

PHYD01H3 – Fall 2019

Research Project in Physics and Astrophysics

Coordinator: Prof. Dan Weaver
Email: dan.weaver@utoronto.ca
Office: SW 506H
Office Hours: By appointment

Course Description:

Introduces students to current research in physics or astrophysics under the supervision of a professorial faculty member. Students undertake an independent project that can be of a theoretical, computational or experimental nature. Evaluation is by the supervising faculty member in consultation with the course supervisor. Students must obtain consent of the course supervisor to enroll in this course.

Prerequisites:

14.0 credits, cumulative GPA of at least 2.5, and permission from the coordinator.

Exclusions:

PHY478H, PHY479Y1

Enrolment:

Enrolment requires that students request the course on ACORN, inform the course coordinator of the intent to take the course, meet with a supervisor and obtain their signature on a Supervised Study form (acquired from the Office of the Registrar, e.g., [here](#)), obtain

Course Expectations:

Students should learn about all aspects of conducting the research from the supervisor, and the student will be asked to submit a proposal for the project to the supervisor. The course coordinator must also be sent a copy of the proposal.

Details about course evaluation:

Written proposal

The research proposal is the first major component of the independent research courses. This document should:

Describe the topic and the motivation for the research.

- Why is this a good area for study? What is its significance? What problems does it solve or contribute to solving?

Make connections between the proposed research and the existing literature (include references).

Identify the specific questions you wish to answer or explore.

Specify what methods or techniques you will use to carry out the research.

- This should make clear whether you have an understanding of these techniques and seek to apply them, or if you are also developing these skills.

Set out benchmarks for accomplishing the intended work. E.g., set out an expected timeline for the term.

Identify challenges you anticipate and your strategy for overcoming them. Ensure your plan is achievable.

Be clear about the outcomes of the project: what are the goals and objectives?

The document should be clear, concise, and focus on the major themes. 3 – 5 pages should suffice. Use 12 point font, single line spacing, and 2 cm page margins.

Progress updates

Short progress updates must be emailed to the course coordinator and supervisor *on the last day of October and November*. These updates should be a minimum of half a page long and a maximum of one page. These updates should include:

the goal of the project,
work done so far,
expected challenges, and
general plan for the next month.

Progress updates will not be graded but will be an opportunity for formative evaluation – i.e., they will be an opportunity for students to reflect on their progress and challenges, prompt feedback from the supervisor, and update the course coordinator.

Final report

Student must produce a substantive paper or written report containing significant analysis and interpretation of a previously approved topic or project. The student must submit the paper or report to the research advisor during the semester of enrolment in the independent study course.

The report shall be 5 – 10 pages and use 12 point font, single line spacing, and 2 cm page margins. This length includes figures and excludes references or appendices. Latex is preferred. If using Word, please submit final files as a PDF.

The Centre for Teaching and Learning (CTL) has a writing centre with resources and staff to assist in your report writing skills. It is strongly advised that you make use of this service.

The supervising faculty member is responsible for reading research proposals and drafts of the final report, giving timely and constructive feedback, and submitting the final grade for the course coordinator.

The final report is due on the last day of classes: December 2, 2019. A printed and electronic (PDF format) copy must be given to both the supervisor and course coordinator.

The report grade will be the average of the grade awarded by the supervisor and the course coordinator.

Tips:

All writing benefits immensely from having someone read it and offer comments. This

Relevant U of T Policies

Academic Integrity

The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

Details: <http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>

Potential offences in papers and assignments include using someone else's ideas or words