

# WE MAKE BOLD POSSIBLE.

We are moving the needle on big challenges that hold the power to improve lives, drive the national economy and enhance global competitiveness.

## HEALTHCARE ENGINEERING

We have strengths in wearable and point-of-care sensing, microelectronics, AI, data science, data privacy, cybersecurity and robotics. Our community of engineers and computer scientists is in deep collaboration with partners across UC San Diego's forward-thinking Health System. Together, we are developing transformational healthcare advances that scale.

## FUTURE BIOMANUFACTURING

We are building a domestic manufacturing base driven by microbes. Our team partners with the public and private sectors to accelerate cost-competitive biomanufacturing. Research collaborators leverage our unique capabilities in microbe strain design, advanced data analytics, AI and robotics.

## FUSION ENGINEERING

We are leaders in California and the nation in fusion engineering. Our people and our research facilities serve as bridges linking national laboratories, long-standing industry players, startups, universities, and government agencies. Together, we pursue the fundamental and applied advances needed to make fusion energy a practical reality. We are also driving key workforce development efforts in fusion.

## AI TUTORS AND AI MAJOR

Our scalable AI Tutor platform has been designed and built to improve learning inside and outside the classroom. Instructors, and their teaching materials, are central to each AI Tutor implementation. In parallel, we launched an AI major. Our students learn to build new AI technologies, to integrate them into larger systems, and to become circumspect and ethical AI users.

## SEMICONDUCTORS

California DREAMS (Defense Ready Electronics And Microdevices Superhub) is an easy-access platform for the design and manufacture of prototypes of advanced electronic modules such as heterogeneous semiconductors. This platform is a resource for the U.S. microelectronics industry and the U.S. defense industrial base.

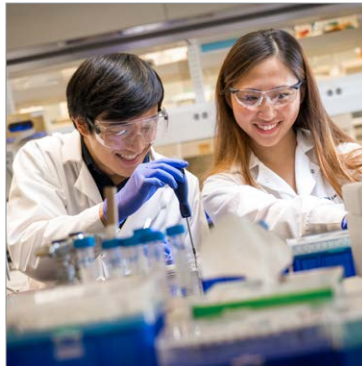
#9	#9 engineering school in the USA*
#6	#6 public engineering school in the USA*
\$329M	Total research expenditures for 2024-2025 at the Jacobs School of Engineering
47%	47% of our research expenditures come from university-industry research and philanthropic partnerships
#2	#2 in the nation for research expenditures per faculty member, among the country's top 40 engineering schools
10,240	10,240 enrolled engineering and computer science students (Fall 2025)
6,255	Undergraduate Enrollment (Fall 2025)
3,985	Graduate Enrollment (Fall 2025) 2,631 MS / 1,354 PhD
2,920	Degrees (2024-2025) 1,558 BS / 1,099 MS / 263 PhD
278	Faculty at the Jacobs School
*2026 U.S. NEWS RANKINGS OF BEST ENGINEERING SCHOOLS	

## ACADEMIC DEPARTMENTS

### BIOENGINEERING

SHU CHIEN-GENE LAY  
DEPARTMENT OF BIOENGINEERING

35 Faculty  
532 Undergraduates  
521 Graduate students



- autodigestion
- bioinformatics
- biomaterials / biomechanics
- cell / tissue mechanics
- biophotonics / biosensors
- cardiac mechanics
- cardiovascular engineering and imaging
- cartilage / tissue engineering
- genomic engineering
- metabolic bioengineering
- microcirculation / transfusion medicine
- molecular / cellular bioengineering
- nanotechnology
- neuroengineering
- regenerative medicine / stem cells
- systems bioengineering
- translational bioengineering

### MECHANICAL & AEROSPACE ENGINEERING

56 Faculty  
1,115 Undergraduates  
631 Graduate students



- aerospace technologies
- biomaterials, bio-inspired tech
- cell / membrane mechanics
- control and optimization
- combustion
- high-energy materials processing
- materials for extremes
- medical device technologies
- MEMS for extremes
- networked control systems
- renewable and carbon-neutral energy technologies
- robotics and design
- solid and soft matter mechanics of metamaterials
- thermo-physics, heat and mass transfer
- tribology for memory storage
- turbulence, geophysical flows, macro/microfluidic flows

### COMPUTER SCIENCE & ENGINEERING

76 Faculty  
1,675 Undergraduates  
1,397 Graduate students



- artificial intelligence / machine learning
- bioinformatics
- computer architecture
- computer science pedagogy
- databases and info mgmt.
- embedded systems, VLSI/CAD
- graphics and vision
- human-computer interaction
- programming languages
- robotics
- security and cryptography
- software engineering
- systems and networking
- theoretical computer science

### CHEMICAL AND NANO ENGINEERING

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OF CHEMICAL AND NANO ENGINEERING

27 Faculty  
759 Undergraduates  
163 Graduate students



- advanced nanomaterials
- computational materials science
- nanobiotechnology
- nanomanufacturing
- nanomedicine
- nanophotonics
- nanorobotics
- nanosensors
- nanotechnologies for energy storage and conversion
- stretchable, flexible electronics
- sustainable nanoengineering
- wearable devices

### ELECTRICAL & COMPUTER ENGINEERING

59 Faculty  
1,286 Undergraduates  
1,074 Graduate students



- applied electromagnetics
- bioinformatics / bionanotech
- brain imaging / mapping
- communications systems
- cyber-physical systems security
- electronic circuits / systems
- embedded systems
- intelligent systems / robotics
- machine learning and data science
- magnetic and optical storage
- medical devices and systems
- nanoelectronics
- network infrastructure
- neural interfaces
- photonics / nanophotonics
- power engineering
- signal/image/video processing
- systems energy engineering
- wearable sensors

### STRUCTURAL ENGINEERING

25 Faculty  
888 Undergraduates  
199 Graduate students



- aerospace structures / aviation safety
- biomechanics
- composites / nanomaterials
- computational fluid-structure interaction analysis
- computational mechanics for extreme events damage prediction
- earthquake engineering and infrastructure renewal
- geotechnical engineering / geomechanics
- large-scale experimental research
- multi-hazard mitigation for earthquakes, blasts and more
- risk analysis / visualization / optimization
- structural health monitoring / nondestructive evaluation