Off-Campus Undergraduate Research in Biochemistry and Molecular Biology (BMB): Guidelines and Expectations
(BB 191/192, 291/292, 391/392, 491/492, or 401/402)

Responsibilities of the student:

Application: The application process for off-campus research is essentially the same as that for on-campus research. Obtain an application from the main BMB office (BRB; 1st floor; 5 Cummington Mall) or online. The completed application must contain an abstract of the proposed research; this abstract should be developed in consultation with your off-campus research mentor. In addition, both the off-campus mentor and a BMB faculty member, who serves as your sponsor, must indicate their approval by signing the application. Completed applications are returned to the Undergraduate Program Specialist. After review and approval by the Research and Honors Committee, you will be registered for one of the above courses and will receive an email confirmation.

On-campus sponsor: Your faculty sponsor in BMB will serve as the liaison between your off-campus mentor and the BMB Program. You should ask a BMB faculty member who has research interests related to the research you intend to conduct off-campus. To find a sponsor, you can review faculty research interests on the BMB website, ask your assigned academic advisor for suggestions, or consult with the Research and Honors Committee. Ideally, you should find a BMB faculty member who already has a relationship with your off-campus mentor. You are expected to meet with your BMB sponsor at least three times during each semester(s), typically at the beginning when you get their signature and review your project, midway through the semester, and again at the end of the semester. At that time, be prepared to discuss your research progress and any issues or questions that you may have regarding your experience off-campus. Your BMB sponsor is the faculty member who will assign your grade.

Research: Off-campus projects must involve laboratory research with a molecular aspect to it. You are expected to devote a minimum of three hours per credit hour per week to the project, or 12 hours/week for a 4-credit course and proportionately less for a 2-credit course.

Responsibilities of the BMB faculty sponsor:

The responsibilities of the BMB sponsor include the following.

1. Meet with the student prior to application submission to go over the expectations for doing research for credit, including the guidelines in this document that are specific to off-campus 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, satisfying grading requirements, and meeting periodically with the sponsor during the semester.

2. Communicate with the off-campus research 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 is not on an undergraduate campus or has not had previous experience mentoring undergraduates in research. In addition, it should be made clear that undergraduate students cannot receive financial funds and perform research for credit at the same time.

3. Develop a plan with the off-campus mentor for determining the student’s final grade. The grading mechanism is flexible, but should be agreed upon by both the mentor and the sponsor prior to or shortly after the start of the semester. The BMB sponsor then informs the student of the grading requirements in a written email that is copied to the off-campus mentor and the Research and Honors Committee, so that there is no ambiguity regarding the expectations of the student. The BMB sponsor must contact the off-campus mentor at the end of the semester to determine the grade for the class. The research mentor generally suggests a grade. An unusual grade (B- or lower) should be discussed with the off-campus 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.

4. Meet periodically (at least thrice/semester) with the student to discuss progress and any problems that might be encountered. Discuss any issues, should there be any, with the off-campus mentor and (if necessary) the Research and Honors Committee.

Responsibilities of the off-campus research mentor:

1. Work with the student to develop an abstract of the research plan (1-2 page). This abstract should include a brief background, the hypothesis(es) being tested, and a brief description of the experimental plan, including experimental and analytical methods and any other relevant features of the project. Most importantly, all parts of the research plan need scholarly citations (e.g., not just a bibliography) with a list of references including titles.

2. Sign the student’s application and return it to the student in time for the student to register for the course.

3. Communicate with the Biology sponsor on the Charles River Campus (see numbers 2 and 3 of “Responsibilities of the on-campus faculty sponsor”).

4. Meet regularly (e.g., at least weekly) with the student to review progress, troubleshoot problems, plan additional research efforts and provide mentorship on data analysis and writing.

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