

B.S. IN BIOCHEMISTRY

Curriculum

| Code | Title | Credits |
|--|---|---------|
| GENERAL EDUCATION REQUIREMENTS (https://catalog.wcupa.edu/undergraduate/general-education-requirements/) | | |
| Academic Foundations | | |
| | First Year Experience requirement | 4 |
| | English Composition requirement | 6-7 |
| | Mathematics requirement ¹ | 3-4 |
| MAT 161 | Calculus I | |
| | Interdisciplinary requirement | 3 |
| | Diverse Communities requirement | 3 |
| PHI 180 | Introduction to Ethics ² | |
| | Ethics requirement ² | 3 |
| Distributed Disciplinary Foundations | | |
| | Science requirement ¹ | 6-8 |
| BIO 110 | General Biology I | |
| PHY 170 | Physics I | |
| | Behavioral & Social Science requirement | 6 |
| | Humanities requirement ² | 6 |
| | Arts requirement | 3 |
| ADDITIONAL BACCALAUREATE REQUIREMENTS (https://catalog.wcupa.edu/undergraduate/general-education-requirements/) | | |
| University Requirements | | |
| | Writing Emphasis requirement | 9 |
| | Speaking Emphasis requirement | 9 |
| Degree Requirements | | |
| | Capstone requirement | 1-15 |
| MAJOR REQUIREMENTS | | |
| Core Courses ¹ | | |
| CHE 103 | General Chemistry I | 3 |
| CHE 104 | General Chemistry II | 3 |
| CHE 231 | Organic Chemistry I | 4 |
| CHE 232 | Organic Chemistry II | 3 |
| CHE 321 | Analytical Chemistry I | 3 |
| CHE 418 | Chemical Information | 1 |
| CHE 476 | Biochemistry I | 3 |
| CRL 103 | General Chemistry I Lab | 1 |
| CRL 104 | General Chemistry II Lab | 1 |
| CRL 231 | Organic Chemistry I Lab | 2 |
| CRL 321 | Analytical Chemistry I Lab | 2 |
| MAT 162 | Calculus II | 4 |
| PHY 180 | Physics II | 4 |
| Other Required Courses ¹ | | |
| CHE 341 | Physical Chemistry I | 4 |
| CHE 342 | Physical Chemistry II | 3 |
| CHE 409 | Foundational Inorganic Chemistry | 3 |
| CHE 424 | Advanced Analytical Chemistry | 3 |
| CHE 477 | Biochemistry II | 3 |
| CRL 232 | Organic Chemistry II Lab | 2 |
| CRL 341 | Physical Chemistry I Lab | 2 |
| CRL 342 | Physical Chemistry II Lab | 2 |
| CRL 411 | Inorganic Syntheses Lab | 2 |
| CRL 424 | Analytical Chemistry II Lab | 2 |

| | | |
|---------|---------------------|---|
| CRL 476 | Biochemistry I Lab | 2 |
| CRL 477 | Biochemistry II Lab | 2 |

Lab safety exam must be passed before application for graduation. See advisor for more information

Capstone Requirement

| | | |
|---------------------------------------|--------------------------------------|------------|
| CHE 491 | Seminar in Chemistry ^{1, 3} | 1 |
| Total Minimum Required Credits | | 120 |

¹ A grade of C- or higher is necessary in all required science and mathematics courses.

² PHI 180 fulfills the Ethics requirement and 3 credits of the Humanities requirement in addition to the Diverse Communities requirement.

³ This course fulfills the Capstone requirement.

Sample Course Plan

To track their individual degree progress, students are advised to access their Degree Audit via RamPortal regularly. For more information, visit the Degree Audit FAQ webpage (<https://www.wcupa.edu/academicEnterpriseSystems/student-system-modernization/degree-audit-faq.aspx>).

The following is a sample suggested course sequence for this program; course offerings and availability are not guaranteed. Students should consult their academic advisor with any questions.

| Course | Title | Credits |
|------------------------|---|-----------|
| Year One | | |
| Fall | | |
| CHE 103 & CRL 103 | General Chemistry I and General Chemistry I Lab | 4 |
| MAT 161 | Calculus I | 4 |
| BIO 110 | General Biology I | 4 |
| FYE 100X | First Year Experience | 4 |
| Credits | | 16 |
| Spring | | |
| CHE 104 & CRL 104 | General Chemistry II and General Chemistry II Lab | 4 |
| MAT 162 | Calculus II | 4 |
| PHI 180 | Introduction to Ethics | 3 |
| WRT 120 | Effective Writing I | 3 |
| Free Elective | | 3 |
| Credits | | 17 |
| Year Two | | |
| Fall | | |
| CHE 231 & CRL 231 | Organic Chemistry I and Organic Chemistry I Lab | 6 |
| CHE 321 & CRL 321 | Analytical Chemistry I and Analytical Chemistry I Lab | 5 |
| PHY 170 | Physics I | 4 |
| Department Safety Exam | | |
| Credits | | 15 |
| Spring | | |
| CHE 232 & CRL 232 | Organic Chemistry II and Organic Chemistry II Lab | 5 |
| PHY 180 | Physics II | 4 |
| WRT 2XX | 200-Level WRT Course | 3 |
| Free Elective | | 3 |
| Credits | | 15 |

| | | |
|------------------------------------|--|------------|
| Year Three | | |
| Fall | | |
| CHE 341 & CRL 341 | Physical Chemistry I and Physical Chemistry I Lab | 6 |
| CHE 418 | Chemical Information | 1 |
| CHE 476 & CRL 476 | Biochemistry I and Biochemistry I Lab | 5 |
| Behavioral & Social Science Gen Ed | | 3 |
| Credits | | 15 |
| Spring | | |
| CHE 342 & CRL 342 | Physical Chemistry II and Physical Chemistry II Lab | 5 |
| CHE 477 & CRL 477 | Biochemistry II and Biochemistry II Lab | 5 |
| Humanities Gen Ed | | 3 |
| Arts Gen Ed | | 3 |
| Credits | | 16 |
| Year Four | | |
| Fall | | |
| CHE 409 | Descriptive Inorganic Chemistry | 3 |
| CHE 491 | Seminar in Chemistry | 1 |
| Behavioral & Social Science Gen Ed | | 3 |
| Interdisciplinary Gen Ed | | 3 |
| Free Elective | | 3 |
| Credits | | 13 |
| Spring | | |
| CRL 411 | Inorganic Syntheses Lab | 2 |
| CHE 424 & CRL 424 | Advanced Analytical Chemistry and Analytical Chemistry II Lab | 5 |
| Free Elective | | 3 |
| Free Elective | | 3 |
| Credits | | 13 |
| Total Credits | | 120 |

¹ This course is a biochemistry program elective in the Biology Department. Each student must complete one elective from the following selected courses: BIO 210, BIO 211, or BIO 214.

² This course is a biochemistry program elective in the Chemistry Department. Each student must complete one elective from the following selected courses: CHE 333, CHE 410, CHE 479, or CRL 477.