CHEMISTRY MAJOR

The study of molecular and atomic properties and interactions that encompass Chemistry and Biochemistry are central to many scientific disciplines including biology, geology, astronomy, environmental science, materials science and numerous others. Chemistry and Biochemistry majors continue to graduate or professional school, and obtain employment as educators and technical scientists. Courses offered by this department may be found under the following acronyms: BCHM, CHEM

Admission to the Major

Chemistry and Biochemistry are part of a Limited Enrollment program (LEP) within the College of Computer, Mathematical, and Natural Sciences (CMNS). Current UMCP students who wish to declare in CHEM or BCHM must complete a series of gateway courses (CHEM146/CHEM177 (or CHEM131/CHEM132), CHEM237 (or CHEM231/CHEM232), and MATH140 and MATH141) prior to applying to the program. Information is available at: http://www.lep.umd.edu.

Placement in Courses

The Department of Chemistry and Biochemistry rigorously enforce all of its prerequisites. Enrollment in CHEM131/CHEM132 or CHEM146/CHEM177 requires placement in calculus (MATH120 or MATH130 or MATH140).

Requirements

All required chemistry courses must be passed with a minimum grade of "C-". Required supporting courses, including BSCI170&171, must be passed with a 2.0 grade point average.

Course | Title | Credits
---|---|---
UNIV100 | The Student in the University | 1

Lower-Level CHEM Courses

Course | Title | Credits
---|---|---
CHEM146 & CHEM177 | Principles of General Chemistry and Introduction to Laboratory Practices and Research in the Chemical Sciences | 5

CHEM237 | Principles of Organic Chemistry I | 4

CHEM247 | Principles of Organic Chemistry II | 4

CHEM276 & CHEM277 | General Chemistry and Energetics - Majors and Fundamentals of Analytical and Bioanalytical Chemistry Laboratory | 5

Supporting Courses

Course | Title | Credits
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BSCI170 & BSCI171 | Principles of Molecular & Cellular Biology and Principles of Molecular & Cellular Biology Laboratory | 4


MATH140 | Calculus I | 4

MATH141 | Calculus II | 4

Required Upper-Level CHEM Courses

Course | Title | Credits
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CHEM395 | Professional Issues in Chemistry and Biochemistry | 1

CHEM425 | Instrumental Methods of Analysis | 4

CHEM481 & CHEM483 | Physical Chemistry I and Physical Chemistry Laboratory I | 5

CHEM401 | Inorganic Chemistry | 3

CHEM482 & CHEM484 | Physical Chemistry II and Physical Chemistry Laboratory II | 5

ELECT UL | 6 credits of approved upper level CHEM/BCHM courses | 6

Total Credits | 62

Note: All majors and potential majors are encouraged to take MATH241 prior to beginning Physical Chemistry.

In order to meet requirements for a degree approved by the American Chemical Society (ACS), students must complete a specific set of courses in addition to this curriculum. Information about ACS certification can be obtained in the undergraduate office.

Information about and requirements for the Chemistry major can be found at: http://www.chem.umd.edu/undergraduateprogram/current-students/majoradvising.

Four Year Plan

Click here (https://cmns.umd.edu/undergraduate/advising-academic-planning/academic-planning/four-year-plans/four-year-plans-gened) for roadmaps for four-year plans in the College of Computer, Mathematical, and Natural Sciences.

Additional information on developing a four-year academic plan can be found on the following pages:

- 4yearplans.umd.edu
- the Student Academic Success-Degree Completion Policy (https://academiccatalog.umd.edu/undergraduate/registration-academic-requirements-regulations/academic-advising) section of this catalog