

2009-2010

B.S. in Plastics Engineering Technology

College of Sciences and Technology

What is the Study of Plastics Engineering Technology?

Students enrolled in Western's Plastics Engineering Technology (PET) program study the structure and characteristics of polymers, manufacturing methods, product design fundamentals, and modern processing methods for composites and polymeric materials. The PET curriculum prepares graduates who understand and apply established scientific and engineering knowledge to support engineering activities in manufacturing environments. A plastics engineering technologist can be involved in the development, design analysis, planning, supervision or construction of the methods and equipment for the production of industrial or consumer goods in the plastics or composites industry.

Why Should I Consider This Major?

The Plastics Engineering Technology (PET) graduate will help to solve the complex problems associated with plastics or composites manufacturing operations. PET graduates work in teams with engineers, scientists and technicians to solve manufacturing related problems. Practical experience and applied research in design, tooling, processing, testing, analysis, and production is a crucial part of the program.

PET programs are less theoretical than engineering programs and are more applications or "hands-on" oriented. There are laboratory components to most PET courses where students learn to apply theoretical knowledge learned in the classroom to solve practical or application-based problems.

The Plastics Engineering Technology degree program is accredited by the Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, phone 410-347-7700.

How to Declare:

All students should declare their major early and seek departmental advisement.

Mid-Program Checkpoint:

Students intending to complete a Bachelor's of Science degree in Plastics Engineering Technology within four years should complete the following courses by the start of their junior year. Students are expected to follow all prerequisite requirements for courses and seek early departmental advisement.

Coursework

ETEC 110, 111, 220, 223, 224, 225

CHEM 121 and 251

COMM 101 or 235

CSCI 140 or 141

MATH 124 or 134; 125 or 135; 240 or 245

PHYS 121 and 122, or PHYS 114 and 115

25-30 GURs under advisement

Contact Information:

Engineering Technology
Department Website:
<http://www.etec.wvu.edu/>

Program Advisor:
Nicole Hoekstra
ET204, 360-650-7237
Nicole.Hoekstra@wvu.edu

Department Chair:
Todd Morton
ET209, 360-650-3380
Todd.Morton@wvu.edu

Sample Career Fields:

Process Engineer, Project
Engineer, R&D Engineer,
Product Development
Engineer, Sales Engineer,
Materials Engineer

Companies that employ Western PET graduates

include: The Boeing
Company, Buzl Extrusion,
C&D Aerospace, Mold-Rite,
Vaupell Industrial Plastics,
Fleck Co. Inc., Allsop, Heath
Tecná, Fiberchem, Physio-
Control, Trim Systems,
Nypro, GE Plastics, and
Upchurch Scientific.



Plastics Engineering Technology Major Requirements: 139 Credits

Technical Core for PET majors:

ETEC 110 Engineering Design Graphics I (3)
ETE 111 Engineering Design Graphics II (3)
ETE 220 Introduction to Engineering Materials (4)
ETE 223 Machine Metal Processes (4)
ETE 224 Applied Engineering Statics (3)
ETE 225 Strength of Materials (5)
ETE 322 Numerical Control Operations (4)
ETE 333 Polymer Technology (5)
ETE 334 Reinforced Plastics/Composites (5)
ETE 335 Tooling for Plastics Processing (3)
ETE 337 Secondary Operations (3)
ETE 338 Injection Molding (4)
ETE 344 Industrial Quality Assurance
ETE 351 Electronics for Engineering Technology I (4)
ETE 431 Plastics Product Design (3)
ETE 432 Plastics Senior Project - Implementation (4)
ETE 433 Engineering Polymers (3)
ETE 434 Advanced Composites (3)
ETE 436 Polymer Compounding (3)
ETE 444 Data Analysis and Design of Experiments (4)
Technical Electives approved by advisor (12)

Supporting Courses for PET majors:

Math: 13 credits
MATH 124 Calculus and Analytic Geometry (5)
MATH 125 Calculus and Analytic Geometry (5)
MATH 245 Statistics for Engineering Technology (3)
Or MATH 240 Introduction to Statistics (4)
Physics: 10 credits
PHYS 121 Physics with Calculus I/Lab (5)
Or PHYS 114 Principles of Physics I (5)
PHYS 122 Physics with Calculus II/Lab (5)
Or PHYS 115 Principles of Physics II (5)
Chemistry: 13 credits
CHEM 121 General Chemistry I (5)
CHEM 251 Elementary Organic Chemistry (5)
CHEM 308 Introduction to Polymer Chemistry (3)
Communications: 9 credits
COMM 101 Fundamentals of Speech (4)
Or COMM 235 Exposition and Argumentation (4)
ETE 341 Engineering and Society (3)
ETE 430 Plastics Senior Project—Definition (2)
Computer Science: 4 credits
CSCI 140 Programming Fundamentals (4)
Or CSCI 141 Computer Programming I (4)
Operations Management: 4 credits
OPS 461 Project Management (4)

Total credits for the Plastics Engineering Technology degree, including additional GUR requirements, equal 186.

These courses are required (or advised) for this major and may be used to satisfy GUR or Writing Proficiency requirements:

ACOM: COMM 101

QSR: MATH 124 and higher

LSCI: PHYS 115, CHEM 121

SCI: PHYS 114

WP: Three Writing Proficiency points are required for graduation (they are noted as WP1, WP2, WP3). Check [Classfinder](#) or [Online Timetable](#) for departmental offerings each quarter.

Other Engineering Technology options:

B.S. Electronics Engineering Technology (149 credits)
B.S. Industrial Design (135 credits)
B.S. Industrial Technology (110 credits)
B.S. Manufacturing Engineering Technology (144 credits)
B.S. Plastics Engineering Technology (139 credits)
Minor in Manufacturing Engineering Technology (18 credits)
Minor in Embedded Systems (27 credits)
Minor in Sustainable Design (30-32 credits)
Minor in Industrial Technology-Vehicle Design (25 credits)