

# MATH 790 — MAJOR RESEARCH PROJECT

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**Purpose of the course** This course gives students the experience of independent research and provides an introduction to research-level mathematics. Students conduct independent research and write a substantial essay on a topic proposed by, or approved by, a faculty member, who acts as their advisor for the essay. The topic may be in an area of research of one of the departmental members, or may be related to the teaching of mathematics. The essay should be from 5 000 to 10 000 words, or 10–20 L<sup>A</sup>T<sub>E</sub>X pages (12 point font, 2.5cm margins), long, whichever is shorter, and may be an expository work on a recent advance in the field. Students are expected to deliver an oral presentation of their essay. This course is required for the fulfillment of the program requirements of the M.Sc. project option.

Students are responsible for finding a supervisor for their project, and should identify a suitable faculty member by December 1 at the latest. If you need help, I will be happy to provide advice. You are encouraged to approach all professors whose research you are interested in, and to consider several options before making a final decision. Information about the research interests of different faculty members can be found on their webpages. You must inform me about your choice of the supervisor and the topic as soon as it has been finalized (you can do this via Email to me with CC to the supervisor).

**Text** Monographs and journal articles chosen in consultation with the student's project advisor.

**Evaluation** The student will submit an essay 10–20 pages long (typeset in L<sup>A</sup>T<sub>E</sub>X using a 12 point font and 2.5cm margins; the page count does not include references) and will make an oral presentation on his/her research topic. A draft of the essay should be submitted at the beginning of June for a late June presentation during a special Symposium Day. The final version of the essay is expected to be submitted by the end of June.

**Final mark** The final mark will be calculated as follows:

Essay	70% (marked by the project supervisor)
Oral Presentation	30% (marked by an evaluation panel of faculty members)

I reserve the right to change the weight of any portion of this marking scheme. If changes are made, your grade will be calculated using the original weightings and the new weightings, and you will receive the higher of the two grades. At the end of the course the grades may be adjusted, but this can only increase your grade and will be done uniformly. I will use the grade equivalence chart in the university calendar to convert between letter grades, grade points and percentages.

**Excused Absences** Exemptions from the assignments or tests for valid reasons are possible, but must be requested through the office of the Associate Dean of the Faculty that you are registered with. In the event of an exemption, no make up test or assignment will be administered, but your course grade will be re-weighted by increasing the weight of the final examination to compensate for the missed test or assignment.

**Academic Integrity** You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: Grade of F assigned for academic dishonesty), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at:

<http://www.mcmaster.ca/academicintegrity>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

Attention is drawn to the "Statement on Academic Ethics" and "Senate Resolutions on Academic Dishonesty" as found in the Senate Policy Statements distributed at Registration and available in the Senate Office. Any student who infringes on one of these resolutions will be treated according to the published policy. In particular, it is expected that the assignments shall be done and submitted as individual work. Students may discuss general problems or approaches, but the final solution must be a result of the student's own effort.

The Faculty of Science is concerned with ensuring an environment that is free of all adverse discrimination. If there is a problem that cannot be resolved by discussion among the persons concerned, individuals are reminded that they should contact their Department Chair, the Sexual Harassment Office or the Human Rights Consultant, as soon as possible.