MECHANICAL ENGINEERING
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Ranked among the top five mechanical engineering departments nationwide by the 2010 National Research Council, the DEPARTMENT OF MECHANICAL ENGINEERING offers premier programs at the undergraduate and graduate levels—all of which provide solid foundations for careers in industry, research, and academia.

Department programs focus on the core disciplines of mechanics, design, manufacturing, and systems along with essential areas of mathematics and physical sciences. Students work with world-class faculty to dive into boundary-crossing topics such as nanomaterials, advanced sensing, robotics, thermal systems, and biomechanical interfaces.

UNDERGRADUATE STUDY

PROGRAMS OF STUDY

- Bachelor of science in mechanical engineering
- Combined degree programs: Northwestern offers several combined degree options, including the opportunity to earn two BS degrees simultaneously, the BS/MS program, and the Engineering and Music Combined Degree Program.

EXAMPLE COURSES

ME 233 Electronics Design
ME 315 Theory of Machines—Design of Elements
ME 327 Finite Elements for Stress Analysis
ME 340 Computer-Integrated Manufacturing
ME 373 Engineering Fluid Mechanics
ME 398 Engineering Design

OUTSIDE THE CLASSROOM

NUSOLAR: The Northwestern University Solar Car Team is an undergraduate student organization that designs, builds, and races solar-powered vehicles in the American Solar Challenge and Formula Sun Grand Prix.

DESIGN COMPETITION: Teams of engineering undergraduates from different departments come together each year to build robots and compete for prizes.

GRADUATE STUDY

PROGRAMS OF STUDY

- Master of science in mechanical engineering
- PhD in mechanical engineering

Mechanical engineering faculty members are also involved in the following programs:

- Master of science in robotics
- Master of science in engineering design and innovation
- Master of Product Design and Development Management

RESEARCH AREAS

MEMS/nanotechnology \ Robotics \ Virtual design and manufacturing \ Tribology \ Microfluidics \ Computational solid and fluid mechanics \ Composite materials \ Nondestructive materials characterization and structural reliability \ Neuromechanics \ Biomimetics
“WHEN I ENTERED NORTHWESTERN, I NEVER THOUGHT I’D BE SPENDING ALL MY FREE TIME BUILDING A RACECAR, AND THAT IT WOULD BE THE BEST EXPERIENCE.”

CAROLYN JANE JONES \ MECHANICAL ENGINEERING, PROJECT MANAGER FOR BAJA TEAM

CAREERS IN MECHANICAL ENGINEERING

WHAT’S NEXT?

Mechanical engineers often work in cross-functional teams with civil, chemical, electrical, and industrial engineers, as well as with marketing and business specialists. A rapidly diversifying field, mechanical engineering encompasses areas such as:

- Robotics
- Biological molecular machines
- Microelectromechanical systems
- Nanotechnology
- Solid mechanics
- Fluid dynamics
- Product design
- Computer-aided manufacturing
- Energy and sustainability

RECENT GRADUATE PLACEMENTS

- Manufacturing engineer at General Motors
- Design engineer at Honda
- Flight test operations engineer at Boeing
- Product development engineer at Pearson
- Mechanical test engineer at Honeywell Aerospace
- Product development engineer at Ford Motor Company
- Technology delivery analyst at Aon Hewitt
- Research and development engineer at Newell Rubbermaid
- Systems application engineer at Schneider Electric

HOW YOU SPEND YOUR TIME IN THIS PROGRAM

BASED ON A SURVEY OF CURRENT STUDENTS.

- **5.0%** Giving/preparing for presentations
- **20.9%** Studying for/taking written exams
- **16.1%** Group projects
- **33.4%** Working on problem sets
- **9.7%** Building things
- **8.0%** Working in a Lab
- **6.8%** Computer programming
NORTHWESTERN ENGINEERING STUDENTS CONSTANTLY EXPLORE NEW PATHWAYS IN MECHANICAL ENGINEERING. IMAGINE YOURSELF:

- Developing technology that allows you to “feel” the textured keys on the screen of a smartphone
- Designing a prototype of the human knee that gives surgical students feedback on their performance
- Being part of a team that designs, builds, and races solar cars
- Getting involved at every stage of the product life cycle, from basic research to product development, production, sales, and support
- Turning your ideas into progress

FIND YOUR DIRECTION HERE

Northwestern Mccormick School of Engineering

www.mech.northwestern.edu