The Biochemistry Major (B.S.) is designed to prepare students for graduate education in the biochemical sciences, for medical, dental, or pharmaceutical professions, or for employment in biotechnology, pharmaceutical, and chemical industries. Students who complete the Bachelor of Science in Biochemistry will meet all or most of the academic requirements for admission to medical, dental, veterinary, or pharmacy schools.

The curriculum involves a solid foundation of Chemistry and Biology courses, along with core and advanced elective courses in Biochemistry. Undergraduate research is encouraged, and students may collaborate with participating faculty from a variety of departments (Chemistry, Biology, Nutrition, Physics, and Kinesiology).

This program follows the biochemistry curriculum recommendations of the American Society of Biochemists and Molecular Biologists.

**Overall Requirements**
- 122 credit hours, to include at least 36 credits at or above the 300 course level
- Only major requirement and related area requirement courses in which grades of C- or better are earned will be counted toward the major. Students must earn a C- or better in prerequisite major requirement and related area requirement courses before advancing to subsequent courses.

**Degree Program Requirements**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<td><strong>University Requirements</strong> (<a href="https://catalog.uncg.edu/academic-regulations-policies/undergraduate-policies">https://catalog.uncg.edu/academic-regulations-policies/undergraduate-policies</a>)</td>
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<td><strong>College of Arts and Sciences Additional Requirements (LEC)</strong> (<a href="https://catalog.uncg.edu/arts-sciences/#additionalundergraduaterequirementstext">https://catalog.uncg.edu/arts-sciences/#additionalundergraduaterequirementstext</a>)</td>
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<tr>
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<td><strong>Required</strong></td>
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</tr>
<tr>
<td>CHE 111</td>
<td>General Chemistry I †</td>
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<tr>
<td>CHE 112</td>
<td>General Chemistry I Laboratory ‡</td>
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</tr>
<tr>
<td>CHE 114</td>
<td>General Chemistry II</td>
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<tr>
<td>CHE 115</td>
<td>General Chemistry II Laboratory</td>
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<tr>
<td>CHE 331</td>
<td>Quantitative Analysis</td>
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<td>Quantitative Analysis Laboratory</td>
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<tr>
<td>CHE 342</td>
<td>Inorganic Chemistry</td>
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<tr>
<td>CHE 351</td>
<td>Organic Chemistry I</td>
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<tr>
<td>CHE 352</td>
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<td>CHE 353</td>
<td>Organic Laboratory Techniques</td>
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<td>CHE 355</td>
<td>Intermediate Organic Chemistry Lab</td>
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<tr>
<td>CHE 402</td>
<td>Chemistry Seminar</td>
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</table>

**Related Area Requirements** 25
- MAT 191 Calculus I ††
- MAT 292 Calculus II
- BIO 111 Principles of Biology I †††
- BIO 112 Principles of Biology II
- BIO 392 Genetics
  - or BIO 355 Cell Biology

Select one of the following:
- PHY 211 General Physics I
  - & PHY 212 and General Physics II †
- PHY 291 General Physics I with Calculus
  - & PHY 292 and General Physics II with Calculus †

**Advanced Biochemistry Elective or Independent Study** 3-4
Select 3-4 credits of the following:
- CHE 442 Advanced Inorganic Chemistry I
- CHE 481 Synthetic Techniques
- CHE 531 Instrumental Analysis
- CHE 536 Computational Chemistry
- CHE 553 Advanced Organic Chemistry I
- CHE 555 Organometallic Chemistry
- CHE 570B Special Topics in Chemistry: Biochemistry
- BIO 494 Introduction to Biotechnology
- CHE 491 Senior Research
- CHE 492 Senior Research
- BIO 499 Undergraduate Research
- KIN 475 Independent Study
- NTR 427 Undergraduate Research
- PHY 495 Research Experience in Physics

**Advanced Biological Science Elective**
Select one or more courses from the following:
- BIO 277 Human Physiology
- BIO 424 Plant Physiology and Biotechnology
- BIO 464 Developmental Biology
- BIO 477 Animal Physiology
- BIO 479 Neurobiology
- BIO 481 General Microbiology
- BIO 494 Introduction to Biotechnology
- BIO 578 Hormones in Action
- BIO 583 Virology
- BIO 584 Immunology
- BIO 595 Advanced Genetics
- BIO 596 Molecular Biological Approaches in Research
- BIO 543 Biophysics
- BIO 494 Introduction to Biotechnology ‡"
Electives

Electives should be sufficient to complete the 122 credit hours required for the degree. Additional advanced courses in Chemistry and Biology are recommended. CST 105 Introduction to Communication Studies, which fulfills the GRD requirement, is recommended.