

BIOMEDICAL ENGINEERING

Graduate Program Head	Daniel J Hayes
Program Code	BME
Campus(es)	University Park (M.S.)
Degrees Conferred	Master of Science (M.S.)
The Graduate Faculty	View (https://secure.gradsch.psu.edu/gpms/index.cfm?searchType=fac&prog=BME)

The Department of Biomedical Engineering offers a one-year master's program consisting of advanced instruction in biomedical engineering fundamentals, courses in advanced biotechnology and applications, and a culminating research proposal that incorporates experiments and computational work. This degree will result in the students developing foundational knowledge and skills in biomedical engineering that will make them competitive for industry leadership positions or doctoral-level graduate programs in BME and related disciplines.

The one-year master's program focuses on fundamentals of integrating life sciences and engineering, in addition to providing instruction in cutting-edge biotechnology methods in bio-imaging, drug delivery, regenerative medicine, bio-manufacturing, and biomaterials. Students can only start the M.S. program in the Fall semester.

Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<http://gradschool.psu.edu/prospective-students/how-to-apply>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<http://gradschool.psu.edu/graduate-education-policies>).

Students with a degree in engineering, physics, or the life sciences are eligible for admission. All students must have a strong background in physics and mathematics. This background should include chemistry, calculus-based physics, and mathematics through calculus and differential equations. Students who lack this background may still be considered for provisional admission (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/provisional-admission>) but will have to make up any deficiency early in their graduate program. These remedial courses will be required in addition to the stated graduate program course requirements. Students with a 3.0 junior/senior grade-point average and with appropriate course backgrounds will be considered for admission. The best-qualified applicants will be accepted up to the number of spaces available. Exceptions to the minimum average may be made for students with special backgrounds, abilities, and interests.

Scores from the Graduate Record Examinations (GRE) are required for admission. However, at the discretion of the program a student may be admitted for graduate study in the Bioengineering program without these scores.

Degree Requirements

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<http://gradschool.psu.edu/graduate-education-policies>)

Mentored Projects: By the end of September, a student will identify an adviser. A mentored project assigned by the adviser will be completed and a culminating project using the data as a basis for the scholarly paper will be submitted and evaluated. These projects are completed while enrolled in BME 594.

A minimum of 32 credits at the 400, 500, or 800 level is required for the M.S. in Biomedical Engineering, with at least 24 credits in BIOE at the 500 or 800 level. Students must take the following:

Code	Title	Credits
Required Courses		
9 credits of foundation courses at the BIOE 500-level		9
12 credits of fundamentals and/or applications courses (with a minimum of 3 credits from each category)		12
BIOE 591	Bioengineering Ethics and Professional Development	1
BIOE 590	Colloquium (two 1-credit graduate seminars)	2
BME 429	Biomedical Mechanics and Techniques Laboratory	2
Culminating Experience		
BME 594	Research Topics	6
Total Credits		32

Credits earned at other institutions but not used to earn a degree may be applied toward the requirements for a graduate degree, subject to restrictions outlined in GCAC-309 Transfer Credit (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/transfer-credit>).

Student Aid

Refer to the Tuition & Funding (<http://gradschool.psu.edu/graduate-funding>) section of The Graduate School's website. Students in this program are not eligible for graduate assistantships.

Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Biomedical Engineering (BME) Course List (<https://bulletins.psu.edu/university-course-descriptions/graduate/bme>)

Contact

Campus	University Park
Graduate Program Head	Daniel J Hayes
Director of Graduate Studies (DGS) or Professor-in-Charge (PIC)	Daniel J Hayes
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Program Website	View (http://www.bme.psu.edu)