

BIOCHEMISTRY (BCH)

Biochemistry (BCH) Courses

BCH 2903. Biochemistry for the Life Sciences. (3-0) 3 Credit Hours.

Prerequisite: BIO 1203, BIO 1223, CHE 2603, and CHE 2612 with a grade of "C-" or better. This is a one-semester course designed for majors in Nutrition & Dietetics, and for Biology and Neuroscience majors not planning to pursue health-profession graduate programs that require further exposure to biochemistry and chemistry content. Introduction to biochemistry: amino acids, protein structure, enzymes, lipids, metabolism, nucleic acid structure, bioenergetics, and carbohydrates. (May not be applied to a B.S. in Biochemistry or Chemistry. Formerly BIO 3513. Credit cannot be earned for both BCH 2903 and BIO 3513.) Generally offered: Fall and Spring. Course Fee: DL01 \$75.

BCH 3303. Essentials of Biochemistry. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 3643. This is a one-semester course designed for majors in Chemistry and Microbiology & Immunology and all students planning to pursue health-profession graduate programs that require exposure to specific biochemistry and chemistry content, including those in Biology and Neuroscience majors on a pre-health track. This course will overview the structure and function relationships of biological molecules, energy production, storage and utilization, amino acids, nucleic acids, peptides and proteins, and intermediary metabolism. May not be applied to a B.S. in Biochemistry. (Formerly CHE 3303. Same as BIO 3513. Credit cannot be earned for BCH 3303 and any of the following: BIO 3513 or CHE 3303.) Generally offered: Fall and Spring. This course has Differential Tuition. Course Fee: DL01 \$75.00.

BCH 3312. Biochemistry Laboratory for the Life Sciences. (1-4) 2 Credit Hours.

Prerequisite: BIO 2362, CHE 2612, and completion or concurrent enrollment in MAT 1093 or higher. This one-semester lab course is designed for all students majoring in Nutrition & Dietetics, Biology, Chemistry, and Neuroscience and those planning to pursue health-profession graduate programs. Microbiology and Immunology majors may choose this 1-course lab. A study of the microscopic, biochemical, and molecular techniques used to investigate biochemical reactions and the structure and function of proteins in cells and tissues. Techniques will include: protein extraction, protein characterization, enzyme kinetics, chromatography, western blotting, Immunofluorescence, and bioinformatics. May not be applied to a B.S. in Biochemistry. (Formerly BIO 3362, BIO 3522, BIO 3822, NDRB 3362, and BME 3114. Credit cannot be earned for BCH 3312 and any of the following: BIO 3362, BIO 3522, BIO 3822, NDRB 3362, or BME 3114.) Generally offered: Fall, Spring. This course has Differential Tuition. Course Fee: DL01 \$50; IUC1 \$15; L001 \$30.

BCH 3313. Biochemistry I. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 3643. This course is the first of a two-semester sequence designed for Biochemistry majors. This course will study the structure and function of biological molecules (proteins, sugars, lipids, and nucleic acids) and the kinetics and regulation of enzymes. (Formerly CHE 3313 and CHE 4303. Credit cannot be earned for BCH 3313 and any of the following: CHE 3313 or CHE 4303.) Generally offered: Fall. This course has Differential Tuition.

BCH 3332. Biochemistry I Laboratory. (1-4) 2 Credit Hours.

Prerequisite: A grade of "C-" or better in CHE 3652. This course is intended as the first of a two-semester sequence designed for Biochemistry majors. Microbiology and Immunology majors may choose this two-course lab sequence. It will include topics on biochemical laboratory techniques. (Formerly BIO 3362. Credit cannot be earned for both BIO 3362 and BCH 3332.) Generally offered: Fall. This course has Differential Tuition. Course Fee: IUC1 \$15; L001 \$30; DL01 \$50.

BCH 4313. Biochemistry II. (3-0) 3 Credit Hours.

Prerequisite: A grade of "C-" or better in PHY 1963 and BCH 3313 (BCH 2903, BCH 3303, and CHE 3303 (in previous catalogs) are not acceptable substitutes for BCH 3313). This course is the continuation of the two-semester sequence designed for Biochemistry majors. This course will cover metabolic pathways. (Formerly CHE 4313. Credit cannot be earned for both BCH 4313 and CHE 4313.) Generally offered: Spring. This course has Differential Tuition. Course Fee: DL01 \$75.

BCH 4332. Biochemistry II Laboratory. (1-4) 2 Credit Hours.

Prerequisite: A grade of "C-" or better in PHY 1971 or BCH 3332 (or BIO 3362 or NDRB 3362 in previous catalogs), and completion of or concurrent enrollment in BCH 4313. This course is the second of a two-semester sequence designed for Biochemistry majors. Microbiology and Immunology majors may choose this two-course lab sequence. This is a course-based undergraduate research experiential laboratory focusing on the methodologies of modern biochemistry. (Formerly CHE 4332. Credit cannot be earned for CHE 4332 and BCH 4332.) Generally offered: Spring. This course has Differential Tuition. Course Fee: DL01 \$50; L001 \$30; IUC1 \$15.