

BIOCHEMISTRY 409: Proteomics COURSE OUTLINE – SPRING 2018

Proteomics

The objective of this course is to examine in detail the use of proteomics in advanced biological applications.

Instructor: John Burke

Coordinator: Dr. John Burke

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Office Hours: Tuesday and Wednesday 12:30 PM – 1:30 PM or by appointment.

Schedule: Tuesday, Wednesday, and Friday 11:30 am – 12:30 pm, ELL 162

Readings: Readings will be posted on the course web site.

Textbook: none required

Topics (with approximate dates)

Dates (Friday date)	Topic	Instructor
Jan 5th	Introduction to proteomics	Burke
Jan 12th	Introduction to mass spectrometry infrastructure for biological applications	Burke
Jan 19th	Protein/peptide identification, Midterm 1 (Jan 19th)	Burke
Jan 26th	Guest Lecture (Caroline Cameron, 24 th), Databases	Burke
Feb 2nd	Protein quantification / stable isotope labeling	Burke
Feb 9th	Post translational modifications	Burke
Feb 16th	Reading Break	Burke
Feb 23rd	Applications, review, Midterm (23rd)	Burke
Mar 2nd	Immunoproteomics, structural proteomics (HDX)	Burke
Mar 9th	Structural proteomics (HDX and chemical cross-linking)	Burke,
Mar 16th	Structural proteomics (Chemical cross-linking, surface modification, ion mobility)	Burke
Mar 23rd	Applicatins, Cryo EM	Burke
Mar 30th	Cryo EM	Burke
April 6 th	TBD	

Student Evaluation:

Midterm 1 (Jan 19 th)	20%
Midterm 2 (Feb 23 rd):	25%
Final :	40%
Assignments: 3 assignments (5% each)	15%

There is no assigned text for the course; topics will be drawn from primary and review literature, assigned in class, and posted on the course website. Students are expected to complete the reading assignments and the material will be included in the midterm and final exams. There will be several 1-page, research or reading assignments made throughout the course. We expect students to attend all the lectures, take notes, and participate in classroom discussions. Students are expected to attend all midterm exams on the specified dates. Late assignments will not be marked and given a grade of 0. The slides used for lectures will be provided on the website before class, however these should not be considered complete and students are responsible for all material presented in class.

UVic Grading Scheme

A⁺ 90 -100	B⁺ 77 - 79	C⁺ 65 - 69	F < 50
A 85 - 89	B 73 - 76	C 60 - 64	N ** < 50
A⁻ 80 - 84	B⁻ 70 - 72	D 50 - 59	

**** N grades**

Students who have completed the following elements will be considered to have completed the course and will be assigned a final grade:

- **Final, both midterms, 2 of the 3 assignments**

Failure to complete one or more of these elements will result in a grade of "N" regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student's GPA as 0. The maximum percentage that can accompany an N on a student's transcript is 49.

DEPARTMENT INFORMATION AND POLICIES

1. The Department of Biochemistry and Microbiology upholds and enforces the University's policies on academic integrity. These policies are described in the current University Calendar. All students are advised to read this section.
2. Cell phones, computers, and other electronic devices must be turned off at all times unless being used for a purpose relevant to the class. Students having a cell phone, tablet, or computer on their person during an exam will be assumed to have it for the purpose of cheating.
3. Any recordings of lectures may only be performed with written permission of the instructor, and are for personal use only. The instructor retains copyright to such recordings and all lecture materials provided for the class (electronic and otherwise); these materials must not be shared or reposted on the Internet.
4. Course materials, such as notes, problem sheets, quizzes, examinations, example sheets, or review sheets, may not be redistributed without the explicit written permission of the instructor.

5. Students are expected to be present for the midterm and final exams. Instructors may grant deferrals for midterm examinations for illness, accident, or family affliction, and students must provide appropriate documentation 48 hours after the midterm exam. The Department of Biochemistry and Microbiology considers it a breach of academic integrity for a student taking a deferred examination to discuss the exam with classmates. Similarly, students who reveal the contents of an examination to students taking a deferred examination are considered to be in violation of the University of Victoria policy on academic integrity (see current University Calendar). Deferral of a final exam must be requested with an Academic Concession form and submitted directly to Undergraduate Records. Deferred final exams for fall term courses will be arranged by the instructor. Deferred final exams for spring term courses will be arranged through Undergraduate Records and must be written before the end of the summer term as stipulated in the University Calendar.
6. Multiple choice scan sheets for machine scoring (bubble sheets) are considered the authentic exam answer paper and will be retained by the department for 1 year.
7. Professors may refuse to review/remark exams not written in indelible ink. In addition, requests for review/remark of a midterm exam must be made within one week of the exam being returned. Students are expected to promptly pick up midterm exams after marking has been completed, either in class or from the instructor.
8. Examination papers that have pages removed, or are mutilated will not be marked.
9. The instructor reserves the right to use plagiarism detection software or other platforms to assess the integrity of student work."

Centre for Accessible Learning

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, approach the Centre for Accessible Learning (CAL) as soon as possible in order to assess your specific needs.

<https://www.uvic.ca/services/cal/index.php>

Course Experience Survey (CES)

I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to your [CES dashboard](#). You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. I will remind you nearer the time but please be thinking about this important activity