

Biomedical Engineering (Biological Devices), BSE

ESBMEBDBSE

Do you aspire to improve lives through medical breakthroughs? Biomedical engineering empowers you to tackle global health care challenges by merging fields of engineering, biology and medicine. Explore robotics, design medical devices, investigate diagnostic tools, innovate health with artificial intelligence, or specialize in neural, cellular or tissue engineering as a biomedical engineer.

Program description

The Bachelor of Science in Engineering program in biomedical engineering with a concentration in biological devices provides students with in-depth knowledge of cell biology and helps them learn to apply that knowledge to solve engineering problems pertinent to medicine and other fields, including synthetic biology.

The biomedical industry has many branches that require depth of understanding of cell biology and its techniques, including immunohistochemical diagnostics, blood-contacting materials, controlled-release therapeutics and local delivery of therapeutics.

With courses that cover engineering and life sciences and that tie the two together, graduates are able to apply their skills in an ethical and sustainable manner to make contributions that address societal and individual needs.

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


STEM-OPT for international students on F-1 visas

This program may be eligible for an Optional Practical Training extension for up to 24 months. This OPT work authorization period may help international students gain skills and experience in the U.S. Those interested in an OPT extension should [review ASU degrees that qualify for the STEM-OPT extension](#) at ASU's International Students and Scholars Center website.

The OPT extension only applies to students on an F-1 visa and does not apply to students completing a degree through ASU Online.

At a glance

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

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

Curriculum

[View 2025 - 2026 curriculum](#)

[View curriculum 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:

[Biomedical 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:

Minimum 1210 SAT combined evidence-based reading and writing plus math score or minimum 24 ACT combined score, or minimum high school GPA of 3.00 in ASU competency courses, or class ranking in top 25% of high school class, and 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 24 ACT combined score, or a 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 ASU 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 ASU courses (or equivalents) in CHM 114, MAT 265, MAT 266, BIO 181, PHY 121 and PHY 122

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

With more than 300 [Global Education program opportunities](#) available to them, biomedical engineering students are able to tailor their experience to their unique interests and skill sets. Whether in a foreign country, in the U.S. or online, students build communication skills, learn to adapt and persevere, and are exposed to research and internships across the world, increasing their professional network.

Career opportunities

Graduates of this program are well qualified for entry-level positions in various areas, including quality assurance, regulatory affairs and project management. Graduates are also highly qualified to seek advanced degrees if they wish to pursue research and design positions.

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>Bioinformatics Scientist</u>	3.9%	\$87,300
<u>Biomedical Engineer</u> ☀	5.1%	\$99,550
<u>Biostatistician</u> ☀	31.6%	\$98,920
<u>Compliance Manager</u>	3.3%	\$128,620
<u>Health and Safety Engineer</u>	3.7%	\$100,660
<u>Molecular Biologist</u>	3.9%	\$87,300
<u>Regulatory Affairs Manager</u>	3.3%	\$128,620
<u>Validation Engineer</u> ☀	11.7%	\$96,350

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

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Contact information

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