

Advanced Research Project in Molecular Genetics

MGY481H

Course Coordinator
Dr. Marc Meneghini

MGY481H is an independent research course in which students pursue a project under the supervision of a faculty member in Molecular Genetics. This half-year course is being offered as an alternative to MGY480Y to meet new challenges to undergraduate research brought about by the COVID-19 pandemic. *To enroll in MGY481H, students must first identify a faculty member willing to supervise them.* A list of our faculty and their research interests can be found [here](#). Once a supervising faculty member has been identified, you may enroll in MGY481H. However, the course coordinator must receive confirmation from the professor that s/he is willing to supervise the student for the course.

Students enrolled in MGY481H will pursue a remote project that does not require access to the research labs. This may include computational projects, literature reviews, and experimental design planning *in anticipation of laboratory space opening up for undergraduate researchers for MGY482H, which will be offered in the winter term.* Project details will be left to the discretion of the supervisors. Students must submit a midterm research report by October 23rd and final research report by December 18th. PDFs of the reports must be emailed to the supervising professor and myself. These 2 reports will comprise 50% of your marks, with the remaining 50% being specified at the discretion of your supervisors. For example, some of your marks may reflect your participation in regular group meetings and journal clubs, or different tasks specific to your project. The supervisors will be required to make the details of this marking scheme clear to the student and inform them, and myself, of these details in writing.

As mentioned above, MGY482H could be taken in multiple formats, at the discretion of the MGY480Y/481H/82H course coordinator. If it becomes possible for wet-lab experiments to be conducted in the winter term, students in MGY481H could, in effect, convert their MGY481H research project into the equivalent of MGY480Y, by pursuing the wet-lab component of their project in MGY482H. In this case the research, thesis, and examination requirements of MGY480Y will be in effect. Alternatively, for students who could not find supervisors in the fall term, if winter term supervisors are available, a one-term research project organized like MGY481H could be conducted. Additional options may arise depending on the regulations governing in-person activities at the start of the winter term. A course outline for MGY482H will be offered once we have more information about these contingencies.

Prerequisites:

1. MGY311Y1/BCH311H1/CSB349H1 and a 3rd year MGY or BCH lab course or other relevant lab experience.
2. Students require a minimum B/B+ average (CGPA ~ 3.0 after 3rd year) to participate in the course.

3. As long as they have a supervisor willing to mentor them, students who are not MGY majors/specialists are welcome to take MGY480, but will need to contact the coordinator directly in order to enrol in the course.

Student Evaluation:

20%: Midterm report (due October 23rd and marked by the supervisor and course coordinator).

30%: Final report (due December 18th and marked by the supervisor and course coordinator).

50%: Lab performance to be determined by supervisors.

- **Midterm report guidelines:**

The Midterm should be a maximum of five pages. The format is 12-point font, 1.5x spaced, and .75-inch margins. Figures and/or tables and references do not count toward this five page limit. Use the midterm report to sketch out your project and goals. Use the following three headings:

Introduction
Findings and Results
Future Directions.

- **Final report guidelines:**

The Final should be a maximum of ten pages. The format is 12-point font, 1.5x spaced, and .75-inch margins. Figures and/or tables and references do not count toward this ten page limit. Use the midterm report to sketch out your project and goals. Use the following three headings:

Introduction: A brief summary of the field.

Hypothesis & Experimental Outline: A straightforward explanation of the question, model or hypothesis that is the basis of your work. This should be followed by a description of the approaches you have taken towards this model/hypothesis/question.

Methods: Sufficient detail for replication of your findings by an independent researcher must be provided.

Summary of work: Summarize in a logical order the results of the experiments you have carried out and the conclusions you draw from those results.

Future work: Outline of your experimental plan for the remainder of the course.

References: These are not included in the page limit.

