Robotics and Autonomous Systems (Biomedical Engineering), MS

ESRASBEMS

Program Description

Degree Awarded: MS Robotics and Autonomous Systems (Biomedical Engineering)
This is an advanced degree that emphasizes competency in the rapidly growing fields of robotics and autonomous systems and with applications in biomedical engineering and medicine.

The biomedical engineering concentration is one of five concentrations in the multidisciplinary MS program in robotics and autonomous systems, which emphasizes robotics, controls, autonomous systems, artificial intelligence and related fields. This concentration is appropriate for students who wish to focus on applications in biomedical engineering.

Biomedical engineers work at the interface of technology and medicine on challenges that are critical to the advancement of health and scientific discovery.

At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Polytechnic campus, Tempe campus

Degree Requirements

30 credit hours and a thesis, or
30 credit hours and an applied project (BME 593)

**Required Core (6 credit hours)**
MAE 501 Linear Algebra in Engineering (3)
MAE 547 Modeling and Control of Robots (3) or EGR 545 Robotic Systems I (3)
Concentration (6 credit hours)
BME 564 Cyber Biomedical Systems (3)
Choose one course from the following:
BME 507 Introduction to Digital Image Processing and Analysis (3)
BME 521 Neuromuscular Control Systems (3)
BME 526 Introduction to Neural Engineering (3)
BME 527 Biomedical Device Design (3)
BME 556 Human Systems Neuroscience (4)
BME 561 Clinical Neuroscience (3)
BME 565 Magnetic Resonance Imaging (3)
BME 566 Medical Imaging Instrumentation (3)
BME 567 Tissue Engineering and Regenerative Medicine (3)
BME 568 Human Factors and System Design in Assistive Technologies (3)

Electives or Research (12 or 15 credit hours)

Culminating Experience (3 or 6 credit hours)
BME 593 Applied Project (3) or
BME 599 Thesis (6)

Additional Curriculum Information
Students are required to select one of the approved culminating experiences for the concentration.

Elective or research coursework must be selected from among the courses listed for the other concentrations. Additional electives must be graduate courses in science, engineering, mathematics or others approved by the graduate program committee.

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 in engineering, science, mathematics or a related field from a regionally accredited institution.

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 applicants 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. GRE scores
4. letter of intent or written statement
5. professional resume
6. proof of English proficiency

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

Career Opportunities
Graduates are prepared for doctoral study or for industrial positions in numerous and varied industries, such as manufacturing, transportation, aerospace, defense and health care.

Contact Information
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