

Mechanical engineering

Did You Know?

CU's ME Department has active chapters of a number of professional societies including the American Society for Mechanical Engineering, Society for Automotive Engineers, Society of Manufacturing Engineers, and Pi Tau Sigma, the ME honor society.

Students:

605 undergraduates
95 graduate students

Faculty:

27 faculty

Research:

4 interdisciplinary
research centers
\$6.3 million in research
funding (2006-07)

Rankings:

CU-Boulder is the only doctoral university in the Rocky Mountain region ranked in the top 20 public engineering programs in the nation. The mechanical engineering graduate program is ranked 18th among public institutions (USNWR).

Colorado
University of Colorado at Boulder



Mechanical engineering is a core discipline which encompasses the general areas of design and manufacturing, fluid and solid mechanics, and thermal and materials science. From developing new energy technologies to improving the design and functionality of artificial limbs, many career directions are open to mechanical engineers, who work in both the public and private sectors.

The mechanical engineering undergraduate curriculum at CU-Boulder incorporates a broad range of courses to provide a balanced education in the fundamentals of the profession. Students can choose from two technical elective plans — one provides a broad, general education in mechanical engineering, while the other allows students to specialize in the technical area of biomedical or environmental engineering. Both paths prepare students for successful careers in industry or government or to continue on to graduate education.

“The mechanical engineering faculty are easily accessible and willing to go the extra step to help you succeed. In addition, the courses are interactive and the professors seem to take great pride in what they teach.”

— Rose
Lassos



Hands-on Learning

At CU, students learn by doing. A first-year projects course allows students to design, plan, and create solutions to real-world challenges. Mechanical engineering senior design projects are sponsored by local and national industry, providing hands-on, relevant design experiences. Students can also participate in undergraduate research, internships and industry co-ops.

What can I do with a degree in mechanical engineering?

- Research
- Design
- Testing
- Manufacturing
- Operation and maintenance
- Marketing and sales

Mechanical curriculum

128 semester credit hours required

(Sample Curriculum)

FRESHMAN YEAR

Fall Semester

MCEN 1025 Computer-Aided Design	3
APPM 1350 Calculus 1 for Engineers	4
CHEM 1211 Engr. General Chemistry	3
CHEM 1221 Engr. General Chemistry Lab	2
MCEN 1000 Intro to Mechanical Engr	1
Humanities and Social Science Elective	3

Spring Semester

GEEN 1300 Intro to Engr Computing	3
APPM 1360 Calculus 2 for Engineers	4
PHYS 1110 General Physics 1	4
GEEN 1400 Engineering Projects	3
Humanities and Social Science Elective	3

SOPHOMORE YEAR

Fall Semester

MCEN 2023 Statistics and Structures	3
APPM 2350 Calculus for Engineers 3	4
PHYS 1120 General Physics 2	4
PHYS 1140 Experimental Physics	1
Humanities and Social Science Elective	3

Spring Semester

MCEN 2063 Mechanics of Solids	3
PHYS 2130 General Physics 3	3
APPM 2360 Diff Eq with Linear Algebra	4
MCEN 2024 Materials Science	3
Humanities and Social Science Elective	3

Credits

16

JUNIOR YEAR

Fall Semester

MCEN 3012 Thermodynamics	3
MCEN 3043 Dynamics	3
MCEN 3021 Fluid Mechanics	3
MCEN 3017 Circuits & Electronics	3
Free Elective	3
WRTG 3030 Writing on Science & Society	3

Spring Semester

MCEN 3022 Heat Transfer	3
MCEN 3037 Exp. Design and Data Analysis	2
MCEN 3025 Component Design	3
MCEN 3030 Computational Methods	3
Humanities and Social Science Elective	3

SENIOR YEAR

Fall Semester

MCEN 4026 Mfg Process and Systems	3
MCEN 4037 Measurements Lab	2
MCEN 4043 System Dynamics	3
MCEN 4042 Thermal Systems Design	3
MCEN 4045 ME Design Project I	3
General Technical Elective	3

Spring Semester

MCEN 4047 Mechanical Eng Lab	2
MCEN 4085 ME Design Project II	4
MCEN Technical Elective	3
MCEN Technical Elective	3
General Technical Elective	2

Credits

18

14

17

15

Mechanical engineers are employed in a wide range of industries including:

Automotive

Aerospace

Biomedical

Chemical

Computer

Electronic

Environmental

Industrial Machinery

Manufacturing

Mining

Nanotechnology

Oceanographic

Petroleum

Pharmaceutical

Power

Printing

Publishing

Textile

For more information visit www.colorado.edu/mechanical

