How we do it
When we collaborate, we listen – and then we innovate.

The result: deep interactions and bold collaborations that build on UC San Diego’s $1.64 billion research enterprise. We extend our innovation-driven work well beyond campus. We collaborate to solve the most pressing challenges throughout the San Diego region, and across California, the nation and the world.

Our newest building, Franklin Antonio Hall, has emerged as a national model for how academic buildings can strengthen innovation ecosystems. From design to programming, it maximizes the circulation of people and ideas.

We solve the tough challenges no lab, discipline, or company can take on alone

How we do it
We empower our students to excel in the innovation workforce. To prepare our students for future success, we provide them with opportunities to solve relevant challenges through the application of engineering and computer science fundamentals.

The IDEA Engineering Student Center is a focal point for inclusive community building and academic excellence for every student at the Jacobs School.

SNAPSHOT 2023

WE MAKE BOLD POSSIBLE.

#1 IN CALIFORNIA FOR RESEARCH EXPENDITURES

*2024 U.S. News Rankings of Best Engineering Schools

<table>
<thead>
<tr>
<th>#1</th>
<th>#2 Public engineering school in California*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#8 Public engineering school in the USA*</td>
</tr>
<tr>
<td></td>
<td>#12 Engineering School in the USA*</td>
</tr>
<tr>
<td>$245M</td>
<td>Total research expenditures for 2021-2022 at the Jacobs School of Engineering</td>
</tr>
<tr>
<td>40%</td>
<td>Approximately 40% of our research expenditures come from university-industry research partnerships and philanthropy</td>
</tr>
<tr>
<td>20</td>
<td>Industry-sponsored centers and institutes launched in the last 10 years</td>
</tr>
</tbody>
</table>

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<th>#1</th>
<th>The Jacobs School of Engineering at UC San Diego is the largest engineering school in California, and #2 on the West Coast, according to the latest enrollment data from ASEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>9,617</td>
<td>Engineering Students (Fall 2022) 5,986 BS / 2,224 MS / 1,407 PhD</td>
</tr>
<tr>
<td>2,598</td>
<td>Engineering Degrees (2021-2022) 1,608 BS / 773 MS / 217 PhD</td>
</tr>
<tr>
<td>279</td>
<td>279 Faculty at the Jacobs School 11 New faculty hired 2022 160+ faculty hired in the last 10 years</td>
</tr>
</tbody>
</table>

idea.ucsd.edu
ACADEMIC DEPARTMENTS

BIOENGINEERING
SHU CHIEN–GENE LAY
DEPARTMENT OF BIOENGINEERING

- 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

32 Faculty
537 Undergraduates
446 Graduate students

MECHANICAL & AEROSPACE ENGINEERING

- 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

57 Faculty
1,236 Undergraduates
570 Graduate students

COMPUTER SCIENCE & ENGINEERING

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

74 Faculty
1,749 Undergraduates
1,181 Graduate students

NANOENGINEERING

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

28 Faculty
576 Undergraduates
170 Graduate students

ELECTRICAL & COMPUTER ENGINEERING

- 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

63 Faculty
1,328 Undergraduates
1,095 Graduate students

STRUCTURAL ENGINEERING

- 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

25 Faculty
560 Undergraduates
169 Graduate students