

# ELECTRICAL ENGINEERING TECHNOLOGY, B.S. (ENGINEERING)

**Begin Campus:** Any Penn State Campus

**End Campus:** Wilkes-Barre

## Degree Requirements

For the Bachelor of Science degree in Electrical Engineering Technology, a minimum of 128 credits is required:

Requirement	Credits
General Education	45
Electives	5-16
Requirements for the Major	85-96

**18 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 3 credits of GWS courses; 9 credits of GN courses; 6 credits of GQ courses.**

### General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (<http://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/>) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

### Foundations (grade of C or better is required.)

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

### Knowledge Domains

- **Arts (GA):** 6 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 6 credits
- **Social and Behavioral Sciences (GS):** 6 credits
- **Natural Sciences (GN):** 9 credits

### Integrative Studies (may also complete a Knowledge Domain requirement)

- **Inter-Domain or Approved Linked Courses:** 6 credits

## University Degree Requirements

### First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3

credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

### Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

### Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

### Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

### Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

### Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80>)). For more information, check the Suggested Academic Plan for your intended program.

## Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

### Common Requirements for the Major (All Options)

Code	Title	Credits
<b>Prescribed Courses</b>		
CHEM 110	Chemical Principles I	3
CHEM 111	Experimental Chemistry I	1
EET 419	Project Proposal Preparation	1
ENGL 202C	Effective Writing: Technical Writing	3
MATH 140	Calculus With Analytic Geometry I	4
MATH 141	Calculus with Analytic Geometry II	4
<i>Prescribed Courses: Require a grade of C or better</i>		
EET 312	Electric Transients	4
EET 331	Electronic Design	4
EET 420W	Electrical Design Project	3
<b>Additional Courses</b>		

Select 2-3 credits of the following: <sup>1</sup>	2-3
EDSGN 100 Cornerstone Engineering Design EGT 101 and Introduction to Computer Aided Drafting & EGT 102	
Select 3 credits of the following:	3
CMPSC 101 Introduction to Programming	
CMPSC 121 Introduction to Programming Techniques	
CMPSC 201 Programming for Engineers with C++	
Select 6-8 credits of the following: <sup>1</sup>	6-8
PHYS 150 Technical Physics I & PHYS 151 and Technical Physics II	
PHYS 211 General Physics: Mechanics & PHYS 212 and General Physics: Electricity and Magnetism	
Select 3-4 credits of the following:	3-4
MATH 230 Calculus and Vector Analysis	
MATH 250 Ordinary Differential Equations	
MATH 411 Ordinary Differential Equations	
STAT 200 Elementary Statistics	
Select 4 credits of the following: <sup>1</sup>	4
CMPEN 271 Introduction to Digital Systems & CMPEN 275 and Digital Design Laboratory	
CMPET 117 Digital Electronics & CMPET 120 and Digital Electronics Laboratory	
Select 3-4 credits of the following: <sup>1</sup>	3-4
CMPEH 472 Microprocessors	
CMPET 211 Embedded Processors and DSP	
Select 3-4 credits of the following: <sup>1</sup>	3-4
EE 310 Electronic Circuit Design I	
EET 205 and & EET 210	
Select 3-5 credits of the following: <sup>1</sup>	3-5
EE 485 Energy Systems and Conversion	
EET 213W Fundamentals of Electrical Machines Using Writing Skills	
<i>Additional Courses: Require a grade of C or better</i>	
Select 5-8 credits of the following: <sup>1</sup>	5-8
EE 210 Circuits and Devices & EE 314 and Signals and Circuits II	
EE 315 Electrical Signals and Circuits with Lab	
EET 311 Alternating Current Circuits & EET 114 and Electrical Circuits II <sup>2</sup>	
<b>Requirements for the Option</b>	
Select an option	26

<sup>1</sup> Courses required by PSU 2 EET programs.

<sup>2</sup> EET 114 does not require a grade of C or better.

### Requirements for the Option

#### Computer Engineering Technology Option (26 credits)

*Available at the following campuses: Harrisburg, Wilkes-Barre*

Code	Title	Credits
<b>Prescribed Courses</b>		
CMPEN 431	Introduction to Computer Architecture	3
CMPET 401	Data Communication and Networking	3

CMPET 402	Data Communication and Networking Laboratory	1
CMPET 403	Switching Circuit Design	4
<b>Additional Courses</b>		
<i>2nd Programming Elective</i>		
Select 3 credits of the following:		3
CMPSC 122	Intermediate Programming	
CMPSC 402		
<i>Applications Elective</i>		
Select 4 credits of technical electives of the following:		4
CMPET 412	Microcomputers	
EET 456	Automation and Robotics	
<i>CMPET Technical Electives</i>		
Select 8 credits of the following:		8
EE 341	Semiconductor Device Principles	
EE 441	Semiconductor Integrated Circuit Technology	
EE 453	Fundamentals of Digital Signal Processing	
EET 402	High-Frequency Circuit Design	
EET 408	Communication System Design	
EET 413	Optoelectronics	
EET 414	Biomedical Instrumentation	
EET 431	Advanced Electronic Design	
EET 433	Control System Analysis and Design	
EET 478	Digital Communication Systems	
ET 496	Independent Studies	

### General Electrical Engineering Technology Option (26 credits)

*Available at the following campuses: Harrisburg, Wilkes-Barre*

Code	Title	Credits
<b>Additional Courses</b>		
<i>System Elective</i>		
Select 8 credits of technical electives of the following:		8
EET 408	Communication System Design	
EET 409	Power System Analysis I	
EET 433	Control System Analysis and Design	
<i>Electronics Elective</i>		
Select 4 credits of the following:		4
EET 402	High-Frequency Circuit Design	
EET 431	Advanced Electronic Design	
<i>GEET Technical Electives</i>		
Select 8 credits of GEET technical electives of the following:		8
CMPEN 431	Introduction to Computer Architecture	
CMPET 401	Data Communication and Networking	
CMPET 402	Data Communication and Networking Laboratory	
CMPET 403	Switching Circuit Design	
CMPET 412	Microcomputers	
EE 441	Semiconductor Integrated Circuit Technology	
EE 453	Fundamentals of Digital Signal Processing	
EE 458	Digital Image Processing and Computer Vision	
EET 410	Power System Analysis II	
EET 413	Optoelectronics	
EET 414	Biomedical Instrumentation	
EET 456	Automation and Robotics	

EET 478 Digital Communication Systems

ET 496 Independent Studies

Select 6 credits from any previous elective list plus the following: 6

CMPSC 452

EMCH 211 Statics

EMCH 212 Dynamics

ME 201 Introduction to Thermal Science