

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.

Code	Title	Credit Hours
<i>Select one option of the following:</i>		
<i>Option A:</i>		
PHY 291	General Physics I with Calculus	
PHY 292	General Physics II with Calculus	
<i>Option B:</i>		
PHY 211	General Physics I	
PHY 212	General Physics II	
MAT 293	Calculus III	

Overall Requirements

- 122 credit hours, to include at least 36 credits at or above the 300 course level
- Minimum of 37 credits in physics courses above the 100 level.
- Students must have at least a 2.0 grade point average for the required physics and mathematics courses.

Degree Program Requirements

Code	Title	Credit Hours
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/#additionalundergraduateresultstext)		

Major Requirements

Code	Title	Credit Hours
Core Courses		
PHY 321	Introduction to Modern Physics	
PHY 323	Mechanics	
PHY 325	Electricity and Magnetism I	
PHY 401	Physics Senior Seminar	
<i>Select one sequence of the following:</i>		

PHY 291 & PHY 292	General Physics I with Calculus and General Physics II with Calculus [†]
PHY 211 & PHY 212	General Physics I and General Physics II [†]
<i>Select at least two of the following:</i>	
PHY 327	Thermal Physics
PHY 412	Electronics for Scientists
PHY 413	Microcomputer Interfacing for Scientists
<i>Select at least three of the following:</i>	
PHY 294	Introduction to Computational Physics Laboratory
PHY 321L	Modern Physics Laboratory
PHY 323L	Classical Physics Laboratory
PHY 325L	Electricity and Magnetism Laboratory
PHY 395	Computational Physics Laboratory II
<i>Select at least three of the following:</i>	
PHY 330	Astrophysics
PHY 421	Modern Physics with Quantum Mechanics
PHY 423	Analytical Mechanics
PHY 426	Electricity and Magnetism II
PHY 543	Biophysics
<i>Select one additional course of the following:</i>	
PHY 294	Introduction to Computational Physics Laboratory
PHY 321L	Modern Physics Laboratory
PHY 323L	Classical Physics Laboratory
PHY 325L	Electricity and Magnetism Laboratory
PHY 395	Computational Physics Laboratory II

Related Area Requirements

CHE 111	General Chemistry I [†]
CHE 112	General Chemistry I Laboratory
CHE 114	General Chemistry II
CHE 115	General Chemistry II Laboratory
CSC 130	Introduction to Computer Science
MAT 191	Calculus I ^{††}
MAT 292	Calculus II
MAT 293	Calculus III
MAT 390	Ordinary Differential Equations
MAT 394	Calculus IV

[†] Counts toward GEC GNS requirement.

^{††} Counts toward GEC GMT requirement.

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.

Code	Title	Credit Hours
Additional Requirements for Teacher Licensure		
BIO 111	Principles of Biology I	

BIO 112 Principles of Biology II

GES 103 Introduction to Earth Science

Select one of the following:

GES 111 Physical Geology

GES 205 Environmental Change: Its Nature and Impact

GES 319 Weather and Climate

GES 314 Physical Geography: Landscape Processes

*Required**

TED 535 Literacy in the Content Area

ERM 401 Assessment I: Accountability in Our Nation's Schools

ERM 402 Assessment II: Standardized Tests

ERM 403 Assessment III: Classroom Assessment

TED 401 Child and Adolescent Development and Learning

SES 401 Understanding and Teaching Students with Disabilities in Inclusive Settings

TED 403 Teaching English Learners with Diverse Abilities

TED 545 Diverse Learners

TED 559 Teaching Practices and Curriculum in Science

TED 465 Student Teaching and Seminar: Secondary School

Recommended

LIS 120 Introduction to Instructional Technology for Educational Settings (strongly recommended)

* *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.*

Electives

Electives sufficient to complete the 122 credit hours required for degree.

Physics as a Second Major

Students planning to take Physics as a second major must complete all required courses for the Bachelor of Arts or Bachelor of Science degree.