

BIOLOGICAL ENGINEERING GRADUATE PROGRAM

www.bioengineering.ucsb.edu

College of Engineering

University of California, Santa Barbara

Student Name: _____

Perm: _____

Doctor of Philosophy – Biological Engineering 2023-24

In addition to departmental requirements, candidates for graduate degrees must fulfill University requirements described in the “Graduate Education” section of the UCSB General Catalog.

During the first year of study students are required to develop a formal study plan, which must be approved, by the student’s faculty advisor and the department graduate advisor. In this plan, students select a major area of study from among the 3 fields offered by the Program.

*Ph.D. students must complete a minimum of **36.0 quarter units** of coursework: 15 units for letter grade in Core courses; A minimum of 12 units for letter grade in four additional courses with at least two drawn from one focus area, at least one from a second focus area, and one additional science or engineering elective, 6 units of graduate seminar, and 3 units of Directed Research.*

In addition, all students will choose to a) take an existing course in biomedical/pharmaceutical devices and translation (3 units), or b) complete an industry internship (3 units), or c) participate in approved activities that provide exposure to industry and translational applications of Biological Engineering (3 units) (e.g., Biomedical Engineering Society student chapter tours, biotechnology industry showcase, internships). If students choose the latter, the proposed program of activities will be approved by the Graduate Coordinator.

Students who enter the program with a Master’s degree from a comparable department or program at another institution may receive subject credit, as approved by the graduate advisor. The department requires that students maintain a minimum grade-point-average of 3.25 in the Core courses and Focus Area courses. Time-to-degree: 3 years to advance to candidacy, 6 years to complete the Ph.D.

CORE COURSE REQUIREMENTS (15.0 units total)				
COURSE #	COURSE NAME	QUARTER	UNITS	GRADE
BIOE 210	Biomolecular and Biochemical Methods		4.0	
BIOE 211	Quantitative Experiments		3.0	
BIOE 212	Great Experiments		4.0	
BIOE 596	Directed Research (3 quarters)		3.0	
BIOE 101	Bioethics and Responsible Conduct of Research		1.0	

FOCUS AREAS				
Choose 2 courses from 1 Focus Area, 1 course from a second Focus Area and 1 approved Science and Engineering Elective				
THE BIOLOGICAL ENGINEERING GRADUATE COORDINATOR WILL MAINTAIN A LIST OF APPROVED COURSES IN THE FOCUS AREAS AND APPROVED SCIENCE AND ENGINEERING ELECTIVES				
(12.0 units total)				
FOCUS AREA 1: BIOLOGICAL MODELING AND SIGNAL PROCESSING				
COURSE #	COURSE NAME	QUARTER	UNITS	GRADE

ADVANCEMENT TO CANDIDACY EXAM

The PhD qualifying process will include a Dissertation Proposal Presentation, which will serve as an Oral Qualifying Exam. This will consist of a written thesis proposal, an oral defense of this proposal, and an oral examination by the pre-candidacy thesis committee. This committee is comprised of at least four academic senate faculty members: a chair, who is selected from among the Program faculty by the Graduate Advisor, and three or more faculty members selected by the student, at least one of whom is a member of the Program faculty. Upon successful completion of this examination, students advance to candidacy.

Chair: _____

Member: _____

Member: _____

Member: _____

Exam passed on (date): _____

DISSERTATION

A written dissertation is required, which must demonstrate the student's ability to contribute significantly and independently to the field. This will be guided by a dissertation committee comprised of at least four academic senate faculty members, at least two of who are members of the Program. This nominally consists of the members (but not the chair) of the qualifying exam committee plus the student's thesis advisor, who serves as chair of this committee. Candidates must complete the dissertation and pass a public thesis defense consisting of presenting a seminar talk and answering questions posed by the dissertation committee.

Doctoral Committee: Chair: _____

Member: _____

Member: _____

Member: _____

Dissertation Defense passed on: _____
Month/Day/Year