

# Biochemistry - BCHE

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## Courses

**BCHE 3180 NUTRITIONAL BIOCHEMISTRY (3)** LEC. 3. Pr. CHEM 2030 or CHEM 2070 or CHEM 2077 or CHEM 2080 or CHEM 2087. Fundamental pathways of carbohydrate, lipid, and amino acid metabolism in human beings.

**BCHE 3200 PRINCIPLES OF BIOCHEMISTRY (3)** LEC. 3. Pr. (BIOL 1010 or BIOL 1020 or BIOL 1030 or BIOL 1027 or BIOL 1037) and (CHEM 2030 or CHEM 2070 or CHEM 2077 or CHEM 2080 or CHEM 2087). Structure and function of biomolecules, enzyme catalysis, processing of genetic information, bioenergetics and metabolism, and regulatory mechanisms in cellular processes.

**BCHE 5180 BIOCHEMISTRY I (3)** LEC. 3. Pr. CHEM 2080 or CHEM 2087. Fundamentals of metabolism, focusing on the design and regulation of the major catabolic and biosynthetic metabolic pathways. Bioenergetics.

**BCHE 5181 BIOCHEMISTRY I LABORATORY (1)** LAB. 3. Pr. P/C BCHE 5180 or P/C CHEM 5180. Laboratory techniques required for identification and quantification of compounds of important biochemical classes.

**BCHE 5190 BIOCHEMISTRY II (3)** LEC. 3. Pr. BCHE 5180 or BCHE 6180. Fundamentals of metabolism, focusing on the design and regulation of the major catabolic and biosynthetic metabolic pathways.

**BCHE 5191 BIOCHEMISTRY II LABORATORY (1)** LAB. 3. Pr. P/C BCHE 5190 or P/C CHEM 5190. Laboratory techniques required for partial purification, kinetic studies, and characterization of enzymes and nucleotides from various plants, animals and bacteria.

**BCHE 6180 BIOCHEMISTRY I (3)** LEC. 3. Pr. CHEM 2080 or CHEM 2087. Departmental approval. Fundamentals of the classification, structure, and reactions of the major constituents of living matter and evaluation of binding phenomena and bioenergetics.

**BCHE 6181 BIOCHEMISTRY I LABORATORY (1)** LAB. 3. Pr. P/C BCHE 6180 or P/C CHEM 6180. Laboratory techniques required for identification and quantification of compounds of important biochemical classes.

**BCHE 6190 BIOCHEMISTRY II (3)** LEC. 3. Pr. BCHE 6180. Departmental approval. Fundamentals of metabolism, focusing on the design and regulation of the major catabolic and biosynthetic metabolic pathways.

**BCHE 6191 BIOCHEMISTRY II LABORATORY (1)** LAB. 3. Pr. P/C CHEM 6190. Laboratory techniques required for partial purification, kinetic studies, and characterization of enzymes and nucleotides from various plants, animals, and bacteria.

**BCHE 7200 ADVANCED BIOCHEMISTRY I (3)** LEC. 3. Graduate credit will not be given for both BCHE 6190 and BCHE 7200.

**BCHE 7210 ADVANCED BIOCHEMISTRY II (3)** LEC. 3. Structure and function of macromolecules participating in the flow of molecular information. Graduate credit will not be given for both BCHE 6180 and BCHE 7210. Or equivalent.

**BCHE 7220 PRINCIPLES OF CELLULAR AND MOLECULAR ENZYMOLOGY (3)** LEC. 3. Pr. BCHE 6190 or CHEM 6190 or BCHE 7200. Departmental approval. The principles of enzyme chemistry including the physical, chemical, and catalytic properties of enzymes.

**BCHE 7230 BIOCHEMISTRY OF MACROMOLECULES (3)** LEC. 3. Pr. BCHE 6180 or BCHE 7200. Departmental approval. Advanced study of the structure of protein and nucleic acids: DNA replication, RNA transcription and protein synthesis.

**BCHE 7260 BIOINFORMATICS (3)** LEC. 3. Pr. BCHE 7210. Departmental approval. Advanced study of main concepts and tools of genomics and proteomics.

**BCHE 7270 BIOCHEMICAL RESEARCH TECHNIQUES (3)** LEC. 3. Pr. BCHE 6190. Modern biochemical laboratory techniques. Course may be repeated for a maximum of 6 credit hours.

**BCHE 7280 TOPICS IN BIOCHEMISTRY (1-3)** LEC. Pr. BCHE 7210. Departmental approval. Directed studies in biochemistry. BCHE 7210 or equivalent. Course may be repeated for a maximum of 3 credit hours.