Carnegie Mellon University

COLLEGE OF ENGINEERING

Carnegie Mellon University's College of Engineering attracts creative explorers and curious problem solvers who are seeking a unique educational experience where technology, creativity and innovation intersect. Here, our culture of advanced collaboration provides boundless opportunities to learn from and work with engineers and scientists who share your passion, expand your knowledge and enrich your experience.

Chart Your Course to Engineering Success

Technical skills and methods are the foundation of successful engineering. At Carnegie Mellon, you'll apply fundamental knowledge to real-world problems. You'll learn inside classrooms, labs and maker spaces. You'll work with cutting-edge technology and hands-on tools. You'll collaborate with pioneering faculty, industry partners and government leaders.

And you'll be challenged to work in teams, think critically and act decisively. You'll define problems, design within technical and socioeconomic constraints, compare innovative alternatives with conventional solutions, predict results and measure outcomes.

With so many possibilities, your journey will lead you in new and unexpected directions. But you won't have to find your path alone.

Academic advisors guide you through the curriculum, and Carnegie Mellon's inclusive and welcoming community will support you along the way.

While exploring engineering majors and minors, electives offered across campus, and integrated master's programs in engineering, business, and science, you'll find your way to a fulfilling career, exciting endeavors and unlimited leadership potential.

Your journey starts here, but you decide where it will take you.

FIRST-YEAR CLASS
FALL 2021 **499**

Programs

Biomedical Engineering*

Chemical Engineering (BS)

Civil Engineering (BS)

Electrical and Computer Engineering (BS)

Engineering and Arts*

Engineering and Public Policy*

Environmental Engineering (BS)

Materials Science and Engineering (BS)

Mechanical Engineering (BS)

Science, Technology and Public Policy**

* May be taken as an additional major only by engineering students

** Additional major for students majoring outside of engineering (in the Mellon College Science, School of Computer Science or the Dietrich College), who are earning a BS degree.

Did you know?

Carnegie Mellon's College of Engineering is ranked *#6 BEST UNDERGRADUATE ENGINEERING* by *U.S. News & World Report,* and the university's undergraduate research program is *RANKED #2.*

There are more than *400 STUDENT ORGANIZATIONS* at Carnegie Mellon, and 31 of them are primarily for engineering students.

The Society of Women Engineers (SWE) student chapter is *CONSISTENTLY RECOGNIZED NATIONALLY* for its efforts to provide social and professional development opportunities on campus and outreach to the local Pittsburgh community.

The college is also referred to by students and alumni as *CIT,* a reference to its original name, the Carnegie Institute of Technology.

Curriculum Overview

At the College of Engineering, you'll integrate coursework in engineering, sciences, arts, business and other disciplines. You'll begin with two introductory engineering courses and co-requisite science courses that introduce you to basic engineering principles and inform which majors and minors you want to pursue.

From there, your options expand across an extraordinary selection of courses throughout the university, while at the same time focus on the engineering disciplines that best match your interests and skills.

Whether you want to examine the tiny lipid nanoparticles revolutionizing mRNA therapies that treat deadly disease or explore the ways electric cars, smart cities and clean energy will impact our earth and its climate, you can study it here.

You'll learn to apply exciting new tools and technologies — artificial intelligence, robotics, 3D printing — to solving both traditional engineering challenges as well as problems once thought to be unsolvable.

You'll also be able to participate in interdisciplinary research, service-learning, study abroad programs and internships that allow you to experience first-hand the benefits of inclusion and collaboration.

AVG STARTING SALARY
$93,542

GRADUATE *SUCCESS*

91%   **Employed or in grad school within six months of graduation**

DATA AS OF JANUARY 2021
99% OF GRADUATES RESPONDING

RECENT EMPLOYERS

Accenture	Microsoft
Apple	Procter & Gamble
Boeing	Tesla

Student Research

Building More Cost-Effective Surgical Training Devices - Miguel Martinez (MECHE/BME 2022)

Martinez employed 3D printing and casting techniques to construct realistic models of hands called medical phantoms. Complete with realistic joints and skin, these artificial hands can be used for orthopedic surgical training.

The new production method, which Martinez researched in Professor Kenji Shimada's Computational Engineering and Robotics Laboratory (CERLAB), could reduce production costs from thousands of dollars to less than $30 each.

A $3,500 summer fellowship from the Office of Undergraduate Research enabled Martinez to conduct the independent research, which he continued to work on for course credit during the following academic year.

Developing Safety Helmets for Firefighters - Ben Graham (ECE 2022)

As a second-year engineering student, Graham was a member of an interdisciplinary research team working to improve firefighter safety by modifying a helmet that would help firefighters more safely navigate dangerous spaces.

Under the direction of Yang Cai, a senior systems scientist in Carnegie Mellon CyLab and the director of the Visual Intelligence Studio, Graham's team added haptic actuators, a control box with a radio module and other devices to the helmet to provide real-time information that signaled when to stop and which direction it was safe to travel by using a buzzing noise on the left, right or front of the helmet.

Their prototype, the "Haptic Helmet," was created for the Haptic Interfaces for Public Safety Challenge held by the National Institute of Standards and Technology (NIST) and later displayed at the 2020 Consumer Electronics Show in Las Vegas.

WOMEN MADE UP 51% OF THE INCOMING CLASS FOR FALL 2021.

Carnegie Mellon University

cmu.is/admission-engineering