

MOLECULAR CELLULAR AND DEVELOPMENTAL BIOLOGY

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

College of Letters and Science

University of California, Santa Barbara

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

M.A. Plan (select one):

M.A. Plan I (Thesis): Minimum of **30.0** units, distributed as outlined below and a research thesis required

M.A. Plan II (Examination): Minimum of **36.0** units, distributed as outlined below, and internship required

MASTER OF ARTS – MOLECULAR, CELLULAR AND DEVELOPMENTAL BIOLOGY

Emphasis in Pharmacology and Biotechnology – 2021-22

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

<https://my.sa.ucsb.edu/catalog/Current/GraduateEducation/MastersDegreeReqs.aspx>

M.A. students are required to demonstrate competency in fundamental areas of Molecular, Cellular and Developmental Biology by achieving a B- or better in the core courses and electives. It is expected that all M.A. students are enrolled as full-time students and earn a minimum of 12 course units each quarter.

The Emphasis requires students to select from specified electives (see below).

CORE COURSES (both plans, 16.0 units; letter graded)				
COURSE #	COURSE NAME	UNITS	QTR/YR	GRADE
MCDB 229	Protein Biochemistry	2	F	
MCDB 218A	Methods & Logic in Molecular Cell Biology I	3	F	
MCDB 218B	Methods & Logic in Molecular Cell Biology II	5	W	
MCDB 260	Research Strategies in Molecular, Cellular & Developmental Biology	1/qrr for 6 qtrs	FWS	

ELECTIVE COURSES
Plan I: 7.0-13.0 units
Plan II: 14.0-15.0 units

Electives should be taken from a selection of graduate courses chosen from the MCDB, Chemistry and Biochemistry, and Psychology departments. The electives are grouped into three **tracks**. The tracks have been established to reflect the three traditional areas of research in the field of pharmacology and biotechnology, and serve as a guideline for students to help shape their curriculum. The intention is to keep the choice of electives as flexible as possible and to allow students to explore different areas of pharmacology. Students who have not previously completed 8 units from the courses MCDB 126A-B-C-AL-BL are required to include at least 8 units from MCDB 226A-B-C-AL-BL in their electives.

Plan I students are required to take a minimum of 7 units from among the tracks.

Plan II students are required to take at least 8 units of electives in one of the tracks, and the remainder of the electives may be taken from among any of the tracks.

Recommended Courses for the Tracks:

Molecular and Cellular Biology

MCDB 203, 208AL, 222, 226A-B-C, 226AL-BL, 233, 245, 246, 247, 251, 252, 253, 293

Chemistry and Biochemistry

BMSE 201A-B, 203, 204, 205A-B, 207, 250, 251, 252, 253, CHEM 241, 243, 245, 246, 261, 262A-B

Neurobiology and Behavior

MCDB 251, 252, 253. PSY 215, 219, 221A-B, 231, 235, 268, 269

COURSE #	COURSE NAME	UNITS	QTR/YR	GRADE

LITERATURE COURSES Plan I: 1.0 unit Plan II: 1.0-2.0 units				
MCDB 265, 266, 268, 595				
COURSE #	COURSE NAME	UNITS	QTR/YR	GRADE

Research / Internship Plan I: up to 6.0 units Plan II: 4.0 units				
<p>Plan I: Thesis research: up to 6 units of MCDB 596 may be counted towards the degree for Plan I students.</p> <p>Plan II: Internship research: 4 units of MCDB 596. Internship in an industry or academic laboratory will give students an opportunity to gain research experience in an industry setting. The internship is expected to last for a minimum of 10-12 weeks, and is expected to be an independent research project under the supervision of an experienced researcher at the company or academic laboratory. A report by the student is due at the end of the term, describing the research project, and the outcome. The results of the project also should be communicated with a poster and/or PowerPoint presentation under the supervision of a graduate review committee. A short evaluation of the student's performance by their supervisor is to be included in the student's report.</p>				
COURSE #	COURSE NAME	UNITS	QTR/YR	GRADE
MCDB 596				

SEMINAR REQUIREMENTS (No credit towards degree unit requirements for MCDB 260, 262, 263 or 269)		
Students are expected to enroll quarterly and attend MCDB 262 (Research Progress in MCDB (FNS)) as well as MCDB's weekly research seminars MCDB 260 and MCDB 263 each quarter until completion of degree.		
COURSE #	REQUIREMENT	FULFILLED:
MCDB 262	FNS Seminar, each quarter	
MCDB 263	Research Seminar, each quarter	

TEACHING ASSISTANTSHIPS

Teaching Assistantships are not a requirement of the Plan I or Plan II M.A. degree. Students with Teaching Assistant (TA) appointments must complete the appropriate TA orientation and techniques courses (MCDB 500 and 502; taken once, without degree credit). When serving as a TA, students should enroll in the TA practice course (MCDB 501) for the appropriate number of units (maximally 4 units for a 50% TAship; without degree credit).

COMPLETION OF THE DEGREE

M.A. Plan I (Thesis)

Students will complete the degree once all core course and elective requirements are met and the written thesis is approved by the Thesis Committee. Students should form and consult with a faculty committee at least two

quarters prior to the expected date of degree completion. The committee will review the written document and the student will present a short seminar, open to the public. The seminar may be presented in MCDB 262- Friday Noon Seminar (with faculty in attendance) or scheduled through the department.

Thesis Committee: Chair: _____

Member: _____

Member: _____

Date Requirements Completed: _____

M.A. Plan II (Examination)

Students will complete the degree once all core course, elective, and internship requirements are met, and the final project is approved by the Graduate Committee. Students should consult with the faculty graduate advisor at least one quarter in advance of the planned completion of the degree for approval of the final project by the Graduate Committee. The final project consists of either (i) a research presentation in the MCDB 262 Friday Noon Seminar meeting or (ii) a 10 page review article on a topic pre-approved by the graduate committee and in the format of a *Nature Reviews Cell Biology* review article.

Date Requirements Completed (mm/dd/yy): _____

<p>M.A. DEGREE REQUIREMENTS SATISFIED: _____ <div style="text-align: right; margin-left: 200px;">Quarter/Year</div></p> <p>DEPT GRADUATE ADVISOR SIGNATURE: _____ <div style="text-align: right; margin-left: 200px;">_____</div> <div style="text-align: right; margin-left: 200px;">Print Name</div></p>
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FOR GRADUATE DIVISION USE ONLY	
Residence requirement-minimum 3 quarters	
Required units completed	
Language requirement Satisfied <i>(if required)</i>	
No grades of I, NR, or NG	
3.0 or better GPA overall	
Registered quarter of degree or Filing Fee LOA: _____	
Master's Form I / COI and committee entered	
Master's Thesis date received <i>(signature page/e-filed and entered in SReg):</i> _____	
Master's Thesis Submission Fee: _____	
ProQuest ID _____ Permission Ltrs uploaded?	
Master's Degree Awarded (mm/dd/yy)	