

Graduate Degree Program Summary:

Master's of Science degree in Biological Sciences

Updated: October 30, 2017

Degree Program: Master's of Science in Biological Sciences

Degree Objective: Master's of Science in Biological Sciences

Degree (Diploma) Title: Master's of Science

Degree Concentration: Developmental and Cell Biology, Ecology and Evolutionary Biology, Neurobiology and Behavior, or Molecular Biology and Biochemistry

Degree Program Code: same as department

Specialization or Emphasis: Biological Sciences

Academic Unit: School of Biological Sciences

Normative Time: Plan I M.S. two years, Plan II M.S. one year

Application Deadlines: August 15

Admission Requirements:

B.S. in Biological Sciences or comparable degree with appropriate coursework in Biology, Chemistry, Physics, and Mathematics.

Undergraduate GPA of 3.0 or greater

Must submit GRE scores and other relevant test scores such as TOEFL as required by graduate division.

A faculty advisor has to be identified who accepts full scientific and financial responsibility for the student. This commitment has to be stated in a letter from the faculty advisor. Two additional letters of recommendation are required.

Admission Process: The departmental graduate advisor will evaluate student applications and will offer admission based on consultation with the student's faculty advisor and other departmental faculty. The faculty advisor must submit a letter of support stating that they will accept mentoring responsibility for the student. The graduate advisor will develop a recommended curriculum that will meet the degree requirements.

Advisement: A faculty mentor must be identified at the time of admission. A thesis advisor or academic advisor will be identified for a plan I or plan II degree program, respectively.

Residence Requirements: A minimum of three quarters in academic residence is required prior to the award of the Master's degrees.

Financial Support. Master's students are not guaranteed financial support, and students are responsible for fees, tuition, and all other expenses. MS students are eligible for employment

as teaching assistants; however, the availability of TA employment is subject to the teaching needs of the department.

Teaching Requirement: None.

Coursework and Examination Requirements.

M.S. Plan I (Thesis option). A minimum of 28 quarter units in approved courses is required, at least 20 of which must be earned in 200 series graduate-level courses exclusive of credit given for thesis research and preparation. A general examination is also required. Students in the MS program may be employed as teaching assistants, but units earned in University Teaching (399) may not be included to satisfy degree requirements.

Required Courses (minimum of 16 units):

Graduate level didactic courses offered by the School of Biological Sciences (16 units, lecture or lab). A list of departmental or school graduate courses that will be available to the student will be identified by the graduate advisor at the time of admission.

Research Courses. (Units as needed to complete thesis research).

Independent Laboratory Research (e.g. Dev Bio 200).

Elective Coursework (at least 8 units):

- 1). Departmental seminars and journal clubs. Students are expected to enroll in graduate seminars and journal clubs that are typically required of doctoral students in that department.
- 2). Additional graduate coursework or upper division undergraduate courses offered by the School of Biological Sciences. Upper division undergraduate coursework may not exceed 4 units, and the Associate Dean and departmental graduate advisor will approve any undergraduate coursework.

Advancement to Candidacy: Advancement to candidacy for the MS degree is based on completion of required coursework. The advancement to candidacy paperwork is generally submitted one quarter prior to the thesis defense.

Dissertation: The Master's thesis committee will consist of at least three faculty as detailed in the Graduate Advisor's Handbook. The student will submit the M.S. thesis and give an oral defense to the committee. The thesis committee will approve the thesis with signatures on the signature page of the dissertation and the M.S. degree completion paperwork. The thesis will be filed according to UCI policy.

Sample program for the M.S. in Biological Sciences (plan I, thesis option).

Year 1.

Fall quarter. Students are recommended to take:

Two departmental graduate courses (8 units; examples: Protein Structure and Function, Mol Bio 204; Cell Biology, Dev Bio 231B; Systems

Neuroscience; Neurbio 208; Quantitative Methods in Ecology and Evolutionary Biology, Eco Evo 207)
Laboratory research (4 units; examples Dev Bio 200)

Winter quarter. Students are recommended to take:

Departmental graduate course (4 units; examples: Nucleic Acid Structure and Function, Mol Bio 203; Advanced Developmental Genetics, Dev Bio 210; Cellular Neuroscience Neurbio 208; Foundations of Physiology, Eco Evo 210)

Laboratory research (4 units)

One course from the elective list (4 units)

Spring quarter. Students are recommended to take:

Departmental graduate course (4 units; examples: Regulation of Gene Expression, Mol Bio 206; Mouse Developmental Genetics, Dev Bio 215; Behavioral Neuroscience, Neurbio 209; Foundations of Physiology, Eco Evo 210)

One course from the elective list (4 units)

Laboratory research (8 units)

Year 2.

Fall quarter. Students are recommended to take:

Laboratory research (8 units; examples Dev Bio 200)

One course from the elective list such as seminar or journal club (4 units)

Winter quarter. Students are recommended to take:

Laboratory research (8 units; examples Dev Bio 200)

One course from the elective list such as seminar or journal club (4 units)

Spring quarter. Students are recommended to take:

Laboratory research (8 units; examples Dev Bio 200)

One course from the elective list such as seminar or journal club (4 units)

Oral and written presentation of the thesis should occur at the end of the second year of the program.

M.S. by Plan II (Comprehensive Examination). The curriculum includes a minimum of 36 units of coursework. Sixteen units of coursework in didactic graduate courses are required; these courses are generally core courses taken by doctoral students in the school. In addition, up to twelve units in research coursework may be earned. The remaining courses are selected from the elective course list. No more than 4 units of upper division undergraduate courses may be included. Students in the MS program may be employed as teaching assistants, but units earned in University Teaching (399) may not be included to satisfy degree requirements.

Required Coursework (minimum of 16 units):

Graduate level didactic courses offered by the School of Biological Sciences (16 units, lecture or lab). A list of departmental graduate courses that will be

available to the student will be identified by the graduate advisor at the time of acceptance.

Research Coursework. Units (up to 12 units)

Independent Laboratory Research (up to 12 units, e.g. Dev Bio 200).

Elective Coursework (at least 8 units):

- 1). Departmental seminars and journal clubs.
- 2). Additional graduate coursework or upper division undergraduate courses offered by the School of Biological Sciences. Upper division undergraduate coursework may not exceed 4 units. Approval of the Associate Dean for Graduate Studies and departmental graduate advisor is required.

Advancement to Candidacy: Advancement to candidacy for the plan II MS degree is based on completion of required coursework. The advancement to candidacy paperwork is generally submitted at the end of the second quarter of study, and the student should be on track to complete all requirements in the following quarter.

M.S. Plan II Comprehensive Exam: The department will administer a comprehensive exam. The exam will be administered by a committee of at least three departmental faculty, and may include written and oral sections. The recommended comprehensive exam format will include a research presentation and may include additional portions such as a research proposal, presentation of a project, or other components.

Sample program for the M.S. in Biological Sciences by comprehensive exam (plan II).

Fall quarter. Students are recommended to take:

Two departmental graduate course (8 units; examples: Protein Structure and Function, Mol Bio 204; Cell Biology, Dev Bio 231B; Systems Neuroscience; Neurobio 208; Quantitative Methods in Ecology and Evolutionary Biology, Eco Evo 207)
Laboratory research (4 units; examples Dev Bio 200)

Winter quarter. Students are recommended to take:

Departmental graduate course (4 units; examples: Nucleic Acid Structure and Function, Mol Bio 203; Advanced Developmental Genetics, Dev Bio 210; Cellular Neuroscience Neurobio 208; Foundations of Physiology, Eco Evo 210)
Laboratory research (4 units)
One course from the elective list (4 units)

Spring quarter. Students are recommended to take:

Departmental graduate course (4 units; examples: Regulation of Gene Expression, Mol Bio 206; Mouse Developmental Genetics, Dev Bio 215; Behavioral Neuroscience, Neurobio 209; Foundations of Physiology, Eco Evo 210)
Laboratory research (4 units)
One course from the elective list (4 units)