The Department of Nuclear Engineering offers a BS in Nuclear Engineering.

Program Requirements

The freshman year is identical for degrees in aerospace engineering, biomedical engineering, civil engineering, computer engineering, electrical engineering, industrial engineering, mechanical engineering, nuclear engineering, ocean engineering, and petroleum engineering thus allowing a student with adequate grades to change majors within the Dwight Look College of Engineering. The freshman year is slightly different for chemical engineering and radiological health engineering in that students take CHEM 101/111 and CHEM 102/112 instead of CHEM 107/117. Students pursuing degrees in biological and agricultural engineering, computer science, engineering technology, or industrial distribution should refer to the specific curriculum for these majors. It is recognized that many students will change the sequence and number of courses taken in any semester. Deviations from the prescribed course sequence, however, should be made with care to ensure that prerequisites for all courses are met. In addition to the freshman year curriculum listed below, students should refer to the specific curriculum for each major for other requirements. Before commencing course work in the major, students must be admitted to the major or have the approval of the department.

First Year

**Fall**
- ENGL 104: Composition and Rhetoric 1 3
- ENGR 111: Foundations of Engineering I 1 2
- MATH 151: Engineering Mathematics I 1,2 4
- PHYS 218: Mechanics 1 3
- University Core Curriculum 3 3

**Spring**
- CHEM 107: General Chemistry for Engineering Students 1,4 3
- CHEM 117: General Chemistry for Engineering Students Laboratory 1 1
- ENGR 112: Foundations of Engineering II 1 2
- MATH 152: Engineering Mathematics II 1 4
- PHYS 208: Electricity and Optics 1 4
- University Core Curriculum 3 3

**Second Year**

**Fall**
- MATH 251: Engineering Mathematics III 3
- MEEN 221: Statics and Particle Dynamics 3
- NUEN 101: Principles of Nuclear Engineering 1
- NUEN 201: Introduction to Nuclear Engineering I 3
- NUEN 265: Materials Science for Nuclear Energy Applications 3
- University Core Curriculum 3 3

**Spring**
- CVEN 305: Mechanics of Materials 3
- ECEN 215: Principles of Electrical Engineering 3
- MATH 308: Differential Equations 3
- MEEN 315: Principles of Thermodynamics 3
- NUEN 302: Introduction to Nuclear Engineering II 3

**Third Year**

**Fall**
- COMM 203 or ENGL 210: Public Speaking or Technical and Business Writing 3
- MATH 309: Linear Algebra for Differential Equations 3
- MEEN 344: Fluid Mechanics 3
- NUEN 301: Nuclear Reactor Theory 3
- NUEN 309/SENG 309: Radiological Safety 3

**Spring**
- ISEN 302: Economic Analysis of Engineering Projects 2
- MEEN 461: Heat Transfer 3
- NUEN 303: Nuclear Detection and Isotope Technology Laboratory 3
- NUEN 304: Nuclear Reactor Analysis 3
- NUEN 329: Analytical and Numerical Methods 3
- University Core Curriculum 3 3

**Total Semester Credit Hours:** 33

1 A grade of C or better is required.

2 Entering students will be given a math placement exam. Test results will be used in selecting the appropriate starting course which may be at a higher or lower level.

3 Of the 18 hours shown as University Core Curriculum electives, 3 must be from creative arts, 3 from social and behavioral sciences, 6 from American history, and 6 from government/political science. The required 6 hours from international and cultural diversity may be met by courses satisfying the creative arts, social and behavioral sciences, and American history requirements if they are also on the approved list of international and cultural diversity courses.

4 BMEN, CHEN and RHEN require 8 hours of freshman chemistry, which may be satisfied by CHEM 101/CHEN 111 or CHEM 107/ CHEM 117 and CHEM 102/CHEN 112; Credit by Examination (CBE) for CHEM 101/CHEN 111 or CHEM 107/CHEN 117 plus CHEM 102/ CHEM 112; or 8 hours of CBE for CHEM 101/CHEN 111 or CHEM 107/CHEN 117 and CHEM 102/CHEN 112.
### Fourth Year

**Fall**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUEN 405</td>
<td>Nuclear Engineering Experiments</td>
<td>3</td>
</tr>
<tr>
<td>NUEN 406</td>
<td>Nuclear Engineering Systems and Design</td>
<td>3</td>
</tr>
<tr>
<td>NUEN 430</td>
<td>Computer Applications in Nuclear Engineering</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Technical elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>University Core Curriculum</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Term Semester Credit Hours</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 482</td>
<td>Ethics and Engineering</td>
<td>3</td>
</tr>
<tr>
<td>NUEN 410</td>
<td>The Design of Nuclear Reactors</td>
<td>4</td>
</tr>
<tr>
<td>NUEN 481</td>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>NUEN Technical elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Technical elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>University Core Curriculum</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Term Semester Credit Hours</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

**Total Semester Credit Hours:** 95

---

5. Power Option alternative. Students who intend to work in the nuclear power industry immediately upon completion of the BS degrees have the option of substituting NUEN 460. If this choice is made, then the student must also select NUEN 418 as a technical elective.

6. As approved by departmental advisor.

**Total Program Hours 128**