ELECTRICAL AND COMPUTER ENGINEERING (B.S.)

In addition to the Undergraduate Program Goals for the College of Engineering, the specific objectives of the Bachelor of Science program in Electrical Engineering include the following:

1. Graduates will understand relevant engineering and scientific principles underlying electrical and computer technologies, and have the capability to apply theoretical, computational, and experimental methods to solve real engineering problems.
2. Graduates will have strong oral and written communication skills to interact with fellow engineers and non-technical personnel in a team environment.
3. Graduates will have computer skills for effective use in engineering. They will possess a working knowledge of modern programming languages, as well as operating systems and software packages for design, analysis, and simulation.
4. Graduates will be able to work hands-on in laboratories with state-of-the-art facilities and equipment to accomplish assigned tasks and projects.
5. Graduates will be aware of the societal responsibility of engineers and the essential nature of high ethical standards of professional behavior.
6. Graduates will possess effective engineering design capability and an awareness of cost, safety, sustainability, accessibility, and other associated constraints in engineering design.

Admission Requirements

For admission to the Bachelor of Science program, students must satisfy the admission criteria of the Division of Engineering, College of Engineering (http://bulletins.wayne.edu/undergraduate/college-engineering/bs/).

Program Requirements

Candidates for the Bachelor of Science degree must complete 128-131 credits of coursework, including the University General Education (http://bulletins.wayne.edu/undergraduate/general-information/general-education/) requirements. All course work must be completed in accordance with the academic procedures of the University (http://bulletins.wayne.edu/undergraduate/general-information/) and the College of Engineering (http://bulletins.wayne.edu/undergraduate/college-engineering/academic-regulations/) governing undergraduate scholarship and degrees. The degree requirements shown in the curriculum below are in effect as of the publication date of this bulletin. However, students should consult an academic advisor for verification of current requirements.

In the freshman and sophomore years, the student acquires a foundation in the principles of science and mathematics required for the study of engineering. In addition, general education studies are provided to ensure a well-rounded education. Basic concepts of electrical circuits, electronics, computers and electromagnetic fields are studied after prerequisite mathematics and science backgrounds are mastered. In the senior year, a choice of electrical and computer engineering electives permits the student to specialize in one or more areas.
ECO 2010 or ECO 2020 or ECO 1000
or Principles of Microeconomics
or Principles of Macroeconomics
or Survey of Economics

2 ECE Electives

<table>
<thead>
<tr>
<th>Credits</th>
<th>6-8</th>
</tr>
</thead>
</table>

| Total Credits | 14-16 |

| Total Credits | 128-131 |

* Students are required to take either PHY 2171 along with PHY 2175 or take PHY 2181 along with PHY 2185. The Electrical Engineering department recommends taking PHY 2181.

Substitution of a course not on this list requires approval of the department chairperson or delegated faculty advisor.

Course Material Fee

A course material fee is charged for laboratory courses using expendable materials.