

Civil Engineering, BSE

ESCEEBSE

Program description

Civil engineering majors in the Ira A. Fulton Schools of Engineering have two choices within the accredited BSE program: civil engineering and civil engineering with the sustainable engineering concentration. Regardless of choice, the Bachelor of Science in Engineering in civil engineering is accredited by ABET.

Civil engineering involves the analysis, planning, design, construction, maintenance and application of sustainable practices in all areas of urban infrastructure for government, commerce, industry and the public domain. These include airports, bridges, canals, dams, factories, office towers, roadway systems, schools, tunnels and subway systems, and water purification facilities. Civil engineers are concerned with the impact their projects have on the public and the environment; they coordinate the needs of society with technical and economic feasibility.


The curriculum exposes students to the following areas of civil engineering, with a strong emphasis on sustainability:

- construction engineering
- environmental engineering
- geotechnical engineering
- hydrosystems engineering
- structures
- transportation

Accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Civil Engineering Program Criteria.

At a glance

- **College/School:** [Ira A. Fulton Schools of Engineering](#)
- **Location:** [Tempe](#)

- **Second language requirement:** No
- **First required math course:** MAT 265 - Calculus for Engineers I
- **Math intensity:** Substantial 

Required courses (Major Map)

[2024 - 2025 Major Map](#)

[Major Map \(Archives\)](#)

Concurrent program options

Students pursuing concurrent degrees (also known as a "double major") earn two distinct degrees and receive two diplomas. Working with their academic advisors, students can create their own concurrent degree combination. Some combinations are not possible due to high levels of overlap in curriculum.

Accelerated program options

This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an **accelerated bachelor's plus master's degree** with:

[Civil, Environmental and Sustainable Engineering, MS](#)

[Construction Engineering, MSE](#)

[Environmental Engineering, MS](#)

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program. Interested students can learn about eligibility requirements and [how to apply](#).

Admission requirements

General university admission requirements:

All students are required to meet general university admission requirements.

[First-year](#) | [Transfer](#) | [International](#) | [Readmission](#)

Additional requirements:

The admission standards for majors in the Ira A. Fulton Schools of Engineering, shown below, are higher than minimum university admission standards. International students must meet the same admission standards, with the possible additional requirement of a minimum English proficiency test score. If the university requires an English proficiency test score from the applicant, then admission to engineering requires a minimum TOEFL iBT score of 79 (internet-based test, taken in a testing center), a minimum IELTS score of 6.5, a minimum PTE score of 58, a minimum Duolingo English score of 105, or a minimum Cambridge English exam score of 176.

First-year admission:

1. minimum 1210 SAT combined evidence-based reading and writing plus math score or minimum ACT composite score of 24, or a minimum high school cumulative GPA of 3.00 in ASU competency courses, or class ranking in top 25% of high school class, and
2. no high school math or science competency deficiencies

Transfer admission requirements:

Transfer students with fewer than 24 transferable college credit hours:

1. minimum transfer GPA of 3.00 for fewer than 24 transfer hours, and
2. no high school math or science competency deficiencies, and
3. minimum 1210 SAT combined evidence-based reading and writing plus math score (or 1140 if taken prior to March 5, 2016) or minimum ACT composite score of 24, or minimum high school cumulative GPA of 3.00 in ASU competency courses, **or** class ranking in top 25% of high school class

Transfer students with 24 or more transferable college credit hours must meet either the primary or the secondary criteria (not both):

Primary criteria

1. minimum transfer GPA of 3.00 for 24 or more transfer hours, and
2. no high school math or science competency deficiencies if Admission Services requires submission of a high school transcript

Secondary criteria

1. minimum transfer GPA of 2.75 for 24 or more transfer hours, and
2. minimum GPA of 3.00 in all critical courses for Terms 1 and 2 (see major map for critical courses)

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

Change of Major Requirements

[Admission requirements](#) for many majors in the Ira A. Fulton Schools of Engineering are higher than university admission standards.

Students should visit the [Change of Major form](#) for information about how to change a major to this program.

Transfer options

ASU is committed to helping students thrive by offering tools that allow personalization of the transfer path to ASU. Students may use [MyPath2ASU®](#) to outline a list of recommended courses to take prior to transfer.

ASU has [transfer partnerships](#) in Arizona and across the country to create a simplified transfer experience for students. These pathway programs include exclusive benefits, tools and resources, and they help students save time and money in their college journey.

Global opportunities

Global experience

Studying abroad enables students in civil engineering to learn intercultural applications of design and technology skills through hands-on learning and cultural engagement in an international setting.

Whether in a foreign country, in the U.S. or online, students build communication skills and learn to adapt and persevere, and they are exposed to research and internships across the world, which increases their professional network. Students earn ASU credit for completed courses while staying on track for graduation, and they may apply financial aid and scholarships toward program costs.

The expanded education that students acquire while participating in a [Global Education program](#) demonstrates to employers their ability to thrive in a global environment, helping them to stand out when pursuing their choice of careers in a competitive industry.

Career opportunities

ASU graduates with a bachelor's degree in civil engineering readily find employment. Civil engineers work in many different types of companies, including large corporations and small, private consulting firms, as well as government agencies. A civil engineering background is an excellent foundation for jobs in management and public service.

Civil engineering is one of the best engineering professions from the viewpoint of international travel opportunities or eventually establishing one's own consulting business.

The bachelor's degree program prepares graduates for the Fundamentals of Engineering examination, the Principles and Practice of Engineering exam, and graduate degree programs.

Example job titles and salaries listed below are not necessarily entry level, and students should take into consideration how years of experience and geographical location may affect pay scales. Some jobs also may require advanced degrees, certifications or state-specific licensure.

Career	*Growth	*Median salary
<u>Civil Engineer</u> ☀	5.0%	\$89,940
<u>Electrical Engineering Professor</u> ☀	9.3%	\$103,550
<u>Environmental Engineer</u> ☀	6.1%	\$96,530
<u>Health and Safety Engineer</u>	3.7%	\$100,660
<u>Hydrologist</u>	1.5%	\$85,990
<u>Transportation Engineer</u> ☀	5.0%	\$89,940
<u>Water/Wastewater Engineer</u> ☀	5.0%	\$89,940

* Data obtained from the Occupational Information Network (O*NET) under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA).

☀ Bright Outlook

Professional licensure

ASU programs that may lead to professional licensure or certification are intended to prepare students for potential licensure or certification in Arizona. Completion of an ASU program may not meet educational requirements for licensure or certification in another state. For more information, students should visit the [ASU professional licensure](#) webpage.

Students should note that not all programs within the Ira A. Fulton Schools of Engineering lead to professional licensure.

Contact information

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