

Engineering Technology BSET with Cooperative Education Program Concentration

Overview

The **Bachelor of Science in Engineering Technology** is offered by the Department of Engineering, Technology and Management. This program provides a broad base of technological skills extending across the traditional fields of engineering technology with a concentration designed by the student and program coordinator to meet personal and career objectives. A plan of study can be developed with a focus in areas such as construction engineering technology, computer engineering technology, mechanical engineering technology or general engineering technology.

Engineering Technology students may complete an **optional concentration** in Cooperative Education Program (Co-Op).

Cooperative Education Program

A **Cooperative Education** (Co-Op) is an optional experiential program available at the College of Engineering where you have the opportunity to gain professional work experience before graduation. It is designed to give you the chance to apply the knowledge learned in the classroom to real life problems. You will be exposed to the latest technology and new ideas at a worksite helping you understand your field of work more extensively. During the Co-Op, you will make valuable connections with professionals in your field. A cooperative education can enhance and strengthen you academically, professionally and personally.

Campus Location: Main

Program Code: EN-ENGT-BSET

Accreditation

The Engineering Technology (BS) program is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, <https://www.abet.org>, under the General Criteria. ABET is a non-profit and non-governmental accrediting agency for academic programs in the disciplines of applied science, computing, engineering, and engineering technology recognized by the Council for Higher Education Accreditation (CHEA).

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Learn more about the Bachelor of Science in Engineering Technology.

These requirements are for students who matriculated in academic year 2024-2025. Students who matriculated prior to fall 2024 should refer to the Archives to view the requirements for their Bulletin year.

Summary of Requirements

University Requirements

All new students are required to complete the university's General Education (GenEd) curriculum.

All Temple students must take a minimum of two writing-intensive courses for a total of at least six credits. The writing-intensive course credits are counted as part of the major; they are not General Education (GenEd) or elective credits. The writing-intensive courses must be completed at Temple University and students may not transfer in credits to satisfy this requirement. The specific writing-intensive courses required for this major are:

Code	Title	Credit Hours
ENG 2696	Technical Writing	3
ENGT 4196	Capstone Project	3

College and Major Requirements

Code	Title	Credit Hours
Required Math & Basic Science Courses		
MATH 1022	Precalculus	4
MATH 1031	Differential and Integral Calculus	4
STAT 2103	Statistical Business Analytics	4
or STAT 2903	Honors Statistical Business Analytics	
PHYS 1021	Introduction to General Physics I	4
PHYS 1022	Introduction to General Physics II	4
CHEM 1031	General Chemistry I	3
or CHEM 1951	Honors General Chemical Science I	
CHEM 1033	General Chemistry Laboratory I	1
or CHEM 1953	Honors Chemical Science Laboratory I	
Required General Education Courses		
Select one of the following:		4
ENG 0802	Analytical Reading and Writing	
ENG 0812	Analytical Reading and Writing: ESL	
ENG 0902	Honors Analytical Reading and Writing	
IH 0851	Intellectual Heritage I: The Good Life	3
or IH 0951	Honors Intellectual Heritage I: The Good Life	
IH 0852	Intellectual Heritage II: The Common Good	3
or IH 0952	Honors Intellectual Heritage II: The Common Good	
GenEd 08xx or 09xx (U.S. Society)		3
GenEd 08xx or 09xx (Global/World Society)		3
GenEd 08xx or 09xx (Human Behavior)		3
GenEd 08xx or 09xx (Arts)		3
GenEd 08xx or 09xx (Race and Diversity)		3
Required Economics, Technical Writing, and Communication Courses		
ECON 1101	Macroeconomic Principles	3
or ECON 1901	Honors Macroeconomic Principles	
or ECON 1102	Microeconomic Principles	
or ECON 1902	Honors Microeconomic Principles	
ENG 2696	Technical Writing (WI)	3
CSI 1111	Introduction to Public Speaking	3
or CSI 1911	Honors Introduction to Public Speaking	
Required Innovation & Business Elective Courses		
Select two courses from the following list:		6
ECON 1102	Microeconomic Principles	
or ECON 1902	Honors Microeconomic Principles	
or ECON 1101	Macroeconomic Principles	
or ECON 1901	Honors Macroeconomic Principles	
ENGR 3033	Entrepreneurial Engineering	
HRM 1101	Leadership and Organizational Management	
or HRM 1901	Honors Leadership and Organizational Management	
MKTG 2101	Marketing Management	
or MKTG 2901	Honors Marketing Management	
RMI 2101	Introduction to Risk Management	
or RMI 2901	Honors Introduction to Risk Management	
RMI 2501	Fundamentals of Personal Financial Planning	
SGM 3501	Entrepreneurial and Innovative Thinking	
SGM 3503	Lean Startup: Fast and Inexpensive Ways to Test and Launch Your Ideas	

SGM 3585	Social Impact Internship - Work with Benefit/B-corps, Non-profits, or Multi-bottom-line Ventures	
SGM 3685	New Venture Internship: Learning to be a High-Value Employee, Manager, or Founder	
Required Engineering Technology Courses		
Select one of the following:		4
ECE 2112 & ECE 2113	Electrical Devices & Systems I and Electrical Devices & Systems I Lab	
EET 2104	Introduction to Electrical Circuits	
ENGR 1101 or ENGR 1901	Introduction to Engineering and Engineering Technology Honors Introduction to Engineering	3
ENGR 1117	Engineering Graphics	2
ENGR 3001	Engineering Economics	3
ENGT 2322	Applied Strength of Materials	3
ENGT 2331	Applied Engineering Statics	3
ENGT 2521 or ENGT 3532	Applied Fluid Mechanics Thermodynamics	3
ENGT 3201	Applied Materials Technology	3
ENGT 4119	Professional Seminar	1
ENGT 4196	Capstone Project	3
Select one of the following Approved Science Electives:		4
CHEM 1032 & CHEM 1034	General Chemistry II and General Chemistry Laboratory II	
CHEM 1952 & CHEM 1954	Honors General Chemical Science II and Honors Chemical Science Laboratory II	
ENST 2002	Physical Geography	
Technical Electives (must include 3 labs)		24
Free Electives		4
Required Cooperative Education Courses		
ENGR 2181	Co-Op Work Experience I	3
ENGR 3181	Co-Op Work Experience II	3
Total Credit Hours		130

Suggested Academic Plan

Below is a suggested five-year plan for the Co-Op program leading to the Bachelor of Science in Engineering Technology. The minimum requirement for graduation is 130 semester hours.

Please note that this is a **suggested** academic plan. Depending on your situation, your academic plan may look different.

Bachelor of Science in Engineering Technology with Concentration in Cooperative Education Program

Suggested Plan for New Students Starting in the 2024-2025 Academic Year

Year 1		Credit Hours
Fall		
MATH 1022	Precalculus	4
CHEM 1031 or CHEM 1951	General Chemistry I or Honors General Chemical Science I	3
CHEM 1033 or CHEM 1953	General Chemistry Laboratory I or Honors Chemical Science Laboratory I	1
ENGR 1101 or ENGR 1901	Introduction to Engineering and Engineering Technology or Honors Introduction to Engineering	3
ENG 0802 or ENG 0812 or ENG 0902	Analytical Reading and Writing [GW] or Analytical Reading and Writing: ESL [GW] or Honors Analytical Reading and Writing [GW]	4
Credit Hours		15

Spring		
MATH 1031	Differential and Integral Calculus	4
ENGR 1117	Engineering Graphics	2
IH 0851 or IH 0951	Intellectual Heritage I: The Good Life [GY] or Honors Intellectual Heritage I: The Good Life [GY]	3
GenEd Breadth Course		3
Approved Free Elective		3
Credit Hours		15
Year 2		
Fall		
Innovation & Business Elective		3
PHYS 1021	Introduction to General Physics I	4
CSI 1111 or CSI 1911	Introduction to Public Speaking or Honors Introduction to Public Speaking	3
IH 0852 or IH 0952	Intellectual Heritage II: The Common Good [GZ] or Honors Intellectual Heritage II: The Common Good [GZ]	3
GenEd Breadth Course		3
Credit Hours		16
Spring		
PHYS 1022	Introduction to General Physics II	4
ENGT 2331	Applied Engineering Statics	3
Approved Technical Elective		3
Select one of the following:		3
ECON 1101	Macroeconomic Principles	
ECON 1901	Honors Macroeconomic Principles	
ECON 1102	Microeconomic Principles	
ECON 1902	Honors Microeconomic Principles	
Select one of the following Approved Science Electives:		4
CHEM 1032 & CHEM 1034	General Chemistry II and General Chemistry Laboratory II	
CHEM 1952 & CHEM 1954	Honors General Chemical Science II and Honors Chemical Science Laboratory II	
ENST 2002	Physical Geography	
Credit Hours		17
Year 3		
Fall		
Innovation & Business Elective		3
STAT 2103 or STAT 2903	Statistical Business Analytics or Honors Statistical Business Analytics	4
ENGT 2322	Applied Strength of Materials	3
Approved Technical Elective		3
GenEd Breadth Course		3
Credit Hours		16
Spring		
ENGT 3201	Applied Materials Technology	3
Select one of the following:		3
ENGT 2521	Applied Fluid Mechanics	
ENGT 3532	Thermodynamics	
ENGT 4119	Professional Seminar	1
Approved Technical Elective		3
GenEd Breadth Course		3
GenEd Breadth Course		3
Credit Hours		16

Year 4		
Fall		
ENGR 2181	Co-Op Work Experience I	3
Credit Hours		3
Spring		
ENGR 3181	Co-Op Work Experience II	3
Credit Hours		3
Year 5		
Fall		
Select one of the following:		4
ECE 2112 & ECE 2113	Electrical Devices & Systems I and Electrical Devices & Systems I Lab	
EET 2104	Introduction to Electrical Circuits	
ENG 2696	Technical Writing [WI]	3
Approved Lab Elective		1
Approved Lab Elective		1
Approved Technical Elective		3
ENGR 3001	Engineering Economics	3
Credit Hours		15
Spring		
ENGT 4196	Capstone Project [WI]	3
Approved Technical Elective		3
Approved Technical Elective		3
Approved Technical Elective		3
Approved Lab Elective		1
Free Elective		1
Credit Hours		14
Total Credit Hours		130

Approved Technical Electives

Code	Title	Credit Hours
CEE 1105	Surveying	2
CEE 2011	Civil Engineering Materials	2
CIS 1053	Programming in Matlab	4
CIS 1057	Computer Programming in C	4
CIS 1068	Program Design and Abstraction	4
or CIS 1968	Honors Program Design and Abstraction	
CIS 1166	Mathematical Concepts in Computing I	4
or CIS 1966	Honors Mathematical Concepts in Computing I	
CIS 2168	Data Structures	4
CMT 2124	Construction Methods and Materials	3
CMT 2125	Construction Contracts and Specifications	3
CMT 2271	Building Systems	3
CMT 3121	Construction Estimating	3
CMT 3123	Construction Estimating Laboratory	1
CMT 3145	Structural Analysis	3
CMT 3322	Construction Planning and Scheduling	3
CMT 4336	Concrete and Masonry Design	3
ECE 3822	Engineering Computation II	3
EET 3276	Digital Logic Circuits	4
EET 3277	Microcomputer Systems	4

ENGR 2011	Engineering Analysis and Applications	3
ENGT 3323	Applied Dynamics	3
ENGT 3532	Thermodynamics	3
ENGT 3651	Manufacturing Control Systems	3
ENGT 3652	CAD/CAM/CNC	3
ENGT 4278	Cardiac Devices	3
ENGT 4342	Machine Elements	3
ENGT 4532	Heating, Ventilating, and Air Conditioning	3
ENGT 4641	Production Tooling	3
ENGT 4642	Quality Control	3
ENGT 4643	Fundamentals of Manufacturing	3
MEE 2305	Instrumentation and Data Acquisition Lab	1
MEE 3305	Materials Laboratory	1
MEE 3506	Fluid Mechanics Laboratory	1

Accelerated Programs

Students may opt to pursue an accelerated +1 program, enabling them to complete both a bachelor's degree and master's degree in less time than the traditional route.

The following accelerated programs may be of interest to students in the Engineering Technology BSET:

College of Education

- Middle Grades Education MEd with Mathematics and Science concentration