Civil Engineering, BSE

Program Description

Civil engineering majors in the Ira A. Fulton Schools of Engineering have three choices within the accredited BSE program:

- civil engineering
- civil engineering with environmental engineering concentration
- civil engineering with sustainable engineering concentration

The first choice allows students to choose among design and technical elective courses in their senior year. The other choices specify design and technical courses to students with minimal choices. 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](https://www.abet.org).
At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe campus
- **Additional Program Fee:** Yes
- **Second Language Requirement:** No
- **First Required Math Course:** MAT 265 - Calculus for Engineers I
- **Math Intensity:** Substantial

Required Courses (Major Map)

2019 - 2020 Major Map
Major Map (Archives)

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 and master's degree with:

Civil, Environmental and Sustainable Engineering, MSE
Civil, Environmental, and Sustainable Engineering, MS
Construction Engineering, MSE

Acceptance to the graduate program requires a separate application. During their junior year, eligible students will be advised by their academic departments to apply.

Admission Requirements

**General University Admission Requirements:**

All students are required to meet general university admission requirements.

Freshman | Transfer | International | Readmission

**Additional Requirements:**

The admission standards for majors in the Ira A. Fulton Schools of Engineering are higher than minimum university admission standards. International students may have an additional English-language proficiency criterion. Foreign nationals must meet the same admission requirements shown below with the possible additional requirement of a minimum TOEFL score. If the university requires a TOEFL score from the
applicant (see https://admission.asu.edu/international/undergrad-apply), then admission to engineering requires a minimum TOEFL score of 550 (paper-based), 79 on iBT (internet-based) or a minimum IELTS score of 6.5.

Freshman Admission:

1. minimum 1210 SAT combined evidence-based reading and writing plus math score or minimum 24 ACT combined score or 3.00 minimum ABOR GPA or class ranking in top 25 percent 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 less 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 24 ACT combined score, or 3.00 minimum ABOR GPA, or class ranking in top 25 percent 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)

Change of Major Requirements

Admission requirements for many majors in the Ira A. Fulton Schools of Engineering are higher than university admission standards: https://engineering.asu.edu/admission-requirements/.
Students should refer to https://changingmajors.asu.edu/request 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 the Transfer Map search 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 help students save time and money in their college journey. Students may learn more about these programs by visiting the admission site: https://admission.asu.edu/transfer/pathway-programs.

Global Opportunities

Global Experience

With over 250 programs in more than 65 countries, ranging from one week to one year, study abroad is possible for all ASU students wishing to gain global skills and knowledge in preparation for a 21st-century career. Students earn ASU credit for completed courses, while staying on track for graduation, and may apply financial aid and scholarships toward program costs. https://mystudyabroad.asu.edu/

Career Opportunities

ASU graduates with a bachelor's degree in civil engineering readily find employment. Civil engineers work in many different types of companies, from large corporations to small, private consulting firms or governmental 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 for eventually establishing one's own consulting business.

The bachelor's degree program prepares graduates for the fundamentals of engineering examination, the professional engineering examination and for graduate degree programs.
Career examples include but are not limited to those shown in the following list. Advanced degrees or certifications may be required for academic or clinical positions.

<table>
<thead>
<tr>
<th>Career</th>
<th>*Growth</th>
<th>*Median Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineer ★★★</td>
<td>10.6%</td>
<td>$84,770</td>
</tr>
<tr>
<td>Electrical Engineering Professor</td>
<td>14.6%</td>
<td>$98,360</td>
</tr>
<tr>
<td>Engineering Manager ★</td>
<td>5.5%</td>
<td>$137,720</td>
</tr>
<tr>
<td>Environmental Engineer ★</td>
<td>8.3%</td>
<td>$86,800</td>
</tr>
<tr>
<td>Hydrologist ★★★</td>
<td>9.9%</td>
<td>$79,990</td>
</tr>
<tr>
<td>Product Safety Engineer</td>
<td>8.6%</td>
<td>$88,510</td>
</tr>
<tr>
<td>Transportation Engineer ★★★</td>
<td>10.6%</td>
<td>$84,770</td>
</tr>
<tr>
<td>Water/Wastewater Engineer ★</td>
<td>8.3%</td>
<td>$86,800</td>
</tr>
</tbody>
</table>

* 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 ★ Green Occupation

Contact Information

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