DOCTOR OF PHILOSOPHY WITH A MAJOR IN BIOENGINEERING

The Doctor of Philosophy with a major in Bioengineering has the following principal objectives, each of which supports an aspect of the Institute's mission:

1. Creates students that are able to integrate biological & engineering concepts and skills in solving problems.
2. Creates students whose knowledge of general scientific methodology & specific methods within the field of their expertise.
3. Creates students that have the ability to both design & execute an independent research plan and critically evaluate research results.

The mission, vision and goals of the BioE program are:

Mission
Educate students and advance research that integrates engineering principles with the life sciences to improve health, the environment and engineering applications.

Vision
Be a global leader in interdisciplinary graduate education and in the creation, development, and transfer of new knowledge & technologies that improve health, understanding of life sciences, and the environment.

BioE Program Goals
Instill the desire to pursue life-long learning. Educate students to integrate engineering and life sciences to generate novel perspectives, concepts, and technologies. Conduct fundamental, applied and translational research that integrates engineering and life sciences to create new knowledge and technologies with high societal and economic impact. Produce graduates who rise to leadership positions in academia, industry, and government.

The Bioengineering Ph.D. degree requires a thesis based on independent study of a bioengineering research topic under the guidance of a bioengineering program faculty member.

The Georgia Tech Interdisciplinary Bioengineering (BioE) Graduate Program was established in 1992. Over 200 students have graduated from the program in a broad spectrum of research by our 147 Faculty from the Colleges of Engineering, Computing, Sciences, and Design as well as Emory University School of Medicine.

The BioE Program is interdisciplinary in that it is not a standalone academic unit like most departments or schools at Georgia Tech. This interdisciplinary graduate program offers advanced courses in bioengineering, engineering specialties, and life sciences combined with training in cutting-edge bioengineering research. Bioengineering research focuses on the development of new or improved physical and mathematical concepts and techniques that may be applied to problems in medicine and biology, including the fundamental study of biological phenomena and development of new medical devices. The Bioengineering Program offers master's and doctoral degrees through participating Schools in the College of Engineering and the College of Computing. The curriculum involves engineering and life sciences coursework and provides flexibility to concentrate in specific areas to develop multidisciplinary and integrated training.

Eight different academic units from the Colleges of Engineering and Computing make up the program. However, the BioE Program provides the degree requirements for students accepted into the program. This approach allows a flexible, integrative, and individualized degree program that enforces depth and breadth in coursework, a solid bioengineering research experience, and yet is reflective of the disciplinary background of the student’s home school. Importantly, the BioE Program provides research opportunities for students with any participating program faculty, allowing tremendous diversity and flexibility for research topics and advisors.

Additional information on the Bioengineering Program, including how to apply and a comparison between the Bioengineering Program and traditional engineering programs, can be found at www.bioengineering.gatech.edu.

Curriculum for the PhD
The Ph.D. is BioE requires a total of 33 credit hours of coursework and 12 hours of thesis hours.
18 hours of Engineering Fundamentals & Biological Sciences
3 hours of Engineering Math
12 hours of technical electives