

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
DEPARTMENT OF PHYSICS AND PHYSICAL OCEANOGRAPHY

DOCUMENT 45-1 (Amended)

October 2016

**HONOURS THESES
Policy & Guidelines**

Candidates for the Honours B.Sc. degree in physics are required to submit a thesis (dissertation) based upon research carried out by the student under the supervision of a faculty member (supervisor). The purpose of writing a thesis is to provide the student with an opportunity to pursue a project in depth outside the usual constraints of course work and to organize and analyse the results, communicate these clearly and make the research done accessible to others. It is intended that this project will give the student experience of independent research and some familiarity with the scientific literature.

These guidelines are intended to help the students and their supervisors in planning and producing an Honours thesis. It is noted that an Honours thesis is not meant to be equivalent to a graduate dissertation. In the Department of Physics and Physical Oceanography, the thesis is worth a two-course credit (P490A/B). The work required to complete the thesis should reflect the credit value awarded to the student.

Choosing a Supervisor and Project

Students are advised to select a supervisor and choose a possible thesis topic sometime during their third year or earlier if possible. This selection must be made before the student will be given permission to register for P490A. Students who have difficulty finding a supervisor should consult with the Academic Program Officer.

The supervisor, in consultation with the candidate, must inform the course instructor in writing, of the programme of study and the subject of the research. A tentative title and outline of the thesis research should be provided. This information will be reviewed by the Department Head or delegate (normally the chair of the Undergraduate Studies Committee) and must be approved before the student will be permitted entry to P490A, normally in the fall of the final year.

Physics 490A/B Course Requirements

Registration in P490B will be contingent upon receipt (by the course instructor) of a report from the supervisor and the student. The student is required to report on his or her progress and the supervisor is required to provide an evaluation of the work of the student and to assign a grade of pass or fail to P490A. The report shall include information provided by the student (1) outlining the work completed in P490A, and (2) giving a clear plan for the completion of the thesis in P490B, plus (3) an evaluation by the supervisor indicating the progress made by the student. A talk based upon the thesis work is required and will normally be given near the end of P490B.

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Thesis Assessment

The thesis will be assigned a mark by three readers of the thesis, the supervisor and two other readers appointed by the course instructor on the recommendation of the supervisor. The grade will be awarded by the Undergraduate Studies committee after review of the work. Two unbound copies of the thesis must be submitted to the course instructor no later than the fifth day following the end of the formal examination period. MARKS WILL NOT BE RELEASED BY THE DEPARTMENT UNTIL THIS PROCESS IS COMPLETE.

Joint Honours

In a joint Honours programme the thesis may be completed in either Department, although the thesis topic must be approved by both Departments concerned.

Contents of the Thesis

An Honours thesis is not a graduate dissertation and thus it is not expected that publications in the primary literature must result from the work. The thesis work might include one or more of the following:

- (a) Design and construction of the apparatus for an experiment (undergraduate or research laboratory) with a review of the relevant theory.
- (b) Analysis and interpretation of an existing set of data.
- (c) Computational work on a well-defined problem.
- (d) A detailed review of the scientific literature relating to a well-defined subject. It would be necessary to read and digest a suitable number of papers and related background material.
- (e) Conduct a well-defined experiment in a research lab and report on and interpret the results.

The Honours thesis should represent the work load of two one-semester courses. The supervisor and the student should keep this in mind when planning for and preparing the dissertation. While the department is eager to encourage students to produce their best effort, the student is not expected to produce graduate level work in an undergraduate course.

Organization of the Thesis

The supervisor and student are advised to consult Honours theses available in the Physics Seminar Room to determine how the thesis should be put together. The thesis should be concise (normally 30-50 pages), articulate and logical in form using the established formats for MSc and PhD theses. The student and supervisor are advised to consult the guide for thesis preparation produced by the School of Graduate Studies.

Approved by the Departmental Faculty Committee, October 12, 2016

J. B. Lagowski, Head