Undergraduate Research in Biology
Guidelines and Expectations for Both Students and Research Mentors
(within or outside of the Biology Dept.)
(BI 191/192, 291/292, 391/392, 491/492, or 401/402)

Responsibilities of the Student:

Application: The online application for Undergraduate Research should be filled out with the help of your Biology faculty mentor (and outside research mentor if applicable). The Biology faculty member (including your outside mentor, if applicable) must electronically approve your submitted application. After review and approval by the Director of Undergraduate Studies (DUS), you will be registered for one of the above courses and will receive an email confirmation. Applications for Honors in Biology BI 401/402 require a separate form available for download on the Biology website.

Research: Research projects must involve laboratory or field-based research that is biologically based. During the fall or spring semester, you are expected to devote a minimum of three (3) hours/week per credit to the project. During the summer 1 or summer 2 terms, you are expected to devote a minimum of eight (8) hours/week per credit.

Biology Faculty Mentor/Sponsor: To find a Biology faculty research mentor, you can review faculty research interests on the Biology website or ask your assigned academic advisor for suggestions. If you find a research opportunity/mentor outside of the Biology Department, you and your mentor must identify, a Biology faculty member with related research interests who will serve as your sponsor and liaison between the Department of Biology and your outside mentor.) You are expected to meet with your Biology faculty mentor/sponsor on a regular basis during the semester (at least 2-3 times) to discuss your research progress and any issues or questions that you may have regarding your research experience.

Responsibilities of the Biology Faculty Member (as research mentor or sponsor):

A. Your responsibilities as a research mentor include the following:

1. After agreeing to provide time and space in your laboratory, you should meet with the student prior to submitting an application to discuss your expectations for doing Undergraduate Research in your laboratory. This includes making it clear that the student must be an intellectually engaged contributor to the research project and not simply perform the tasks of a work-study student or a technician. In addition, be sure the student understands all of his/her responsibilities for completing the application, devoting sufficient time each week to the research, and satisfying grading requirements, which you should establish before each semester. As a research mentor, you and the student should have frequent individual discussions regarding the research project(s).

2. Explain to the student that he/she cannot receive financial funds and degree credit at the same time while performing Undergraduate Research.
3. The application should be a well-cited scholarly proposal that includes a brief background, the hypothesis(es) being tested, a brief description of the experimental plan, any other relevant features of the project, and a lists of cited sources. The application should be written in the student’s own hand (not a copy of your recent grant proposal), and should end with an annotated list of references for the entire research proposal.

4. Electronically approve the student’s application in time for the student to register for the course. Applications for Honors in Biology BI 401/402 require a separate form and your signature on paper.

B. Your responsibilities as a sponsor include the following.

1. After agreeing to sponsor a student to perform research outside of the Biology Department, you should meet with the student prior to submitting the application to discuss your expectations for doing Undergraduate Research, including the guidelines below, which are specific to outside research. This includes making it clear that the student must be an intellectually engaged contributor to the research project and not simply perform the tasks of a work-study student or a technician. In addition, be sure the student understands all of his/her responsibilities for completing the application, devoting sufficient time each week to the research, and satisfying grading requirements, which you should establish before each semester in conjunction with their outside mentor. As a research sponsor, you should periodically have discussions with the outside mentor during the semester.

2. Explain to the student that he/she cannot receive financial funds and degree credit at the same time while performing Undergraduate Research.

3. Electronically approve the student’s application in time for the student to register for the course. Applications for Honors in Biology BI 401/402 require a separate form and your signature on paper.

4. Communicate with the outside mentor to verify that he/she understands the expectations for the student and the requirements for receiving BU credit, particularly with respect to the typical workload of a 2– or 4–credit course. It is important to emphasize that our undergraduates should not be expected to contribute time and effort equivalent to a graduate student, nor should they be left to simply perform technical tasks without active mentorship. This responsibility is particularly important in situations in which the research advisor may not be familiar with the needs of students on an undergraduate campus or has not had previous experience mentoring undergraduates in research.

5. Develop a plan with the outside mentor for determining the student’s final grade. The grading mechanism is flexible but should be agreed upon by both the outside mentor and the faculty sponsor prior to or shortly after the start of the semester. The faculty sponsor then informs the student of the grading requirements in a written email that is copied to the outside mentor, so that there is no ambiguity regarding the expectations of the student. The faculty sponsor must also contact the outside mentor at the end of the semester to determine the grade for the class. The
outside mentor generally suggests a grade, but may consult with the faculty sponsor if so desired. An unusual grade (B- or lower) should be discussed with the outside mentor to confirm that the grading standards being used are compatible with standards for undergraduates doing research on campus and the pre-determined grading requirements set out at the beginning of the semester.

6. Meet periodically with the student to discuss progress and any problems that might be encountered. Discuss any issues that arise with the outside mentor and (if necessary) the Director of Undergraduate Studies.

Responsibilities of the Outside Research Mentor (if applicable):

1. Work with the student to complete the online application for Undergraduate Research. The application should be a well-cited scholarly proposal that includes a brief background, the hypothesis(es) being tested, a brief description of the experimental plan, any other relevant features of the project, and a lists of cited sources. The application should be written in the student’s own hand (not a copy of your recent grant proposal), and should end with an annotated list of references for the entire research proposal.

2. Electronically approve the student’s application in time for the student to register for the course. Applications for Honors in Biology BI 401/402 require a separate form and your signature on paper.

3. Communicate with the Biology faculty sponsor on the BU Charles River Campus (see items B-4 and B-5 of “Responsibilities of the Biology Faculty Member”).

4. Meet regularly with the student to review progress, troubleshoot problems, plan additional research efforts and provide mentorship on keeping a notebook, data analysis, and writing.

5. Contact the Biology faculty sponsor prior to the end of the semester to discuss the student’s grade, which will be submitted to BU by the Biology faculty sponsor.