1. Course Information

Biochemistry 4999E: Advanced Research in Biochemistry
Fall and Winter Term 2018-19

This laboratory course is intended for students interested in pursuing graduate-level research. Lectures on literature searches, data mining, and effective communication; an independent research project (topic and advisor chosen by consultation between student and faculty); scientific communication (introduction to topic, mid-year report, seminar).

Laboratories, Workshops and Seminars:
   a) 12 Laboratory hours per week
   b) 10 Total hours of workshops (5)
   c) Participation in the Biochemistry Graduate Seminars

Prerequisites:
One of Biochemistry 4483E, Biochemistry 4486E, or the former Biochemistry 4485E, and permission of the department.

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.

Student Accessibility Services
Please contact the course instructor 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 University Student Accessibility Services at (519) 661-2147 or visit http://www.sdc.uwo.ca/ssa/ for any specific question regarding an accommodation.
2. Coordinator Information

<table>
<thead>
<tr>
<th>Coordinators</th>
<th>Email</th>
<th>Office Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Ken Yeung (Course Coordinator)</td>
<td><a href="mailto:kyeung@uwo.ca">kyeung@uwo.ca</a></td>
<td>By email appointment</td>
</tr>
<tr>
<td>Dr. Susan Meakin (Alternate)</td>
<td><a href="mailto:smeakin@uwo.ca">smeakin@uwo.ca</a></td>
<td>By email appointment</td>
</tr>
</tbody>
</table>

3. Course Syllabus

This course will provide research skills to prepare students for graduate studies in biochemistry. The major component of the course will involve 12 hours per week of independent research. The course will also include 10 total hours of workshops focusing on key aspects of statistics, scientific writing, scientific communication, analysis of the literature and bioethics. The student will also undertake a literature review of the research area and a research poster presentation and seminar.

4. Evaluation

<table>
<thead>
<tr>
<th>Components</th>
<th>Due Dates (when applicable)</th>
<th>% of Final Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Proposal</td>
<td>September 24th, 8 am</td>
<td>10%</td>
</tr>
<tr>
<td>Mid-term Progress Report</td>
<td>January 7th, 8 am</td>
<td>10%</td>
</tr>
<tr>
<td>Poster</td>
<td>Stewart Research Day</td>
<td>10%</td>
</tr>
<tr>
<td>“Chapter 1”</td>
<td>March 25th, 8 am</td>
<td>20%</td>
</tr>
<tr>
<td>Research Presentation</td>
<td>Tentatively mid-March</td>
<td>15%</td>
</tr>
<tr>
<td>Workshops (5)</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Supervisor Assessment</td>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

Submission of all reports must be done by emailing them to both Drs. Yeung and Meakin, and copying to your supervisor, using your “@uwo.ca” email account. A late penalty of 10% per day will apply. When applicable, inclusion of literature citation outside of the page- or word-limit is allowed.

Research Proposal (2-page limit)
Prepare a mini version of research grant proposal on your work. This will include a summary of research background, work accomplished in 4483E and your research plans for the 4999E course (with supervisor’s input). This will be graded by the 4999 coordinator(s).
Mid-term Progress Report (3-page limit)
Remove the background from your research proposal, and expand your research plan into a detailed outline (in bullet form). Indicate the progression on each experiment with a %-scale. For any incomplete work, lay out the plans to complete and the estimate time it will take. Inclusion of literature citation outside of the page limit is allowed. It will be graded by the 4999 coordinator(s).

Poster Presentation
Students are required to present a poster of their work conducted in Biochem 4999E on the Stewart Research Day. This usually takes place in January, and the exact date will be announced by the department. Posters will be graded by faculty members present and/or 4999E coordinator(s).

Research Seminar Presentation (20 minutes)
Students will present a seminar in March. The presentation and presenter’s ability to address questions from audience will be evaluated by faculty members present.

“Chapter 1” (25000-character limit)
In this report, student is expected to summarize the key literature in the field of research, with a statement of hypothesis and experimental goals. This document is intended to be used as a draft of the introductory chapter for a MSc thesis. It will be graded by the supervisor and 4999 coordinator(s).

Policy on the Rounding and Bumping of Marks
Across the Basic Medical Sciences Undergraduate Education programs and within the department of Biochemistry we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. Final grades on this course, irrespective of the number of decimal places used in marking individual assignments and tests, will be calculated to one decimal place and rounded to the nearest integer, e.g., 74.4 becomes 74, and 74.5 becomes 75. Marks WILL NOT be bumped to the next grade or GPA, e.g. a 79 will NOT be bumped up to an 80, an 84 WILL NOT be bumped up to an 85, etc. The mark attained is the mark you achieved and the mark assigned; requests for mark “bumping” will be denied.

Biochem 4999 Workshops
There are 5 workshops in this course, up to 2 hours each, with each worth 1% of the final mark for attendance. The following are topics of the workshops and the tentative dates:

Scientific Writing Workshop by Writing Support Centre (late October)
Citation Management by Western Library (mid-November)
Concise Scientific Writing by Prof. C. Brandl (mid-January)
Biostatistics by Prof. G. Gloor (tentatively February)
Research Ethics by Profs. Yeung and Meakin (tentatively March)
5. Additional Information/Statements

Statement on Student Conduct
Western’s Code of Student Conduct (https://www.uwo.ca/univsec/pdf/board/code.pdf) prohibits assault, harassment, intimidation, threats, or coercion, as well as discrimination based on grounds including race, ethnic origin, sex, sexual orientation, gender identity, and disability. Students in this course are expected to speak and act in ways that maintain an environment in which all people feel safe and respected.

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: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

All required papers may 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.

Absence from course commitments
Students who are unable to complete any form of course evaluation are required to obtain a medical certificate that is taken to the Academic Counseling Office, NCB 280 (for Science and Basic Medical Science students) or to your appropriate Home Faculty Counseling Office. In the case of an unexpected absence on compassionate grounds, documentation is also requested. Such documentation must be submitted by the student directly to the Academic Counseling office and not to the instructor. An academic counselor in that office will review and either approve or deny the accommodation request. It will be the Academic Counseling office that will determine if accommodation is warranted. This policy applies to all forms of assessment, including evaluations that are less than 10%.

Deadline extensions will be granted on documented illnesses. An opportunity for make-up presentation will be offered for excused absences. Likewise, marks allocated to workshop attendances will be re-weighted for excused absences.
Support Services:
Registrarial Services: http://www.registrar.uwo.ca

Academic Counselling (Science and Basic Medical Sciences): http://www.uwo.ca/sci/counselling

USC Student Support Services: http://westernusc.ca/services/

Student Development Services: http://www.sdc.uwo.ca

Student Health Services: http://www.shs.uwo.ca/

Students who are in emotional/mental distress should refer to Mental Health@Western https://www.uwo.ca/health/mental_wellbeing/self/student.html for a complete list of options about how to obtain help.