**BIOCHEMISTRY AND MOLECULAR BIOLOGY, BSAG**

Requirements for Students Matriculating in or before Academic Year 2023-2024. Learn more about University Academic Regulation 3.1 ([http://catalog.okstate.edu/university-academic-regulations/#matriculation](http://catalog.okstate.edu/university-academic-regulations/#matriculation)).

Minimum Overall Grade Point Average: 2.00
Total Hours: 120

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 1113</td>
<td>Composition I</td>
<td>3</td>
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<tr>
<td>or ENGL 1313</td>
<td>Critical Analysis and Writing I</td>
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Select one of the following: 3

- ENGL 1213 | Composition II                        |       |
- ENGL 1413 | Critical Analysis and Writing II      |       |
- ENGL 3323 | Technical Writing                      |       |

**American History & Government**

Select one of the following: 3

- HIST 1103 | Survey of American History            |       |
- HIST 1483 | American History to 1865 (H)          |       |
- HIST 1493 | American History Since 1865 (DH)     |       |

POLS 1113 | American Government                   | 3     |

**Analytical & Quantitative Thought (A)**

- MATH 2144 | Calculus I (A)                        | 4     |

**Humanities (H)**

Courses designated (H) 6

**Natural Sciences (N)**

Must include one Laboratory Science (L) course

- CHEM 1314 | Chemistry I (LN)                      | 4     |

Select 5 hours courses designated N 5

**Social & Behavioral Sciences (S)**

- AGEC 1113 | Introduction to Agricultural Economics (S) | 3     |

**Adjacent General Education**

Courses designated (A), (H), (N), or (S) 6

**Diversity (D) & International Dimension (I)**

May be completed in any part of the degree plan

Select at least one Diversity (D) course

Select at least one International Dimension (I) course

**College/Departmental Requirements**

**Agricultural Sciences and Natural Resources Core**

- AG 1011 | First Year Seminar                    | 1     |

From two of the following groups, select one course: 6

Group 1:

- PLNT 1213 | Introduction to Plant and Soil Systems |       |
- HORT 1013 | Principles of Horticultural Science (LN) |       |
- NREM 1113 | Elements of Forestry                   |       |

Group 2:

- SOIL 1113 | Land, Life and the Environment (N)    |       |
- SOIL 2124 | Fundamentals of Soil Science (N)      |       |

Group 3:

- ANSI 1023 & ANSI 1021 | Introduction to the Animal Sciences and Introduction to the Animal Sciences Lab |       |
- FDSC 1133 | Fundamentals of Food Science          |       |
- ENTO 2993 | Introduction to Entomology (LN)       |       |
- ENTO 3003 | Livestock Entomology                  |       |

Group 4:

- NREM 1014 | Introduction to Natural History (LN)  |       |
- NREM 3013 | Applied Ecology and Conservation      |       |
- ENVR 1113 | Elements of Environmental Science (N) |       |
- BIOC 2344 | Chemistry and Applications of Biomolecules |       |
- BIOC 3713 | Biochemistry I                        |       |
- LA 1013  | Introduction to Landscape Architecture |       |

**Written and Oral Communications**

Select one of the following: 3

- AGCM 3103 | Written Communications in Agricultural Sciences and Natural Resources |       |
- BCOM 3113 | Written Communication                |       |
- ENGL 3323 | Technical Writing                    | 2     |

Select one of the following: 3

- AGCM 3203 | Oral Communications in Agricultural Sciences & Natural Resources (S) |       |
- SPCH 2713 | Introduction to Speech Communication (S) |       |
- SPCH 3733 | Elements of Persuasion (S)           |       |

**Major Requirements**

**Core Courses**

- BIOC 1990 | Freshman Research in Biochemistry and Molecular Biology | 1     |
- BIOC 3723 | Biochemistry and Molecular Biology Laboratory | 3     |
- BIOC 3813 | Biochemistry II                        | 3     |
- BIOC 3223 | Physical Chemistry for Biologists      | 3     |
- or CHEM 3433 | Physical Chemistry I |       |
- BIOC 4883 | Senior Seminar in Biochemistry         | 3     |
- BIOC 4990 | Undergraduate Research (2 hrs)         | 2     |
- CHEM 1515 | Chemistry II (LN)                     | 5     |
- CHEM 2113 | Principles of Analytical Chemistry     | 3     |
- CHEM 3053 | Organic Chemistry I                    | 3     |
- CHEM 3112 | Organic Chemistry Laboratory           | 2     |
- CHEM 3153 | Organic Chemistry II                   | 3     |

Select one of the following: 3

- MATH 2153 | Calculus II (A)                        |       |
- STAT 2013 | Elementary Statistics (A)             |       |
- STAT 4013 | Statistical Methods I (A)             |       |
- MICR 2123 | Introduction to Microbiology           | 3     |
- MICR 2132 | Introduction to Microbiology Laboratory | 2     |
**Additional State/OSU Requirements**

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2029.