1. Course Information

Biochemistry 4999E: Advanced Research in Biochemistry
Fall and Winter Term 2020-21

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 (estimated)
   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/ssd/ for any specific question regarding an accommodation.
2. Contact Information

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<thead>
<tr>
<th>Name and Position</th>
<th>Email</th>
<th>Office</th>
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<tbody>
<tr>
<td>Dr. Ken Yeung (Course Coordinator)</td>
<td><a href="mailto:kyeung@uwo.ca">kyeung@uwo.ca</a></td>
<td>MSB 374, by email appointment</td>
</tr>
<tr>
<td>Ms. Lindsay Ralph (Undergraduate Assistant)</td>
<td><a href="mailto:lhabere@uwo.ca">lhabere@uwo.ca</a></td>
<td>MSB 342, (519) 661-3074</td>
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All course material will be posted to OWL: [http://owl.uwo.ca](http://owl.uwo.ca)

Students are responsible for checking OWL on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. If students need assistance, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk.

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 approximately 10 total hours of workshops focusing on key aspects of research; for example, 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 and Expectations

All required safety and other training courses that must be completed before starting in the lab. Labs can be hazardous places. Ask your supervisor or senior members of your lab what the hazards are and learn how to handle them safely. You are not permitted to work in the lab unsupervised in the evening or on weekends.

You should discuss additional expectations with your supervisor. Most labs will have group meetings that you should plan to attend. The quality of your experience in this course is highly dependent on the efforts that you put in.

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<tr>
<th>Components</th>
<th>Due Dates (when applicable)</th>
<th>% of Final Mark</th>
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<tbody>
<tr>
<td>Research Proposal</td>
<td>September 28th, 8 am</td>
<td>10%</td>
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<tr>
<td>Mid-term Progress Report</td>
<td>January 4th, 8 am</td>
<td>10%</td>
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<tr>
<td>Poster</td>
<td>Stewart Research Day (January)</td>
<td>10%</td>
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<tr>
<td>“Chapter 1”</td>
<td>March 15th, 8 am</td>
<td>20%</td>
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<tr>
<td>Research Presentation</td>
<td>Tentatively late-March</td>
<td>15%</td>
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<tr>
<td>Workshops</td>
<td>First one due on September 30th</td>
<td>5%</td>
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<tr>
<td>Supervisor Assessment</td>
<td>End of the course</td>
<td>30%</td>
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Submission of all reports must be done by emailing them to Dr. Yeung (kyeung@uwo.ca), and copying it to your supervisor, using your “@uwo.ca” email account. No reminders on the due dates will be sent. 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 title, 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 4999E coordinator.

**Mid-term Progress Report** (3-page limit)
Remove the background from your research proposal and expand your research plan into a detailed outline that lists the experimental work (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 4999E coordinator.

**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, with the exact date announced by the department. If this event is held virtually this year, you will be asked to prepare a poster, and record a video presenting the poster prior to the event. You may also be asked to join a Zoom session to answer questions. Posters/videos will be graded by faculty members present.

**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/or the 4999E coordinator.

**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** *(subject to change due to COVID-19)*
There are a number of online or in-person workshops in this course, in which marks are allocated for attendance or completion. The following are *tentative* the topics and dates:

- **2% - Online Writing Assistance with Writing Support Centre**  Submit your previous 4483 thesis to the Writing Support Centre ([http://writing.uwo.ca/undergrads/online_writing_help.html](http://writing.uwo.ca/undergrads/online_writing_help.html)) and arrange a 50-min counselling session on how to improve your writing. After the end of the sessions, arrange to have your TA sending an email to Dr. Yeung to confirm your participation.

- **1% - Biostatistics Workshop** *(tentatively late in the Fall term)* by Prof. G. Gloor

- **1% - Advanced Literature Searches/Research Skills** *(tentative)*  Check this website later for Workshops offered this year: [https://www.lib.uwo.ca/researchskillworkshops/index.html](https://www.lib.uwo.ca/researchskillworkshops/index.html)

- **1% - Research Ethics/Integrity Online Tutorial** *(complete by September 30*, see below)*

By the end of September, students are required to complete online learning modules on Research Integrity, using the "*responsible conduct of research training*" subscribed by Western: [https://www.uwo.ca/research/ethics/research_integrity.html](https://www.uwo.ca/research/ethics/research_integrity.html)

Instructions are available on OWL (under Resources).

### 5. Academic Consideration for Missed Work

**Accommodation Policies**
Students with disabilities work with Accessible Education (formerly SSD) which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The Academic Accommodation for Students with Disabilities policy can be found at: [https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf)

**Academic Consideration for Student Absence**
Students will have up to two (2) opportunities during the regular academic year to use an online portal to self-report an absence during the semester, provided the following conditions are met: the absence is no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student’s final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-
reported absence, unless noted on the syllabus. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (e.g., December and April exams)
- absence of a duration greater than 48 hours,
- assessments worth more than 30% of the student’s final grade,
- if a student has already used the self-reporting portal twice during the academic year

If the conditions for a Self-Reported Absence are not met, students will need to provide a Student Medical Certificate if the absence is medical, or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office to obtain more information about the relevant documentation.

Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. All documentation required for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student’s Home Faculty.

For policy on Academic Consideration for Student Absences - Undergraduate Students in First Entry Programs, see: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Consideration_for_absences.pdf
and for the Student Medical Certificate (SMC), see: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

Religious Accommodation
Students should consult the University’s list of recognized religious holidays, and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic Counsellor if their course requirements will be affected by a religious observance. Additional information is given in the Western Multicultural Calendar: https://multiculturalcalendar.com/ecal/index.php?s=c-univwo

6. Academic Policies

The website for the Office of the Registrar is http://www.registrar.uwo.ca

Official Email Addresses
In accordance with policy, http://www.uwo.ca/its/identity/activatenonstudent.html
the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

**Contingency plan for an in-person class pivoting to 100% online learning**
In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any remaining assessments will also be conducted online as determined by the course instructor.

**Student Conduct**
Western’s Code of Student Conduct ([https://www.uwo.ca/univsec/pdf/board/code.pdf](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.

**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/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf)

**Plagiarism Detection Software**
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.

**Use of Zoom Software**
Presentations and answering of questions from audience in this course will be conducted using Zoom. Students will be required to keep their cameras on for the entire session and share their screens with the attendants during their presentations. The Zoom session will not be recorded.*

More information about the use of Zoom for exams, or student assessments in general, is available in the Online Proctoring Guidelines at the following link: [https://www.uwo.ca/univsec/pdf/onlineproctorguidelines.pdf](https://www.uwo.ca/univsec/pdf/onlineproctorguidelines.pdf)
Completion of this course will require you to have a reliable internet connection and a device that meets the system requirements for Zoom. Information about the system requirements are available at the following link:
https://support.zoom.us/hc/en-us

* Please note that Zoom servers are located outside Canada. If you would prefer to use only your first name or a nickname to login to Zoom, please provide this information to the instructor in advance of the test or examination.

**Additional Support Services**
Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on add/drop courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: https://www.uwo.ca/sci/counselling/

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Student Accessibility Services (SAS) at (519) 661-2147 if you have any questions regarding accommodations.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: https://www.uwo.ca/se/digital/.

Learning-skills counsellors at the Student Development Centre (http://www.sdc.uwo.ca) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

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

Additional student-run support services are offered by the USC, http://westernusc.ca/services.