

Plastics Engineering

Introduction

The Bachelor of Science degree in Plastics Engineering will prepare students to understand the components necessary to bring Wisconsin to the forefront in the design, development, and manufacture of plastics products. For the plastics industry to grow and prosper, it will depend upon competent engineers whose education focuses on this discipline.

The program will be offered on campus to capitalize on UW-Stout's extensive laboratory facilities. The curriculum will strive for ABET-accreditation and will provide an appropriate mixture of theoretical and practical instruction. The program concentrates on the design and development of plastics products, processes, and equipment prevalent in the plastics manufacturing industry. Graduates of this program will be able to apply the principles of mathematics and science to the solution of practical problems, apply concepts of engineering analysis, design plastic products and manufacturing systems using contemporary methods, integrate sound management principles into the engineering process, practice high ethical standards, and implement technology with an awareness of important societal issues.

General Requirements

Bachelor of Science Degree

Total for graduation	126
General Education	43
Major Studies	83

Program Requirements

General Education

43 credits required

A. Communication Skills **8 credits**

ENGL-101 Freshman English – Composition <i>or</i>	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning **8 credits**

MATH-153 Calculus I	4
MATH-154 Calculus II	4

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135 College Chemistry I	5
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G. Technology **2 credits**

Major Studies

83 credits required

Mathematics and Basic Sciences **20 credits**

CHEM-325 Chemistry of Polymers	4
MATH-250 Differential Equations With Linear Algebra	3
PHYS-281 University Physics I	5
PHYS-282 University Physics II	5
STAT-330 Probability and Statistics for Engineering and the Sciences ..	3

Engineering Core **17 credits**

ELEC-290 Circuits and Devices	4
MECH-293 Engineering Mechanics	3
MECH-294 Mechanics of Materials	3
MFGT-150 Introduction to Engineering Materials	3
MFGE-275 Thermodynamics and Heat Transfer	2
MFGE-391 Fluid Mechanics	2

Polymer/Plastic Materials, Processes, Analysis and Testing **18 credits**

PLE-1XX Introduction to Plastics	3
PLE-2XX Introduction to Injection Molding	3
PLE-2XX Material Testing and Analysis	3
PLE-3XX Extrusion Processes	3
PLE-3XX Advanced Injection Molding	3
PLE-4XX Process Simulation and Analysis	3

Product and Production System Design **18 credits**

CADD-112 Principles of Engineering Drawing	3
CADD-436 Computer Assisted Design Problems	3
MFGE-415 Machine Vision and Robotics	2
MFGE-363 Controls and Instrumentation	4
PLE-4XX Capstone I: Plastics Engineering and Experimental Design ...	3
PLE-4XX Capstone II: Design Development/Execution	3

Engineering and Professional Competitiveness **9 credits**

Choose 9 credits from the following selectives:

INMG-300 Engineering Economy	3
INMG-335 Lean Manufacturing Systems	4
INMG-365 Project Management.....	3
INMG-422 Quality Engineering.....	3

Professional Selective **1 credit**

PLE-3XX Intern Experience	1-3
PLE-4XX Cooperative Experience	1-3