

## Bachelor of Science in Electrical Engineering

The Bachelor of Science degree in Electrical Engineering is designed to provide a solid background in electrical engineering sciences. It also provides an opportunity for students to pursue interests in electrical and electronic circuits, including digital circuits and VLSI and its fabrication, microprocessors and their applications, electromagnetics, communications, control systems, and digital image processing and computer vision. Through a senior capstone design project, the curriculum emphasizes written as well as verbal communication and a teamwork approach among students to attain a common goal.



### Contact

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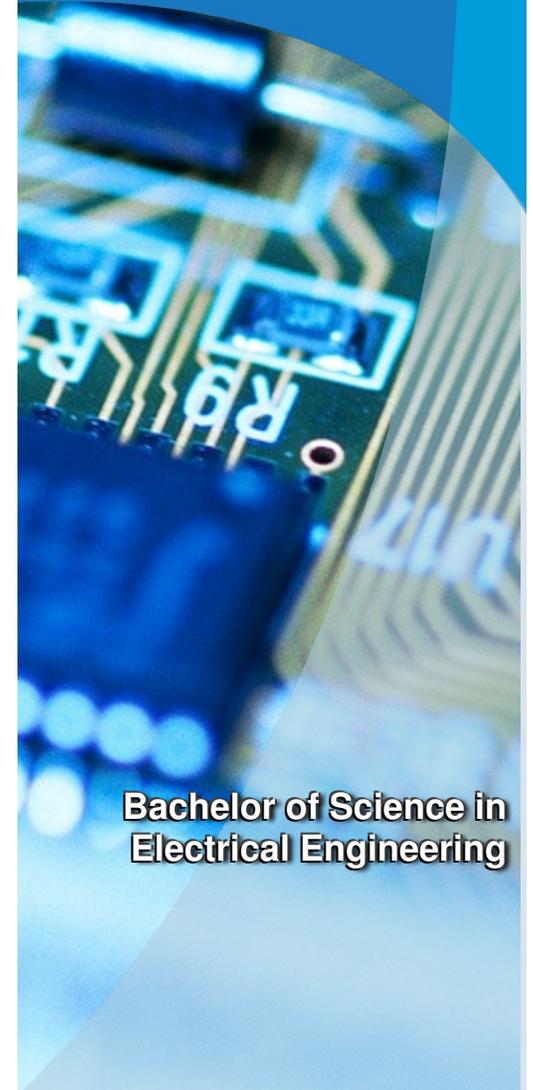
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**PennState**  
Harrisburg

**School of Science,  
Engineering, and Technology**



**Bachelor of Science in  
Electrical Engineering**

## Curriculum

This program helps its graduates develop capabilities to analyze and design a variety of electrical and electronic systems found in many industrial and government settings as well as providing a foundation for further graduate studies. A strong background in the fundamentals is built through a broad-based core in basic sciences (physics and chemistry) and mathematics as well as engineering sciences.

This program is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).



## Courses

For a B.S. degree in Electrical Engineering, a minimum of 134 credits is required.

In addition to [General Education requirements](#) (45 credits), this major requires the following:

### **PRESCRIBED COURSES** (87 credits)

CHEM 110 GN(3), CHEM 111 GN(1), EDSGN 100(3) (Sem: 1-2)

SSET 295(1) (Sem: 4)

MATH 140 GQ(4), MATH 141 GQ(4), MATH 220 GQ(2-3), MATH 230(4), MATH 250(3), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 1-4)

CMPEN 271(3), CMPEN 275(1), E MCH 211(3), ENGL 202C GWS(3) (Sem: 3-4)

CMPEH 472(4), E E 310(4), E E 330(4), E E 341(3), E E 352(4), E E 485(3) (Sem: 5-6)

CMPS 436(3), E E 311(3), E E 405(1), E E 406W(3), E E 461(4), E E 481(4) (Sem: 7-8)

### **ADDITIONAL COURSES** (14-17 credits)

Select 3 credits from: ECON 102 GS(3) or ECON 104 GS(3) or ECON 014 GS(3) (Sem: 1-4)

Select 3 credits from: CMPS 201 GQ(3), or CMPS 121 GQ(3), or CMPS 202 GQ(3) (Sem: 3-4)

Select 3-4 credits from MATH 444(3) or MATH 446(3) or STAT 200 GQ(4) (Sem: 4-6)

Select 5-7 credits from E E 315(5); or E E 210(4) and E E 314(3) (Sem: 4-5)

### **SUPPORTING COURSES AND RELATED AREAS** (9 credits)

Select 9 credits in consultation with an academic adviser and in support of the student's interests. (Sem: 7-8)

## Undergraduate Admissions Requirements

Minimum high school course requirements for admission to baccalaureate (four-year) degree programs are listed below. Keep in mind that specific programs may have additional requirements or recommendations.

### **English**

Four units, including one unit each in composition and literature, are required.

### **Social Studies/Art/Humanities**

Three units in any combination of social studies, arts, and humanities are required.

### **World Language**

Two units in a single world language other than English are required. However, a student may be admitted with fewer than two units in a world language other than English, but must correct this deficiency by the time s/he earns 60 credits or graduates from Penn State, whichever comes first. This deficiency may be corrected by passing one three- or four-credit college level world language course or by demonstrating proficiency equivalent to two units of high school world language study.

Either a third unit in the same language or an additional unit in a second world language other than English is recommended.

### **Science**

Three units of science are required. Preparation in chemistry and physics is recommended but not required for our Science and Engineering/Engineering Technology programs

### **Math**

Three units of mathematics are required (four are recommended), selected from any combination of algebra, geometry, and trigonometry. Some programs have additional mathematics requirements. Our Business, Engineering/Engineering Technology, and Science programs require one-half unit of trigonometry or higher level math within the required three units

Penn State requires proof of graduation or a GED for admission to four-year degree programs.

\*In most high school curricula, one unit = one year.

Visit Undergraduate Admissions: Admissions Requirements for more information (<http://goo.gl/eVGAMB>)