

BIOMOLECULAR SCIENCE AND ENGINEERING

<http://www.bmse.ucsb.edu>

College of Letters and Science
University of California, Santa Barbara

Student Name: _____ Perm: _____ Qtr/Yr Enrolled: _____

DOCTOR OF PHILOSOPHY – BIOCHEMISTRY AND MOLECULAR BIOLOGY – 2022-23

Ph.D. students in the program are required to demonstrate competency in fundamental areas of molecular biology, biochemistry, biophysics, and bioengineering, normally by completing **15.0** units of core module coursework, and by demonstrating a depth of knowledge in at least two advanced topics.

Program students will elect an emphasis in either biochemistry/molecular biology, or in biophysics/bioengineering. Competency in the selected emphasis is normally demonstrated by completion of 10 units of modular coursework from the emphasis, with grades of B or better. Competency in the other area is normally demonstrated by completion of 5 units of coursework with grades of B or better.

EMPHASIS _____

BMSE students must complete all core course requirements before advancement to candidacy, which normally occurs by the end of the second academic year.

Time-to degree: 2 years to advance; 6 years to complete the Ph.D.

EMPHASIS 1 (BIOPHENG) CORE COURSES Students in BIOPHENG emphasis must take 10 units of coursework from this list. Students in BCMB emphasis must take 5 units from this list. Grade of B or better required for all core courses.				EMPHASIS 2 (BCMB) CORE COURSES Students in BCMB emphasis must take 10 units of coursework from this list. Students in BIOPHENG emphasis must take 5 units from this list. Grade of B or better required for all core courses.			
COURSE #	QTR/YR	UNITS	GRADE	COURSE #	QTR/YR	UNITS	GRADE
BMSE 201A		2		BMSE 201B		2	
BMSE 202		3		BMSE 201C		2	
BMSE 203		3		BMSE 205A		1	
BMSE 215		2		BMSE 205B		1	
BMSE 216A		2		BMSE 207		2	
BMSE 216B		2		BMSE 218A		3	
BMSE 217		2		BMSE 218B		5	
BMSE 219		3		BMSE 223		2	
BMSE 244		2		BMSE 229		2	
BMSE 247		3		BMSE 239		4	
BMSE 250		2					
BMSE 251		2					
BMSE 252		2					
BMSE 253		2					
BMSE 255		3					
BMSE 272		3					
BMSE 276A		3					
<i>Other courses approved by petition to the Graduate Advisor</i>				<i>Other courses approved by petition to the Graduate Advisor</i>			
TOTAL EMPHASIS 1 UNITS				TOTAL EMPHASIS 2 UNITS			

LABORATORY ROTATIONS				
First year BMSE graduate students are required to complete laboratory rotations during their first year of study and are encouraged to rotate through laboratories in more than a single academic department. A ten-week rotation is worth 4 units; a five-week rotation is worth 2 units.				
COURSE #	QUARTER/YEAR	UNITS	ADVISOR	GRADE
BMSE 592				
BMSE 592				
BMSE 592				

TEACHING REQUIREMENT				OTHER REQUIREMENTS		
All BMSE students are required to serve as teaching assistants for at least two quarters during their entire course of study at UC Santa Barbara. Teaching Assistant positions are typically with the MCDB department but can also be with any department associated with BMSE.				Students are expected to regularly enroll & attend BMSE 262 (Research Progress in Biochemistry & Molecular Biology; also known as Friday Noon Seminar or FNS). Regular enrollment & attendance at BMSE's weekly seminar discussion group (BMSE 265) is also expected for all non-advanced graduate students.		
COURSE #	COURSE NAME	QTR/YEAR	GRADE	COURSE #	REQUIREMENT	FULFILLED?
MCDB 500	TA Orientation			BMSE 262	1 unit every QTR min. 15 units	
MCDB 502	Teaching Techniques			BMSE 265	1 unit every QTR until advance; min. 6 units	
MCDB 501	Practicum in Instruction			BMSE 595 and/or 596	Directed Reading & Research; min. 6 units	
MCDB 501	Practicum in Instruction				Minimum 3.0 GPA Maintained	

Students are expected to begin research for their dissertation by the end of the first academic year in the program. Research advisors may be any of the faculty affiliated with the BMSE program and with advanced approval, outside the BMSE program, as long as there is a co-advisor from within the program.

Ph.D. students advance to candidacy by passing one proposition exam on their dissertation research, which involves a written research proposition followed by an oral defense of the proposition.

FORM I – Nomination of Dissertation Cmte: (Date Approved) _____	FORM-IA – Changes in Cmte (only if needed): (Date approved) _____
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Committee Members: (Dissertation Chair) _____ (Exam Chair) _____

(Other Members): _____

FORM II – Report on Qualifying Examination Date of Exam: _____

Advancement to P2 effective (Qtr/Yr): _____ Projected P3 Conversion (Qtr/Yr): _____

After advancement to candidacy, program students are expected to present a formal seminar annually in the Progress in Biochemistry and Molecular Biology Seminar series (BMSE 262- FNS), and are required to meet annually with their Ph.D. dissertation committee until completion and defense of the Ph.D. dissertation.

The final requirement for the Ph.D. degree is a written dissertation and its oral defense, which is usually waived with committee approval in favor of a scheduled interdepartmental final Ph.D. program seminar.

FORM III - Report of Final Examination: Public Defense _____ **OR – Waiver of Final Examination:** _____
(Date Approved) (Date Approved)

DEGREE & QUARTER/YEAR AWARDED: _____