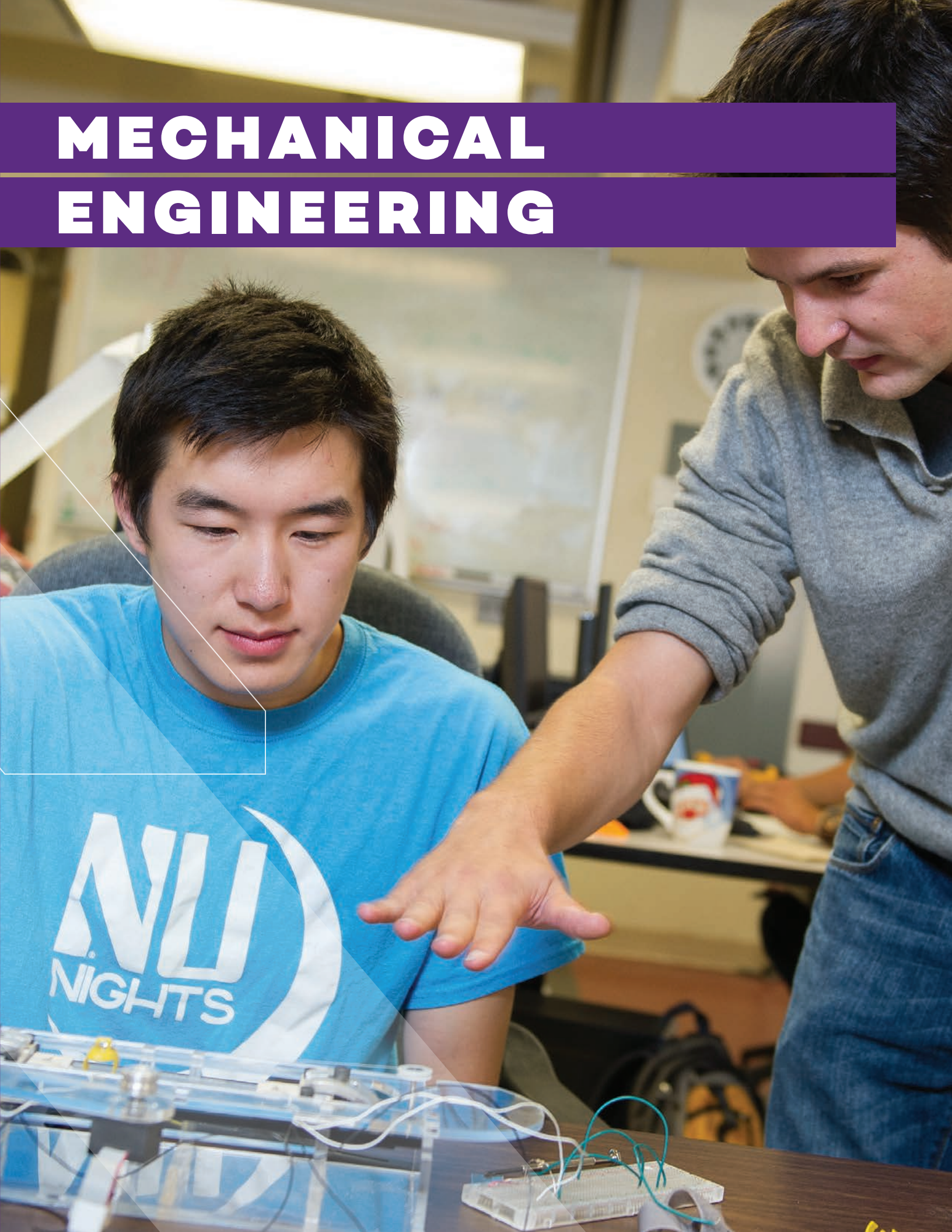
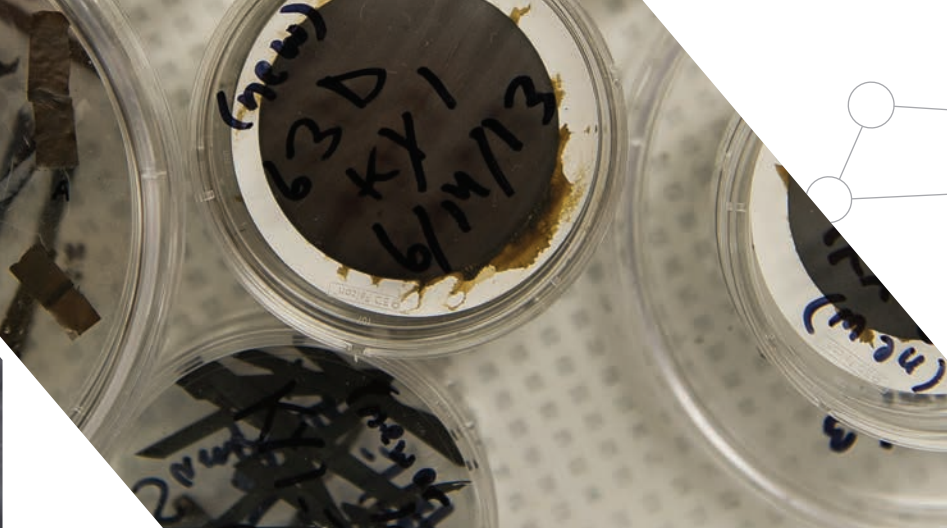


MECHANICAL ENGINEERING





MECHANICAL ENGINEERING

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:

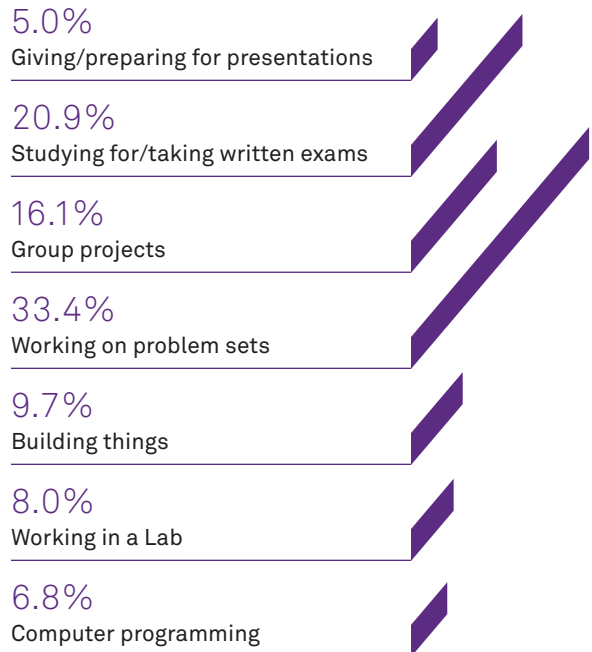
- Robotics \ Biological molecular machines \
- Microelectromechanical systems \ Nanotechnology \
- Solid mechanics \ Fluid dynamics \
- Product design \ Computer-aided manufacturing \
- Energy and sustainability

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.



ENVISION WHAT'S POSSIBLE

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 smart phone
- \ 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