Part time laboratory research in an area of molecular biology or biochemistry under the direction of a faculty member. **Prerequisites:** MBB 308 or 309W, upper level standing in an MBB major or honours program and permission of the MBB department.

- Attach a copy of your advising transcript to this form before seeing the instructor.
- Toward the end of the preceding semester find a supervisor: an MBB faculty member, MBB associate or adjunct faculty member; a member of another department may be permitted pending approval by the MBB Departmental Undergraduate Curriculum Committee (DUCC).
- In consultation with the supervisor, prepare a one page Letter of Intent (LOI) describing the goal(s) and outlining experiments for your proposed research project. Use the fillable form provided. The LOI should be submitted to the MBB office by the end of the last day of exams of the semester preceding the Directed Research semester.
- The student will be registered for this course once the LOI, advising transcript and signed form have been received and approved by the chair of the MBB DUCC.

Note that students cannot hold an NSERC or VPR USRA while taking MBB 498.

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Student Name: ______________________________________________

Student Number: __________________________ E-mail address: __________________________

MBB  ❑ Major  ❑ Honours

Faculty Supervisor: ____________________________________________

(signature) _________________________________________________

DUCC Chair __________________________ Date: __________
<table>
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<th>MBB 498 Letter of Intent</th>
<th>Name: ________________________________</th>
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### Background (Why is this research important?)


### Research Question (What question are you trying to answer?)


### Scientific approach (How will you attempt to answer this question?)


Resize sections as needed within a single page. Use 12 pt font size.

Revised: May 30, 2019
MBB 498 Directed Research course guidelines

In the semester preceding your Directed Research semester:
You will need to find a faculty member willing to supervise you. The supervisor can be an MBB faculty member, MBB associate or adjunct faculty member, or a member of another department pending approval by the MBB DUCC chair. The sooner you arrange this, the more options are available to you, as labs do fill up. Your prospective supervisor should provide information regarding potential research projects. In consultation with your supervisor you should prepare a one page LOI describing the goal(s) and outlining possible experiments for your proposed research project. Hand in the signed approval form and LOI to the MBB office by the last day of exams of the preceding semester for approval by the Chair of the MBB DUCC. Keep a copy for your reference. Once your LOI is approved you will be registered in this course.

Before you begin your Directed Research semester: Your supervisor will outline expectations regarding lab work. Typically, a 3 unit Directed Research semester means working 7-10 hours per week in the lab. You should keep a good record of your experimental work and you will likely attend lab meetings at which you may be asked to present your work in progress. Your lab performance will constitute 40% of your final grade for MBB 498. Students working in a research lab are required to take the lab facilities tour and the complete set of SFU safety workshops; these are typically scheduled in the second week of each semester.

By the end of the second week of classes of the Directed Research semester: A written proposal (3-5 pages of double-spaced text, plus figures and references) must be provided to your supervisor. Please also send an electronic copy to the MBB Undergraduate Program Assistant at mbugrad@sfu.ca. It is expected that this proposal will be prepared in consultation with your supervisor. The proposal should provide a description of the proposed research, including the research problem in question, the objective/aims of the proposed research, relevant background information, the scientific approach to addressing the research problem and the expected outcomes. References should be included. It may also be helpful to provide an approximate timeline of experimental goals through the semester. Note that the proposal will not count toward your final grade.

Towards the end of the Directed Research semester: You should start writing your final report - the first part will often be an expansion of what was written for the initial proposal, followed by sections outlining results and discussion (separate or combined), conclusions and possibly a prospectus (future experiments). The grade for the report will constitute 30% of your mark for MBB 498.

At end of the Directed Research semester: Oral presentation: at or near the end of the semester, you will give a 20 minute talk on your research to your lab members. This talk will usually follow the outline of your report (introduction, results, discussion etc.). This will be followed by questions from your supervisor and lab members. Your performance in this oral defense will constitute 30% of your mark for MBB 498.

Summary of grade distribution: lab performance, 40%; final report, 30%; oral presentation, 30%.

Revised: May 30, 2019