BIOCHEMISTRY (BIOC)

Courses

BIOC 090. Internship. 1-3 Credits.
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 CHEM 141 and CHEM 142; or other acceptable coursework in organic chemistry. Cross-listed with: ASCI 185, NFS 183, PBIO 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: PBIO 185, BIOC 185, ASCI 185, or NFS 183. Cross-listed with: ASCI 187, NFS 187, PBIO 187.

BIOC 190. Internship. 1-18 Credits.
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 048 or 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. 3 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 PBIO 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.
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.