Course Description and Syllabus

PHYSIOLOGY 4980E and PHARMACOLOGY 4980E

Academic year: 2017-2018

1. COURSE INFORMATION

Physiology/Pharmacology 4980E include laboratory and workshop components in experimental physiology and pharmacology. Both courses involve laboratory research and communication in science, including written and oral assignments. Students will work on a research project from September to April and submit a final research paper (thesis) to discuss their findings.

Lectures/Workshops: Monday 9:30-11:30 (section 001) or Wednesday 10:30-12:30 (section 002) in DSB 2005 unless otherwise stated.

Extra Information: It is expected that you will be working 15 hours a week in your research lab

Requisites: Registration in the HSP Physiology, Pharmacology or Physiology/Pharmacology program
Physiology 4980 requires Physiol 3120, 3130Z, 3140 as prerequisites
Pharmacology 4980 requires Physiol 3120, 3140, Pharm 3580Z, 3620 as prerequisites

Senate regulation regarding the student’s responsibility regarding requisites:
Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Accessibility Statement

Please contact the course instructors if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.

2. COURSE ADMINISTRATION

Course Managers:
Dr. Fabiana Crowley  Office: MSB 202  (519) 850-2560 fabiana.crowley@schulich.uwo.ca
Office hours: Mondays from 1-3 pm  at MSB 202
Dr. Rommel Tirona  Office: UH C9-100D  (519) 685-8500 e:32102 rommel.tirona@schulich.uwo.ca
Office hours: Fridays from 1-2:30 pm at MSB 205

Teaching Assistants: Meaghan Serjeant  mserjean@uwo.ca
Akina Au  aau53@uwo.ca
Workshop information, course information, and assignments will be found on OWL. Students with OWL issues should see: https://owl.uwo.ca/portal/site/owldocs

3. COURSE CONTENT

Learning Outcomes:

Following completion of this course, successful students will be able to:

1. Synthesize a literature review based on primary publications and develop a rationale and hypothesis for the research project. Formulate a discussion comparing data collected to the current body of evidence in a scientific manuscript format.

2. Demonstrate independent technical expertise for lab procedures and record experimental details in a clear and repeatable manner.

3. Organize, analyze, and communicate the results of the research project in both a preliminary oral presentation and a final scientific poster.

4. Identify key information presented in a departmental seminar and compose a succinct lay summary communicated at the level of a general audience.

Required activities
There are three components to this course:

1. An individual research component in the laboratory of a faculty member in the Department of Physiology and Pharmacology or an external faculty member at Western, if the project is first approved by the Department.

2. Regularly scheduled in class workshops

3. Attendance at Departmental seminars (Mondays at 3:30pm)

Research Project: After interviewing with faculty members at the speed interviews, students will select their top four choices for research supervisors. The 4980 course manager(s) will then assign students to work in a research laboratory for the academic year. Students will be given appropriate instruction in techniques used in the laboratory and will be supervised in carrying out a research project, involving literature review, experimental design, collection and analysis of data, and interpretation of data. Research projects may take the form of relatively independent work, or may involve collaboration on current projects in that laboratory. It is expected that students will spend 15 hours in the laboratory each week.

Classes: This portion of the course will emphasize critical analysis and communication in science. Students will meet throughout the year at assigned times for instruction and practice in these aspects of scientific research. The following activities will be supervised
by the course managers / course committee members and faculty members in the department:

1. Instruction on effective record keeping and lab expectations
2. Instruction on how to give a seminar/scientific presentation
3. Instruction on how to prepare and present a scientific poster
4. Instruction on how to write scientifically for a general audience (lay summary)
5. Instruction on how to prepare a written proposal for a research project
6. Instruction on how to analyze data and choose appropriate statistical tests
7. Presentation of final results of the research project at a poster session
8. Submission of the final results of the project in the form of a scientific paper

4. COURSE MATERIALS

Students should have a laboratory notebook. This may be provided by the research lab or alternatively must be purchased for all record keeping in the lab.

5. EVALUATION

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weight</th>
<th>Evaluators</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RESEARCH PROJECT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written Proposal</td>
<td>5%</td>
<td>2 Faculty members + Course Committee</td>
<td>Oct 6</td>
</tr>
<tr>
<td>Proposal Oral Presentation</td>
<td>10%</td>
<td>Supervisor + Course Committee</td>
<td>Week of Nov 13 or Nov 20</td>
</tr>
<tr>
<td>Lab Performance (term 1)</td>
<td>10%</td>
<td>Supervisor</td>
<td>N/A</td>
</tr>
<tr>
<td>Lab Performance (term 2)</td>
<td>10%</td>
<td>Supervisor</td>
<td>N/A</td>
</tr>
<tr>
<td>Thesis drafts -Peer reviews</td>
<td>5%</td>
<td>4980 Students</td>
<td>Jan 22 &amp; Mar 21</td>
</tr>
<tr>
<td>Final Thesis</td>
<td>25%</td>
<td>Supervisor + Faculty member</td>
<td>Apr 11</td>
</tr>
<tr>
<td>Poster</td>
<td>15%</td>
<td>Supervisor + Faculty members</td>
<td>Apr 2</td>
</tr>
<tr>
<td><strong>SEMINARS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lay Summary</td>
<td>10%</td>
<td>Course Committee</td>
<td>Mar 7</td>
</tr>
<tr>
<td>Data Analysis Assignment</td>
<td>5%</td>
<td>Course Committee</td>
<td>Week of Feb 12</td>
</tr>
<tr>
<td>Attendance &amp; Participation</td>
<td>5%</td>
<td>Course Committee</td>
<td>N/A</td>
</tr>
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**The department reserves the right to make adjustment to the grading scheme if deemed necessary**
A summary of each evaluation is detailed above. In brief, students will be evaluated on their performance in the laboratory by their supervisor. This will include not only technical skills, but also their familiarity with the scientific literature and their contribution to the experimental design, analysis, record keeping and interpretation of the data. This evaluation will be done at two times during the academic year. The first evaluation will be done at the end of the first term and is designed to inform the student on his/her progress to date. The second evaluation will be done at the end of the second term.

For written work, the scientific paper (“thesis”) will be evaluated by the supervisor and one other faculty member chosen by the course committee. Peer evaluations will also be completed on sections of the paper, submitted throughout the year, to help you improve your writing. Supervisors will not assist you in writing your thesis or its components. Students will be evaluated on their other written assignments, as well as their oral presentations, throughout the year by the course committee members and other faculty involved in the scheduled sessions. All faculty members will participate in evaluation of student performance at a poster session at the end of the second term, where students will present the results of their projects. Feedback will be given to students as soon as possible after presentations.

All the written work, including the final scientific paper (thesis), must be submitted electronically through OWL. Hard copies of the paper will not be required.

Student participation in the oral presentation sessions is expected. Attendance at all activities (including workshops) is required. If you are unable to attend a particular session, the usual University requirements for absence apply (see Section 6) and you should inform the course managers as soon as possible.

Important Notes:

A. This course has a number of deadlines. These deadlines are real. Late assignments will be docked 20% per day.
B. Following instructions properly on each assignment submission is very important. This includes submitting assignments in the correct location, formatting the assignment correctly, removing personal information on your files, as well as other details that will be clearly outlined for you for each assignment. We will be deducting 10% from your grade on that assignment for not adhering to instructions.
C. After receiving a mark on an assignment, students will have 2 weeks to send any concerns in writing to the course managers. After this time, re-evaluations will be denied.
D. Students will receive 15% of their final grade by November 27th, 2017.
E. It is the policy of the Department of Physiology and Pharmacology and the BMSc program in the Schulich School of Medicine and Dentistry to report the grade you
earned in the course. Grades will not be “bumped”. For example, if your final grade is 78.45%, it will be entered as 79% and will not be “bumped” to 80%.

6. ADDITIONAL INFORMATION/STATEMENTS

Statement on Academic Offences
“Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website: http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf .”

“All written work will be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com ).”

Absence from course commitments
Students are expected to attend all workshops, seminars, and in class assignments. All assignments must be submitted on time. Should a student require accommodations due to medical illness, the following policy applies.

Absence for medical illness:
Statement from the Academic Counselling Office, Faculty of Science
If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Academic Counselling Office as soon as possible and contact your instructor(s) immediately. It is the student’s responsibility to make alternative arrangements with their instructor once the accommodation has been approved by the Academic Counselling Office and the instructor has been informed. For further information please see: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf

A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record’s Release Form (located in the Dean’s Office) for visits to Student Health Services. The form can be found at: https://studentservices.uwo.ca/secure/index.cfm

Absence for non-medical reasons:
For non-medical absences, documentation must be submitted by the student directly to the appropriate Dean’s/Academic Counselling Office. It will be the Dean’s/Academic Counselling Office that will determine if accommodation is warranted.

**Support Services**

*Registrar Services*: [http://www.registrar.uwo.ca](http://www.registrar.uwo.ca)

*Academic Counselling*: [http://www.uwo.ca/sci/undergrad/academic_counselling/index.html](http://www.uwo.ca/sci/undergrad/academic_counselling/index.html)

*USC Student Support Services*: [http://westernusc.ca/services/](http://westernusc.ca/services/)

*Student Development Services*: [http://www.sdc.uwo.ca](http://www.sdc.uwo.ca)

*Student Health Services*: [http://www.shs.uwo.ca](http://www.shs.uwo.ca)

Students who are in emotional/mental distress should refer to Mental Health@Western [http://www.uwo.ca/uwocom/mentalhealth/](http://www.uwo.ca/uwocom/mentalhealth/) for a complete list of options about how to obtain help.