

# Civil Engineering



## Unique Program Features

**Faculty.** Instruction for course work in the program is provided by the full-time engineering faculty as well as a supporting cadre of part-time faculty members from the local civil engineering community. Full-time faculty members teach both theoretical and design-related concepts in their respective areas of expertise while also serving as academic and capstone project advisors. The part-time faculty members bring a strong, practical, business-oriented perspective to their courses and also help students to identify opportunities for internships and full-time employment.

**Project-Based Curriculum.** The program features a heavy reliance on project-based learning, case analyses, and industrial practices, so course work 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, many of our graduate engineering classes are held outside of normal business hours, with early morning classes at 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](http://www.scu.edu/engineering/graduate)  
[www.scu.edu/engineering/ce](http://www.scu.edu/engineering/ce)

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The Jesuit University in Silicon Valley

# Civil Engineering Graduate Program



Civil engineers plan, design, build, and maintain the facilities essential to our civilization: bridges, dams, highways, transit systems, airports, tunnels, irrigation systems, water supply, and industrial and commercial buildings. Civil engineering is one of the most enriching careers open to men and women—rewarding in personal fulfillment as well as in enduring service to their communities. A graduate education from Santa Clara University prepares our students to tackle challenging problems and make a positive impact on society.

## 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, many of our courses are offered 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.

## Master of Science Program

Graduate students in the civil engineering program enjoy a customized balance of coursework, design projects, and directed research. Program participants are also required to supplement their technical work with coursework on project management, professional ethics, and related topics addressed in the graduate engineering core curriculum.

With its focus on modeling, analysis, and practical methods used to design structures and other civil engineering-related infrastructure systems, our curriculum is beneficial to practicing engineers interested in advancing their knowledge and enhancing their technical skills.

To qualify for the M.S. degree in civil engineering, students must complete a minimum of 45 quarter units, including elective and required core courses, within the School of Engineering.

Working with a faculty advisor, civil engineering graduate students develop a plan of study that includes a mix of required and elective courses. The elective courses provide students with a high degree of flexibility in tailoring their course work to meet individual professional needs. Work completed as part of the program is intended to complement the traditional undergraduate civil engineering experience and address both technical and non-technical concepts important to long-term professional development.

Students who have taken graduate-level courses at other institutions may qualify to transfer a maximum of 9 quarter units of approved credit to their graduate program at Santa Clara University. These courses cannot be used to satisfy a previous undergraduate program requirement.

## Program Options

The civil engineering master's degree program has three alternative tracks. Each track requires students to complete related course work in civil engineering, applied mathematics, and engineering management together with a series of strategically selected professional development topics required as part of the graduate engineering core curriculum. This overall mix of courses in each track directly addresses the Body of Knowledge recommendations established by ASCE as the requisite academic background for a practicing, professional civil engineer. Students can select one of the following options:

### Construction Management Track

The construction management track is designed to prepare civil engineers for leadership roles in civil engineering and construction. Factors affecting project delivery such as cost, sustainability, and scheduling are addressed. Coursework includes construction planning, operations, infrastructure, leadership, and organization management. In addition, students implement these concepts in either a capstone design project or a faculty-directed research investigation.

### General Civil Engineering Track

The general civil engineering track has been configured to provide students with additional analytical and design course work in several related areas of civil engineering. This could potentially include focused coursework in water resources engineering, environmental engineering, transportation engineering, and geotechnical engineering. A capstone design or research project with a required sustainability component is used to integrate these different elements. This program focus is geared toward individuals preparing for a career in land development (municipal engineering) or public works.

### Structural Engineering Track

The structural engineering track provides students with an opportunity to effectively link theory and practice by completing a combination of analysis- and design-oriented courses. Different options within the structural engineering option allow students complete a capstone design project or a faculty-directed research investigation. This program track is aimed at individuals looking to prepare for a career in structural engineering practice or in structural plan review.