

# MASTER OF SCIENCE IN CIVIL ENGINEERING

The MSCE (Master of Science in Civil Engineering) provides students the opportunity to deepen their knowledge and gain hands-on experience in the modern civil engineering field. This program will offer a set of civil, structural and earthquake engineering core courses that broadens the students' perspective in the field. In addition, selective courses offer an opportunity for the students to follow their interests and align their course work with their career objectives. A culminating experience of an applied research project or thesis offers an opportunity for the students to practice their knowledge and gain hands-on research experience. The non-sequential structure of most graduate courses permits students to take courses in their areas of interests without committing themselves to a long series of courses. The 30-unit degree offers a series of focused courses in civil engineering, in which students learn how to develop concrete professional skills to be successful in projects. Our program prepares the students to write technical research papers, collaborate with peers for group projects, to enter Ph.D. programs at other universities and complete lab or practicum requirements as needed. The courses are scheduled in the evenings, keeping in mind the convenience of the working engineers.

## Admission

At the time of admission to the University, the minimum GPA must be 3.0/4.0 for the last 60 units of the applicant's study. For the applicants with mainly non-English preparatory education, a minimum score for TOEFL (Institution code - 4683) is 550 for paper based and 80 for internet based is required. Alternatively, this requirement may be satisfied by a minimum IELTS of 7.0 or PTE Academic score of 65.

The School of Engineering also requires two letters of recommendation from persons familiar with the applicant's previous academic work or professional accomplishments.

More details about the admission required in listed as below:

- Non-Engineering or Other Engineering-Major Applicant holding a B.S. Degree:
- B.S. graduates from non-engineering programs or from other engineering majors than civil may be admitted as conditional graduate students with the equivalent of the equivalent of the following course:
- MATH: MATH 226, MATH 227, MATH 228, MATH 245
- PHYS: PHYS 220/PHYS 222
- ENGR: ENGR 102, ENGR 200, ENGR 201, ENGR 309, ENGR 323, ENGR 430, ENGR 425, ENGR 426, ENGR 427, ENGR 431
- Applicants must have a record well above the university admission requirements stated above and be able to demonstrate clearly their potential in Civil Engineering.
- Conditional graduate students may apply for advancement to classified graduate status, after satisfying minimum prerequisites.
- No conditional admissions are issued to international students with B.S degree in major than civil engineering.
- Applicants with a GPA Deficiency: An applicant with a GPA higher than 2.8 but less than 3.0 can fill out a University waiver form for this requirement and submit it with the other Engineering Requirements to:  
Professor Cheng Chen

Engineering Graduate Program Coordinator  
School of Engineering  
1600 Holloway Avenue  
San Francisco, CA 94132

## M.S. in Civil Engineering – Minimum 30 units Required Courses (9 units)

Code	Title	Units
ENGR 833	Principles of Earthquake Engineering	3
ENGR 836	Structural Design for Earthquakes	3
ENGR 839	Advanced Topics in Civil Engineering (Advanced Topics in Civil Engineering)	3

The aggregate of courses that comprise the core of this concentration is designed to give students a broad foundation in general areas of engineering project management and engineering communications, and in Structural/Earthquake Engineering. These courses are aimed to provide our students opportunities for career advancement in their profession.

## Engineering Electives (15-18 units)

Students may use up to 3 units of non-engineering courses as an elective with the approval of the graduate coordinator. Such courses can be graduate or upper-division selected primarily from science, mathematics, social science, or business.

Units selected on advisement from:

Code	Title	Units
ENGR 425	Reinforced Concrete Structures	3
ENGR 426	Steel Structures	3
ENGR 427	Wood Structures	3
ENGR 431	Foundation Engineering	3
ENGR 461	Structural Dynamics	3
ENGR 826	Seismic Hazard Analysis	3
ENGR 827	Structural Design for Fire Safety	3
ENGR 828	Seismic Isolation and Energy Dissipation	3
ENGR 829	Advanced Topics in Structural Engineering	3
ENGR 831	Advanced Concrete Structures	3
ENGR 832	Advanced Topics in Seismic Design	3
ENGR 835	Advanced Steel Structures	3
ENGR 837	Geotechnical Earthquake Engineering	3
ENGR 838	Smart Structures Technology	3
ENGR 899	Independent Study	1-3

A program cannot contain more than 9 units of courses with a course number below 700. Some upper-division engineering courses may also be used as electives if not used in the undergraduate degree program and approved by the Graduate Coordinator.

## Culminating Experience (3-6 units)

Select one:

**Option A**

<b>Code</b>	<b>Title</b>	<b>Units</b>
ENGR 897 & ENGR 898	Research and Master's Thesis (thesis may not be started until completion of 12 units of graduate coursework and ENGR 897)	6

**Option B**

<b>Code</b>	<b>Title</b>	<b>Units</b>
ENGR 895	Applied Research Project (project may not be started until completion of 12 units of graduate coursework)	3