

B.A. DEGREE REQUIREMENTS FOR CHEMISTRY

(BIOLOGICAL CHEMISTRY TRACK)

To declare a B.A. major in Chemistry (Biological Chemistry track), a student must satisfy either of the following two requirements:

1) Earn a grade of C+ or better in General Chemistry lecture and laboratory courses (CHE106/107/116/117 or honors equivalents, or AP credit for CHE106/107/116/117) AND earn a grade of C or better in CHE 275;

-OR-

2) Earn a grade of A- or better in a General Chemistry lecture course (CHE106/116/109/119) taken at Syracuse University.

Requirements include 21 credits from chemistry core courses, 6 credits from the list of approved biology/biochemistry core courses, and 9 additional credits from an approved list for a total of 36 required credits. Each student's course of study must include the following:

1.) Required Chemistry Core Courses

CHE 106: General Chemistry Lecture I (3)

CHE 116: General Chemistry Lecture II (3)

OR

CHE 109: General Chemistry Lecture I (Honors & Majors) (3)

CHE 119: General Chemistry Lecture II (Honors & Majors) (3)

CHE 107: General Chemistry Lab I (1)

CHE 117: General Chemistry Lab II (1)

OR

CHE 129: General Chemistry Lab I (Honors & Majors) (1)

CHE 139: General Chemistry Lab II (Honors & Majors) (1)

CHE 275: Organic Chemistry Lecture I (3)

CHE 276: Organic Chemistry Laboratory I (2)

CHE 325: Organic Chemistry Lecture II (3)

CHE 326: Organic Chemistry Laboratory II (2)

CHE 474: Structural and Physical Biochemistry I (3)

2.) Required Biology/Biochemistry Core Courses

BIO 475: Biochemistry Laboratory (4)

OR

CHE/BCM 477: Preparation and Analysis of
Proteins and Nucleic Acid (3)

AND

BCM 475: Biochemistry I (3)

3.) At least 9 credits chosen from:

CHE 335: Chemical and Biochemical Analysis
with Laboratory (4)

CHE 346: Physical Chemistry I (3)

CHE 356: Physical Chemistry II (3)

CHE 411: Inorganic Chemistry (3)

CHE 412: Metals in Medicine (3)

CHE 414: Introduction to Medicinal Chemistry (3)

CHE 422: Inorganic Laboratory Techniques (1)

CHE 425: Crystallography (3)

CHE 427: Organic Chemistry of Biological Molecules (3)

CHE 436: Advanced Physical Chemistry (3)

CHE 546: Molecular Spectroscopy and
Structure (1-3)

CHE 575: Organic Spectroscopy (3)

CHE/FSC 444: Forensic Chemical Analysis (4)

BCM 476: Biochemistry II (3)

or selected graduate courses with the instructor's approval

4.) Required Calculus (one year) and Physics Courses

MAT 285: Life Sciences Calculus I (3)

MAT 286: Life Sciences Calculus II (3)

OR

MAT 295: Calculus I (4)

MAT 296: Calculus II (2-4)

PHY 211: General Physics Lecture I (3)

PHY 212: General Physics Lecture II (3)

PHY 221: General Physics Laboratory I (1)

PHY 222: General Physics Laboratory II (1)

Students are strongly encouraged to take BIO 326 and BIO 327 Genetics and Cell Biology. Students are also encouraged to take BIO 465 Molecular Biology Laboratory.

Students may also gain research experience by enrolling in CHE 450, which may be substituted for a 3-credit course listed in (3) above, by petitioning the department.

Students who receive a score of 5 on the AP chemistry exam will receive credit for CHE 106/116 and CHE 107/117 (8 cr)*

*Pre-medical students should consult with Health Professions Advising before accepting AP chemistry credit.

Last updated: August 9, 2017