BIOLOGICAL SCIENCES, DOCTOR OF PHILOSOPHY (PH.D.)

The Ph.D. program in Biological Sciences is an interdepartmental umbrella research program that provides opportunities for students to develop scholarly, innovative, and independent work. Courses are designed to strengthen and complement the student's research. An advisory committee helps guide each student in selecting classes and other learning experiences. Students are encouraged to present their research at national and international meetings and to publish in peer reviewed journals. Seminar series featuring prominent scientists expose students to exciting topics and help students develop collaborative contacts.

Advance to Candidacy: In addition to the coursework outlined below, students must pass a qualifying exam.

Post-Candidacy: All students must complete at least 12 credits of BISI899 Doctoral Dissertation Research and successfully complete and defend an original dissertation. Students will also present that dissertation work in a seminar.

All students must complete the following requirements:

Course	Title	Credits
Core Requirements		
Select three credits of graduate seminar courses		3
Select nine credits of advanced coursework		9
Select one course in Bioethics		3
BISI701	Teaching & Professional Development in Biology	1
Specialization Requirements		
Select one of the following concentrations:		4-18
Behavior, Ecology, Evolution, and Systematics (BEES)		
Computational Biology, Bioinformatics, and Genomics (CBBG)		
Molecular and Cell Biology (MOCB)		
Physiological Systesms (PSYS)		
Dissertation Research Requirements		
BISI899	Doctoral Dissertation Research	12
Total Credits		**32-46**

Students choose from one of the following concentration options and complete the additional requirements in each:

Behavior, Ecology, Evolution, and Systematics (BEES)

Course	Title	Credits
BEES608	Seminar in Behavior, Ecology, Evolution and Systematics (BEES608A)	1
Approved Statistics course or quantitative course		3
Total Credits		**4**

Computational Biology, Bioinformatics, and Genomics (CBBG)

Course	Title	Credits
CBMG688	Special Topics in Cell Biology and Molecular Genetics (CBMG688Y - Bioinformatics and Genomics)	2
CBMG688	Special Topics in Cell Biology and Molecular Genetics (CBMG688P - Programming for Biology)	2
CBMG699	Special Problems in Cell Biology and Molecular Genetics (CBMG699D - Bioinformatics and Computation Biology Seminar Series)	2
CBMG688	Special Topics in Cell Biology and Molecular Genetics (CBMG688B - Bioethics)	1
Electives		5
Total Credits		**12**

Molecular and Cell Biology (MOCB)

Course	Title	Credits
CBMG688	Special Topics in Cell Biology and Molecular Genetics (CMBG688D - Cell Biology I: Structure and Function)	2
BCHM661	Nucleic Acids I	2
CBMG688	Special Topics in Cell Biology and Molecular Genetics (CMGB688F - Gene Expression)	2
CBMG688	Special Topics in Cell Biology and Molecular Genetics (CBMG6881 - Genetic Analysis)	2
CBMG688	Special Topics in Cell Biology and Molecular Genetics (CBMG688B - Bioethics)	2
Electives		8
Total Credits		**18**

Physiological Systems (PSYS)

Course	Title	Credits
Bioethics course		3
Graduate Seminar course		1-3
Three core graduate level courses		2-4
Statistics or quantitative course		3
Total Credits		**9-13**