Certificate Programs

Certificate programs are designed to provide intensive background in a focused area at the graduate level. With 16 units required for completion, each certificate may be completed in a short period of time. The Department of Mechanical Engineering's certificate programs are appropriate for students working in industry who wish to update their skills or for those interested in changing their career path. All SCU courses applied to the completion of a certificate program earn graduate credit that may also be applied toward a graduate degree. Our program offers certificates in

- Controls
- Dynamics
- Materials engineering
- Mechanical design analysis
- Mechatronics systems engineering
- Thermofluids

Unique Program Features

Faculty from Industry. Twenty-five graduate engineering faculty members work in Silicon Valley and maintain a strong industry connection.

Teaching Methodology. SCU faculty members use a wide variety of teaching methods to maximize students' learning experience, including discussion sessions, small-group coaching, problem-driven seminars, individual and "just-in-time" instruction in the form of online materials, learning guides, and short tutorials.

Student Services for Working Professionals. SCU recognizes the pressures that part-time students experience in balancing competing demands on their time. We are dedicated to streamlining the administrative processes by providing students with the highest level of student services.

Engineering Graduate Programs

Founded in 1912, the School of Engineering educates tomorrow's technical leaders in small, rigorous classes taught by expert faculty members. Our outstanding graduate programs offer master's, engineer's, and Ph.D. degrees, as well as open university, and professional certificate programs.

Education Fitting Your Work Schedule, at Your Own Pace

Santa Clara University provides full-time students and busy working professionals in Silicon Valley with various education options to match their personal needs and work schedules, including

- **Degree Programs**–full-time and part-time
- **Certificate Programs**–full-time and part-time
- **Open University**–take only the courses that interest you

To accommodate our students' busy work and internship schedules, all of our graduate engineering classes are held outside of normal business hours, with early morning classes from 7 a.m. to 9 a.m., evening classes starting at 5 p.m. and 7 p.m., and weekend classes. Our flexibility allows you to complete the program at your own pace.

For further information, please contact

Graduate Engineering Services
Santa Clara University
500 El Camino Real
Santa Clara, CA 95053
408-554-4313

www.scu.edu/engineering/graduate
www.scu.edu/engineering/me

FSC Logo

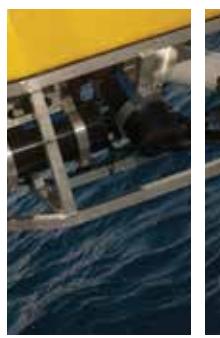
Santa Clara University

The Jesuit University in Silicon Valley

SANTA CLARA UNIVERSITY

GRADUATE PROGRAMS

Mechanical Engineering



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Mechanical Engineering Graduate Program

Mechanical Engineering is essential to the proper design and manufacture of nearly every physical product or device in our modern world. In a broad sense, mechanical engineers are problem solvers, and a graduate education from Santa Clara University prepares our students to tackle challenging problems and make a positive impact on society.

The Department of Mechanical Engineering offers a comprehensive education that combines hands-on learning, theory, and real-world applications to prepare students to be valued contributors to society. Our outstanding faculty, emphasis on values-based education, and focus on collaborative learning create an excellent environment for academic and personal growth. The Department of Mechanical Engineering offers bachelor's, master's, and Ph.D. degrees. The mechanical engineering undergraduate program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Our department prides itself on providing students with the necessary personal attention and guidance to realize their full potential. Smaller class sizes mean better student-to-faculty ratios and more one-on-one attention from professors. Our faculty are engaged in active research programs with graduate and undergraduate students. Their research has recently been supported by NSF, CEC, HP, NOAA, DOD, NASA/Ames, NREL, LLNL, and others. Our graduate program is closely tied to local industry, educating many working professionals as well as involving key industry technologists as adjunct lecturers. Active student chapters of the American Society of Mechanical Engineers and other engineering societies bring students into contact with practicing engineers and the engineering profession, and provide opportunities for socializing with their peers.

Our Graduate Program

Designed to meet the needs of both the busy working professional taking classes part time and the full-time student focused solely on study, our program offers a full array of courses during early morning, evening, and weekend hours to accommodate the busiest schedules while allowing daytime hours for work or study.

Flexibility extends to our course offerings. Because we draw from a rich pool of highly qualified adjunct lecturers from industry, we are able to offer the latest information on cutting-edge technologies, techniques, and trends to ensure our students stay current.

The Department of Mechanical Engineering is dedicated to delivering up-to-date, high-quality courses across a broad range of the discipline. These courses are concentrated in five technical areas:

- Design and analysis of thermofluid systems
- Analysis and control of dynamic systems
- Robotics and mechatronic systems
- Mechanical design
- Materials engineering

Educational efforts are channeled to expand the skills of prospective and practicing engineers not only in understanding fundamentals, but also in developing competence in analyzing engineering systems. The department offers graduate degrees at the master's, engineer's, and doctorate levels, as well as certificates.

Master of Science Program

The master's program is designed to extend the technical breadth and depth of an engineer's knowledge. Mechanical engineering students select an area of study from the five options listed above and develop a program of studies with an advisor. The master's degree requires 45 units, including the graduate core—a group of classes designed to enrich a student's understanding of global responsibilities and ethical decision making.

For their master's degree, all full-time students are required to complete a thesis or capstone project depending on their concentration area.

Engineer's Degree Program

The Department of Mechanical Engineering offers an engineer's degree program that is particularly designed for the education of the practicing engineer. The degree is granted on completion of an approved academic program and a record of acceptable technical achievement. The academic program consists of a minimum of 45 quarter units beyond the master's degree. Courses are selected to advance competence in specific areas relating to the engineering professional's work. Evidence of technical achievement must include a paper principally written by the student and accepted for publication by a recognized engineering journal prior to the granting of the degree.

Doctor of Philosophy Program

The doctor of philosophy degree is conferred by the School of Engineering primarily in recognition of competence in the subject field and the ability to investigate engineering problems independently, resulting in a new contribution to knowledge in the field.

Beyond serving as thesis advisors, department faculty support Ph.D. students in learning to balance professional and personal commitments with a demanding academic program.