

ENG PHYS 3H04 A/B S and 4H04 A/B S  
 Research Project in Engineering Physics  
 Course Outline

**CALENDAR/COURSE DESCRIPTION**

A special program of studies to be arranged by mutual consent of a professor and the student, to carry out experiments and/or theoretical investigations. A written report and oral defence are required.

**PRE-REQUISITES AND SCHEDULING**

The requirement for admission to 3H04 or 4H04 is a cumulative grade point average of 8.

Students may enroll in 3H04 and/or 4H04 in one or more of the 2-term sessions shown in the Table below. 3H04 and 4H04 may each be taken twice. Students may choose the same Faculty Supervisor for up to 8 units of all enrolments in 3H04 and/or 4H04 courses.

	Regular Eng Phys Program		5-year Eng Phys Program	
3H04	Level 1		Level 1	Fall
				Winter
				Spring
				Summer
	Level 2	Fall	Level 2	Fall
		Winter		Winter
		Spring		Spring
		Summer		Summer
	Level 3	Fall	Level 3	Fall
		Winter		Winter
		Spring		Spring
		Summer		Summer
Level 4	Fall	Level 4	Fall	
	Winter		Winter	
	Spring		Spring	
	Summer		Summer	
Level 5	Fall	Level 5	Fall	
	Winter		Winter	

Students enrolled in 3H04 or 4H04 are required to conduct research under the supervision of a faculty member. Subject to Department approval, students are permitted to be supervised by faculty members in other Engineering departments. Subject to Department approval, students from other departments are permitted to take either course if their supervisor is a faculty member of the Department of Engineering Physics.

The research conducted for 3H04 or 4H04 is unpaid training eligible for course credit. Students may not obtain 3H04 or 4H04 course credit for the same research conducted while simultaneously employed part-time or full-time as a paid research assistant. To ensure that the research conducted under 3H04 or 4H04 is distinct from any paid research, the supervisor for 3H04 or 4H04 must be different than the employment supervisor.

#### INSTRUCTOR OFFICE HOURS AND CONTACT INFORMATION

As agreed to by the student and Faculty Supervisor.

#### COURSE OBJECTIVES

Students will gain experience in experimental and/or theoretical research methods.

#### MATERIALS AND FEES

**Required Texts:** None.

**Recommended Reading:** By arrangement with the Supervisor

**Calculator:** None.

**Other Materials:** None.

#### COURSE OVERVIEW

At certain points in the course it may make good sense to modify the schedule outlined above. The faculty supervisor reserves the right to modify elements of the course and will notify students accordingly.

#### ASSESSMENT

The expectation is for the student to spend an average of 3 hours per week on laboratory work + 2 hours on reading/writing for Fall/Winter students. This rate is double for Spring/Summer students.

**Weekly Reports, 1 page max (25%):** /25%

Starting the first week, for each regular week, in both terms, excluding exam period, describe what you did each week and your goals for the following week. Submit by email to the Faculty Supervisor.

**Final Report (25%):**

Write a report in the style of a journal article.

This should include Abstract/Introduction/Experimental Details/Discussion/Conclusions

15 pages maximum

- Format and clarity /10%
- Technical understanding /15%

**Oral Presentation – 20 minutes (25%):**

A Departmental oral presentation will be held in March/April for Fall/Winter students and August for Spring/Summer students.

- |   |     |
|---|-----|
| <input type="checkbox"/> Used the presentation time appropriately                     | /5% |
| <input type="checkbox"/> The presentation was interesting                             | /5% |
| <input type="checkbox"/> The speaker answered questions effectively                   | /5% |
| <input type="checkbox"/> The presentation was at an appropriate technical level       | /5% |
| <input type="checkbox"/> The presenter demonstrated a good understanding of the topic | /5% |

**Quality of Work (25%):**

- |  |      |
|--|------|
| <input type="checkbox"/> Presented the data clearly in discussions                 | /10% |
| <input type="checkbox"/> Planned the experiments / made good use of time           | /10% |
| <input type="checkbox"/> Demonstrated an ability to conduct research independently | /5%  |

Note: This assessment scheme is representative. It may be modified, by the Faculty Supervisor, and replaced with another written assessment scheme, to be provided to the student at the outset of the course.

<b>ACADEMIC INTEGRITY</b>
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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.

<b>ACADEMIC ACCOMMODATIONS</b>
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Students who require academic accommodation must contact Student accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contact by phone at 905.525.9140 ext. 28652 or e-mail at [sas@mcmaster.ca](mailto:sas@mcmaster.ca). For further information, consult McMaster University's Policy for [Academic Accommodation of Students with Disabilities](#).

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the Religious, Indigenous and Spiritual Observances (RISO) policy. Students requiring a RISO accommodation should submit their request to their Faculty Office normally within 10 working days of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their

examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests. You can find all paperwork needed [here](#).

#### NOTIFICATION OF STUDENT ABSENCE AND SUBMISSION OF REQUEST FOR RELIEF FOR MISSED ACADEMIC WORK

1. The [McMaster Student Absence Form](#) is a self-reporting tool for Undergraduate Students to report absences DUE TO MINOR MEDICAL SITUATIONS that last up to 3 days and provides the ability to request accommodation for any missed academic work. Please note, this tool cannot be used during any final examination period.
2. You may submit a maximum of 1 Academic Work Missed request per term. It is YOUR responsibility to follow up with your Instructor immediately (NORMALLY WITHIN TWO WORKING DAYS) regarding the nature of the accommodation. Relief for missed academic work is not guaranteed.
3. If you are absent for reasons other than medical reasons, for more than 3 days, or exceed 1 request per term you MUST visit the Associate Dean's Office (JHE-H301 (Hatch Building)). You may be required to provide supporting documentation.
4. This form must be submitted during the period of absence or the following day, and is only valid for academic work missed during this period of absence.
5. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.
6. You should expect to have academic commitments Monday through Friday but not on Saturday, Sunday or statutory holidays.

#### NOTICE REGARDING POSSIBLE COURSE MODIFICATION

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.