College of Science and Technology
Department of Biochemistry, Chemistry, Engineering and Physics

Bloomsburg LOCK HAVEN MANSFIELD
COMMONWEALTH UNIVERSITY

# Engineering Physics 3+2

## 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 | 3 | MATH170 Calculus 2 | 4 |
| MATH160 Calculus 1 (GenEd: Q) | 4 | PHYS212 General Physics 2 | 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 |
| PHYS211 General Physics 1 (GenEd: N) | 4 | General Education Course (H) | 3 |
| Semester Total | 17 | Semester Total | 17 |

| Second Year | | | |
|---|---|---|---|
| **Fall Courses** | **Credits** | **Spring Courses** | **Credits** |
| ENGT141 Circuit Analysis | 4 | PHYS310 Modern Physics | 3 |
| PHYS301 Statics | 3 | PHYS302 Dynamics | 3 |
| MATH270 Calculus 3 | 4 | CMSC115 Python Programming (GenEd: T) | 3 |
| ENG270 Technical Writing | 3 | ECC122 Principles of Microeconomics | 3 |
| General Education Course (D) | 3 | MATH370 Differential Equations | 3 |
| | | General Education (A or C) | 3 |
| Semester Total | 17 | Semester Total | 18 |

| Third Year | | | |
|---|---|---|---|
| **Fall Courses** | **Credits** | **Spring Courses** | **Credits** |
| PHYS316 Digital Electronics | 3 | PHYS442 Math Methods | 3 |
| PHYS422 Thermodynamics | 3 | Major Elective (PHYS, CHEM, GEO, or MATH)* | 3 |
| CHEM121 General Chemistry 1 | 4 | General Education Course (L) | 3 |
| General Education Course (D or G or F) | 3 | General Education Course (E) | 3 |
| MATH250 Discrete Math | 3 | General Education Course (G) | 3 |
| Semester Total | 16 | Semester Total | 15 |

| Fourth Year | | | |
|---|---|---|---|
| **Fall Courses** | **Credits** | **Spring Courses** | **Credits** |
| Students begin their time at Penn State University | | Students continue taking courses at Penn State University | |
| | | Students will transfer 20 credits taken at Penn State back to Commonwealth University to complete a | |
| | | B.S. Engineering Physics degree | |
| Students may wish to lighten their load by taking a | | GENTRANS XXX | 20 |
| general education course(s) over winter or summer | | | |
| Semester Total | 0 | Semester Total | 20 |

**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.

*Revised June, 2023*

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## Curriculum Checklist

### Required Courses (73 credits)

___ ENGT 101 Introduction to Engineering Technology (3)
___ ENGT 180 Computer Aided Design & Engineering Graphics (3)
___ ENGT 141 Circuit Analysis (4)
___ PHYS 212 General Physics 2 (4)
___ PHYS310 Modern Physics (3)
___ PHYS301 Statics (3)
___ PHYS302 Dynamics (3)
___ PHYS 316 Digital Electronics (3)
___ PHYS422 Thermodynamics (3)
___ PHYS442 Math Methods (3)
___ MATH 170 Calculus 2 (4)
___ MATH 250 Discrete Math (3)
___ MATH270 Calculus 3 (4)
___ MATH370 Differential Equations (3)
___ ENGL270 Technical Writing (3)
___ MATH 160 Calculus 1 (Q) (4)
___ PHYS 211 General Physics 1 (N) (4)
___ CHEM 121 General Chemistry 1 (4)
___ COMM101 Public Speaking (3)
___ CMSC 115 Python Programming (T) (3)
___ ECC122 Principles of Microeconomics (3)
___ WRIT103 Foundations in Composition (W) (3)

### Elective Courses (3 credits)

___ Elective as suits the curriculum of Penn State (3)

### Transfer Courses (20 credits)

___ Engineering courses from a Penn State Campus (vary depending on program)

## 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)
  - FYS (U): FYS100 First Year Seminar
  - Writing (W): WRIT103 Foundations in Composition
  - Oral Comm. (O): COMM101 Public Speaking
  - Quantitative (Q): MATH160 Calculus 1
  - History (H):
- Interconnections (9 credits)
  - Diversity (D):
  - Global Perspectives. (G):
  - D or G or Foreign Lang. (F):
- Citizenship & Responsibility (6 credits from at least two goals)
  - Goal 1: Citizenship (C):
  - Goal 2 Ethical Reasoning (E):
  - Goal 3: Crit. Reasoning (R): ECC122 Principles of Microeconomics
- Natural World & Technologies (9 credits)
  - Natural World (N): PHYS211 General Physics 1
  - Natural World (N): CHEM121 General Chemistry 1
  - Technology (T): CMSC115 Python Programming
- Creativity & Expression (6 credits)
  - Literature (L):
  - Arts (A) or Creativity (C):

## 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

| | |
|---|---|
| **Bloomsburg** | ☐ Online; ☒ In-person; ☐ Blended |
| **Lock Haven** | ☐ Online; ☒ In-person; ☐ Blended |
| **Mansfield** | ☐ Online; ☒ In-person; ☐ Blended |
| **Clearfield** | ☐ Online; ☐ In-person; ☐ Blended |

*Revised June, 2023*