POLYMER SCIENCE, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

The goal of the Polymer Science minor is to produce graduates who have a first-hand knowledge of the relationships between the synthesis, structure, properties, and processing of polymer materials. Students are required to take MATSE 443, MATSE 441; MATSE 445; MATSE 446; MATSE 447 which provide a broad overview of the subject, then select 3 credits chosen from a suite of courses that deal with polymer synthesis, microstructure and morphology, properties, and processing.

What is Polymer Science?

Polymer scientists investigate long-chain molecules, which include plastics, cellulose (found in trees and paper), DNA, and more. Polymers have unique chemical and physical properties; understanding these properties involves aspects of organic chemistry, physical chemistry, analytical chemistry, contemporary physics, chemical engineering, mechanical engineering, and electrical engineering.

You Might Like This Program If...

- You like investigating polymer materials at the micrometer and nanometer scales.
- You enjoy combining a variety of physical and biological sciences to understand how organic molecules behave.
- You are interested in pursuing a career in polymer materials design, or the process of designing polymer materials for specific applications.

Program Requirements

Requirement	Credits
Requirements for the Minor	23

Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10). In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
CHEM 210	Organic Chemistry I	3
MATH 231	Calculus of Several Variables	2
MATSE 443		3
Additional Courses		
Additional Courses: Require a grade of C or better		
Select 3 credits of the following:		3
BMB 474	Analytical Biochemistry	
EMCH 446	Mechanics of Viscoelastic Materials	
MATSE 447	Rheology and Processing of Polymers	
MATSE 473	Polymeric Materials Laboratory--Synthesis	
MATSE 474		
MATSE 494W	Research and Design Senior Project	
MATSE 496	Independent Studies	
Select 12 credits of the following:		12
MATSE 441	Polymeric Materials I	
MATSE 442		
MATSE 444		
MATSE 445	Thermodynamics, Microstructure, and Characterization of Polymers	
MATSE 446	Mechanical and Electrical Properties of Polymers and Composities	

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/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

University Park

R. Allen Kimel
Associate Head for Undergraduate Studies
225B Steidle Building
University Park, PA 16802
814-865-5397
rak189@psu.edu

Contact

University Park

DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING
225B Steidle Building
University Park, PA 16802
814-865-9857
rak189@psu.edu

https://www.matse.psu.edu/