Department of Biology
Program Planning

http://biology.barnard.edu/bio-home

Department Chair: Hilary Callahan, Professor (hcallaha@barnard.edu), 212-854-5405
Associate Chair: Brian Morton, Professor (bmorton@barnard.edu), 212-854-5454
Administrator: Sarah Boorsma (snickel@barnard.edu), 212-854-2437

Majors & Minors
Research Opportunities
Laboratory and Limited Enrollment Courses

Courses Offered Spring 2015
THE BIOLOGY MAJOR

Introductory Biology:
Students must complete the 1500-level introductory sequence, which consists of:
- BIOL BC1500x Introduction to Organismal and Evolutionary Biology
- BIOL BC1501x Introductory Lab in Organismal and Evolutionary Biology
- BIOL BC1502y Introduction to Cell and Molecular Biology
- BIOL BC1503y Introductory Lab in Cell and Molecular Biology

Genetics:
Students must complete BIOL BC2100 Molecular and Mendelian Genetics. It is recommended, but not required, that this course be taken immediately after completing the 1500-level introductory sequence.

Five Additional Lecture Courses:
One course must be at the physiological level of organization:
- BIOL BC3360 Animal Physiology OR
- BIOL BC3320 Microbiology OR
- BIOL BC3367 Ecophysiology

A second course must be at the ecological or evolutionary level of organization:
- BIOL BC2278 Evolution OR
- BIOL BC2272 Ecology OR
- BIOL BC3280 Applied Ecology and Evolution OR
- BIOL BC2240 Plant Evolution and Diversity OR
- BIOL BC3388 Tropical Ecology

Three additional lecture courses (beyond the 2100 level) selected from the menu of Barnard Biology courses. Another option is to take courses offered by the Department of Biological Sciences or Department of Ecology, Evolution, and Environmental Biology at Columbia. Speak with your Biology advisor for details about which Columbia courses are suitable.

Three Upper-Level Laboratory Courses:
These upper-level laboratory courses will each have an associated lecture course as a co- or pre-requisite (see Barnard catalog for details). You may also use laboratory courses at Columbia (or other institutions) to satisfy the lab requirement, with permission from the department chair.

Research Option:
A student may do research in lieu of one upper-level laboratory course. To this end, a student would need to take two consecutive semesters of Guided Research and Seminar (BIOL BC3591x and BIOL BC3592y).

Senior Seminar or Individual Research:
Students must complete a Senior Seminar (BC 3590) or two semesters of Senior Thesis Research (BIOL BC3593x + 3594y). A student cannot take (a) Senior Thesis Research and (b) Guided Research and Seminar at the same time.

Chemistry Requirement:
One semester of Inorganic Chemistry (with laboratory) and one semester of Organic Chemistry (with laboratory) are required.
ADVISING POLICIES

In the biology department, students select their advisors rather than having them assigned. The student’s choice must be approved and her major declaration form signed by the Associate Chair, Brian Morton. Any biology faculty member can serve as an advisor. There are also two interdepartment majors (below).

RELATED DEPARTMENTS AND MAJORS

Environmental Biology
(Potential advisors in Biology are Callahan, Hertz, or McGuire)
This major is run jointly by faculty in the Departments of Biology and Environmental Science. It examines the interactions between living and non-living components of the environment, and how human activities alter these interactions. http://envsci.barnard.edu/majors/environmental-biology

Neuroscience and Behavior
(Potential advisors in Biology are Bauer, Calisi-Rodriguez, or Glendinning)
This major is run jointly by faculty in the Departments of Biology and Psychology. It provides a strong background in the biological underpinnings of behavior and cognition. http://neuroscience.barnard.edu/

THE BIOLOGY MINOR

A minor in biology includes:

2. Three biology lecture courses at the 2100 level or higher.
3. Two biology laboratory courses. One of the lab courses may be replaced by two semesters of Guided Research and Seminar (BIOL BC3591x followed by BIOL BC3592y).

Please note: Chemistry, environmental science, physics, and psychology majors need to take only one advanced laboratory instead of two, but the lab may NOT be a guided research course.

RESEARCH OPPORTUNITIES

We strongly encourage students to get involved in research during the summer, academic year, or both. For many students, research is one of the most intellectually rewarding experiences at Barnard. It is also possible to receive credit for working in a laboratory at Barnard or anywhere else in New York City. You can become involved in biology research during any (or all) of your semesters at Barnard.

Three courses provide credit for research during the academic year. Before signing up for any of these courses, you should examine the associated Checklists for Enrollment located on the Biology website:

1. ***Guided Research (BIOL BC3597): This is a variable-credit one-semester course, which can be taken during any Fall or Spring semester.
2. Guided Research & Seminar (BIOL BC3592): This is a year-long course that begins in the fall. It can serve in lieu of a laboratory requirement for the Biology major.
3. Senior Thesis Research (BIOL BC3594): This is a year-long course, beginning in the fall the senior year. It can serve in lieu of the Senior Seminar requirement or a laboratory requirement for the Biology major (but not both).
Please Note: You cannot get credit for doing research during the summer

***Changes to BIOL BC3597 Guided Research***
Beginning Spring 2015, students taking Guided Research will sign up for the course by Instructor. Each Barnard faculty member has their own section of Guided Research. Be sure to add the appropriate course & section to your program in myBarnard. You should sign up for the section assigned to your Barnard Research Mentor. If your lab is outside of Barnard, you must have an Internal Advisor and will sign up in that advisor’s section.

NEW SIGN-UP POLICIES FOR BIOLOGY COURSES

**Introductory Biology Labs (BC1002 & BC1503)**
Sign-up for BC1002 and BC1503 labs have now been moved online. These courses are now L-courses and follow the special sign up procedures as listed on the Registrar website.
http://barnard.edu/registrar/registration-program-filing/special-sign-up

Please note that if you receive a spot in the lab, you MUST attend the first lab. If you are absent from the lab, you will be dropped from the course and your spot will be filled.

For BC1002 Contemporary Issues in Biology (Lab & Lecture)

- **Step 1:** Sign-up for BC1002-Contemporary Issues in Biology (4.5 credit course).
- **Step 2:** Sign-up for BC1012-BIOL BC1002 Lab (0.0 credit course). This is the lab section.

For BC1503 Introductory Lab in Cell and Molecular Biology (Lab & Recitation)

- **Step 1:** Sign-up for BC1503-Introductory Lab in Cell and Molecular Biology (2.0 credit course).
- **Step 2:** Sign-up for BC1513-BIOL BC1503 Recitation (0.0 credit course). This is the lab recitation.

**Upper Level Labs**
Upper levels labs are now listed as L-courses. To sign up for a lab, follow the L-course signup procedures as outlined on the Registrar website: http://barnard.edu/registrar/registration-program-filing/special-sign-up

Please note that if you receive a spot in the lab, you MUST attend the first lab. If you are absent from the lab, you will be dropped from the course and your spot will be filled.

**Wait-List Option:**
If you do not get into the lab you may sign-up for a spot on the wait-list. To do so, visit the Biology Department website. On the main page there will be a link to a google form, where you may elect to join up to two lab waitlists. Attend the first day of lab (labs begin the first week of classes). Open spots will be filled from the wait-list, but only if you are in attendance. If you have any troubles with the form, contact the Department Administrator for assistance.

**Upper Level Lecture Courses**
A new course BIOL BC3367 Ecophysiology taught by Rebecca Calisi-Rodriguez, has been listed as an L-Course for Spring 2015. To sign up for this course, follow the L-course sign up procedures as listed on the Registrar website. http://barnard.edu/registrar/registration-program-filing/special-sign-up
COURSES OFFERED SPRING 2015

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL BC1002</td>
<td>Contemporary Issues in Biology</td>
<td>Diana Heller</td>
<td>MWF 9:00am-9:50am</td>
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<tr>
<td>BIOL BC1012</td>
<td>BIOL BC1002 Lab</td>
<td>Diana Heller</td>
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<td>BIOL BC1502</td>
<td>Introduction to Cell and Molecular Biology</td>
<td>Jonathan Snow</td>
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<td>Various</td>
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<td>BIOL BC1513</td>
<td>BIOL BC1503 Recitation</td>
<td>Jessica Goldstein</td>
<td>M 10:00am-10:50am or F1:10pm-2:00pm</td>
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<tr>
<td>BIOL BC1599</td>
<td>Biology Journal Club</td>
<td>Paul Hertz</td>
<td>T 1:10pm-2:00pm</td>
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<tr>
<td>BIOL BC2100</td>
<td>Molecular and Mendelian Genetics</td>
<td>Jennifer Mansfield</td>
<td>TTH 10:10am-11:25am</td>
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<td>BIOL BC2240</td>
<td>Plant Evolution and Diversity</td>
<td>Hilary Callahan</td>
<td>MW 11:40am-12:55pm</td>
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<td>Vertebrate Biology</td>
<td>Paul Hertz</td>
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<td>Evolution</td>
<td>Brian Morton</td>
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<td>CHEM BC2900</td>
<td>Research Methods Seminar</td>
<td>Elizabeth Bauer &amp; Jean Vadakkan</td>
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<td>Rebecca Calisi-Rodriguez</td>
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<td>Jennifer Mansfield</td>
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<td>Laboratory in Animal Physiology</td>
<td>John Glendinning</td>
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<td>BIOL BC3363</td>
<td>Laboratory in Molecular and Cellular Neuroscience</td>
<td>Elizabeth Bauer</td>
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<td>BIOL BC3590</td>
<td>Senior Seminar</td>
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<td>BIOL BC3594*</td>
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<td>Krista McGuire &amp; Hilary Callahan</td>
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<td>All Faculty</td>
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<td>HSPP BC1002*</td>
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*For continuing students only