**BCHM - BIOCHEMISTRY**

**BCHM386 Experiential Learning (3-6 Credits)**

**BCHM461 Biochemistry I (3 Credits)**
First semester of a comprehensive introduction to modern biochemistry. Structure, chemical properties, and function of proteins and enzymes, carbohydrates, lipids, and nucleic acids. Basic enzyme kinetics and catalytic mechanisms.
**Prerequisite:** Minimum grade of C- in CHEM271 and CHEM272; or minimum grade of C- in CHEM276 and CHEM277.
**Credit Only Granted for:** BCHM461 or BCHM463.

**BCHM462 Biochemistry II (3 Credits)**
A continuation of BCHM 461. Metabolic pathways and metabolic regulation, energy transduction in biological systems, enzyme catalytic mechanisms.
**Prerequisite:** Minimum grade of C- in BCHM461.
**Credit Only Granted for:** BCHM462 or BCHM463.

**BCHM463 Biochemistry of Physiology (3 Credits)**
A one-semester introduction to general biochemistry. A study of protein structure, enzyme catalysis, metabolism, and metabolic regulation with respect to their relationship to physiology.
**Prerequisite:** Minimum grade of C- in CHEM271 and CHEM272; or minimum grade of C- in CHEM276 and CHEM277.
**Credit Only Granted for:** BCHM461, BCHM462 or BCHM463.

**BCHM464 Biochemistry Laboratory (3 Credits)**
Biochemical and genetic methods for studying protein function. Site-directed mutagenesis and molecular cloning, protein purification, enzyme activity assays, computer modeling of protein structure.
**Prerequisite:** BCHM461 or BCHM463; and a grade of C- or better in the prerequisite is required for all College of Computer, Mathematical, and Natural Sciences majors and recommended for all students.
**Corequisite:** BCHM465.
**Restriction:** BCHM, CHEM, and Nutritional Sciences majors have first priority, followed by other life science majors.

**BCHM465 Biochemistry III (3 Credits)**
**Prerequisite:** BCHM461 or BCHM463; and a grade of C- or better in the prerequisite is required for College of Computer, Mathematical, and Natural Sciences majors and recommended for all students.
**Recommended:** BCHM462.

**BCHM485 Physical Biochemistry (3 Credits)**
Physical Chemistry with applications to biological systems. Principal topics: quantum chemistry, spectroscopy, structural methods for biological macromolecules, statistical thermodynamics, transport processes in liquid phase, chemical and biochemical kinetics, modeling and simulation, polymer dynamics.
**Prerequisite:** Minimum grade of C- in CHEM481.
**Restriction:** Must be in Biochemistry program, or permission of instructor.
**Credit Only Granted for:** CHEM482 or BCHM485.