitivity, tumorigenesis, etc.), but may extend to other diseases. This is an advanced seminar course with a focus on critical reading of the primary literature and student presentations.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
6781	PATH 7360	1.5	Advanced Immunology	Wan-Lin Lo	T, TH	2:00PM - 3:30PM	EEJMRB 2420
First Half		This is an advanced lecture and seminar course addressing topics of immunological research and interest. The course will focus upon original research articles, not a textbook. Students will be expected to participate in discussions. Class grade will be determined based upon classroom participation and a research proposal based upon some aspect of immunology covered in this course.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
8029	PHCEU 6020	3.0	Biomaterials	Michael Yu	T, TH	10:45AM - 12:05PM	BEH S 111
Full Semester		*Counts as 2 electives* Chemical, physical, and biological properties of synthetic polymer, metal, and ceramic biomaterials. Relationship between the structure of biomaterials and their interaction with blood, soft, and hard tissue. Mechanical properties, fabrication, and degradation mechanisms, and performance testing of materials in biomedical use.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
15752	PHCEU 7020	4.0	Physical Chemistry of Biomedical and Drug Delivery Systems	David Grainger & Shawn Owen	T, TH	2:00PM - 4:00PM	EHSEB 4100B
Full Semester		*Counts as 2 electives* Physicochemical fundamentals of dosage form design. Molecular thermodynamics approach to establishing principles of solutions, structures of liquids and solids, complexation, ion-solvent interactions, and multiple equilibria of organic solutes. Physicochemical examination of peptides and proteins, and protein structures. Thermodynamics of nucleic acids: temperature effects, cooperativity, and hybridization equilibria. Principles of colloid and interfacial sciences applied to pharmaceutical dosage formulations.					

Class #	Catalog #	C.H.	Course Title	Lead Instructor	Day	Time	Bldg/Room
15947	PH TX 7690	2.0	Professional Skills Development	Kristen Keefe & Kyle Turner	W	3:00PM - 5:00PM	EHSEB 4100C
Full Semester		The course is designed to provide students with career and personal professional development skills.					