



## MECHANICAL 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.

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

### 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.

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## MECHANICAL ENGINEERING

As Vehicles for land, sea, air and space are all created by **mechanical engineers**. Mechanical engineers design the machines that manufacture and package products. Imagine a car that has no shock absorbers, but instead has the capabilities to raise wheel struts in response to changing road conditions. Mechanical engineers will make it possible. They also work with the biomedical industry to create prosthetic limbs and artificial organs, such as the heart. Want to help save whales, dolphins and seals? As a mechanical engineer you could manufacture an ultrasonic device that deters these precious creatures from swimming into fishing nets.

### Sample Course Plan

#### Semester 1

Calculus I  
Chemistry for Engineers  
Fundamentals of Engineering I  
General Education Requirement

#### Semester 2

Calculus II  
Engineering Fundamentals II  
Engineering Materials  
Introductory Computer Programming  
Professional Seminar

#### Semester 3

Calculus III  
Physics I/Lab  
Statics  
Materials and Processes  
in Manufacturing  
General Education Requirement

#### Semester 4

Analytical Methods in Engineering  
Physics II/Lab  
Dynamics  
Thermodynamics

#### Semester 5

Strength of Materials  
Circuits I  
Fluid Mechanics  
Mechanical Design I  
General Education Requirement

#### Semester 6

Heat Transfer  
Design of Machine Elements  
Computer Aided Engineering  
Laboratory  
Fluid Mechanics Laboratory  
Statistics for Physical Science  
and Engineering  
General Education Requirement

#### Semester 7

Control Systems  
Mechanical Engineering  
Experimentation  
Technical Elective  
General Education Requirement

#### Semester 8

Senior Design Project  
Mechatronics  
Technical Elective  
Technical Elective  
Technical Elective

**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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