

# Engineering Physics

## Bachelor of Science (BS)

This degree map is based on the 2023-24 Academic Catalog and is subject to change. Students should meet with their academic advisor each semester and use Degree Works to monitor their individual progress toward degree completion. The time it takes to earn a degree will vary based on several factors including summer/winter enrollment, dual enrollment and number of courses successfully completed each semester. We recommend taking a minimum of 15 credits each fall and spring semester.

### Sample 4-Year Plan

First Year			
Fall Courses	Credits	Spring Courses	Credits
ENGT101 Intro to Engineering Tech	3	MATH170 Calculus 2	4
MATH160 Calculus 1 (GenEd: Q)	4	PHYS211 General Physics (GenEd: N)	4
General Education course (U, First Year Seminar)	3	COMM101 Public Speaking (GenEd: O)	3
WRIT103 Foundations in Composition (GenEd: W)	3	ENGT180 CAD & Engineering Graphics	3
General Education Courses (H)	3		
Semester Total	16	Semester Total	14
Second Year			
Fall Courses	Credits	Spring Courses	Credits
ENGT141 Circuit Analysis	4	PHYS310 Modern Physics	3
PHYS212 General Physics 2	4	PHYS315 Electronics	4
MATH270 Calculus 3	4	CMSC115 Python Programming (GenEd: T)	3
General Education Course (D)	3	Free Elective	3
Semester Total	15	Semester Total	13
Third Year			
Fall Courses	Credits	Spring Courses	Credits
ENGT241 Elect Instrument & Data Acquisition	3	PHYS302 Dynamics	3
PHYS301 Statics	3	MATH370 Differential Equations	3
CHEM121 General Chemistry 1	3	ECC122 Principles of Microeconomics (R)	3
General Education Course (D or G or F)	3	General Education Course (E)	3
Free Elective	3	ENGL270 Technical Writing	3
Semester Total	16	Semester Total	15
Fourth Year			
Fall Courses	Credits	Spring Courses	Credits
PHYS304 Nanosciences	4	PHYS404 Advanced Nanosciences Lab	3
PHYS422 Thermodynamics	3	PHYS442 Math Methods	3
General Education (G)	3	General Education Course (L)	3
General Education (A or C)	3	Free Elective	3
Free Elective	3	Free Elective	3
Semester Total	16	Semester Total	15

### Winter/Summer College - Optional

While not required, Winter and Summer sessions are offered each year and may help you stay on track or get ahead. You may take up to seven (7) credits during Winter College and up to 14 credits during Summer College.

## Curriculum Checklist

### Required Courses (64 credits)

- \_\_\_ ENGT101 Introduction to Engineering Technology (3)
- \_\_\_ ENGT180 Computer Aided Design & Engineering Graphics (3)
- \_\_\_ ENGT141 Circuit Analysis (4)
- \_\_\_ ENGT241 Electronic Instrumentation & Data Acquisition (3)
- \_\_\_ ENGL270 Technical Writing (3)
- \_\_\_ PHYS212 General Physics 2 (4)
- \_\_\_ PHYS310 Modern Physics (3)
- \_\_\_ PHYS301 Statics (3)
- \_\_\_ PHYS302 Dynamics (3)
- \_\_\_ MATH370 Differential Equations (3)
- \_\_\_ PHYS304 Nanosciences (4)
- \_\_\_ PHYS404 Advanced Nanosciences Lab (3)
- \_\_\_ PHYS422 Thermodynamics (3)
- \_\_\_ PHYS442 Math Methods (3)
- \_\_\_ PHYS315 Electronics (3)
- \_\_\_ MATH270 Calculus 3 (3)
- \_\_\_ MATH170 Calculus 2 (3)
- \_\_\_ MATH160 Calculus 1 (Q) (3)
- \_\_\_ PHYS211 General Physics 1 (N) (3)
- \_\_\_ CHEM121 Chemistry for the Sciences 1 (N) (3)
- \_\_\_ CMSC115 Python Programming (T)

### Elective Courses (X credits)

## General Education Requirements

### (45 credits)

*Note: Some requirements may be fulfilled by coursework in your major program including directed Gen Ed courses noted below*

- Foundations (15 credits)
  - First Year Seminar (U) (3)
  - WRIT 103 Foundations in Composition (W)(3)
  - COMM 101 Public Speaking (O) (3)
  - MATH 160 Calculus 1 (Q) (3)
  - (H) (3)
- Interconnections (9 credits; must have 3 or in (D) and (G))
  - (D) (3)
  - (G) (3)
  - (D) or (F) or (G) (3)
- Citizenship & Responsibility (6 credits from at least two goals)
  - ECC122 Principles of Microeconomics (R) (3)
  - Citizenship or Ethical Reasoning
- Natural World & Technologies (9 credits)
  - CMSC 115 Python Programming (T)
  - CHEM 121 Chemistry for the Sciences 1 (N) (3)
  - PHYS 211 General Physics 1 (N) (3)
- Creativity & Expression (6 credits)
  - (L) (3)
  - (A) or (C) (3)

## Degree Requirements

All students must obtain a minimum of 120 credits, complete all General Education requirements, and all requirements for the selected major. Meet with your advisor and consult Degree Works to monitor your progress and for all graduation requirements.

*A minimum GPA of 2.0 in the major and overall are required.*

## Campus Locations

- |                   |                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Bloomsburg</b> | <input type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended   |
| <b>Lock Haven</b> | <input type="checkbox"/> Online; * <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |
| <b>Mansfield</b>  | <input type="checkbox"/> Online; * <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |
| <b>Clearfield</b> | <input type="checkbox"/> Online; <input type="checkbox"/> In-person; <input type="checkbox"/> Blended              |

*2+2\*: First two years of the curriculum are offered at the respective home campus (Lock Haven or Mansfield) and the final two years of the curriculum are offered at the Bloomsburg campus. Note that the Electronics Engineering Technology program is a 4.5 years program as students complete co-op education at off-campus industrial locations in their final six months.*