Certificate Programs

Certificate programs are designed to provide intensive background in a focused area at the graduate level. With 16 to 20 required units for completion, each certificate may be completed in a short period of time. These certificate programs are appropriate for students working in industry who wish to enhance 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. The department offers certificates in software engineering, information assurance, and networking.

Unique Program Features

Faculty from Industry. Seventy-five graduate engineering faculty members work in Silicon Valley and maintain a strong industry connection. In addition to their business perspective, they are also instrumental in helping students connect with Bay Area engineering companies for internship and job opportunities.

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.

Project-Based Curriculum. The program features a heavy reliance on project-based learning, case analyses, and industrial practices, so coursework is immediately applicable to responsibilities at work.

Team Orientation. Teamwork is fundamental to the program, just as it is in the workplace. Collaborative learning equips students with the technical, managerial, and communication skills necessary to succeed in any career path.

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/cse

FSC Logo

Santa Clara University

The Jesuit University in Silicon Valley

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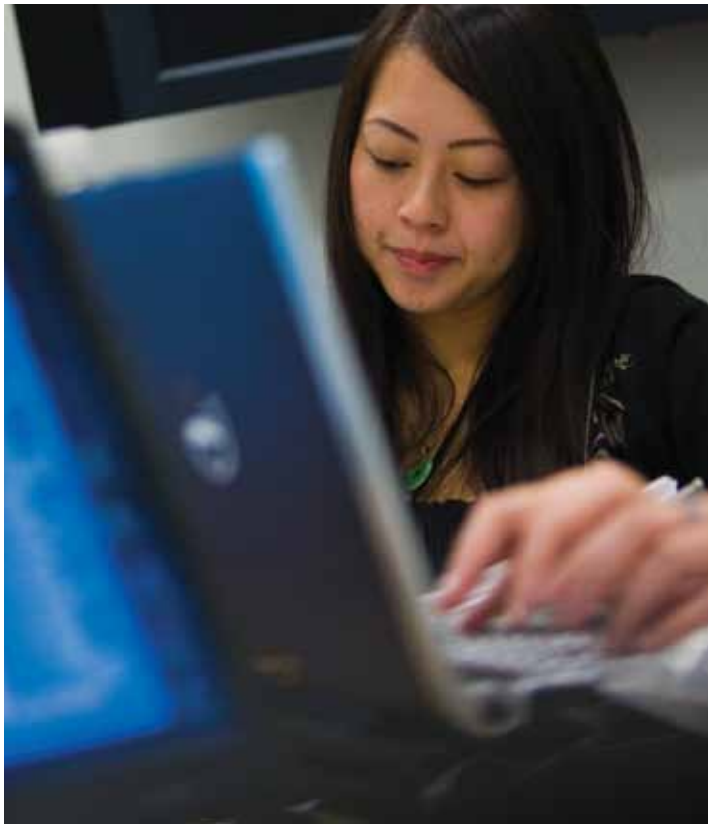
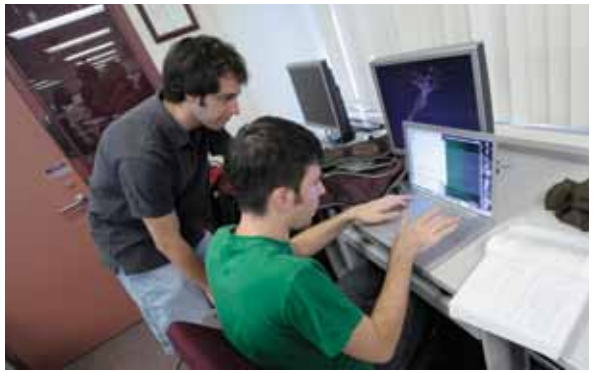
SANTA CLARA UNIVERSITY

GRADUATE PROGRAMS

Computer Science and Engineering



Computer Science and Engineering Graduate Program



The most successful graduates in the field of computing are those who understand computers as systems—not just the design of hardware or software, but also the relationships and inter-dependencies between the designs of hardware and software and the underlying theory of computation. Santa Clara's computer science and engineering graduate programs prepare students to design and implement software and hardware, devise new ways to use computers, and develop effective methods for solving the world's problems.

Our Graduate Program

Designed to meet the needs of both busy working professionals taking classes part time and full-time students 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 offers a variety of degree and certificate programs, including courses that cover the breadth of the discipline, from the engineering aspects of hardware and software design to the theory of computation.

Master of Science Program

The master's program is designed to extend the technical breadth and depth of an engineer's knowledge. All students admitted to the master's program are expected to be competent in the fundamental subjects required within an accredited program for a B.S. in computer engineering or computer science. Courses for the master's degree must result in a total of 45 units, and must satisfy the requirements of the graduate core—a group of classes designed to enrich a student's understanding of global responsibilities and ethical decision making.

Our department offers two master of science degree options:

Master of Science in Computer Science and Engineering (MSCSE)

This program consists of the SCU graduate engineering core, MSCSE core, a track core, and MSCSE electives. Students select an area of study from the following specialization tracks: software engineering, information assurance, multimedia processing, computer networks, computer architecture and systems, or another specialization track approved by a faculty advisor.

Master of Science in Software Engineering (MSSE)

This program consists of the SCU engineering core, a software engineering core, a set of software engineering electives, and a capstone project. Students are allowed to sample courses across diverse software disciplines, including databases, networks, parallel and distributed systems, graphical user interfaces, artificial intelligence, and computer languages.

Engineer's Degree in Computer Science and Engineering

The program leading to the engineer's degree 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 in the candidate's field of engineering. The academic program consists of a minimum of 45 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 candidate and accepted for publication by a recognized engineering journal prior to the granting of the degree.

Admission to the program will generally be granted to those students who demonstrate superior ability in meeting the requirements for their master's degree. Students interested in this program should seek individual advice from the department chair prior to applying.

Doctor of Philosophy in Computer Science and Engineering

The doctor of philosophy (Ph.D.) 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. The work for the degree consists of engineering research, the preparation of a thesis based on that research, and a program of advanced study in engineering, mathematics, and related physical sciences. The student's work is directed by a thesis advisor, subject to the general supervision of the School of Engineering.

A preliminary written exam is offered at least once per year by the School of Engineering to ascertain the depth and breadth of the student's preparation and suitability for Ph.D. work.

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