**PCL298H1 PROJECT COURSE**

**RESEARCH EXPERIENCE IN PHARMACOLOGY & TOXICOLOGY II**

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| ***STUDENT, PLEASE READ CAREFULLY***   * Please note that the PCL298H1 project course is a continuation of the PCL297H1 course, and students are only eligible to enrol in this course if they join their previous lab under the supervision of the same supervisor as they had with PCL297H1. * Please provide the supervisor with the List of Guidelines on pages 2-3 of this document. * Students are required to participate in active research for the equivalent of a minimum of **60 hours of laboratory time in a 12-week period/term (6-weeks for summer sessions).** Students who do not meet the minimum 60 hours requirement will receive a 0. This minimum varies from supervisor to supervisor. Therefore, please discuss your expected on-site research schedule with your supervisor and be clear about the expected time commitment. Please arrange your course timetable accordingly. * All project students are required to attend safety training sessions as indicated by their supervisors on the completed ballot form. These sessions must be completed at the beginning of your project course. * To receive permission to enrol in a project course, the appropriate ballot form must be completed and signed by you and your project supervisor and then submitted by email to [undergrad.pharmtox@utoronto.ca](mailto:undergrad.pharmtox@utoronto.ca) by at least 5 business days in advance of the start of the academic term. Ballot forms will be examined for approval as they are received. It is advisable to submit this form at least two weeks before the academic session begins to ensure timely registration in safety training programs and the receipt of specific course information. Once approval for enrolment has been granted, you will be notified by the Department of Pharmacology and enrolled in the course by the Undergraduate Program Officer (i.e., you cannot enrol directly through ACORN). Please note that students may not be enrolled immediately following acceptance into the course as ACORN has certain time periods for allowed data entry. * It is important that you read the attached Guidelines for Research Experience Course Students. More detailed information about the course will be provided to you once you are registered in the course. |

**GUIDELINES FOR RESEARCH EXPERIENCE IN PCL298H1**

1. This course is part of the Research Experience Program in Pharmacology and Toxicology (PCL298H1). This course consists of supervised research with reading assignments and a written report (to be submitted both to the supervisor and the Department of Pharmacology) by special arrangements with professors in the Department of Pharmacology, or other associated Departments at the University of Toronto. **This course is only open to students who have completed PCL297H1 and wish to continue their research opportunity with the same supervisor. Acceptance is at the discretion of the supervisor based on the performance in the PCL297H1 course.**
2. **ENROLMENT:** A student is permitted to enrol only with the prior consent of the Pharmacology Department. It is the student's responsibility to complete all preparations before the session starts. A fully completed ballot, countersigned by the prospective supervisor, must be submitted by the student to [undergrad.pharmtox@utoronto.ca](mailto:undergrad.pharmtox@utoronto.ca) office for departmental approval before registration in the course will be permitted.
3. **PROJECT:** The research can take a variety of forms, which must be clearly discussed and outlined during the initial student/supervisor interview process and approved by the Department. This is an opportunity for students to further develop their skills within a research laboratory setting. Students will have continued opportunity to become efficient at good lab practices, develop critical thinking and evaluations skills while applying their knowledge and developing trouble shooting skills to practical research questions. Projects can be conducted off-campus (hospitals, research institutes, industrial labs, fieldwork, etc.)
4. **SUPERVISOR:** By accepting a student into a research project, the supervisor makes the implied commitment to keep the student under supervision throughout the fall/winter academic year. Supervisors must discuss with their students, at appropriate times during the project, their assessment of performance and expectations, so that the students will be aware at all times of their relative standing in the course. The budget of the Department of Pharmacology does not provide for reimbursement of expenses incurred by the student's work, nor may the student be held responsible for such expenses. Any required vaccinations (e.g., Hepatitis B) or other project-related expenses are the financial responsibility of the supervisor.
5. **STUDENT:**

* Students are expected to devote a minimumof 60 hours of laboratory time in a 12-week period/term (6-weeks for summer sessions) to the project; the actual distribution of time is flexible as determined by the nature of the project, the environment in which the work is performed, and other course commitments as the case may be. Productivity is part of the assessment.
* Students must discuss with their supervisors, at appropriate times during the session, their assessment of performance and expectations, so that they are aware at all times of their relative standing in the course.

1. **DEPARTMENT:** The Department will be vigilant in maintaining academic standards and in assuring fairness through relatively uniform methods of student assessment. Because this course has no final examination, in matters of dispute, it is the duty of the Undergraduate Officer and the Department, in consultation with the coordinators of the courses, to provide advice and interpretation of policy.
2. **EVALUATION:**
3. **Oral Presentation (20% of final mark)**

Recap of PCL297H1 project:

* present your research question and why it matters
* describe how you conducted your research
* explain what you found out and what it means
* conclude with a summary of your main points
* present your follow up research question and goals for PCL298H1

1. **In-Course Assessment (30% of final mark)**

* Comprehension of project (scientific basis; literature; objectives)
* Ability to follow directions (initiative; aptitude; perception)
* Ability to be critical (analysis of own work; scientific integrity)
* Productivity (time spent on project; motivation; identification with work)

1. **Lab Notebook in line with Good Lab Practice (5% of final mark)**
2. **Reflection (10% of final mark)**

* Writing a reflective essay on the research process is an opportunity for the students to think back on what they have learned, to recognize their achievements and to identify the challenges that they faced.

1. **Final Report (35% of final mark):**

* **Research Manuscript format:** Final project report organized as an original research article, following the accepted general journal instructions to authors (i.e., Intro, Methods, Materials, Results, Discussion, Figures, Tables, Bibliography) (1500-2000 words)

1. **FALL SESSION:** ***(Please* *Check Arts & Science Timetable for specific dates)***

* In-course assessment: **September - December**
* Completion of work and data collection: **Mid-November**
* Oral presentation: **1 week prior to drop date**
* Final Report: **Last week of term in December**
* Research Reflection:  **One week after completion of the course**
* Final mark reported by the supervisor to department: **One week after submission of report**

1. **WINTER SESSION:** ***(Please* *Check Arts & Science Timetable for specific dates)***

* In-course assessment: **January - April**
* Completion of work and data collection: **Mid-March**
* Research objectives/Project hypothesis: **1 week prior to drop date**
* Assignment 2: **Last week of term in April**
* Final mark reported by the supervisor to department **One week after submission of report**

1. **FIRST SUMMER SESSION:** ***(Please* *Check Arts & Science Timetable for specific dates)***

* In-course assessment: **May - June**
* Completion of work and data collection: **TBD**
* Research objectives/Project hypothesis: **1 week prior to drop date**
* Assignment 2: **Last week of term in June**
* Final mark reported by the supervisor to department **One week after submission of report**

1. **SECOND SUMMER SESSION:**  ***(Please* *Check Arts & Science Timetable for specific dates)***

* In-course assessment: **July - August**
* Completion of work and data collection: **TBD**
* Research objectives/Project hypothesis: **1 week prior to drop date**
* Assignment 2: **Last week of term in August**
* Final mark reported by the supervisor to department **One week after submission of report**