

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. As engineering students here, you will encounter our unique culture of Advanced Collaboration® and discover our distinctive approach to problem solving. At Carnegie Mellon, you'll learn to ask different questions — better questions.

— 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 2022 445

Programs

Biomedical Engineering*

Chemical Engineering (BS)

**Civil and Environmental
Engineering (BS)**

**Electrical and Computer
Engineering (BS)**

Engineering and Public Policy*

Materials Science and Engineering (BS)

Mechanical Engineering (BS)

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

— 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 **INCOMING CLASS** for fall 2022 is **46% women, 52% men and 2% non-binary**.

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– 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.

– Student Research

Testing devices that could increase accessibility to the brain - Mihir Lovalekar (MechE 2024)

When Mihir Lovalekar read about the CMU Array, a first-of-its-kind, fully customizable, 3D printed microelectrode array composed of ultra-high density neural probes, he reached out to co-creator Rahul Panat, associate professor of mechanical engineering, who welcomed the rising junior onto the project.

Lovalekar spent the following summer measuring electrical resistance and mechanical strength — how much force each probe or an array of probes can experience during insertion and the maximum pressure they can endure in the event of an obstacle.

Lovalekar, who knew he wanted to contribute to something outside the classroom was thrilled to work on a device that, according to its developers, has the potential to profoundly change the course of neuroscience research.

Panat said, "Yes, he's part of a big team, but his individual work is critical to this entire project."

Finding a clean source of hydrogen – Aaron Garrison (ChemE 2023)

Aaron Garrison worked in Associate Professor Zachary Ulissi's lab to develop a machine learning model that was capable of finding novel catalysts for the splitting of water. Catalysts, such as platinum, that are currently used for water splitting are very expensive, so the discovery of other suitable catalysts could lower the cost of providing a clean source of hydrogen. Carnegie Mellon's Chemical Engineering Summer

Scholars Program (ChESS) provides rising juniors like Garrison an opportunity to gain hands-on research experience.

Although it was jarring to move from the classroom to a much more open-ended research setting,

Garrison said he found that the research experience complemented his coursework and stoked his interest in research.

"Learning the techniques that experts are using to find new catalysts has been influential in helping me figure out what I want to focus on going forward," said Garrison.

AVG STARTING SALARY

\$89,526

GRADUATE SUCCESS

94%

Employed or in grad school (2021 graduates)

97% OF GRADUATES RESPONDING






RECENT EMPLOYERS

Apple	Microsoft
Boeing	Procter & Gamble
Deloitte	Tesla

*OUR ENGINEERING STUDENTS
HAVE READY ACCESS TO
PROFESSORS IN SMALL SIZED
CLASSES AT ONE OF THE
SMALLEST OF THE NATION'S
TOP 20 ENGINEERING SCHOOLS.*

Carnegie Mellon University

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