

Mechanical Engineering

Mechanical Engineers are associated with mechanical design, medical devices and implants, alternative/renewable energy and energy conversion, automotive engineering, fuel and combustion technologies, heat transfer, materials, noise control and acoustics, manufacturing processes, power in transportation, automatic control, product safety and reliability, refrigeration and air conditioning and bioengineering.

Along with diverse areas of specialization come a wide range of career paths. Mechanical engineers may work in the area of classical machine design conceiving and optimizing devices to perform any number of functions or they may be associated, for example, with the development and design of biomedical products, satellite and robotic controls, and more efficient energy transfer techniques.

Career Opportunities

- Internal combustion engines, aircrafts
- Medical devices and implants
- Alternative/renewable energy
- Finite element analysis and design
- Composites and advanced materials
- Tissue engineering
- Micromanufacturing and electronic packaging
- Turbomachinery and heat exchangers
- Robotics and dynamic controls

Many mechanical engineers also choose to pursue careers in research and development, sales, law, and medicine.

A significant portion of a mechanical engineering curriculum involves the study of mathematics, materials, basic mechanics, thermal science, and fluid mechanics.

This theory and the associated analytical skills are then put into practical use during a series of design-oriented classes that emphasize open-ended problem solving. Many students also participate in an optional Co-operative Education (Co-op) program through the College of Engineering. While an interest in “working” with tools can be an asset to a mechanical engineering student, skills in mathematics, science and computers are better predictors of ultimate success.

Faculty

The Temple Engineering Faculty are noted and recognized for their talents in teaching, advising, mentoring and scholarship.

The College of Engineering currently has 45 full-time faculty members, making the faculty-to-student ratio about 20:1, and the size of a typical engineering class is 15-25 students.

Senior Design Projects

The Senior Design Project is a two semester capstone course in the senior year for mechanical engineering students. In this course a group of students, along with a faculty advisor, work together to provide a solution to an engineering problem.

Many of these projects are sponsored by industry and/or various funding agencies. Examples of recent projects include:

- Development of a new hydrogen-powered car
- Low cost artificial leg for long-distance runners
- Formula SAE Race Car, Hybrid golf cart
- Solar powered boat
- Smart material for airplane wings

Honors Program

Honors students at Temple University are part of the ultimate learning community. These exceptionally talented students enjoy course sections designed exclusively for them and taught by the distinguished Honors Program faculty. The Temple University Honors Program is available to students who have completed AP or high school honors courses, rank near the top of their class, and/or score in top percentiles on the SAT or ACT. The program is also available to transfer students who complete at least 24 credits at an ABET accredited program with a 3.5 GPA or better.

Mechanical Engineering Curriculum

Math Requirements	21
Science Requirements	12
Gen Ed Requirements	28
Major Requirements	47
Technical & Free Electives	<u>16</u>
Total Semester Hours	124

Contact Us

Email: engineer@temple.edu

Phone: (215) 204-7800

Address: Office of Undergraduate Studies

1947 North 12th Street

Philadelphia, PA 19122

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