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.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Major/Prerequisites</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Major</td>
<td>36-51</td>
<td>Some of the required courses in the major will count towards University General Education requirements for Natural Sciences, Oral Communications and Writing Intensive courses.</td>
</tr>
<tr>
<td>General Education (not satisfied by other major requirements)</td>
<td>21-24</td>
<td>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.</td>
</tr>
<tr>
<td>Related Work</td>
<td>16</td>
<td>Courses that are required pre-requisites for PHYS courses taken by all majors. These include CHEM and MATH courses.</td>
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<tr>
<td>Foreign Language</td>
<td>0-8</td>
<td>Students must demonstrate competence at the 1202 level. Competence can be demonstrated by transfer courses, placement exam, or courses at UNC Charlotte.</td>
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<tr>
<td>Electives</td>
<td>24-36</td>
<td>As needed to complete 120 hours total.</td>
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<tr>
<td>Total Credit Hours</td>
<td>120</td>
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## Suggested Plan of Study – B.A. in Physics

### Freshman Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>General Education W/O Course</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 1000</td>
<td>New Student Seminar</td>
<td>1</td>
<td></td>
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<tr>
<td>MATH 1241</td>
<td>Calculus I</td>
<td>3</td>
<td>X</td>
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</tr>
<tr>
<td>CHEM 3251+L</td>
<td>Principles of Chemistry I &amp; Principles of Chemistry I Laboratory</td>
<td>4</td>
<td>X</td>
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<tr>
<td>UWRT 1103</td>
<td>Writing and Inquiry in Academic Contexts (or UWRT 1104)</td>
<td>3</td>
<td>X</td>
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<tr>
<td>LBST 110X</td>
<td>LBST 110X Series: Arts and Society</td>
<td>3</td>
<td>X</td>
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### Sophomore Year

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<thead>
<tr>
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<th>Course Title</th>
<th>Credit Hours</th>
<th>General Education W/O Course</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>PHYS 2101</td>
<td>Physics for Scientists and Engineers I</td>
<td>3</td>
<td>X</td>
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<tr>
<td>PHYS 2101L</td>
<td>Physics for Scientists and Engineers I Laboratory</td>
<td>1</td>
<td></td>
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<tr>
<td>MATH 1242</td>
<td>Calculus II</td>
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<td>X</td>
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<tr>
<td>LBST 2101</td>
<td>Western Cultural and Historical Awareness (or LBST 2102 or 221X)</td>
<td>3</td>
<td>X</td>
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<tr>
<td>LBST 221X</td>
<td>Ethical and Cultural Critique (or LBST 2101 or 2102)</td>
<td>3</td>
<td>X</td>
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<tr>
<td>XXXX XXXX</td>
<td>Social Science (General Education)</td>
<td>3</td>
<td>X</td>
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</table>

### Junior Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>General Education W/O Course</th>
<th>Notes</th>
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<tbody>
<tr>
<td>PHYS 3121</td>
<td>Classical Mechanics I</td>
<td>3</td>
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<td></td>
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<tr>
<td>PHYS 3283</td>
<td>Advanced Lab in Classical Physics</td>
<td>3</td>
<td>X</td>
<td>W</td>
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<tr>
<td>PHYS 3220</td>
<td>Mathematical Methods in Physics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XXXX XXXX</td>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XXXX XXXX</td>
<td>Elective</td>
<td>3</td>
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</table>

### Senior Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>General Education W/O Course</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>PHYS 4241</td>
<td>Quantum Mechanics I</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>PHYS XXXX</td>
<td>PHYS elective at 3000 or 4000 level</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XXXX XXXX</td>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>XXXX XXXX</td>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**30 Credit Hours for Year**

**ADVISIGN RESOURCES**
- General Education Requirements for ALL Students: [ucoil.uncc.edu/general-education](http://ucoil.uncc.edu/general-education)
- Undergraduate Catalog: [catalog.uncc.edu](http://catalog.uncc.edu)
- Central Advising website: [advising.uncc.edu](http://advising.uncc.edu)
- College of Liberal Arts & Sciences advising website: [clas.uncc.edu/students/Advising-News/](http://clas.uncc.edu/students/Advising-News/)
- University Advising Center website: [advisingcenter.uncc.edu](http://advisingcenter.uncc.edu)