

Engineering Science (Microelectronics), BS

ESESCMEBS

Microelectronic circuits and chips are ubiquitous and enable many aspects of modern life. They have redefined existing industries and are critical to emerging industries. If you have interest in how microelectronic circuits and chips devices work, how they are made, and the massive potential of these devices, this program may be a great fit.

Program description

The BS program in engineering science with a concentration in microelectronics prepares students to excel in the microelectronics industry.

Students in this program master fundamental mathematics, coding, digital design and physics in their first year, while simultaneously learning how engineers solve problems, approach the design process, and consider societal and business aspects of their work. In their second and third years, students learn the engineering and computing tools used in the microelectronics industry and how they are used to design and fabricate complex microelectronic circuits. The final year focuses on methods of testing, developing and manufacturing semiconductors. Students also complete a year-long capstone project with their peers and a faculty mentor.

GI Bill® benefits


This new program is not yet approved for use with GI Bill® benefits.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs. More information about education benefits offered by VA is available at the official U.S. government website at

<https://www.benefits.va.gov/gibill/>.

At a glance

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

- **Location:** [West Valley](#)
- **Second language requirement:** No
- **First required math course:** MAT 170 - Precalculus
- **Math intensity:** Moderate 

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.

Admission requirements

General university admission requirements:

All students are required to meet general university admission requirements.

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

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

A current ASU student has no additional requirements for changing majors.

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, engineering science 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 engineering science program are well-prepared for a diverse and rewarding career landscape in areas such as:

- academia and education
- data analysis and modeling
- energy and environmental engineering
- engineering consulting
- manufacturing and quality control
- product design and development
- project management
- research and development
- technical sales and marketing

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
Computer Hardware Engineer 🌟	4.6%	\$132,360
Data Analyst		\$48,880
Electrical Engineering Technologist	0.8%	\$66,390
Engineering Manager	4.1%	\$159,920
Field Researcher		\$60,410
Project Manager 🌟	6.2%	\$95,370
Quality Control Manager	1.6%	\$107,560
Technical Sales Engineer 🌟	4.7%	\$108,530

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



Contact information

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