

# CHEMISTRY (BA) - BIOCHEMISTRY TRACK

## Program of Study

Click on the Program Map tab to view a term-by-term guide for completing the program requirements.

## Core Requirements

| Code   | Title  | Credit Hours |
|--|--|--------------|
| <b>Area A Essential Skills</b>                     |  |              |
| ENGL 1101  | English Composition I (minimum grade of C)                           | 3            |
| ENGL 1102  | English Composition II (minimum grade of C)                          | 3            |
| MATH 1113  | Pre-Calculus   | 4            |
| Area A Total                                       |  | 9            |
| <b>Area B Institutional Options <sup>1</sup></b>   |  |              |
| B1: Select 3 hours of following courses:           |  | 3            |
| COMM 1110  | Public Speaking  |              |
| Any Foreign Language 1001, 1002, 2001, 2002        |  |              |
| B2: Select 1 hour of the following courses:        |  | 1            |
| ITDS 1779  | Scholarship Across the Disciplines                                   |              |
| LEAD 1705  | Introduction to Servant Leadership                                   |              |
| PERS 1506  | Perspectives 1-hour  |              |
| PERS 1507  | Perspectives 2-hour  |              |
| Area B Total                                       |  | 4            |
| <b>Area C Humanities/Fine Arts/Ethics</b>          |  |              |
| Select one of the following humanities courses:    |  | 3            |
| ENGL 2111  | World Literature I   |              |
| ENGL 2112  | World Literature II  |              |
| ITDS 1145  | Comparative Arts <sup>2</sup>  |              |
| ITDS 1155  | The Western Intellectual Tradition                                   |              |
| ITDS 2125  | Historical Perspectives on the Philosophy of Science and Mathematics |              |
| PHIL 2010  | Introduction to Philosophy   |              |
| Select one of the following fine arts courses:     |  | 3            |
| ARTH 1100  | Art Appreciation   |              |
| ITDS 1145  | Comparative Arts <sup>2</sup>  |              |
| MUSC 1100  | Music Appreciation   |              |
| THEA 1100  | Theatre Appreciation   |              |
| ARTH 2125  | Introduction to the History of Art I– Prehistoric through Gothic     |              |
| ARTH 2126  | Introduction to the History of Art II– Renaissance through Modern    |              |
| Area C Total                                       |  | 6            |
| <b>Area D Science/Math/Technology <sup>1</sup></b> |  |              |
| D1: Take the following science courses with lab    |  | 8            |
| CHEM 1211  | Principles of Chemistry I  |              |
| CHEM 1211L   | Principles of Chemistry I Lab  |              |
| CHEM 1212  | Principles of Chemistry II   |              |
| CHEM 1212L   | Principles of Chemistry II Lab                                       |              |
| D2: Take the following Course                      |  | 3            |

|  |   |           |
|--|---|-----------|
| MATH 1131  | Calculus with Analytic Geometry I                                 |           |
| Area D Total   |   | 11        |
| <b>Area E Social Sciences</b>  |   |           |
| HIST 2111  | U. S. History to 1865   | 3         |
| or HIST 2112   | U. S. History since 1865  |           |
| POLS 1101  | American Government   | 3         |
| Select one of the following behavioral science courses:  |   | 3         |
| ECON 2105  | Principles of Macroeconomics                                      |           |
| ECON 2106  | Principles of Microeconomics                                      |           |
| PHIL 2030  | Moral Philosophy  |           |
| PSYC 1101  | Introduction to General Psychology                                |           |
| SOCI 1101  | Introduction to Sociology   |           |
| Select one of the following world culture courses:   |   | 3         |
| ANTH 1105  | Cultural Anthropology   |           |
| ANTH 1107  | Discovering Archaeology   |           |
| ANTH 2105  | Ancient World Civilizations                                       |           |
| ANTH/ENGL 2136   | Language and Culture  |           |
| GEOG 1101  | World Regional Geography  |           |
| HIST 1111  | World History to 1500   |           |
| HIST 1112  | World History since 1500  |           |
| INTS 2105  | Introduction to International Studies and Cross-Cultural Learning |           |
| ITDS 1156  | Understanding Non-Western Cultures                                |           |
| Area E Total   |   | 12        |
| <b>Wellness Requirement</b>  |   |           |
| Select one of the following:   |   | 3         |
| KINS 1106  | Lifetime Wellness   |           |
| or PHED 1205   | Concepts of Fitness   |           |
| Select one PEDS course ( <a href="https://catalog.columbusstate.edu/course-descriptions/peds/#peds">https://catalog.columbusstate.edu/course-descriptions/peds/#peds</a> ) |   |           |
| Wellness Total   |   | 3         |
| <b>Total Credit Hours</b>  |   | <b>45</b> |

<sup>1</sup> Note: Students whose majors require 2 lab science courses in Area D complete Area B and Area D with a combined total of 15 credit hours. Any additional hours may be applied to Area F or beyond, depending on the program of study. Students should consult their advisors.

- Area B1, 3 hours;
- Area B2, 1 hour;
- Area D1, 8 hours;
- Area D2, 3 hours.

<sup>2</sup> ITDS 1145 Comparative Arts, though listed under both humanities and fine arts, may be taken only once.

## Major Requirements

| Code   | Title | Credit Hours |
|--|-------|--------------|
| <b>Core Requirements</b>   |       |              |
| Complete the core requirements for this program                                    |       | 45           |
| <b>Area F Courses Related to Major</b>   |       |              |
| Students must have a grade of C or better in the course used to satisfy the major. |       |              |

|  |    |
|--|----|
| Apply one hour from Area A (MATH 1113) | 1  |
| Apply one hour from Area D (MATH 1131) | 1  |
| BIOL 1231K General Biology I           | 4  |
| BIOL 1232K General Biology II          | 4  |
| PHYS 1111 Introductory Physics I       | 3  |
| PHYS 1112 Introductory Physics II      | 3  |
| PHYS 1311 Introductory Physics I Lab   | 1  |
| PHYS 1312 Introductory Physics II Lab  | 1  |
| Area F Total                           | 18 |

**Area G Program Requirements**

Students must have a grade of C or better in the course used to satisfy the major.

|   |    |
|---|----|
| STAT 1401 Elementary Statistics   | 3  |
| BIOL 3215K Cell Biology   | 4  |
| CHEM 2115 Quantitative Chemical Analysis  | 3  |
| CHEM 2315 Quantitative Chemical Analysis Lab  | 1  |
| CHEM 3111 Organic Chemistry I   | 3  |
| CHEM 3112 Organic Chemistry II  | 3  |
| CHEM 3135 Inorganic Chemistry   | 3  |
| CHEM 3141 Biochemistry I  | 3  |
| CHEM 3142 Biochemistry II   | 3  |
| CHEM 3311 Organic Chemistry I Lab   | 1  |
| CHEM 3312 Organic Chemistry II Lab  | 1  |
| CHEM 3335 Inorganic Chemistry Lab   | 1  |
| CHEM 3345 Biochemistry Lab I  | 1  |
| CHEM 4115 Foundations of Physical Chemistry   | 3  |
| CHEM 4175 Instrumental Methods of Chemical Analysis                                 | 3  |
| CHEM 4315 Foundations of Physical Chemistry Lab                                     | 1  |
| CHEM 4375 Instrumental Methods of Chemical Analysis Lab                             | 1  |
| Select any Elementary-Intermediate foreign language sequence (FL 1002 and FL 2001): | 6  |
| Area G Total  | 44 |

**Area H Program Electives**

Choose 4 chemistry elective credits (CHEM 1715 for 1 hour is strongly encouraged). Students will need a total of 8 credit hours of coursework at the 3000 level or above in Area H or Area I to satisfy the major.

|              |   |
|--------------|---|
| Area H Total | 4 |
|--------------|---|

**Area I General Electives**

Choose 12 general elective credits. Students will need a total of 8 credit hours of coursework at the 3000 level or above in Area I or Area H to satisfy the major.

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|                           |            |
|---------------------------|------------|
| <b>Total Credit Hours</b> | <b>123</b> |
|---------------------------|------------|