

Department of Biology Course Outline

SC/BIOL 4141 3.00 Current Topics and Methods in Cell Biology
Fall 2024/25

Course Description

Selected topics in cell biology, such as membrane dynamics, cell cycle control, apoptosis, signal transduction and cellular rhythmicity. Presentation and critical discussion of recent research papers, emphasizing current methods and experimental design. Three lecture hours. One term. Three credits

Prerequisites (strictly enforced)

Prerequisite: SC/BIOL 3130 3.00

Students without pre-requisite must request permission from the instructor. Permission will only be granted if the student has adequate background knowledge and there are spaces available in the course.

Course Instructor and Contact Information

Dr. Patricia Lakin-Thomas (Dr. Pat)

- 005 Farquharson
- Phone: (416) 736-2100 x33461
- Student hours: Tues & Thurs 1:00 – 2:00 pm (after class) or by appointment (please email for appointment)
- E-mail: plakin@yorku.ca I will try to respond within one working day, or answer your question at the next class meeting or on eClass if appropriate.

Schedule/Course Format

Class times and location: Tues & Thurs 11:30 – 1:00, CB 129

This class is delivered in person. There is no remote option. Live class sessions will not be recorded.

COVID Policies

- See York's COVID website for details:
 - <https://students.yorku.ca/health/communicable-diseases/covid-19>
- Masks are not required, but are STRONGLY ENCOURAGED. Our classroom is a crowded indoor environment with poor ventilation.
- Vaccination is not required, but is STRONGLY ENCOURAGED. Get your booster as soon as you are eligible.
- Use the Province of Ontario's self-assessment tool if you have any symptoms of COVID-19 or tested positive. Once completed, you will get a recommendation on what to do next.

<https://www.ontario.ca/self-assessment/>

Technology Requirements

- Internet connection for accessing material, including videos, on eClass.
- Technology for preparing (and possibly recording) a presentation (laptop/desktop computer, not just a phone). PowerPoint on a laptop is the best. If you use online presentation software you must export an editable file (not a pdf).

Evaluation

Presentation 30%, quizzes 20% (best 15 out of 18, plus optional first practice quiz), midterm 20%, final exam 30%

- Some student presentations will be pre-recorded and uploaded to eClass and some will be delivered live in class.
- Papers, presentation formats and dates will be assigned based on preference lists submitted by students. The instructor will randomly assign papers when many students have the same priorities.

Quiz Policy: You can miss up to 3 quizzes without penalty. This covers any illness, religious accommodation, late enrolment or any other absence. No documentation will be required. The first quiz will be an optional practice quiz. It will be included in your quiz grade only if it raises the mean. You will still be able to drop the three lowest quiz grades if you opt out of the first quiz.

COVID policy: If you miss a quiz because of COVID, you can drop it from your total in addition to the three usual dropped quizzes. You must send Dr. Pat a screenshot of your failed Ontario screening if you want this option.

Exam format: paragraph-length essay answers and a few shorter answers. The exams are in person, open-book and open-note. Bring paper copies of all the papers and your notes to use during the exam. No electronics are allowed during the exam.

NOTE: Final course grades may be adjusted to conform to Program or Faculty grade distribution profiles.

Important Dates

- First and Last Class Meetings: Sept 5 – Dec 3
- Reading Week (no classes, University open): Oct 12 - 18
- Midterm date: Oct 22 (in class)
- Drop Deadline: Nov 8 (last day to drop without course on transcript)
- Course Withdrawal: Nov 9 – Dec 3 (course still appears on transcript with 'W')

NOTE: for additional important dates such as holidays, refer to the "Important Dates" section of the Registrar's Website at <https://registrar.yorku.ca/enrol/dates>

Resources

Website: eClass

Learning Outcomes

On completing this course, students should be able to:

- critically read original research papers in cell biology.
- deliver a presentation of recent research at a professional level.
- describe recent developments in a selected set of topics at the frontiers of cell biology research.
- suggest appropriate methods for answering questions about cells and evaluate the pros and cons of current methodologies for investigating cell structure and function.
- suggest and evaluate experimental designs in cell biology research.

Course Content

Five current topics will be covered. Each will be introduced by a recent review followed by 3 or 4 primary papers relevant to the topic. Students will give presentations summarizing the papers and the course director will lead critical discussions on aspects of the papers.

See detailed course schedule for the list of papers.

Course Policies

Late policy

Presentations will not be accepted after the assigned date unless you have a legitimate excuse, in which case the presentation will be submitted at the first opportunity.

Missing the midterm

If the midterm is missed due to a legitimate excuse, the weight will be assigned to the final exam. Students are not required to submit medical documentation.

Missing a quiz

There will be one quiz per paper, for a total of 18 (plus one optional bonus quiz for the first paper). The grade will be based on the best 15. If you miss a quiz for any reason, including illness or religious accommodation, it will come out of the 3 dropped quiz grades. See COVID policies for exceptions to this rule. There will be no make-up quizzes.

Missing the final exam

If the final exam is missed due to a legitimate excuse, you must email the instructor within 2 days of the final exam to either arrange a make-up exam or file a deferred standing agreement form.

University Policies

Academic Honesty and Integrity

Academic misconduct undermines the values of honesty, trust, respect, fairness, and responsibility that we expect in this class. York University provides supports such as academic integrity workshops to ensure that all students understand the norms and standards of academic integrity that we expect you to uphold.

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards. Please review and familiarize yourself with the policy. There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve your research and writing skills, and

cope with University life. Students are expected to review the materials on the Academic Integrity website:

Examples of actions that do not adhere to York's Academic Integrity Policy include:

- Plagiarism (passing off someone else's work as your own)
- Accessing unauthorized sites for assignments or tests
- Unauthorized collaboration on assignment and exams
- Uploading work to third party repository sites (e.g., Course Hero, One Class, etc.)
- Scanning, sharing, uploading, or publishing exams, tests, or scholarly work

For more information on what academic integrity is and why it is important see:

<https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>. Information on the process of investigations into breaches of academic honesty:

<https://spark.library.yorku.ca/academic-integrity-breach-of-policy-on-academic-honesty/>

Important Note from the FSc Committee on Examinations & Academic Standards (CEAS):

Numerous students in Faculty of Science courses have been charged with academic misconduct when materials they uploaded to third party repository sites (e.g., Course Hero, One Class, etc.) were taken and used by unknown students in later offerings of the course.

Whenever a student submits work obtained through an external site (e.g., Course Hero, Chegg), the submitting student will be charged with plagiarism and the uploading student will be charged with aiding and abetting. To avoid this risk, students are urged not to upload their work to these sites.

Assistance for Students (Academic and Well-Being)

Academic Advising*: <https://www.yorku.ca/science/academic-advising/> *Departments also offer program-specific advising. Check with your Department's Undergraduate Office.

Centre for Human Rights, Equity, and Inclusion: <https://rights.info.yorku.ca>

Centre for Indigenous Students Services: <https://aboriginal.info.yorku.ca/>

Good2Talk 24-hour Ontario Student Helpline: 1-866-925-5454 /Text: GOOD2TALKON to 686868

Keep.meSAFE: <https://myssp.app/keepmesafe/ca/home>

Learning Commons (general academic learning supports including library research, time management, study skills, career planning, etc.): <https://learningcommons.yorku.ca/>

Peer Assisted Study Sessions (PASS): <https://www.yorku.ca/colleges/bethune/get-help/pass/>

Peer Tutoring: <https://www.yorku.ca/colleges/bethune/help/tutoring/>

Sexual Violence Response and Support: <https://thecentre.yorku.ca>

Student Counselling, Health & Well-being: <https://counselling.students.yorku.ca/>

Support Services for International Students: <https://yorkinternational.yorku.ca/international-student-support/>

Writing Services: <https://www.yorku.ca/colleges/bethune/writing/>

York University Student Services: <https://students.yorku.ca/services-and-support>

York University Student Well-being Resources: <https://www.yorku.ca/well-being/resources/students/>

Accessibility

York University is committed to principles of respect, inclusion, and equality of all persons with accessibility needs across campus. The University provides services for students with accessibility needs (including physical, medical, learning, and psychiatric needs) needing

accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with accessibility services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with accessibility services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Student Accessibility Services: <https://students.yorku.ca/accessibility>

York Accessibility Hub: <https://www.yorku.ca/accessibilityhub/>

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course Director immediately. To arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete and submit an accommodation request form at least 3 weeks before the exam period begins.

<https://secure.students.yorku.ca/pdf/religious-accommodation-agreement-final-examinations.pdf>

Student and Instructor Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at <https://www.yorku.ca/secretariat/policies/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/>

Academic accommodation refers to educational practices, systems and support mechanisms designed to accommodate diversity and difference. The purpose of accommodation is to enable students to perform the essential requirements of their academic programs. At no time does academic accommodation undermine or compromise the learning objectives that are established by the academic authorities of the University.

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<https://calendars.students.yorku.ca/policies-and-regulations>