Biology, B.S.

The Bachelor of Science degree is offered for those students aspiring to a professional career in biology, and for those students with particularly strong interests in the discipline. See also Preprofessional Programs. A student pursuing the Bachelor of Science is expected to develop a stronger background in mathematics and related sciences and to attain a greater understanding of biology than will a student pursuing a Bachelor of Arts degree. Bachelor of Science students will also be strongly encouraged to undertake an individual research project with a faculty member during their junior and/or senior year.

The B.S. in Biology offers three concentrations for students to choose from.

Biotechnology Concentration
The concentration in biotechnology is designed for students with a strong interest in molecular biology and genetics. Courses will prepare students in both conceptual aspects of molecular biology and their practical application in biotechnology and genetic engineering.

Environmental Biology Concentration
This concentration is designed for students with a strong interest in environmental biology. The concentration provides students with a breadth and depth of environmental awareness, rigorously prepares them for advanced studies in environmental biology and trains them for environmentally-oriented professions.

Human Biology Concentration
This concentration is designed for biology majors who want to develop the ability to integrate biological knowledge as it relates to human beings. The study of human biology requires fundamental knowledge of basic life science, since humans and other animals share a large number of structural, chemical, and control mechanisms. Moreover, human behavior occurs within a specific evolutionary and ecological setting, just as it does in other animals. Our complex brains, our communication and conceptual abilities, and our social structures, can be more fully understood by those who complete this concentration.

Overall Requirements
- 120 credit hours, to include at least 36 credits at or above the 300 course level; note that licensure programs may require hours beyond the minimum listed.
- Students must have a grade point average of at least 2.0 in Biology courses completed at UNC Greensboro.
- A minimum of 30 credits of Biology courses above the 100 level.
- A maximum of 4 credits at the 200 level may be counted toward the major.

Degree Program Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</table>

University Requirements (https://catalog.uncg.edu/academic-regulations-policies/undergraduate-requirements/undergraduate-degrees-and-degree-requirements/)

General Education Requirements (MAC) (https://catalog.uncg.edu/academic-regulations-policies/undergraduate-requirements/general-education-program/#generaleducationcorerequirementstext)

Major Requirements

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<th>Code</th>
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<th>Credit Hours</th>
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Program Qualifications

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<tr>
<th>Program Qualifications</th>
<th>Credit Hours</th>
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B.S. in Biology Core Courses

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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</table>

College of Arts and Sciences Additional Requirements (CIC) (https://catalog.uncg.edu/arts-sciences/#additionalundergraduaterequirementstext)
BIO 482 Molecular Biological Approaches in Research
BIO 485 Virology
BIO 486 Cell Cycle and Cancer
BIO 487 Epigenetics
BIO 490 Introduction to Mathematical Models in Biology
BIO 492 Genetics of Complex Traits
BIO 494 Introduction to Biotechnology
BIO 495 Advanced Genetics
Recommended
BIO 493 Honors Work **
BIO 499 Undergraduate Research **

Related Area Requirements 30-32
CHE 111 General Chemistry I
& CHE 112 and General Chemistry I Laboratory
CHE 114 General Chemistry II
& CHE 115 and General Chemistry II Laboratory
CHE 351 Organic Chemistry I
CHE 352 Organic Chemistry II
& CHE 354 and Organic Chemistry Laboratory
MAT 184 Calculus for the Life Sciences
or MAT 196 Calculus A
or MAT 191 Calculus I
MAT 296 Calculus B
or MAT 292 Calculus II
or STA 271 Fundamental Concepts of Statistics

Select one sequence 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

* In meeting the requirement for credits above the 100 level, all B.S. in Biology majors must complete the following core courses; completion of at least four of these requirements is strongly recommended prior to enrollment in courses numbered 400 and higher.

** Strongly recommended.

Optional Concentrations
Any of the optional concentrations as detailed following the major requirements may be added, but a concentration is not required.

- Biotechnology
- Environmental Biology
- Human Biology

Electives
Electives sufficient to complete the 120 credit hours required for the degree.

Biotechnology Concentration Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>Required</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>BIO 481</td>
<td>General Microbiology</td>
<td></td>
</tr>
<tr>
<td>&amp; 481L</td>
<td>and General Microbiology Laboratory</td>
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Human Biology Concentration Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>Required</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>BIO 277</td>
<td>Human Physiology</td>
<td></td>
</tr>
<tr>
<td>&amp; 277L</td>
<td>and Human Physiology Laboratory</td>
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</tr>
</tbody>
</table>
Biology, B.S.

or BIO 271 Human Anatomy & 271L and Human Anatomy Laboratory

Select at least three of the following courses:

BIO 425 Biological Clocks
BIO 435 Biochem: Metabolic Regulation
BIO 436 Biology of Aging
BIO 437 Human Evolutionary Genetics
BIO 438 Animal Behavior
BIO 449 Current Topics in Biology
BIO 453 Vertebrate Morphogenesis
BIO 455 Vertebrate Reproduction
BIO 464 Developmental Biology & 464L and Developmental Biology Laboratory
BIO 472 Histology & 472L and Histology Laboratory
BIO 476 Pop Genetics / Molecular Evol
BIO 479 Neurobiology & 479L and Neurobiology Laboratory
BIO 481 General Microbiology & 481L and General Microbiology Laboratory
BIO 485 Virology
BIO 486 Cell Cycle and Cancer
BIO 487 Epigenetics
BIO 492 Genetics of Complex Traits
BIO 495 Advanced Genetics
ATY 153 Introduction to Biological Anthropology
PSY 230 Biological Psychology

Disciplinary Honors in Biology

Requirements

• A minimum of 18 credit hours as defined below.
• UNC Greensboro cumulative GPA of 3.30 or better or, for transfer students, cumulative GPA of 3.30 or better from all prior institutions.
• A grade of B or higher in all course work used to satisfy the Honors requirements in Biology.

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<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>HSS 490</td>
<td>Senior Honors Project</td>
<td></td>
</tr>
<tr>
<td>BIO 493</td>
<td>Honors Work *</td>
<td></td>
</tr>
</tbody>
</table>

Select two 400-level Biology courses completed with Honors Contracts 6

Select a third Honors Contract course in Biology at the 300 or 400 level 3

Any of the Department's journal clubs 1

Oral presentation of Honors Thesis to a committee of three Biology Faculty or public presentation of research at a local, regional, or national meeting is required.

* Only 6 credits may be counted toward the 30 credit minimum in the Biology major

Recognition

Receive a Certificate of Disciplinary Honors in Biology; have that accomplishment, along with the title of the Senior Honors Project, noted on the official transcript; and be recognized at a banquet held at the end of the spring semester.

Honors Advisor

Contact John Lepri at jjlepri@uncg.edu for further information and guidance about Honors in Biology. To apply: https://honorscollege.uncg.edu/disciplinary-honors/disciplinary-honors-admissions/