# Undergraduate Degrees

The School of Engineering confers the degree of bachelor of science with majors in bioengineering, civil engineering, computer science and engineering, web design and engineering, electrical engineering, electrical and computer engineering, general engineering, and mechanical engineering. The specialized bachelor of science programs in civil engineering, computer science and engineering, electrical engineering, and mechanical engineering are accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>, and the bachelor of science program in computer science and engineering is also accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org> . The bachelor of science programs in bioengineering, electrical and computer engineering, general engineering, and web design and engineering are not yet accredited by ABET. The engineering school offers minors in engineering, computer science and engineering, construction management, electrical engineering, electrical and computer engineering, aerospace engineering, and mechanical engineering as well as two interdisciplinary minors, one in bioengineering and one in technical innovation, design thinking, and the entrepreneurial mindset. All of the undergraduate engineering programs require students to complete extensive course sequences in mathematics and natural science as well as engineering.

Success in completing these critical course sequences is highly dependent upon having the necessary technical background at each stage. Accordingly, prerequisites for all engineering courses are strictly enforced.

## Requirements for the Bachelor of Science

To qualify for the degree of bachelor of science in the School of Engineering, students must complete the minimum number of units specified for the particular major and satisfy the requirements of the undergraduate Core Curriculum and the major. It is possible that one course can satisfy more than one of the core requirements for engineering students.

# Undergraduate Core Curriculum

**Critical Thinking & Writing**

* One two-course sequence in composition: CTW 1 and 2

**Advanced Writing**

* ENGL 181

**Religion, Theology & Culture 1, 2, and 3**

* Three courses approved to satisfy the core requirements

**Cultures & Ideas 1 and 2**

* One course sequence from the approved list of Cultures & Ideas course sequences

**Cultures & Ideas 3**

* One course from the approved list

**Mathematics and Natural Science**

* Course requirements are specified in the respective major requirements

**Second Language**

* Recommended proficiency in one foreign language; requirement is satisfied by two years of high school study in a foreign language

**Social Science**

* One course from the approved list

**Civic Engagement**

The civic engagement requirement may be met by one of two options:

* One course from the approved list
* A combination of ENGR 1 and a senior design project

**Ethics**

* One course in general or applied ethics from the approved list

**Diversity**

* One course from the approved list

**Arts**

The arts requirement may be met by one of two options:

* One course from the approved list
* A combination of ENGL 181 and a senior design project

**Science, Technology & Society**

The Science, Technology & Society requirement may be met by one of two options:

* One course from the approved list (which includes ENGR 1)
* A combination of ENGL 181 and a senior design project

**Experiential Learning for Social Justice**

* One course (or activity) approved to satisfy experiential learning

**Pathways**

* Three courses with a common theme approved for a declared Pathway; materials submitted from two of these courses; and a Pathway Essay following the requirements specified in the Core Curriculum.

## Minors in the School of Engineering

**Minor in Aerospace Engineering**

The Department of Mechanical Engineering offers a minor in aerospace engineering open to engineering and non-engineering majors. Requirements for the minor are outlined in the Mechanical Engineering section of this chapter.

**Minor in Bioengineering**

The Department of Bioengineering offers an interdisciplinary minor in bioengineering designed for students who are science majors in the College of Arts and Sciences, students completing prerequisites for medical school, and engineering majors. Requirements for this minor are outlined in the Bioengineering section of this chapter.

**Minor in Computer Science and Engineering**

The Department of Computer Science and Engineering offers a minor in computer science and engineering open to engineering and non-engineering majors. Requirements for the minor are outlined in the Computer Science and Engineering section of this chapter.

**Minor in Construction Management**

The Civil, Environmental, and Sustainable Engineering Department offers a Construction Management minor open to all undergraduate students. Requirements for the minor are described in the Civil, Environmental, and Sustainable Engineering section of this chapter.

**Minor in Electrical Engineering**

The Department of Electrical and Computer Engineering offers a minor in electrical engineering open to engineering and non-engineering majors. Requirements for the minor are outlined in the Electrical and Computer Engineering section of this chapter.

**Minor in Electrical and Computer Engineering**

The Department of Electrical and Computer Engineering offers a minor in electrical and computer engineering open to engineering and non-engineering majors. Requirements for the minor are outlined in the Electrical and Computer Engineering section of this chapter.

**Minor in Engineering**

The School of Engineering offers a minor in general engineering open to engineering and non-engineering majors. Requirements for the minor are outlined in the General Engineering section of this chapter.

**Minor in Healthcare Innovation and Design**

The Department of Bioengineering offers a minor in Healthcare Innovation and Design open to engineering and non-engineering majors interested in contributing to innovations in healthcare. Requirements for this minor are outlined in the Bioengineering section of this chapter.

**Minor in Technical Innovation, Design Thinking, and the Entrepreneurial Mindset**

The School of Engineering offers a minor in technical innovation, design thinking, and the entrepreneurial mindset open to engineering and non-engineering majors. Requirements for the minor are outlined in the General Engineering section of this chapter.

**Minor in Mechanical Engineering**

The Department of Mechanical Engineering offers a minor in mechanical engineering open to engineering and non-engineering majors. Requirements for the minor are outlined in the Mechanical Engineering section of this chapter.