Neural Engineering (Graduate Certificate)

ESNENGRCT

ASU is not currently accepting applications for this program.

Program description

Degree awarded: Certificate Neural Engineering (Certificate)
Technologies for ameliorating neural disorders, such as epilepsy, paralysis and those caused by stroke, are developing rapidly. Understanding and deploying these technologies require specialized skills in neurophysiology, bioelectricity and neural-electronic interfaces.

The certificate program in neural engineering prepares clinical, industrial and academic practitioners with these skills through courses in areas of knowledge in neurophysiology, neuroanatomy and neuropathology. Students then learn the state-of-the-art neurotechnologies applied to current neural disorders as well as the biophysics that these devices exploit.

At a glance

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

Degree requirements

15 credit hours

Required Core (6 credit hours)
BME 526 Introduction to Neural Engineering (3)
BME 561 Clinical Neuroscience (3)

Electives (9 credit hours)

Additional Curriculum Information
For electives, students should see the academic unit for the approved course list.

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. The English proficiency requirement is equivalent to the ASU Graduate College policy: TOEFL iBT of at least 80 or IELTS overall band score of 6.5.

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

- biomaterials
- electrical networks or circuits
- engineering mechanics
- fluid mechanics or engineering transport
- signals and systems or control systems
- thermodynamics or physical chemistry

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 neural engineering concepts and principles to biomedical engineering solutions at the graduate level.
- Apply advanced neurorehabilitation principles to biomedical engineering solutions at the graduate level.

Contact information

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