

PROGRAM SUMMARY

- **Credit Hours:** 120 hours
- **Concentrations:** No
- **Declaring the Major:** Students should declare a Physics major in their freshman or sophomore year.
- **Advising (For the Major):**
 - Dr. Pedram Leilabady (freshmen), email: pleilaba@uncc.edu, 704.687.8140
 - Dr. Yildirim Aktas (sophomores), email: aktas@uncc.edu, 704.687.8130
 - Dr. M. Yasin Raja (juniors), email: raja@uncc.edu, 704.687.8156
 - Dr. Tsinghua Her (seniors), email: ther@uncc.edu, 704.687.8139
- **Advising (For General Education):** CLAS Advising Center
- **Minimum Grades/GPA:** Students must have a 2.0 or higher average in Physics courses to graduate. A C or better is required in most PHYS classes before students can progress to the next PHYS course.
- **Teacher Licensure:** Yes: Physics
- **Evening Classes Available:** Yes (lower level only)
- **Weekend Classes Available:** No
- **Other Information:** The Department offers Honors in Physics (students must complete a research-based project). The Department offers a minor in Physics. The Department also offers dual degree programs for engineering students in Electrical and Computer Engineering and Mechanical Engineering.
- **Contact(s):** Dr. Pedram Leilabady (freshmen), pleilaba@uncc.edu, 704.687.8140

PROGRAM REQUIREMENTS

The Department of Physics and Optical Science offers the following degrees: B.A. in Physics, B.S. in Physics. The B.A. degree is intended for students who are interested in double majoring in physics and another discipline or who plan to teach physics in high school. The B.S. degrees are intended for students interested in working in a technical industry or attending graduate school in physics or a related field. All of the degrees in physics are very structured – one class builds on another. Students should declare the major in the freshman or early in the sophomore year so that all required classes can be completed in 4 years.

Areas	Credit Hours	Description
Pre-Major/ Prerequisites	-	
Major	36-51	Some of the required courses in the major will count towards University General Education requirements for Natural Sciences, Oral Communications and Writing Intensive courses.
General Education <i>(not satisfied by other major requirements)</i>	21-24	These hours do not include those requirements which are satisfied within the major. Students with an associate's degree are exempt from most General Education requirements.
Related Work	16	Courses that are required pre-requisites for PHYS courses taken by all majors. These include CHEM and MATH courses.
Foreign Language	0-8	Students must demonstrate competence at the 1202 level. Competence can be demonstrated by transfer courses, placement exam, or courses at UNC Charlotte.
Electives	24-36	As needed to complete 120 hours total.
Total Credit Hours	120	

SUGGESTED PLAN OF STUDY – B.S. IN PHYSICS

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
PHYS 1000	New Student Seminar	1			
MATH 1241	Calculus I	3	X		
CHEM 1251 & 1251L	Principles of Chemistry I	4	X		
UWRT 1103	Writing and Inquiry in Academic Contexts (or UWRT 1104)	3	X		
LBST 11XX	LBST 110X Series: Arts and Society	3	X		
<i>Spring Semester</i>					
PHYS 2101	Physics for Scientists and Engineers I	3	X		
PHYS 2101L	Physics for Scientists and Engineers I Laboratory	1			
MATH 1242	Calculus II	3	X		
LBST 2101	Western Cultural and Historical Awareness (or LBST 2102 or 221X)	3	X		
LBST 221X	Ethical and Cultural Critique (or LBST 2101 or 2102)	3	X		
XXXX XXXX	Social Science (General Education)	3	X		
					30 Credit Hours for Year

Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
PHYS 2102 & 2102L	Physics for Scientists and Engineers II	4			
MATH 2171	Differential Equations	3			
LBST 2301	Critical Thinking and Communication	3	X		
XXXX 1201	Foreign Language 1201	4			
<i>Spring Semester</i>					
PHYS 3101	Topics and Methods of Physics	3			
PHYS 3141	Modern Physics	3			
MATH 2241	Calculus III	3			
PHYS 3210	Introduction to Computational Physics	3			
XXXX 1202	Foreign Language 1202	4			
					30 Credit Hours for Year

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
PHYS 3121	Classical Mechanics I	3			
PHYS 3283	Advanced Lab in Classical Physics	3	X	W	
PHYS 3220	Mathematical Methods in Physics	3			
XXXX XXXX	Elective	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
PHYS 4231	Electromagnetic Theory I	3			
PHYS 3282	Advanced Lab in Modern Physics	3	X	W,O	
PHYS 4222	Classical Mechanics II	3			
XXXX XXXX	Elective	3			
XXXX XXXX	Elective	3			
					30 Credit Hours for Year

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
PHYS 4241	Quantum Mechanics I	3			
PHYS 4232	Electromagnetic Theory II	3			
PHYS XXXX	PHYS elective at 3000 or 4000 level	3			
XXXX XXXX	Elective	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
PHYS 3151	Thermal Physics	3			
PHYS XXXX	PHYS elective at 3000 or 4000 level	3			
XXXX XXXX	Elective	3			
XXXX XXXX	Elective	3			
XXXX XXXX	Elective	3			
					30 Credit Hours for Year

ADVISING RESOURCES

- General Education Requirements for ALL Students: ucol.uncc.edu/general-education
- Undergraduate Catalog: catalog.uncc.edu
- Central Advising website: advising.uncc.edu
- College of Liberal Arts & Sciences advising website: clas.uncc.edu/students/Advising-News/
- University Advising Center website: advisingcenter.uncc.edu