

BIOENGINEERING, DOCTOR OF PHILOSOPHY (PH.D.)

The educational approach of the Ph.D. program is to combine the principles and applications embedded in engineering with the sciences of biology, medicine, and health. The motivation for many of the research projects stems from the belief that developments at the interface of biology and engineering will advance the efficacy of health care by developing new paradigms for the diagnosis of disease, and the development and delivery of new therapeutics. Our bioengineering students will gain the knowledge base and skill sets to quantitatively measure, and rationally manipulate cells, tissues, and integrated systems. Bioengineers must bring problem solving skills and design methodologies to the study of biology in an effort to translate the biological sciences into medical practice in an analogous manner to the transformation of chemistry into industrial practice that occurred in the 20th century

Advance to Candidacy: In addition to the coursework below, students must successfully complete a Research Aptitude Exam and a Ph.D. Proposal Exam.

Post-Candidacy: Students must complete 18 credits of BIOE899 and successfully defend a dissertation.

Course	Title	Credits
Required courses:		
BIOE610	Mathematical Methods in Bioengineering (Mathematical Methods in Bioengineering)	3
BIOE612	Physiological Evaluation of Bioengineering Designs	3
BIOE608	Bioengineering Seminar Series	3
BIOE605	BIOE Graduate Studies I	1
BIOE606	BIOE Graduate Studies II	1
Restricted Electives (chosen with advisor)		6
Unrestricted Electives (chosen with advisor)		12
Dissertation Research Requirements		
BIOE899	Doctoral Dissertation Research	18
Total Credits		47