

GUIDELINES FOR STUDENTS TAKING AND INSTRUCTORS PROVIDING INDEPENDENT STUDY COURSES IN BME GRADUATE PROGRAMMES

Graduate students may choose to take an independent study (IS) course to round out their education in areas not covered in sufficient depth either by graduate courses offered by their program or by other relevant graduate programs at McMaster.

No more than one IS can be taken as part of course requirements for their graduate degree.

Although IS courses are expected to be completed in one term, it may be possible to extend the course over two terms if accomplishing the learning outcomes demands it. The approval of the Associate Dean of Graduate Studies (Eng) is required for an IS course that is longer than one term.

The proposed IS course should not be too closely related to your thesis. A general rule of thumb would be: if you could (will) copy and paste the material into your thesis, then it's too closely related. Also, it should not be designed to learn a research technique, nor overlap extensively with existing courses (graduate or undergraduate).

Before preparing the course outline:

The student should consult with his/her supervisory committee (or faculty advisor/mentor) to identify if an Independent Study course is appropriate to explore an area in which the student needs to acquire specific in-depth knowledge and skills.

Once the student has confirmed with their supervisory committee or faculty advisor/mentor that an IS course is appropriate, she/he should initiate planning by approaching a faculty member(s) with expertise in the required area of learning.

There is no obligation on the part of that faculty member to agree to give an IS course. However, most faculty members enjoy guiding a graduate student in independent study, if the topic(s) chosen is central to their own scholarly interests. If a faculty member agrees to offer the IS course (and if the course outline is acceptable to the Program's Graduate Curriculum Committee), he/she becomes the 'course coordinator'.

If the course coordinator is also the student's thesis supervisor, he/she is advised to identify another faculty member who will agree (or has agreed) to co-coordinate the IS course. The co-coordinator will be expected to co-evaluate the student's progress throughout the course. This arrangement is designed to reduce any possible 'conflict of interest'. The presence of a co-coordinator may also provide the student with a broader perspective of the topic.

Preparing the course outline

Please feel free to use previous BME799 applications as a template to give you an idea of what is required. In fact, we would encourage that you do so.

It is important that the student and course coordinator clearly state the rationale for the IS course and identify the expected learning outcomes.

The course should have a similar degree of depth and rigor as other graduate courses; BME799 should not be viewed as a way to get an easy course credit. In general, a graduate half course comprises 36 hours of contact time with one or more faculty members over the course of one term (e.g., often these are 12 sessions per week of 3 hours duration each).

The student and course coordinator are expected to meet or communicate (by telephone, e-mail, etc.) regularly during the IS course. There is an obligation on both parties to ensure that the learning they planned (and that the committee approved) is completed.

Make sure there is explicit detail for **all** sections of the application:

- the specific learning objectives should be broken out week by week
- the time-line (with whom you will meet, how frequently, for how long)
- the nature of the evaluation tools (oral and written presentations) and their relative weightings, as well as who will be evaluating each component (see next paragraph)
- the reading list should indicate the journal articles, reviews, book chapters which will/could be used

As in other graduate courses, the methods used to assess student performance in an IS course include multiple components. The evaluation scheme of the course is critical, and often the point where students are asked to revise the proposal. Aim for a good balance of both written (*e.g.*, weekly essays, final reports) and oral components. The latter can include the weekly presentations of the topics researched the previous week and/or a final summary presentation before an appropriate audience (*e.g.*, on-going seminar series, Clinical Rounds, several laboratory research groups).

To assist the curriculum committee in their assessment of the IS course, it is important that the student indicates their area of research and describe briefly their thesis topic; this is needed to help the Graduate Curriculum Committee evaluate the potential degree of overlap.

Finally, make sure to indicate that the proposed course instructor is willing to oversee the course (their signature is sufficient), and that your thesis supervisor approves your choice of topic.

Submission and review process

Please submit the following application electronically (in order to facilitate distribution to committee members) to the Biomedical Engineering Administrator eight weeks before start of approaching term. The committee members will review it and give feedback to the Director, who in turn will correspond with the student. All IS courses must be approved first by the Directors of the program in which the course will be offered.

BME 799* - INDEPENDENT STUDY COURSE APPLICATION

Student: _____

Course Instructor: _____

Term to be offered: _____

Topic: _____

Learning Objectives (be precise and clear):

Rationale:

This form must be submitted to the Office of Director of BME, ETB406, at least 8 weeks before the beginning of the academic term. It must be reviewed and approved by the BME Director. Approval is required at least 4 weeks before the beginning of a term in which the course is taken.

Proposed Reading List (or type of papers to be searched for, along with some methodological references if doing a meta-analysis). Attach separate list if extensive:

Method of Instruction (frequency of meetings and timing of various course components):

Evaluation Methods (for example: percent credit assigned to initial course outline (10%), preparation for meetings with course instructor (40%), and written paper and seminar (50%)). Written papers should be at least 4000 words and contain detailed literature review, methods, results and interpretations, challenges and solutions, and lastly a list of new things learned.

Relationship to Thesis (work done for an independent study course may not be used as part of, or overlap with, the thesis; complementary topics, however are permitted):

I _____ **[Student Name]** agree to what is expected (detailed above) of me in the BME-799 course.

Student Signature _____

Course Instructor's Signature(s) _____

Director's Signature _____