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GRADUATE STUDENT HANDBOOK
MOLECULAR AND CELL BIOLOGY
MASTER’S PROGRAM 2014 - 2015
REQUIREMENTS FOR MASTER’S STUDENTS IN THE MOLECULAR AND CELL BIOLOGY PROGRAM

MS Chair:
   Fall semester: Jim Morris (jmorris@brandeis.edu) and Joan Press (press@brandeis.edu)
   Spring semester: Daniela Nicastro (nicastro@brandeis.edu)

Summary of requirements for candidacy to the MCB Master’s program:
   All MCB Master’s students must complete and pass six graduate level courses with a grade of B- or better, including one laboratory- or research-based course. In addition, students must register for and attend the following required courses/seminars: Responsible Conduct of Science, two semesters of Journal Clubs, and two semesters of Graduate Student Research Seminar.

LIFE SCIENCES GRADUATE LEVEL COURSES
   When the degree is to be completed in one year, this will be done at a rate of three courses per semester for each of two semesters. However, some students may instead elect to finish the degree in two years (e.g. when they introduce a heavy research component into the program or write an optional thesis). Students must pass each of the six courses with a grade of B- or better. Courses outside of the life sciences will be considered on a case-by-case basis by the program chair. In general, transfer credit is not accepted for the Master’s Program.

Courses:
   A total of six graduate-level courses (passed with a grade of B- or better), along with the attendance of appropriate Journal Clubs and Graduate Student Research Seminar for two semesters, are required for the degree. The courses must include the following required courses: Biol 101a (Molecular Biotechnology), Biol 100b (Advanced Cell Biology), and one laboratory or research based course. The balance of courses must be agreed upon by the chair of the MS program. With permission of the chair, Biol 105b (Molecular Biology) may be taken in lieu of Biol 101a and Biol 103b (Mechanisms of Cell Functions) may be taken in lieu of Biol 100b. The laboratory or research component can be met by Biol 296a/b (one semester Master’s Research Lab), a Project Laboratory (e.g. Biol 155a - Project Laboratory in Genetics and Genomics, Biol 156a - Project Laboratory in Biotechnology, Biol 158b - Cell Biology Project Laboratory, Biochem 155b - Biochemistry Laboratory, Nbio 157a - Project Laboratory in Neurobiology and Behavior), Biol 299 (Master’s Research Project), or - with permission of the chair - Biol 298a (Readings in Molecular and Cell Biology). All students are required to take Cont 300b (Responsible Conduct of Science), usually offered in the Spring.

Journal Clubs:
   Students should register and attend two semesters of an appropriate Journal Club (see below). Master’s students are not required to present an article in the Journal Club.
   Molecular Genetics  Biol 305a/b  Computational Neuroscience  Nbio 340a/b
   Neurobiology       Nbio 306a/b

Graduate Student Research Seminar (Biol 350a/b):
   All students are required to register for and attend two semesters of the Graduate Student Research Seminar (“pizza talks”), held on Fridays at 12:30 pm. Master’s students are not required to present at the seminar.

Responsible Conduct of Science:
   Students must register for and attend Responsible Conduct of Science (CONT300B), usually offered in the Spring semester.

Wednesday Colloquia series:
   All students should attend the regular Joint Biology & Biochemistry Seminar on Wednesdays at 4:00 pm.
RESEARCH REQUIREMENT:

There are three main options for completion of the research requirement: 1) Completion of a permitted Project Laboratory with a grade of B- or better, 2) one semester of Master’s Research Lab (Biol 296a/b), or 3)* Completion of a Master’s Thesis (Biol 299). (*Project Laboratory or Biol 296a/b is usually taken before Biol299, but in the event that both are taken, Project Laboratory may be used as elective course).

Master’s Research Lab (Biol 296a/b): As one option to fulfill the research requirement of the Master’s degree, this offers students an opportunity to engage in biological research by working in the laboratory of a faculty member for at least 15 hours/week for one semester. Program chair approval is required. Students who choose to do a Master’s Research Lab should register for Biol 296a/b with the respective faculty. The choice of laboratory is made jointly by the student and the faculty member in whose lab the research is to take place. Students may choose from faculty in the Departments of Biology, Biochemistry, Chemistry and Physics. The best way to find a research advisor is to define a list of potential advisors using the graduate bulletin and faculty listing as a starting point, and then email and speak with the professors you are most interested in. The graduate bulletin is available online to look through at our registrar’s website (http://www.brandeis.edu/registrar/bulletin/; the section labeled “Provisional Bulletin 2014-2015” contains information for the upcoming year) and the online faculty listing is on the program website (http://www.bio.brandeis.edu/faculty/list_lastname.php). The program chair is also available to advise. Students who enter in the fall semester and wish to work in a laboratory are encouraged to wait to contact faculty regarding potential lab work until they arrive on campus for orientation. They should attend the “faculty bazaar” held during orientation week to aid in lab selection for graduate students. It is the responsibility of the student to find a lab for their Master’s Research Lab and Master’s students are not guaranteed a spot in a lab. We recommend that you arrange Biol 296 at least a few weeks before the start date to ensure that you can get a spot. If requested by the laboratory head, the student submits a written research lab report or delivers a research seminar at the end of the semester.

Master’s Thesis (Biol 299; optional): The student carries out a research project (lasting a minimum of one semester, but usually the entire year) in a single lab and submits a thesis. Students who register for a Master’s thesis (Biol 299) have typically already worked in the same lab for at least one semester and have made substantial research progress. It is the responsibility of the students to find a research advisor for the thesis work and submission of a Master’s thesis requires mutual agreement between the student, advisor, and program chair. Students that wish to complete a Master’s thesis should indicate this interest to their faculty advisor at the beginning of their Master’s research lab work. The mutual agreement that a Thesis will be written is typically reached at the middle or end of the previous Biol296 research semester. Students who complete a Master’s thesis generally extend their total time in the program to 1.5 or 2. A student who plans to register for Biol299 in the following semester must notify the program chair and the biology office of their intention no later than Nov. 1st for a Spring semester thesis and March 1st for a Fall semester thesis (same deadlines as application for graduation), so that the program may extend the student’s time in the program as necessary. Deadlines and guidelines for submission and acceptance of the Master’s thesis are set by the graduate school and the registrar.

COURSES TO REGISTER FOR:

Students in their first semester (Fall 2014) will register for a Journal Club, the Graduate Student
Research Seminar (Biol 350a), and three lecture courses: Biol 101a (Molecular Biotechnology) and two courses to be agreed upon by the program chair.

Students in their **second semester** (Spring 2015) will register for a Journal Club, the Graduate Student Research Seminar (Biol 350b), Responsible Conduct of Science (Cont 300b, a not-for-credit course), Biol 100b (Advanced Cell Biology), a second lecture course of your choosing, and a research-based course (as described above).

If a required course (Biol 101a or Biol 100b) is “closed” for registration, please email the course instructor indicating that you are a MCB MS student; the instructor will usually email you a consent code so that you can still register online.

**PROGRESS:**

Students’ progress will be reviewed by the graduate committee and the chair of the program at the end of each semester. Students must complete all courses with a grade of B- or better and may be terminated at the end of a semester if the student’s record is unsatisfactory. Students wishing to be admitted to a second year of study must demonstrate adequate progress.

**Residency**

The minimum residence requirement is one year. Students may take an additional one or two semesters to complete the MS degree as an Extended Master's student with approval of the chair of the program. International students may extend their time one semester if they are still completing required coursework. International students who have completed all required coursework and wish to complete the optional Master’s Thesis may stay an extra semester with advanced approval from the advising faculty, the program chair, and ISSO (by November 1st if completing the thesis in the spring semester and by March 1st if completing the thesis in the fall semester).