

BIOMEDICAL ENGINEERING

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

The Department of Biomedical Engineering offers Ph.D. and M.S. degree programs consisting of integrated graduate-level training in engineering, the life sciences and the medical sciences. Students graduating from this program will have acquired expertise in the application of engineering principles to fundamental problems in biology, clinical problems in medicine, or in the development of new biomedical instrumentation. They are also expected to produce scholarly work to be published in peer-reviewed journals and presented at scholarly conferences. Graduate curricula and student assessment in biomedical engineering is under the direction of the program chair and a graduate curriculum committee drawn from the faculty in the Biomedical Engineering Department.

Opportunities for specialized research are offered by graduate faculty working on electrical, mechanical, and biophysical properties of biological materials and the application of this knowledge to understanding molecular, cellular, tissue, and organ level processes involved in health and disease. Specific applications include: artificial organs, biomaterials, bioMEMs, nanotechnology, biophotonics, cellular and medical imaging, cardiovascular engineering, cell signaling and protein dynamics, mechanobiology, systems biology, bioinformatics, tissue engineering and regenerative medicine. Extensive computer facilities and specialized equipment are available to support a combination of studies that employ experimental observations and their analysis through mathematical modeling and computer simulations.