PLASTICS ENGINEERING TECHNOLOGY, B.S.

Seven Penn State campuses are scheduled for closure after Spring 2027: DuBois, Fayette, New Kensington, Mont Alto, Shenango, Wilkes-Barre, and York. New students are not being admitted at these campuses.

Begin Campus: Any Penn State Campus

End Campus: Erie

Program Description

This major prepares graduates with the knowledge and skills needed to provide high level engineering technology support to a wide variety of industrial, developmental, commercial, consulting, and sales organizations dealing with the development, manufacture and/or distribution of plastics related products, materials and technologies. The program emphasizes the integration of engineering and scientific principles, practical hands-on experience, application of state-of-the-art computer technologies, and management methods.

Graduates are qualified for positions in product development, part design, tooling design, R&D, processing, plant engineering, production control, technical sales and marketing in the plastics industry, and are provided a path to a wide variety of graduate degrees in engineering, science or business.

The four-year baccalaureate program is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org (http://www.abet.org). Graduates of the Penn State University associate degree program in Plastics Engineering Technology and Mechanical Engineering Technology may complete this degree in five semesters of full-time study.

What is Plastics Engineering Technology?

Plastics engineering technology is a unique undergraduate engineering discipline that studies optimization of the physical processes required to form raw plastics into usable, cost-efficient parts and components. Coursework in the discipline includes computer-aided design, materials properties, tool design and machining, fluid and thermal science, automation, and project management.

You Might Like This Program If...

- You recognize the ubiquity of plastics—they are everywhere!
- You are a creative problem solver.
- You are looking for a hands-on engineering discipline.
- You'd like to learn and conduct research in the country's largest undergraduate plastics processing lab.
- You want to be an integral part of a sustainable future.

Entrance to Major

To be eligible for entrance to the Plastics Engineering Technology major, a student must have:

1. attained at least a 2.00 cumulative grade-point average;
2. completed MATH 81 or MATH 26, and MATH 82 or MATH 22, and MATH 83 or MATH 140, and PHYS 250, and earned a grade of C or better in each of these courses.

Degree Requirements

For the Bachelor of Science degree in Plastics Engineering Technology, a minimum of 134 credits is required:

Requirement	Credits
General Education	45
Electives	1
Requirements for the Major	106

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

Per Senate Policy 83.80.5, the college dean or campus chancellor and program faculty may require up to 24 credits of coursework in the major to be taken at the location or in the college or program where the degree is earned.

Requirements for the Major

Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

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 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/).

Code	Title	Credits
Prescribed Courses		
EGT 120	Introduction to Graphics and Solid Modeling	3
EGT 121	Applied Solid Modeling	3
MATH 211	Intermediate Calculus and Differential Equations with Applications	3
Prescribed Courses: Require a grade of C or better		
CHEM 110	Chemical Principles I	3
CHEM 111	Experimental Chemistry I	1
ENGL 202C	Effective Writing: Technical Writing	3
MET 111	Mechanics for Technology: Statics	3
MET 213	Strength and Properties of Materials	3
MET 418	Finite Element Analysis for Plastics Design	3
MGMT 409	Project Management for Engineers	3
PHYS 250	Introductory Physics I	4
PLET 50	Computer Applications for Plastics Engineering Technology	2
PLET 205	Introduction to Plastics	3
PLET 206W	Plastic Materials and Properties	3
PLET 222	Introduction to Plastics Processing	4
PLET 227	Plastics Processing & Statistical Methods	4
PLET 232	Introduction to Part and Tool Design	3
PLET 235	Tool Design & Machining	2
PLET 304	Plastic Material Properties and Applications	3
PLET 323	Packaging Processes	3
PLET 330	Advanced Tooling & Rheology	4
PLET 345	Heat Transfer	3
PLET 350	Design of Plastic Parts	4
PLET 366	Fluid and Thermal Sciences	3

PLET 464	Plastics Failure Analysis	3
PLET 481	Plastic Product Development	3
PLET 494A	Plastics Projects	3
Additional Courses		
Additional Courses: Require a grade of C or better		
Select 15 credits from one of the following sequences:		15
Sequence A		
MATH 22	College Algebra With Analytic Geometry and Applications II	
or MATH 82	Technical Mathematics II	
MATH 26	Plane Trigonometry and Applications of Trigonometry	
or MATH 81	Technical Mathematics I	
MATH 83	Technical Calculus	
or MATH 140	Calculus With Analytic Geometry I	
MATH 210	Calculus with Engineering Technology Applications	
2 credits of GN electives		
Sequence B		
MATH 140	Calculus With Analytic Geometry I	
MATH 141	Calculus with Analytic Geometry II	
2 credits of GN electives		
5 credits of general electives		
Supporting Courses and Related Areas		
Select a total of 9 credits of technical electives from School-approved list		9

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 (https://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 and Inter-Domain courses do not meet this requirement.)

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

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)

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

Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration

- **GN,** may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher**:** 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 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/)). For more information, check the Suggested Academic Plan for your intended program.

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

Erie

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Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2026-27 academic year. To access previous years' suggested academic plans, please visit the archive (https://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition.

Plastics Engineering Technology, B.S. at Erie Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
EGT 120	3	CHEM 110 (GN)*†	3
ENGL 15 or 30H (GWS)‡†	3	CHEM 111 (GN)*†	1
MATH 41 (GQ)*‡#†	4	EGT 121	3
PLET 50*	2	MATH 83 (GN)*#†	4
PSU 7	1	PHYS 250 (GN)*#†	4
General Education Course	3	PLET 205*	3
General Education Course (GHW)	1.5		
	17.5		**18**

Second Year

Fall	Credits	Spring	Credits
CAS 100 (GWS)‡†	3	ENGL 202C (GWS)‡†	3
ECON 102 (GS)	3	MATH 211 (GQ)	3
MATH 210 (GQ)*	3	MET 213*	3
MET 111*	3	PLET 206W*[1]	3
PLET 222*	4	PLET 232*	3
		PLET 235*	2
	16		**17**

Third Year

Fall	Credits	Spring	Credits
MGMT 409*	3	MET 418*	3
PLET 304*	3	PLET 227*	4
PLET 330*	4	PLET 345*	3
PLET 366*	3	PLET 350*	4
General Education Course	3	PLET 494A*	1
General Education Course (GN)	1	General Education Course (GHW)	1.5
	17		**16.5**

Fourth Year

Fall	Credits	Spring	Credits
PLET 323*	3	PLET 494A*	2
PLET 464*	3	Technical Elective (300, 400-level)*	3
PLET 494A*	3	Technical Elective (300, 400-level)*	3
Technical Elective (300, 400-level)*	3	General Education Course	3
Advanced Technical Elective*	3	General Education Course	3
		General Education Course	3
	15		**17**

Total Credits 134

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

[1] Course will satisfy Writing Across the Curriculum requirement.

Program Notes:

- Permissible Math substitutions: MATH 140 instead of MATH 83; MATH 141 instead of MATH 210; MATH 250 or MATH 251 instead of MATH 211.
- The following are the departmentally approved courses for the PLET program. Other courses may be accepted, but approval must be given prior to successfully completing the course.

- Advanced Technical Electives:
  - PLET 466
  - PLET 481
  - PLET 483
  - PLET 484
  - PLET 497
  - PES 340
  - PES 460
  - CHEM 202
  - CHEM 203
  - CHEM 210
  - CHEM 212
- Technical Electives:
  - Any Advanced Technical Elective may be used as a Technical Elective
  - PLET 468
  - PES 320
  - MET 425
  - QC 450
  - BME 443
  - IE 302
- 300- and 400-level SCM, MGMT, and MRKT courses may be substituted for PLET Technical electives *only* if the student *completes* a minor in the business area.

Career Paths

Penn State Behrend's B.S. in Plastics Engineering Technology is the only plastics-specific undergraduate degree in the Penn State system and one of only six accredited programs in the United States. Because plastics are everywhere, plastics engineering technologists find employment in any industry sector that interests them. Automotive, aerospace, medical, electronics, computer, toy, and consumer products manufacturers frequently recruit Behrend graduates for positions in product development, part design, tooling design, processing, project engineering, production control, technical sales, and research.

Careers

Employers of recent B.S. in Plastics Engineering Technology graduates include Apple, General Motors, Graham Packaging, Graco, Microsoft, Nike, Philips Healthcare, Rubbermaid, and Tesla.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES OF THE PLASTICS ENGINEERING TECHNOLOGY PROGRAM (https://behrend.psu.edu/school-of-engineering/academic-programs/plastics-engineering-technology)

Opportunities for Graduate Studies

Students who hold a degree in Plastics Engineering Technology pursue master's and doctoral degrees in plastics engineering, polymer science, materials science, medical plastics, and elastomeric materials. Or, you can use a master's degree program to learn management skills; Penn State Behrend offers a Master of Manufacturing Management (M.M.M.) degree program for aspiring organizational leaders.

MORE INFORMATION ABOUT OPPORTUNITIES FOR GRADUATE STUDIES (https://behrend.psu.edu/school-of-engineering/academic-programs/master-of-manufacturing-management)

Professional Resources

- ABET (https://www.abet.org/)
- Society of Plastics Engineers (https://www.4spe.org/i4a/pages/?pageID=3596)
- Institution of Engineering and Technology (https://www.theiet.org/)
- Society of Women Engineers (https://swe.org)
- National Society of Black Engineers (https://nsbe.org)

Accreditation

The Bachelor of Science in Plastics Engineering Technology at Penn State Behrend is accredited by the Engineering Technology Accreditation Commission of ABET (https://www.abet.org), under the commission's General Criteria with no applicable program criteria.

Professional Licensure/Certification

Many U.S. states and territories require professional licensure/certification to be employed. If you plan to pursue employment in a licensed profession after completing this program, please visit the Professional Licensure/Certification Disclosures by State (https://opair.psu.edu/plc/dashboard/) interactive map.

Contact

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