PHYSICS, B.S.

The Physics Major is a firm basis for a career in medicine, law, business, sales, engineering, teaching, computing, biophysics, environmental science, or physics.

Students who elect physics as a major must complete specific courses no later than the end of their sophomore year. Any student who desires to major in physics should contact the head of the department as soon as possible so a proper schedule can be planned.

Specific Courses

Students who elect physics as a major must complete these courses no later than the end of their sophomore year.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 291</td>
<td>General Physics I with Calculus</td>
<td></td>
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<tr>
<td>PHY 292</td>
<td>General Physics II with Calculus</td>
<td></td>
</tr>
<tr>
<td>PHY 211</td>
<td>General Physics I</td>
<td></td>
</tr>
<tr>
<td>PHY 212</td>
<td>General Physics II</td>
<td></td>
</tr>
<tr>
<td>MAT 293</td>
<td>Calculus III</td>
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</tbody>
</table>

Select one option of the following:

**Option A:**
- PHY 291 General Physics I with Calculus
- PHY 292 General Physics II with Calculus

**Option B:**
- PHY 211 General Physics I
- PHY 212 General Physics II
- MAT 293 Calculus III

Overall Requirements

- 120 credit hours, to include at least 36 credits at or above the 300 course level
- Minimum of 39 credits in Physics courses above the 100 level.
- Students must have at least a 2.0 GPA for the required Physics and Mathematics courses.

Degree Program Requirements

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

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

College of Arts and Sciences Additional Requirements (LEC) (https://catalog.uncg.edu/arts-sciences/#additionalundergraduaterequirementstext)

Major Requirements

**Core Courses**

- PHY 291 General Physics I with Calculus
- PHY 292 General Physics II with Calculus
- PHY 311 Intro to Experimental Methods
- PHY 321 Introduction to Modern Physics
- PHY 323 Mechanics
- PHY 325 Electricity and Magnetism I
- PHY 327 Thermal Physics
- PHY 351 Intro to Computational Physics
- PHY 401 Physics Senior Seminar

**Additional Requirements**

Select 12 credit hours of PHY courses at the 400 level.

**Related Area Requirements**

- CHE 111 & CHE 112 General Chemistry I and General Chemistry I Laboratory
- CHE 114 & CHE 115 General Chemistry II and General Chemistry II Laboratory
- CSC 120 Introduction to Computer Programming for Non-Majors
- MAT 191 Calculus I
- MAT 292 Calculus II
- MAT 293 Calculus III
- MAT 390 Ordinary Differential Equations
- MAT 394 Calculus IV

Optional Concentration

The optional concentration as detailed following the major requirements may be added, but is not required.

- Physics Major with Comprehensive Science High School Teaching Licensure

Electives

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

**Physics Major with Comprehensive Science High School Teaching Licensure Concentration Requirements**

The Comprehensive Science High School Licensure (PHYS) program provides a strong background in physics as well as licensure for high school physics teaching. In addition, successful completion of this program qualifies candidates to teach other high school science subjects as well.

**Additional Requirements for Teacher Licensure**

- BIO 111 Principles of Biology I
- BIO 112 Principles of Biology II
- GES 103 Introduction to Earth Science
- GES 111 Physical Geology
- GES 205 Environmental Change: Its Nature and Impact
- GES 319 Weather and Climate
- GES 314 Physical Geography: Landscape Processes
- TED 435 Literacy in the Content Area
- ERM 401 Assessment I: Accountability in Our Nation's Schools

* Counts toward GEC GNS requirement.
† Counts toward GEC GMT requirement.
<table>
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<tr>
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<tbody>
<tr>
<td>ERM 402</td>
<td>Assessment II: Standardized Tests</td>
</tr>
<tr>
<td>ERM 403</td>
<td>Assessment III: Classroom Assessment</td>
</tr>
<tr>
<td>TED 401</td>
<td>Child and Adolescent Development and Learning</td>
</tr>
<tr>
<td>SES 401</td>
<td>Understanding and Teaching Students with Disabilities in Inclusive Settings</td>
</tr>
<tr>
<td>TED 403</td>
<td>Teaching English Learners with Diverse Abilities</td>
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<tr>
<td>TED 445</td>
<td>Human Diversity, Teaching, and Learning</td>
</tr>
<tr>
<td>TED 459</td>
<td>Teaching Practices and Curriculum in Science</td>
</tr>
<tr>
<td>TED 465</td>
<td>Student Teaching: Secondary School</td>
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<tr>
<td>TED 466</td>
<td>Student Teaching Seminar</td>
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<tr>
<td><strong>Recommended</strong></td>
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</tr>
<tr>
<td>LIS 120</td>
<td>Introduction to Instructional Technology for Educational Settings (strongly recommended)</td>
</tr>
</tbody>
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* The courses listed must be taken in a specified sequence, terminating in student teaching in the spring semester of the senior year. See online Secondary Education Handbook for more information.

† Counts toward GEC GNS requirement.

‡ Counts toward GEC GMT requirement.