

UW Department of Mechanical Engineering



Department of Mechanical Engineering

The background of the slide is a photograph of a large, multi-story university building with a classical architectural style, featuring many windows and a prominent entrance. In the foreground, there is a construction site with a yellow excavator, several large pipes, and other construction materials. A blue car is partially visible in the bottom right corner. The sky is blue with some clouds.

- Teaching Faculty
- ME Professors: 35
 - Full Professors: 17
 - Associate Professors: 5
 - Assistant Professors: 8
- Affiliate Professors: 15
- Lecturers, etc.: 4

Department of Mechanical Engineering

*Undergraduate Enrollment**

- Sophomores: 34
- Juniors: 175
- Seniors: 287

Graduate Enrollment:

- MS: 101
- PhD: 86

* 2007-8

Degrees

Granted+ BS:
178

- MS: 46
- PhD: 21

+2006-7

Strengths of the ME Department

- Highly qualified faculty
- Faculty emphasis on teaching
- Diverse areas:
 - Thermal Sciences
 - Engine Research Laboratory
 - Dynamics and Vibrations
 - Mechatronics and Robotics
 - Design and Manufacturing
 - Polymer Engineering
 - Biomechanical Engineering
 - Computer Aided Engineering



ME Curriculum

See <http://www.engr.wisc.edu/me/current/undergrad/curriculum/>.

- EMA 202 may not substitute for ME 240.
- CS 310 was replaced with CS 302.
- A C or better is required in ME 361, ME 240 and ME 306.
- 9 credits of free electives – but at least 6 credits must be formal class credits.



Electives

E. TECHNICAL ELECTIVES

1. Technical electives include formal engineering, mathematics, physics, chemistry, statistics or computer science courses numbered 400 and above. The following courses are also accepted as technical electives:

Comp Sci	354, 367	CBE	320, 326
Chemistry	341, 343, 345	ECE	320, 330, 340, 342, 345, 352, 353, 354, 355
Math	321, 322	EPD	374, 375, 376
Physics	311, 321, 322, 325	ISyE	323, 349
Statistics	311, 312, 333, 349, 351	MS & E	330, 332, 352, 370
BSE	351, 361, 362, 364	NEEP	305
CEE	311, 315, 316, 320, 325, 327, 330, 355, 356, 370, 375		

2. ME technical electives (minimum of 6 credits) include formal Mechanical Engineering courses numbered 400 and above: Also included is ME 351.
3. One credit of Cooperative Education (ME 001) can be counted for technical-elective credit.

A formal course is defined as a class which meets regularly in a lecture format to study a selected topic. The educational mission is assisted with homework and exams. This excludes seminar, survey, and other similar courses.

There are some great electives taught by well-known faculty who are actively engaged in related research.

Technical Elective Focus

- Provides a coherent program for electives
- Focus areas include
 - Energy Systems
 - Computer Aided Engineering
 - Automation and Control
- 3 or more formal courses (9 credits) in area

Undergraduate Student Projects

(can be applied for a total of 3 technical elective credits)

- Formula SAE
- Mini-Baja
- FutureTruck
- others including
 - snowmobile
 - NASA microgravity
 - senior research



Project and Independent Study

(can be applied for a total of 3 technical elective credits)

Opportunity: Participate in a research program with faculty

To enroll in ME 291, 299, 491, 492, or 699 you must:

- Have a 2.5 GPA or a 3.00 for the two preceding semesters
- Find a consenting adviser (the ME Student Services Office may have some helpful suggestions)
- Draw up a tentative title and outline for the study
- Decide on the number of credits (1-3 crs.)
- File an adviser signed *Independent Study Request* form with the Student Services Office that will allow you to Web register. (This should be done before the end of the second week of classes.)

Co-op and Intern Programs

- Work in industry for a summer or semester
- Earn money for college expenses
- Provides learning experience
- Provides job opportunity after graduation

- Engineering Career Services helps locate prospective employer.



**Engineering
Career Services**

<http://ecs.engr.wisc.edu/>



Advising

See

<http://www.engr.wisc.edu/me/current/undergrad/getstarted.html#advising>

ASME and Pi Tau Sigma also provide advising for academic issues



Student Services Office

Room 3180 ME

- Find answers to curriculum questions.
- Help with registration / maintain wait lists.
- Help with DARS reports.
- Maintain ME student records.
- Senior Summary.
- Carol Aspinwall
(caspinwall@engr.wisc.edu)
- Linda Kelly (lkelly@engr.wisc.edu)

Scholarships

A large number of scholarships (50 to 80) amounting to over \$100,000 are awarded each year by the Department of Mechanical Engineering.

Information and Scholarship Application forms are available at <http://studentservices.engr.wisc.edu/money/scholarships/>

Also see:

<https://mywebspace.wisc.edu/tashedd/mfval/MEScholApp.pdf>

- [Diversity Affairs Office](#) (1149 Engineering Hall) also have scholarship programs.

Financial Aid

- In addition to the campus Student Financial Services Office, the ME department can assist students with student loans from ASME (American Society of Mechanical Engineers).
- Faculty often hire undergraduate students to work in their research labs with the pay coming from the Work Study program. Ask individual faculty about this opportunity.

Your Responsibility

The ME curriculum is 120 credits. It is possible to graduate in 4 academic years.

Each student is responsible for arranging a course list that will permit satisfactory progress toward degree requirements and a class schedule that:

- avoids class and final exam scheduling conflicts.
- avoids an excessively demanding final exam schedule.
- verifies registration in chosen classes (DARS)

Honors in Research

The "Honors in Research" designation will be awarded to graduates who meet the following requirements:

- Satisfaction of the requirements for an undergraduate degree in Mechanical Engineering;
- A cumulative grade-point average of at least 3.3;
- Completion of a total of at least 6 credits of ME 489.
- Receive a final grade of at least "B" in ME 489.

Professional Societies

- American Indian Science & Engineering Society (AISES)
- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
- [American Society of Mechanical Engineers \(ASME\)](#)
- American Society of Quality Control (ASQC)
- [Engineers for Environment and Technology \(EET\)](#)
- [Pi Tau Sigma](#) - ME Honor Society for Juniors & Seniors
- [Polygon Engineering Council](#)
- [Society of Automotive Engineers \(SAE\)](#)
- [Society of Hispanic Professional Engineers \(SHPE\)](#)
- Society of Manufacturing Engineers
- [Students Uniting Business and Engineering \(SUBE\)](#)
- [Society of Women Engineers \(SWE\)](#)
- [Tau Beta Pi](#)
- UW Technology Club
- [National Society of Black Engineers-Wisconsin Black Engineering Student Society \(NSBE-WBESS\)](#)

For additional information, see the bulletin boards in the Department of Mechanical Engineering Lobby.

Graduation

Regularly consult the [Degree Audit Reporting System \(DARS\)](#) document in conjunction with their advisor to ensure that all the following graduation requirements are met:

- have fulfilled the published graduation requirements of that curriculum, with all substitutions formally approved.
- have a PCR (point-credit ratio) of at least 2.0 for those semesters and sessions containing the last 60 credits taken at UW-Madison or for all credits taken at Madison if less than 60.
- have departmental PCR of at least 2.0 for all courses taken in the degree-granting department that count toward graduation.
- have completed at least 30 credits in residence in the College of Engineering, including 15 credits of work in the degree-granting department.
- have completed the last two semesters in residence in the College of Engineering as a full-time student.
- have a GPA of at least 2.0 both for the last semester and also for the combined last two semesters.
- have filed a *personal record form* with the College of Engineering Career Services Office.

Senior Thesis

The ME Department's Undergraduate Honors in Research program allows students to participate in the creation of new knowledge and experience the excitement of the Research process. Students in the program write and submit a senior thesis. Admission requirements include:

- At least two semesters completed on the Madison campus with a cumulative GPA of at least 3.5;
- Majoring in Mechanical Engineering;
- Approval of an appropriate professor who will serve as the thesis advisor.

Mini-Baja



- 15+ students
- Conceptualization and design, through to construction, testing and racing



FutureTruck

The UW's Moolennium is a parallel hybrid electric vehicle. It placed 1st in 2003-4, with top scores in best on-road fuel economy and lowest greenhouse gas emissions.



- 30+ students
- Conceptualization and design, through to construction and testing
- Business, engine, controls, electrical, information and mechanical groups



Formula SAE



- 75 + students
- Conceptualization and design, through to construction, testing and racing
- Suspension/brakes/controls, frame, powertrain, public-relations and manufacturing groups

Collaborations

- Computer Science
- Food Science
 - Rheology
 - Transport Phenomena
- Mathematics
- Medicine
 - Orthopedic Surgery
 - Kinesiology
- Engineering
 - Biomedical Engineering
 - Chemical Engineering
 - Civil Engineering
 - Electrical Engineering
 - Industrial Engineering
 - Material Science
 - NEEP
 - Biological Systems