

Engineering Physics

Bachelor of Science (BS)

This degree map is based on the current Academic Catalog and is subject to change. Please note that the degree map is designed to give you a sense of roughly how courses might be distributed over a 4-year degree. Your exact schedule will differ depending on a range of factors though we recommend taking a minimum of 15 credits each fall and spring semester. Regular consultation with your academic advisor is the best way to make sure that you are taking the courses you need in the right order to ensure efficient progress through your degree program.

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)

*Denotes advanced coursework

Students must take a minimum of 42 credits of advanced coursework. Advanced coursework can be met in major courses, minor courses, free elective courses, and general education courses. Courses that meet this requirement are designated in Banner.

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; must have 3 cr in (D) and (G))
 - Diversity (D):
 - Global Perspectives. (G):
 - D or G or Foreign Lang. (F):
- Citizenship & Responsibility
(6 credits from at least two goals)
 - Goal 1: Citizenship (S):
 - 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 (a minimum of 42 credits must be advanced coursework), 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.

*Pathway for Lock Haven and Mansfield campuses:

2 years blended learning at LH or MA, followed by

2 years in person at BL