Molecular, Cellular, Tissue and Biomaterials Engineering (Graduate Certificate)

ESMCTBGRCT

This program is not accepting applications at this time.

Program description

Degree awarded: Certificate Molecular, Cellular, Tissue, and Biomaterials Engineering (Certificate)
Engineers are constantly improving in their capability to manipulate the components of biological systems. Approaches to localized delivery of drugs, genetic manipulations of cells and the building of tissue scaffolds are changing rapidly.

The certificate program in molecular, cellular, tissue and biomaterials engineering exposes students to many of the principles and techniques that are central to the field. Students who complete the program have a set of skills that enables them to participate in engineering biological systems at levels ranging from molecular to tissue.

At a glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe or Online

Degree requirements

15 credit hours

Required Core (3 credit hours)
BME 567 Tissue Engineering and Regenerative Medicine (3)

Electives (12 credit hours)

Additional Curriculum Information
Students should see the academic unit for an approved list of elective courses.

Admission requirements

Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree from a regionally accredited institution. Students should see below for more information.

Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or they must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. proof of English proficiency

Additional Application Information
An applicant whose native language is not English must provide proof of English proficiency regardless of their current residency.

Students must have a BS or BSE in biomedical engineering; or a BS or BSE in engineering plus advanced (postbaccalaureate) training in medicine, physiology or related fields; or a BS in a science discipline plus additional background work in biology, thermodynamics, fluids, transport, and additional work in medicine, physiology or related fields. Specifically, applicants need to demonstrate equivalent proficiency in at least four of the following five areas:

- biomaterials
- electrical networks or circuits
- engineering mechanics
- fluid mechanics or engineering transport
- thermodynamics or physical chemistry

Admission examinations are not required.

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.

Attend online

ASU Online

ASU offers this program in an online format with multiple enrollment sessions throughout the year. Applicants may view the program's ASU Online page for program descriptions and to request more information.

Program learning outcomes

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Apply advanced biological concepts and principles at the cellular and molecular level to biomedical engineering solutions.
- Generalize advanced techniques and concepts from the cellular and molecular level to tissue engineering to address biomedical questions
- Apply biomaterials knowledge to solve biomedical engineering problems at the graduate level.

Career opportunities

Professionals who specialize in molecular, cellular, tissue and biomaterials engineering are in high demand. They are sought after by local, national and international employers across sectors and industries, including business, academia, healthcare, government and research.

Contact information

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