The Samueli School of Engineering is one of the nation’s fastest growing engineering schools, attracting talented faculty and students from across the nation and around the world. The Samueli School is home to 10 members of the National Academies and nearly a third of its faculty are Fellows in professional societies.

The Samueli School is comprised of five academic departments: biomedical engineering, chemical engineering and materials science, civil and environmental engineering, electrical engineering and computer science, and mechanical and aerospace engineering. With more than 295,000 assignable square feet of research facilities, and a state-of-the-art computational infrastructure, the Samueli School is also home to or affiliated with numerous interdisciplinary centers, facilities, institutes and laboratories, including The Edwards Lifesciences Center for Advanced Cardiovascular Technology and the National Fuel Cell Research Center.

The Samueli School distinguishes itself with a strong emphasis on cross-disciplinary research and educational opportunities, and provides a stimulating environment for individuals interested in the application of science and the development of new technology for the benefit of society. The Samueli School’s faculty generate the latest knowledge in areas that offer high-growth potential, including nanoscale technology, biomedical engineering, information technology, energy efficiency, transportation and prosthetics.
The Samueli School offers both master’s and doctoral degrees. Students with a bachelor’s degree can apply directly to the doctoral degree program and may be awarded a master’s degree after fulfilling the appropriate requirements. Students can also opt to pursue a terminal master’s degree.

**Degrees Offered**

**Application**

Generally, applications are accepted for fall quarter only, depending on the program. Before applying, it is strongly recommended that you consult the website of the program you intend to apply to in order to learn more program-specific information that may be important for your application. This includes application deadlines, which vary by program and range from December 1 through January 15.

**Application Materials**

[www.grad.uci.edu/admissions/applying-to-uci/index.html](http://www.grad.uci.edu/admissions/applying-to-uci/index.html)

The following list serves as a guideline to assist in the gathering of documents required for a complete application:

- Online Application (including Statement of Purpose)
- Application Fee
- Official Report of GRE scores (General Test)
- Official Report of TOEFL or IELTS scores (if applicable)
- One Official Transcript for each and all Undergraduate and Graduate work completed
- Three Letters of Recommendation

**Application Fee Waiver**

For more information on availability, please visit:

[www.grad.uci.edu/admissions/applying-to-uci/fee-waivers.html](http://www.grad.uci.edu/admissions/applying-to-uci/fee-waivers.html)

**Funding Information**

**Merit-Based**

Various forms of merit-based financial aid are available to students, and many full-time graduate students receive some type of financial support. Funding is available in the form of fellowships, teaching assistantships and research assistantships. All applicants will be considered for merit-based financial support at the time of their evaluation for admission. If an applicant is not offered funding for the first year, there is the possibility of obtaining some form of funding in subsequent years. However, please note that this is not a guarantee and that all funding sources are competitive.

**Need-Based**

All domestic and permanent resident applicants should submit the Free Application for Federal Student Aid (FAFSA) by the deadline in early March. Completing the FAFSA will allow the University to evaluate students for any financial aid, merit or need-based. More information on the FAFSA can be found at [www.fafsa.ed.gov](http://www.fafsa.ed.gov).

**Part-Time Study**

Part-time study consists of one to eight units per quarter (typically this equates to one or two classes). Domestic or permanent resident master’s students are eligible to petition for part-time study. Doctoral students and international students are not eligible for part-time study.
**Biomedical Engineering - M.S., Ph.D.**

**Areas of Emphasis Include:**

**Biomedical Computational Technologies** - image processing and pattern analysis; analyzing large biomedical databases; mathematical modeling of biological systems

**Nanoscale Systems** - developing micro/nano electro mechanical systems (MEMS/NEMS); microsensors; and micro/nanofluidics to develop new diagnostic and therapeutic tools for biomedicine

**Biophotonics** - developing and using optical technologies to examine and manipulate biological systems on the sub-cellular, cellular, tissue and organ levels

**Tissue Engineering** - combining engineering and life science methods to understand, restore, maintain or improve tissue function; culturing cells in three-dimensional scaffolds that mimic the extracellular matrix

**Chemical and Biochemical Engineering - M.S., Ph.D.**

**Areas of Emphasis Include:**

**Biotechnology and Molecular Engineering** - understanding protein expression; metabolic engineering; cell and tissue engineering; biomaterials; nanobiotechnology (e.g., drug delivery); colloids; computational biotechnology

**Bio-Transport Phenomena** - researching fluid, heat and mass transport in biological systems; laser-induced transport processes with applications in microfluidics, biology and medicine; transport of biological particles (i.e., viruses, bacteria, protozoa) through environmental systems

**Chemical Engineering for Energy Applications** - optimizing biofuels production; nanostructured materials; chemical processes for nuclear waste management
Civil Engineering - M.S., Ph.D.

Areas of Emphasis Include:

Structures - researching engineering mechanics; soil mechanics; geotechnical and earthquake engineering; structural dynamics; structural control; loss estimation and performance evaluation; reliability and risk; advanced composites; smart materials and structures; advanced sensors; structural health monitoring; imaging and visualization; and civil infrastructure systems

Transportation Systems - understanding intelligent transportation systems and telematics; travel behavior; transportation planning, policy and systems analysis; energy and the environment; operations and management; freight transportation and logistics; and information technology

Water Resources - researching hydrology and hydraulics, including modeling, remote sensing and water resources systems

Electrical and Computer Engineering - M.S., Ph.D.

Concentrations Include:

Computer Engineering - researching computer architecture; software, embedded systems; parallel and distributed computer systems; distributed software architectures and databases; ultra-reliable real-time computer systems; VLSI architectures; reconfigurable computing; computer design automation, low-power design; computer communication protocols; computer networks; security; knowledge management; service-oriented architectures; and software engineering

Electrical Engineering - researching optical, electromechanical, and electronic circuits and devices; communications; and signal processing

Environmental Engineering - M.S., Ph.D. in Engineering

This program is a schoolwide concentration administered by the Department of Civil and Environmental Engineering

Areas of Emphasis Include:

Water Quality and Treatment; Water Resources; Air Quality and Energy - offering students an understanding of fundamental environmental processes in maintaining air and water quality, water treatment engineering, contaminant transport and remediation, and energy and global climate change
**Engineering Management - M.S.**

*Graduate degree offered in conjunction with The Paul Merage School of Business*

**Engineering Specializations Include:**

Biomedical Engineering; Chemical and Biochemical Engineering; Civil Engineering; Electrical and Computer Engineering; Materials Science and Engineering; Mechanical and Aerospace Engineering – preparing engineers for leadership roles in technology, science, government, and engineering-based companies and organizations; creating innovators by taking on the role of business and engineering project managers tasked with solving complex engineering product development challenges through consulting projects, business plans and exposure to current issues within the engineering sector

**Materials and Manufacturing Technology - M.S., Ph.D. in Engineering**

*This program is a schoolwide concentration administered by the Samueli School*

**Areas of Emphasis Include:**

Chemical Processing and Production; Electronic and Photonic Materials and Devices; Electronic Manufacturing and Packaging; Materials Engineering - focusing on the generation and application of knowledge relating to the composition, structure and processing of materials with their properties and applications, as well as the manufacturing technologies needed for production

**Materials Science and Engineering - M.S., Ph.D.**

**Areas of Emphasis Include:**

Electronic and Optical Materials – researching state-of-the-art materials for nanoelectronic, display, photonic, and microelectronic devices; additional areas include advanced devices packaging and manufacturing, and the related materials integration issues

Fuel Cell and Energy System Materials – researching new materials; novel topologies and degradation mechanisms of materials utilized in emerging energy systems, including solid oxide fuel cells and advanced turbine systems; thin film, nanocrystalline and proton conducting electrolytes; mixed conducting and nanostructured electrodes; interface dynamics and electrocatalysis; thermochemical and thermomechanical stability

Materials Characterization and Microanalysis – using basic research to understand fundamental links between atomic molecular structures, synthesis and functional properties of emerging materials; engineered surfaces, interfaces and nanostructures

Nanostructured and Ultra Fine-Grained Materials – understanding the synthesis of nanostructured and ultra fine-grained materials using various techniques, such as atomic level manipulation, cryomilling, equal channel angular pressing (ECAP), electrodeposition, chemical vapor deposition and self-assembly; investigating the mechanical properties of bulk nanocrystalline materials; exploring the electrical, optical and magnetic properties of nanotubes, nanowires and nanocrystals

Smart and Multifunctional Materials – utilizing fundamental research that addresses the molecular structure and materials design of novel multifunctional materials for applications across different scientific disciplines, including nanoelectronics, propulsion, lightweight structures, energy, active systems and medicine

O P P O R T U N I T I E S  I N S P I R I N G  I N G E N U I T Y
**Homogeneous Charge Compression Ignition Engine**

**Additional Academic Opportunities**

**Master of Science in Civil Engineering (M.S.C.E.) and Master of Urban and Regional Planning (M.U.R.P.)**

*Dual Master's Degree Program*

www.eng.uci.edu/dept/cee/grad/programs/MSCE_MURP

Tracks Include: Environmental Hydrology and Water Resources; Transportation Systems

This program allows students to jointly enroll in graduate programs with the Department of Civil and Environmental Engineering and the Department of Planning, Policy, and Design in the School of Social Ecology to earn both M.S.C.E. and M.U.R.P. degrees.

**Medical Scientist Training Program (M.S.T.P.) - M.D. and Ph.D.**

www.mstp.uci.edu

This program trains individuals who can understand and contribute to advances in research and apply their skills to medical care. The combination of clinical training leading to the M.D. degree, together with research training leading to the Ph.D. degree, is a way to educate scientists who can apply laboratory results to the problems of clinical medicine.

**Mechanical and Aerospace Engineering - M.S., Ph.D.**

**Areas of Emphasis Include:**

**Continuum Mechanics** - understanding physics of fluids; physics and chemistry of solids; structures and engineered materials; computational fluid and solid mechanics

**Micro/Nanomechanics** - focusing on miniaturization engineering; mechatronics; biotechnology; and computational nanomechanics

**Power, Propulsion and Environment** - researching aerospace propulsion; combustion and thermophysics; fuel cell technologies; atmospheric physics and impacts; computational fluid and solid mechanics

**System and Design** - developing dynamic systems, optimization and control; biomechanical engineering; robotics and machine learning; and design engineering

**Networked Systems - M.S., Ph.D.**

*Interdisciplinary program offered in conjunction with the Donald Bren School of Information and Computer Sciences*

**Areas of Emphasis Include:**

**Network Design** - developing wireless networks; ad-hoc networks; peer-to-peer networks; and communications policy

**Network Performance** - focusing on resource allocation and traffic engineering

**Network Protocols** - researching; middleware; real-time networks; network security; multimedia and routing

**Mechanical and Aerospace Engineering - M.S., Ph.D.**

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University of California, Irvine

UC Irvine is a top-ranked university dedicated to research, scholarship and community service. With a commitment to cutting-edge research, teaching, learning and creativity, UCI is a driving force of innovation and discovery that benefits our local, national and global communities in multiple ways.

Located in coastal Southern California, UCI’s park-like campus covers more than 1,500 acres. Orange County offers a bustling hub of biotechnology, defense, automotive, aerospace, communications and information technology companies, which presents unique internship and employment opportunities for students.

Contact Information

Graduate Student Affairs Office

Website: www.engineering.uci.edu/admissions/graduate
Email: gradengr@uci.edu
Phone: 949-824-8090
Address:
University of California, Irvine
Samueli School of Engineering
Attention: Graduate Student Affairs
204 Rockwell Engineering Center
Irvine, CA 92697-2710

Additional Websites of Interest

Financial Aid
www.ofas.uci.edu

Housing
www.housing.uci.edu

Research Centers
www.engineering.uci.edu/research

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