

# MASTER OF SCIENCE IN THE FIELD OF BIOMEDICAL ENGINEERING (STEM)

The School of Engineering and Applied Science offers the MS degrees in biomedical engineering through the Department of Biomedical Engineering. Thesis and non-thesis program options are available.

The program is strongly interdisciplinary and prepares students to apply engineering principles to problems in medicine and biology, to understand and model multiple attributes of living systems, and to use this knowledge to develop novel biomedical systems and devices. Graduate students can choose from among a large array of areas of study, mentored by core departmental faculty as well as external faculty from SEAS and elsewhere in GW who qualify, on the basis of their expertise and teaching abilities, for joint or secondary appointments in the Department of Biomedical Engineering. Core faculty expertise includes cancer therapy, cardiac electrophysiology, biosensors, microfluidics, ultrasound applications in medicine, and medical imaging and image analysis.

The program is offered on the University's main campus in Foggy Bottom and takes full advantage of the close proximity of the Department's home in the Science and Engineering Hall to GW's School of Medicine, GW Hospital, and Milken Institute School of Public Health. These interactions are supplemented by collaborations that take advantage of nearby clinical and research facilities, including Children's National Health System and Federal agencies such as the Food and Drug Administration and National Institutes of Health.

This is a STEM designated program.

Visit the program website (<http://www.bme.seas.gwu.edu/master-science-biomedical-engineering/>) for additional information.

## ADMISSIONS

Admission deadlines: Fall - January 15

Spring - September 1

Summer - March 1 (non-F1 visa seeking applicants)

Standardized test scores: The Graduate Record Examination (GRE) is required of all applicants. (Institution code 5246).

The Test of English as a Foreign Language (TOEFL), the Academic International English Language Testing System (IELTS), or the PTE Academic is required of all applicants except those who hold a bachelor's, master's, or doctoral degree from a college or university in the United States or from an institution located in a country in which English is the official language, provided English was the language of instruction. Minimum scores:

- Academic IELTS: an overall band score of 6.0 with no individual score below 5.0; applicants requesting funding consideration must have an overall band score of 7.0 with no individual score below 6.0; or

- TOEFL: 550 on paper-based or 80 on Internet-based; applicants requesting funding consideration must have 600 on paper-based; or 100 on Internet-based; or

- PTE Academic: 53; applicants requesting funding consideration must have 68.

Recommendations: (2) recommendations required:

Prior academic records: Transcripts are required from all colleges and universities attended, whether or not credit was earned, the program was completed, or the credit appears as transfer credit on another transcript. Unofficial transcripts from all colleges and universities attended must be uploaded to your online application. Official transcripts are required only of applicants who are offered admission.

If academic records are in a language other than English, a copy in the original language and an English language translation must be uploaded. Transcript evaluations should not be uploaded. Applicants who have earned a degree from an Indian university are required to submit individual semester marksheets.

Statement of purpose: In an essay of 250 to 500 words, state your purpose in undertaking graduate study at The George Washington University; describe your academic objectives, research interests, and career plans; and discuss your related qualifications, including collegiate, professional, and community activities, and any other substantial accomplishments not already mentioned.

Additional requirements: Applicants must possess a BS in biomedical engineering with a grade point average of at least 3.0 (on a scale of 4.0) for the last 60 credits of undergraduate work. Students with a BS in another field may be admitted with a set of deficiency courses to be determined by the department.

All applicants must choose an area of focus that most closely matches their interests and note this on the online application. All applicants must submit a resumé or CV.

International applicants only: Please follow this link - <https://graduate.admissions.gwu.edu/international-student-application-requirements> (<https://graduate.admissions.gwu.edu/international-student-application-requirements/>) - to review the International Applicant Information carefully for details on required documents, earlier deadlines for applicants requiring an I-20 or DS-2019 from GW, and English language requirements.

For additional information about the admissions process visit the SEAS Admissions Frequently Asked Questions (<https://graduate.engineering.gwu.edu/admissions-frequently-asked-questions/>) page.

Contact for questions:

engineering@gwu.edu

202-994-1802 (phone)

202-994-1651 (fax)

Hours: 9:00 am to 5:00 pm, Monday through Friday

## REQUIREMENTS

The following requirements must be fulfilled: Non-thesis option—30 credits, including 15 credits in required courses and 15 credits in elective courses; thesis option—30 credits, including 15 credits in required courses, 6 credits in thesis, and 9 credits in elective courses.

No more than 3 credits of independent research(BME 6050) may be counted toward the degree.

No more than two 3000- or 4000-level courses may be counted toward the degree. Registration for such courses must be approved by the student's faculty advisor.

Colloquium requirement: In addition to course requirements, students must attend five non-credit bearing engineering colloquia as part of their program of study. At least three of these must be Department of Biomedical Engineering events. Each colloquium attended must be verified by a faculty member also in attendance. Once the student has attended five colloquia, they must submit to the department a colloquium attendance form, signed by the faculty advisor, prior to applying for graduation.

Code	Title	Credits
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### Required

Five 6000-level BME courses (15 credits) excluding BME 6050.

### Required of students who have selected the thesis option

BME 6998	Thesis Research
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BME 6999	Thesis Research
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### Electives

For non-thesis option, five elective courses (15 credits). For thesis option, three elective courses (9 credits). All electives must be approved by the advisor.