College of Engineering & Applied Science

MATERIALS ENGINEERING

Just the Facts

Number of Students
1,600 undergraduate / 350 graduate

Number of Faculty
85 full-time, 100% doctorate

Undergraduate Degrees
Bachelor of Science in Computer Science
Bachelor of Science in Engineering
(Civil, Computer, Electrical, Industrial, Materials and Mechanical)

Minors
Computer Science, Electrical Engineering, Industrial Engineering, Materials Engineering, Mechanical Engineering, Structural Engineering

Graduate Degrees
Master of Science in Engineering
Master of Science in Computer Science
Master of Science in Engineering
Master of Urban Planning
Doctor of Philosophy in Engineering
Doctor of Philosophy in Medical Informatics
Graduate Certificate Programs

Academic Advising

Many students find that determining schedules, registering for courses, and making important academic decisions can be daunting. This is why the College of Engineering & Applied Science (CEAS) offers personal, individualized advising to all students. Academic advisors are available to support students throughout their entire stay at CEAS, acting as a liaison to other university departments and working collaboratively with faculty advisors.

Cooperative Education/Internships

The Career Services Office within CEAS provides a link between education and the real world. Because we know that relevant work experience in combination with good academics is crucial in gaining employment, we are dedicated to helping all CEAS students secure work experience before graduating. The Cooperative Education and Internship programs offer students an opportunity to gain professional employment prior to graduation. Students are able to apply the skills they are learning under the supervision and guidance of a professional engineer or computer scientist. The Career Services Office also offers a variety of services in addition to co-op/internships and job placement, including resume reviews, interview coaching, information on market trends, and how to negotiate salaries.

Undergraduate Research

To enhance the undergraduate experience, all undergraduates have the opportunity to participate in world-class research under the supervision of faculty members.

Study Abroad

CEAS collaborates with the Overseas Programs and Partnerships Office to offer unique study abroad experiences. In one such experience, CEAS students have the opportunity to study renewable energies in Germany during the winter interim session. The program includes lectures by Kassel University professors, site visits to factories and companies; and visits to a wind park and a biogas power plant. Through field trips and hands-on projects, engineering students are offered an incredible, international learning experience.

For more information about the College of Engineering & Applied Science at the University of Wisconsin-Milwaukee, please contact us.

E-mail: ceas-adv@UWM.edu Website: www.uwm.edu/CEAS Phone: (414) 229-4667

UNIVERSITY of WISCONSIN
UWMILWAUKEE

College of Engineering & Applied Science

MATERIALS ENGINEERING

The glass in your windows, the plastic container you carry your lunch in, the titanium frame of your mountain bike… all are materials. **Materials engineers** create new materials from natural resources to improve our lives. They work with the medical field to come up with modern solutions such as fillings for our teeth. They're also involved in the aerospace industry, designing materials that will make our planes faster, safer, and cheaper to make. "Metals with a memory" are new materials that make anti-scald shower devices possible. Don't forget the environment… harmful gas emissions will be eliminated through improved materials processing.

Sample Course Plan

Semester 1

Calculus I
Chemistry for Engineers
Technical Elective
General Education Requirement

Semester 2

Calculus II
Engineering Materials
Technical Elective
General Education Requirement
Professional Seminar

Semester 3

Calculus III
Physics I
Physics I/Lab
Statics
General Education Requirement
Free Elective

Semester 4

Analytical Methods in Engineering
Physics II
Physics II/Lab
Basic Engineering Thermodynamics
General Education Requirement

Semester 5

Materials & Process in Manufacturing
Thermodynamics of Materials
Dynamics
Introduction to Computer Programming
General Education Requirement

Semester 6

Transport Phenomena in Materials Processing
Physical Metallurgy
Strength of Materials
Introductory Statistics for Physical Sciences & Engineering
Technical Elective

Semester 7

Mechanical Behavior of Materials
Corrosion Engineering
Materials Laboratory
Introduction to Electrical Engineering
Technical Elective

Semester 8

Senior Design Project
Ceramic & Polymeric Materials
Technical Elective
Technical Elective
Free Electives

This is only a sample course plan and will vary for each student. Plans can be influenced by many factors including: the need for pre-requisite coursework, inclusion of related work experience through co-op and/or internship, and appropriate pace for individual students. Each student will develop personal course plans with their advisor.

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