

# MASTER OF ENGINEERING IN THE FIELD OF REGULATORY BIOMEDICAL ENGINEERING

The master of engineering in regulatory biomedical engineering is an interdisciplinary program offered through the Department of Biomedical Engineering in partnership with GW's School of Medicine and Health Sciences. The program addresses an unmet need for a graduate program to train engineers in the specific set of skills of regulatory science, biomedical innovation, and entrepreneurship. Students with training in engineering or physics and/or relevant industry/government experience study the fundamentals of biomedical engineering, global regulatory affairs, regulatory strategy in the development of devices and diagnostics, regulatory compliance, engineering patent law, medical measurements, and instrument design.

In addition to coursework, students gain experience in SBIR/STTR grant applications and/or FDA Premarket Notification (510(k)) submissions for medical devices. The program is 30 credit hours distributed across four areas: Biomedical engineering coursework and practicum (12 credits) Regulatory issues (9 credits) Patent law for engineers (3 credits) Targeted electives from various disciplines (6 credits) Students will require 12-24 months or 3 semesters for completion.

Students who complete the program acquire skill sets comparable to those of an engineer with five to seven years of experience, making them competitive in the medical device or imaging industries. Graduates are equipped to provide in-house regulatory expertise to device companies, or join government regulatory and compliance institutions.

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

## ADMISSIONS

Admission deadlines: Fall - January 15

Spring - September 1

Summer - March 1

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) or the Academic International English Language Testing System (IELTS) 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:

- TOEFL: 550 on paper-based or 80 on Internet-based;

- Academic IELTS: an overall band score of 6.0 with no individual score below 5.0;

- PTE Academic: 53.

Applicants with lower test scores may qualify for our full-time Applied English Studies program (<https://nondegree.gwu.edu/aes-gw> (<https://nondegree.gwu.edu/aes-gw/>)).

Recommendations required: Two (2) recommendations required. If possible, one recommendation should be from your advisor at the institution from which you earned your highest degree.

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 with degrees from Indian universities should upload transcripts and/or detailed 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.

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

**For more information on the admission process**, please visit the SEAS Frequently Asked Questions page. (<http://graduate.seas.gwu.edu/apply/faq/>)

### Contact for questions:

[engineering@gwu.edu](mailto:engineering@gwu.edu) - 202-994-1802 (phone) - 202-994-1651 (fax)

9:00 - 5:00 pm, Monday through Friday

# REQUIREMENTS

The following requirements must be fulfilled: 30 credits, including 24 credits in required courses and 6 credits in elective courses.

Code	Title	Credits
<b>Required</b>		
BME 6481	Regulatory Law for Medical Devices	
BME 6482	Medical Measurements	
BME 6483	Medical Instrumentation Design	
BME 6994	Biomedical Engineering Regulatory Practicum I	
BME 6995	Biomedical Engineering Regulatory Practicum II	
RAFF 6201	Introduction to Global Regulatory Affairs	
RAFF 6203	Regulatory Device Diagnostics	
RAFF 6205	Regulatory Affairs Compliance	
<b>Elective</b>		
6 credits from the following:		
BME 6486	Clinical Medicine for Engineers	
BME 6820	Anatomy and Physiology for Engineers	
BME 6830	Introduction to Medical Imaging Methods	
BME 6487	Rehabilitation Medicine Engineering	
CSCI 4531	Computer Security	
CSCI 4532	Information Policy	
ECE 6565	Telecommunications Security	
EMSE 6020	Decision Making with Uncertainty	
EMSE 6765	Data Analysis for Engineers and Scientists	
EMSE 6770	Techniques of Risk Analysis and Management	
MAE 6204	Tissue Engineering	
MAE 6238	Biomaterials	