

COLLEGE OF MEDICINE

As the 7th oldest medical school in the nation, the College of Medicine has a longstanding reputation for educating and training superb physicians and scientists, fostering groundbreaking research to improve patients' lives, and actively engaging with the community of Vermont and the region.

In addition to educating medical students, the College of Medicine offers undergraduate minors in pharmacology and behavioral change health studies, as well as a variety of courses available to undergraduate students.

MINORS

- Behavioral Change Health Studies
- Pharmacology

Anatomy Neurobiology Courses

ANNB 090. Internship. 1-3 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

ANNB 096. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

ANNB 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

ANNB 192. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ANNB 193. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

ANNB 195. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ANNB 196. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ANNB 197. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Prerequisite: Department Permission.

ANNB 198. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Prerequisite: Department permission.

ANNB 201. Human Gross Anatomy. 6 Credits.

Lectures and detailed regional cadaver dissections emphasize functional anatomy of major systems (e.g. musculoskeletal, cardiovascular, nervous). Required of Physical Therapy students; others with Department permission.

ANNB 261. Neurobiology. 3 Credits.

Focus on molecular and cellular aspects of the nervous system. Electrical signaling, synaptic transmission, signal transduction, neural development, plasticity, and diseases. Prerequisite: BIOL 103 or ANPS 019 & ANPS 020. Cross-listed with: BIOL 261.

ANNB 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

ANNB 292. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ANNB 293. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

ANNB 295. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles. Undergraduate only.

ANNB 296. Advanced Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles. Undergraduate only.

ANNB 298. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small tea research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

Anatomy/Physiology Courses

ANPS 019. Ugr Hum Anatomy & Physiology. 4 Credits.

Two-semester lecture course with credit given upon completion of each semester. Structure and function of human body will be presented in a three lecture/week format with an additional online lab component. Completion of additional self-study units will be required. Required of all PRNU DIET, NFS, PE, ME, RADT, NMT, MLS, AT, EXMS and BSCI students; others with Instructor permission.

ANPS 020. Ugr Hum Anatomy & Physiology. 4 Credits.

Two-semester lecture course with credit given upon completion of each semester. Structure and function of human body will be presented in a three lecture/week format with an additional online lab component. Completion of additional self-study units will be required. Required of all PRNU, DIET, NFS, PE, ME, RADT, NMT, MLS, AT, EXMS and BSCI students; others with Instructor permission. Prerequisite: ANPS 019.

ANPS 090. Internship. 1-3 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

ANPS 095. Introductory Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ANPS 096. Introductory Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ANPS 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

ANPS 192. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ANPS 193. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

ANPS 195. Intermediate Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

ANPS 198. Undergraduate Research. 1 or 18 Credit.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Prerequisite: Department permission.

ANPS 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

ANPS 292. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

ANPS 293. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

ANPS 295. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

ANPS 298. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

Biochemistry Courses**BIOC 090. Internship. 1-3 Credits.**

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

BIOC 095. Introductory Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

BIOC 096. Introductory Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

BIOC 185. Biochem for Life & Health Sci. 3 Credits.

Exploring biological processes at the molecular level and how they are controlled. Topics include enzymes, gene expression, and metabolism of proteins, carbohydrates, and lipids. Prerequisite: CHEM 042 or acceptable coursework in organic chemistry. Cross-listed with: ASCI 185, NFS 183, P BIO 185.

BIOC 187. BiochemLab for Life&Health Sci. 1 Credit.

Introduction to techniques used to explore fundamental biochemistry concepts including enzyme kinetics, lipids, carbohydrate chemistry, and gene expression. Includes spectrophotometry, gel electrophoresis, and mass spectrometry. Pre/ Co-requisites: P BIO 185, BIOC 185, ASCI 185, or NFS 183. Cross-listed with: ASCI 187, NFS 187, P BIO 187.

BIOC 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

BIOC 191. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Written report due at end of each semester. Prerequisite: Instructor permission. Credit as arranged, up to four hours per semester.

BIOC 192. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Written report due at end of each semester. Prerequisite: Instructor permission.

BIOC 193. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

BIOC 194. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

BIOC 195. Intermediate Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

BIOC 196. Intermediate Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

BIOC 205. Biochemistry I. 3 Credits.

Introduction to chemistry and structure of biological macromolecules; examination of mechanisms of chemical processes in biological systems including enzyme catalysis, biosynthesis, regulation, and information transfer. Prerequisite: CHEM 142 or CHEM 144. Cross-listed with: CHEM 205 and MMG 205.

BIOC 206. Biochemistry II. 3 Credits.

Continuation of Biochemistry I. Biochemistry of nucleic acids; nucleic acid based processes, such as replication and transcription; cellular information transfer, genomics, and proteomics. Prerequisite: BIOC 205, CHEM 205, or MMG 205. Cross-listed with: CHEM 206, MMG 206.

BIOC 207. Biochemistry Lab. 2 Credits.

Introduction to biochemical tools, including spectrometry, chromatography, and electrophoresis; natural and recombinant enzyme isolation; assays of DNA-modifying enzymes; computer-based structure/function exercises. Prerequisite: BIOC 205, CHEM 205, or MMG 205. Cross-listed with: CHEM 207, MMG 207.

BIOC 212. Biochemistry of Human Disease. 3 Credits.

Molecular approach to genetic, metabolic, and infectious diseases; recombinant DNA technology and medicine; molecular biology of cancer. Prerequisite: CHEM 042, CHEM 044, or CHEM 141.

BIOC 240. Macromol Struct Prot&Nucl Acid. 3 Credits.

Introduction to structural biology and macromolecular structure with an emphasis on protein-protein and protein-nucleic acids interactions. Prerequisites: BIOL 002 or BCOR 012, and CHEM 142; Junior standing. Cross-listed with: MMG 240. Alternate years.

BIOC 263. Nutritional Biochemistry. 3 Credits.

Nutritional Biochemistry is a comprehensive study of the metabolism of the macro-nutrients by humans with emphasis on hormonal control of biochemical pathways, nutritional and metabolic interrelationships and dietary disorders. The biochemistry of the micronutrients and vitamins will also be studied. Prerequisite: BIOC 205 or P BIO 185.

BIOC 284. Biochemistry Senior Seminar. 1 Credit.

Oral and written presentation of a subject of current biochemical interest. Prerequisite: Senior standing. Cross-listed with: CHEM 284, MMG 284.

BIOC 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

BIOC 292. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

BIOC 293. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

BIOC 294. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

BIOC 295. Advanced Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

BIOC 296. Advanced Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

College of Medicine Undergraduate Courses**COMU 001. Healthy Brains, Healthy Bodies. 3 Credits.**

Examines the effects the college experience has on the minds and bodies of individuals. Students will learn the basic physiological and psychological factors that are associated with optimal physical and cognitive functioning at every stage of life.

COMU 021. Your Brain on Drugs. 3 Credits.

Demonstrates the effects of drugs and alcohol on behavior and the brain. Pre/Co-requisite: COMU 001.

COMU 022. The Science of Happiness. 3 Credits.

Explores how to foster more fulfilling and productive lives, and the understanding and development of high potential. Students in this class learn how to create positive change by reinterpreting goals using positive psychology.

COMU 090. Internship. 1-3 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

COMU 096. Special Topics. 1-18 Credits.

See Schedule of Courses for specific title.

COMU 122. Family Wellness Coaching. 3 Credits.

Introduces students to the science behind health promotion in a family setting. Students will learn about motivational interviewing and family based, evidenced based strategies to raise healthy children and keep families healthy in all areas of life. Pre/Co-requisites: COMU 001.

COMU 123. The Effects of Adversity. 3 Credits.

Provide students with an understanding of how adversity affects the brain and genome through the use of imaging techniques such as MRI's and EEG's, epigenetics, and questionnaire data. Pre/Co-requisite: COMU 001.

COMU 151. Developmental Psychopathology. 3 Credits.

Helps students understand the psychopathology of children by examining the interaction between environmental and genetic influences. Pre/Co-requisite: COMU 123 or COMU 021.

COMU 152. Intro. to Child Psychiatry. 3 Credits.

Provides an overview and understanding of current research and methods within child psychiatry. Pre/Co-requisite: COMU 122.

COMU 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

COMU 191. Consequences of Concussion. 3 Credits.

Covers the different aspects of concussions such as structural changes, functional changes, behavioral health, general health, and magnetic resonance imaging. Pre/Co-requisite: COMU 123 or COMU 021.

COMU 192. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

COMU 196. Special Topics. 1-18 Credits.

See Schedule of Courses for specific title.

COMU 197. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

COMU 198. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

COMU 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

COMU 292. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded.

COMU 296. Special Topics. 1-18 Credits.

See Schedule of Courses for specific title.

COMU 297. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

COMU 298. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

Graduate Courses**GRAD 291. Undergrad Research. 3 Credits.****Molecular Physiology Biophysics Courses****MPBP 019. UG Human Anatomy & Physiology. 4 Credits.**

Two-semester course with credit given only upon completion of both semesters. Structure and function of human body using cadaver prosections, histological material, and physiological experiments. Required of Medical Technology, Nursing, Nutritional Sciences, Dental Hygiene, Radiologic Technology, and Physical Education; others with Instructor permission. Prerequisite: MATH 019 for MATH 020.

MPBP 020. UG Human Anatomy & Physiology. 4 Credits.

Two-semester course with credit given only upon completion of both semesters. Structure and function of human body using cadaver prosections, histological material, and physiological experiments. Required of Medical Technology, Nursing, Nutritional Sciences, Dental Hygiene, Radiologic Technology, and Physical Education; others with Instructor permission. Prerequisite: MATH 019 for MATH 020.

MPBP 090. Internship. 1-3 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

MPBP 095. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

MPBP 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

MPBP 191. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

MPBP 192. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

MPBP 193. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

MPBP 195. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

MPBP 197. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

MPBP 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

MPBP 292. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

MPBP 293. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

MPBP 295. Advanced Special Topics. 1-18 Credits.

Topics of interest to high level Undergraduate and Graduate students beyond the scope of existing courses.

MPBP 297. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

Neuroscience Courses**NSCI 095. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

NSCI 096. Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

NSCI 097. Readings & Research. 1-6 Credits.**NSCI 098. Readings & Research. 1-6 Credits.****NSCI 111. Exploring Neuroscience. 3 Credits.**

In-depth survey of neuroscience topics, including neuron function, the anatomical and functional organization of the nervous system, and diseases of the nervous system. Prerequisites: PSYS 001; CHEM 023 or CHEM 031; and one of the following pairs of courses: BIOL 001 and BIOL 002, BCOR 011 and BCOR 012, or ANPS 019 and ANPS 020.

NSCI 112. Exploring Neurosci Laboratory. 1 Credit.

Laboratory course in neuroscience designed to provide hands-on experience with methods of inquiry in neuroscience. Goals of this course include the development of problem-solving skills, data analysis, the scientific method, and science communication. Neuroscience majors only. Prerequisites: PSYS 001; CHEM 023 or CHEM 031; and one of the following pairs of courses: BIOL 001 and BIOL 002, BCOR 011 and BCOR 012, or ANPS 019 and ANPS 020.

NSCI 195. Intermediate Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

NSCI 196. Intermediate Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

NSCI 197. Intrmd Readings & Research. 1-6 Credits.**NSCI 198. Intrmd Readings & Research. 1-6 Credits.****NSCI 225. Human Neuroanatomy. 0-3 Credits.**

Functional anatomy of the human nervous system and its cells. Focus on both peripheral and central nervous system. Lectures and laboratory (gross and microscopic anatomy). Prerequisite: Instructor permission.

NSCI 255. Neuroregeneration. 3 Credits.

An analysis of the cellular and molecular processes involved in injury, responses to damage, and differences in the capacity of specific neural tissues to regenerate. Prerequisite: NSCI 111.

NSCI 261. Neurobiology. 3 Credits.

Focus on molecular and cellular aspects of the nervous system. Electrical signaling, synaptic transmission, signal transduction, neural development, plasticity, and diseases. Prerequisites: BIOL 103 or ANPS 019 & ANPS 020. Cross-listed with: BIOL 261.

NSCI 270. Diseases of the Nervous System. 3 Credits.

Senior level, seminar-style capstone course in which students bring together information learned in other courses for an in-depth study of disease states of the nervous system. Pre/co-requisites: NSCI 110 and Senior standing.

NSCI 295. Advanced Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

NSCI 296. Advanced Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

NSCI 297. Advanced Readings & Research. 1-6 Credits.**NSCI 298. Advanced Readings & Research. 1-6 Credits.****Obstetrics Gynecology Courses****OBGY 295. Advanced Special Topics. 1-12 Credits.**

Lectures, readings and discussion for advanced students within areas of expertise of faculty and staff. Prerequisite: Permission of the Instructor.

Orthopedic Surgery Courses**ORTH 291. Rsch in Orth & Rehab. 3 Credits.**

Work on research problem under the direction of a faculty member. Review of literature, preparation of manuscript. Prerequisite: Instructor Permission. In collaboration with clinical faculty of the Department.

ORTH 292. Special Topics:Orthopaedics. 3 Credits.

Work on research problem under the direction of a faculty member. Review of literature, preparation of manuscript. Prerequisite: Instructor Permission. In collaboration with clinical faculty of the Department.

Pathology Courses

PATH 090. Internship. 1-3 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PATH 095. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

PATH 101. Intro to Human Disease. 3 Credits.

Elementary course in human pathology designed for Allied Health students. First portion deals with general mechanisms of disease, followed by disorders of specific organs. Prerequisites: ANPS 019 and ANPS 020.

PATH 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PATH 192. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PATH 195. Special Topics. 1-18 Credits.

PATH 197. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

PATH 198. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PATH 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PATH 292. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PATH 295. Advanced Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

PATH 297. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

PATH 298. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

Public Health Courses

PH 090. Internship. 1-3 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PH 096. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

PH 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PH 192. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PH 196. Intermediate Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles.

PH 197. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

PH 198. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PH 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PH 292. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PH 296. Special Topics. 1-18 Credits.

PH 297. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

PH 298. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

Pharmacology Courses**PHRM 091. Internship. 1-3 Credits.**

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PHRM 096. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

PHRM 191. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PHRM 192. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PHRM 193. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

PHRM 196. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

PHRM 197. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PHRM 200. Medical Cannabis. 3 Credits.

An introduction to the pharmacology underlying recreational and medicinal uses of Cannabis. Focuses on Cannabis taxonomy, chemistry of cannabinoids, physiological effects, and emerging therapeutic applications. Discusses historical, political and socio-economic influences on medical marijuana legislation. Prerequisite: BCOR 103, NSCI 110, NSCI 111 or PHRM 201, or Instructor permission.

PHRM 201. Introduction to Pharmacology. 3 Credits.

This course will focus on biochemical and physiological actions of prototype drugs used in the treatment and prevention of human diseases. Prerequisite: Introductory courses in Biology and Organic Chemistry.

PHRM 240. Molecules & Medicine. 3 Credits.

This course conveys an understanding about drug design and the molecular mechanisms by which drugs act in the body. It highlights the importance of medicinal chemistry as it overlaps with the disciplines of chemistry, biochemistry, microbiology, cell biology, and pharmacology. Prerequisites: Intro to Organic Chemistry, Intro to Biology; Permission.

PHRM 272. Toxicology. 3 Credits.

This course is intended to provide an understanding of the chemical, biochemical and physiological factors that determine the pathological effects of chemicals in living systems. Prerequisites: Organic chemistry, background in Biology, or Instructor permission.

PHRM 290. Topics Molecular&Cell Pharm. 3 Credits.

Focuses on basic principles, drug interactions with receptors, membranes, synapses, neurotransmitters, macromoles, cytoskeleton, ion channels and pumps, and mechanisms of drug resistance. Prerequisite: Introductory course in organic chemistry, background in physiology or health sciences.

PHRM 291. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

PHRM 292. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

PHRM 293. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

PHRM 296. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

PHRM 297. Advanced Pharmacology Research. 1-18 Credits.

Independent laboratory research performed under faculty supervision in an area of ongoing pharmacology research. Students must make arrangements with faculty prior to registering. Prerequisite: PHRM 201.

Surgery Courses**SURG 090. Internship. 1-3 Credits.**

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

SURG 096. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

SURG 190. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

SURG 191. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

SURG 192. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

SURG 193. Special Topics. 1-18 Credits.

See schedule of courses for specific titles.

SURG 194. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

SURG 200. Emergency Medicine Research I. 3 Credits.

Introduction to research in emergency medicine with a laboratory focusing on human subjects research in the emergency department. Prerequisites: Junior status or Instructor permission; completion of mandatory hospital training at least one month before semester.

SURG 201. Emergency Medicine Research II. 3 Credits.

Advanced discussion and research training in emergency medicine with continued emergency department-based human subjects laboratory. Prerequisite: SURG 200.

SURG 220. Adv Topics Emerg Med Research. 3-6 Credits.

Emergency medicine research under guidance of a faculty member. Prerequisites: SURG 200, SURG 201 and/or faculty permission.

SURG 290. Internship. 1-18 Credits.

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

SURG 291. Teaching Assistantship. 1-3 Credits.

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

SURG 292. Independent Study. 1-18 Credits.

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional ?classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

SURG 294. Undergraduate Research. 1-18 Credits.

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

SURG 295. Advanced Special Topics. 1-18 Credits.

See Schedule of Courses for specific titles. Prerequisite: Instructor permission.