Graduate Curriculum Approval Form
Changes to Graduate Majors

Degree Program CIP Code	26.0406
Degree *(i.e. M.A., Ph.D., etc.):*	Ph.D.
Name of Major *(e.g. Biology)*	Cell and Molecular Biology
Name of affected Concentration(s) *(e.g. Botany)*	
Proposed Effective Term *(e.g Fall 2017)*	Fall 2018
Faculty Contact	Lindsey Shaw
Email	shaw@usf.edu

APPROVALS	Name	Signature	Action	Date
Dept. Chair	Charles Chalfant		☑ Approve ☐ Not approved ☐ Comments attached	1/10/18
School Committee Chair (if applicable)	Jennifer Lewis	Jennifer Lewis /sth	☑ Approve ☐ Not approved ☐ Comments attached	1/16/18
College Committee Chair	Kathleen McCook	Kathleen McCook /sth	☑ Approve ☐ Not approved ☐ Comments attached	1/19/18
College Dean/ Associate Dean	Robert Potter	Robert Potter /sth	☑ Approve ☐ Not approved ☐ Comments attached	1/19/18
Concurrence ☐ N/A ☐ Needed	Dept: Chair:		☐ Concurs ☐ Doesn't concur ☐ Comments attached	
Grad Council	☐ Approve ☐ Not approved ☐ Tabled ☐ Comments	**Graduate Studies**	☐ Approve ☐ Disapprove	

Summary of Changes – Select all that apply:

Admissions Section:

☐ Change Priority Admission Deadlines
- ☐ Fall: _____
- ☐ Spring: _____
- ☐ Summer: _____
- ☐ To "fall admissions only"

☐ From Regular to Direct Receipt Admissions

☐ From Direct Receipt to Regular Admission

☐ Admission Requirements

Curriculum Requirements

☐ Current Curriculum Requirements
- ☐ Core
- ☐ Add New Concentration, Specialization, or Track*
- ☐ Delete Concentration, Specialization, or Track
- ☐ Thesis/Dissertation
- ☐ Comprehensive/Qualifying Exam

☒ Other: Changes to other curriculum requirements, electives and research/dissertation hours

**Requires submission to APAC for comment/clearance*

Why are these changes necessary?

After several years of running our new PhD program we have found the course requirements to be overly burdensome to our students. As such, we are making 3 changes: (i) removing the 2h course PCB 6093 as it no longer relevant to our students; (ii) lowering the required elective hours from 6h to 3h; and (iii) adjusting our Directed Research and Dissertation Research hours to reflect these changes and balance the required 90h.

Attach the current Catalog Copy, with the requested revisions shown using Track Changes. Catalog copy is not required for changes to the Admission Deadline. All other changes require Catalog Copy. To obtain the most current catalog, email cdh@usf.edu.

Once College has approved, scan and email this Approval Form, and the revised Catalog Copy in Word to Graduate Studies by the deadline posted online http://www.grad.usf.edu/graduate-council.php . For questions, contact cdh@usf.edu

CELL AND MOLECULAR BIOLOGY

Doctor of Philosophy (Ph.D.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:
Domestic

Fall:	January 1
Spring:	August- 1
Summer:	No Admission

International applicant deadlines:
http://www.grad.usf.edu/majors

Minimum Total Hours:	90
Level:	Doctoral
CIP Code:	26.0406
Dept Code:	BCM
Major/College Codes:	CBO AS
Implemented:	2014

CONTACT INFORMATION

College:	Arts and Sciences
Department:	Cell Biology, Molecular Biology and Microbiology (CMMB)
Contact Information:	www.grad.usf.edu

MAJOR INFORMATION

Major Research Areas: Cell Biology, Molecular Biology, Cancer Biology, Signal Transduction and Gene Regulation, Developmental Biology, Applied and General Microbiology

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions), as well as requirements for admission to the major, listed below. Must meet University requirements (see Graduate Admissions), as well as requirements for admission to the major, listed below.

- 3.00 GPA last 60 hours of B.S. degree.
- GRE: 57th percentile Verbal, 35th percentile Quantitative, 73rd percentile AW
- All international students are required to submit the TOEFL test. Non-native English speaking graduate students must score a minimum of at least 570 on the paper based or a minimum total score of 79 on the internet-based test TOEFL and at least 50 on the TSE to be eligible for a teaching assistantship.
- It is expected that candidates for the Ph.D. degree will have completed courses equivalent to those required for the B.S. in Biology at U.S.F.
- Interview
- Personal Statement of goals, experience
- Three letters of recommendation

CURRICULUM REQUIREMENTS

Total Minimum Program Hours	90
Core Requirements	**6 Hours**
PCB 6525 Molecular Genetics	3
PCB 6956 Scientific Grant Writing	3
Other Required Courses	**~~5~~7 Hours**
PCB 6920 Advances in Cellular and Molecular Biology	1
BSC 6930 Lectures in Contemporary Biology (1) taken four times	4
~~PCB 6093 Advances in Scientific Review~~	~~2~~
Electives*	**~~6~~ 3 hours minimum**
Selected from:	
PCB 5616 Molecular Phylogenetics	3
PCB 6107 Advanced Cell Biology	4
BSC 5425 Genetic Engineering and Recombinant DNA Technology	3
MCB 5206 Public Health & Pathogenic Microbiology	3
PCB 6236 Advanced Immunology	4
PCB 5256 Developmental Mechanisms	3
BSC 6932 Selected Topics	1-4
**Research Requirements*	**7~~6~~1 hours minimum**
BSC 7910 Directed Research	~~3~~2 43 hours minimum
BSC 7980 Dissertation Research	32~~38~~ hours minimum
BSC 7936 Ph.D. Seminar	1 hour

Classes not on this list may be used with the approval of the CMMB Graduate Director

Qualifying Exams

All students in the Cell and Molecular Biology Ph.D. program must complete a written and oral qualifying examination.

The written exam shall be in the format of a grant proposal and contain the following sections:

- Abstract {300 words}
- Specific Aims [1 page]
- Background and Significance of topics [4-5 pages]
- Proposed research program (conducted over 3-year period) [9-10 pages]
- Bibliography (no page limit)

The length of the proposal shall be no more than 15 pages (the abstract and bibliography does not count in the page limit). The topic of the exam shall meet the following guidelines:

- The written proposal *cannot be based in the same* **model organism** that the student will use to carry out their dissertation research
- The written proposal *cannot be based on the analysis of* **the same gene/protein** that the student will investigate during their dissertation research
- The written proposal *cannot be based on the analysis of* **the same pathway** that the student will investigate during their dissertation research

The oral exam is centered around a formal dissertation proposal presentation, followed by a period of questioning by the dissertation advisory committee.

Admission to Candidacy

The doctoral student is eligible for admission to candidacy after completing structured course requirements, passing the qualifying examinations and approval by the supervisory committee. Appropriate forms to document promotion to candidacy must be completed and to the Office of Graduate Studies. Following admission to candidacy, a student must enroll in BSC 7980 when engaged in research, data collection, or writing activities relevant to the doctoral dissertation. Advisors should assign the number of credits in this course in accordance with policy and appropriate to the demands

made on faculty, staff, and University facilities, but in no event will the total number of earned dissertation credits be fewer than 328. Students not admitted to candidacy are not eligible to enroll in BSC 7980.

Dissertation Requirements **38 hours minimum**

BSC 7980 Dissertation Research

The dissertation of all graduate students admitted to a graduate degree program at the University of South Florida must conform to the guidelines of the Handbook for Graduate Thesis and Dissertations available from the USF Office of Graduate Studies (http://www.grad.usf.edu/thesis.asp).

Doctoral Seminar and Defense

All doctoral students must present a public seminar to the CMMB Department and must be enrolled in BSC 7980, during the semester in which the seminar is given. The seminar should be a concise summary of the research completed to satisfy the requirements for the Ph.D. The seminar is open to the general public and must be announced two weeks prior to the presentation. Upon completion of the seminar, the general public will be invited to ask questions. At the discretion of the student's advisory committee, members of the committee may continue to question the graduate student after the general public has departed the seminar room. Each student is expected to defend his/her research to the unanimous satisfaction of the advisory committee. Following the defense, students will make any editorial modifications to the dissertation as recommended by the advisory committee and submit the dissertation to the Office of Graduate Studies.

Other Requirements

1 Scientific Publication

2 presentations at Scientific Meetings

Course Sequence

Fall year 1	BSC7910 Directed Research (~~24~~)	Research Req.
	~~BSC6093 Advances in Scientific Review (2)~~	~~Other Required~~
	PCB6920 Advances in Cellular & Molecular Biology (1)	Other Required
	BSC6930 Lectures in Contemporary Biology (1)	Other Required
	PCB6525 Molecular Genetics (3)	Core
Spring year 1	BSC7910 Directed Research (~~25~~)	Research Req.
	BSC6956 Scientific Grant Writing (3)	Core course
	~~Elective (3)~~	~~Elective~~
	BSC6930 Lectures in Contemporary Biology (1)	Other Required
Summer year 1	BSC7910 Directed Research (6)	Research Req.
Fall year 2	BSC7910 Directed Research (5)	Research Req.
	Elective (3)	Elective
	BSC6930 Lectures in Contemporary Biology (1)	Other Req.
Spring year 2	BSC7910 Directed Research (8)	Research Req.
	BSC6930 Lectures in Contemporary Biology (1)	Other Required
Summer year 2	BSC7910 Directed Research (6)	Research Req.
Fall year 3*	BSC7910 Directed Research (9)	Research

**students should advance to candidacy by the close of the Fall of year 3.~~.~~ Until candidacy is attained, students must enroll in BSC 7910. Once candidacy has been achieved, students must enroll in BSC 7980, starting with the semester following admission to candidacy.*

Spring year 3	BSC7980 Doctoral Dissertation (9)	Research
Summer year 3	BSC7980 Doctoral Dissertation (6)	Research
Fall year 4	BSC7980 Doctoral Dissertation (9)	Research
Spring year 4	BSC7980 Doctoral Dissertation (8)	Research
	BSC7936 Ph.D. Seminar (1)	Research

**Students are expected to finish in their 4th year but some may require additional time*

COURSES

For an updated list of course offerings see: http://www.ugs.usf.edu/course-inventory/