NUCLEAR AND RADIOLOGICAL SCIENCES | PRE-MEDICAL PHYSICS

This degree emphasizes the nuclear sciences rather than nuclear engineering. Students pursue a pre-medical specialization or a pre-medical physics specialization. Any student pursuing this degree must have a selected program, including option area electives, approved in advance by an advisor.

About this Program

- **College:** Herbert Wertheim College of Engineering
- **Degree:** Bachelor of Science
- **Specializations:** Pre-Medical | Pre-Medical Physics
- **Credits for Degree:** 125

### Semester 5

- Complete all 8 critical-tracking courses with minimum grades of C in each course within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student’s academic record and scheduling availability of courses. Prerequisites still apply.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BSC 2010</td>
<td>Integrated Principles of Biology 1 (Critical Tracking; State Core Gen Ed Biological and Physical Sciences)</td>
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<tr>
<td>BSC 2010L</td>
<td>Integrated Principles of Biology Laboratory 1</td>
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<td>CHM 2045</td>
<td>General Chemistry 1 (Critical Tracking; Gen Ed Physical Sciences)</td>
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<td>CHM 2095</td>
<td>Chemistry for Engineers 1 (Critical Tracking)</td>
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<td>CHM 2045L</td>
<td>General Chemistry 1 Laboratory (Gen Ed Physical Sciences)</td>
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<td>MAC 2311</td>
<td>Analytic Geometry and Calculus 1 (Critical Tracking; State Core Gen Ed Mathematics)</td>
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<td>IUF 1000</td>
<td>What is the Good Life (Gen Ed Humanities)</td>
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<td>MAC 2312</td>
<td>Analytic Geometry and Calculus 2 (Critical Tracking; Gen Ed Mathematics)</td>
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<td>COP 2271</td>
<td>Computer Programming for Engineers</td>
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<tr>
<td>MAP 2302</td>
<td>Elementary Differential Equations (Critical Tracking)</td>
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Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

### Semester 1

- Complete 1 of 8 critical-tracking courses with minimum grade of C within two attempts: BSC 2010, CHM 2045 or CHM 2095, MAC 2311, MAC 2312, MAC 2313, MAP 2302, PHY 2048, PHY 2049
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

### Semester 2

- Complete 1 additional critical-tracking course with a minimum grade of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

### Semester 3

- Complete 2 additional critical-tracking courses with minimum grades of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

### Semester 4

- Complete 2 additional critical-tracking courses with minimum grades of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required
The major in nuclear and radiological sciences educates students to work professionally in areas related to the control and safe utilization of nuclear energy, radiation and radioactivity.

**Before Graduating Students Must**

- Pass an assessment by two or more faculty and/or industry practitioners of performance on a major design experience.
- Pass assessment in two or more courses of individual assignments targeted to each learning outcome. Assessment will be provided by the instructor of the course according to department standards.
- Complete requirements for the baccalaureate degree, as determined by faculty.

**Students in the Major Will Learn to**

**Student Learning Outcomes (SLOs)**

**Content**

1. Apply knowledge of mathematics, science and engineering for problem solving in engineering.
2. Analyze and interpret experimental data.

**Critical Thinking**

3. Develop an engineering design to meet specific technical requirements within realistic constraints such as economic, environmental, health and safety and reliability.
4. Foster the need for lifelong learning and the ability to adapt this to engineering practice.

**Communication**

5. Function effectively on multidisciplinary skills teams.
6. Communicate effectively, using both oral and written presentations, in engineering practice.

**Curriculum Map**

I = Introduced; R = Reinforced; A = Assessed

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>SLO 1</th>
<th>SLO 2</th>
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**Assessment Types**

- Assignments
- Exams
- Projects
- Presentations
- Additional assessment includes the senior exit survey