



MCB*4600 Topics in Molecular and Cellular Biology

Winter 2024

Section(s): 01

Department of Molecular and Cellular Biology

Credit Weight: 0.50

Version 1.00 - January 08, 2024

1 Course Details

1.1 Calendar Description

This course involves the independent study of a current topic in Molecular and Cellular Biology, selected from the recent research literature and involving a review and critical appraisal of the area. The course comprises independent library research, participation in weekly meetings, and written and oral presentations. Students should make arrangements with both faculty advisor and the course coordinator in a prior course selection period.

Pre-Requisites: MBG*3350 or equivalent laboratory experience at the discretion of the student's faculty advisor. Normally, students must have a minimum of 3.00 credits in 3000 or 4000 level BIOC, MBG, MCB OR MICR courses

Restrictions: Students in programs offering topics courses cannot enroll in MCB*4600. Coordinator consent required.

1.2 Course Description

Independent study of a current topic in Molecular and Cellular Biology, selected from the recent research literature and involving a review and critical appraisal of the area. The course comprises independent library research, participation in weekly meetings, and written and oral presentations. Students should make arrangements with both faculty supervisor and the course coordinator in a prior course selection period. Open to students in semesters 6, 7, and 8 of the B.Sc. Majors in the molecular biosciences, Department of Molecular and Cellular Biology.

1.3 Timetable

Each student must meet with their advisor at least once per week to discuss their progress in reviewing the literature, writing the report and preparing for the oral presentation. Over the semester, students are expected to demonstrate appropriate understanding of the relevant literature and develop new levels of understanding by identifying specific areas of knowledge that need research. The student is expected to formulate new research questions, and

propose research plans (including experimental design, and data analysis) to address their questions.

Activities (ie: meetings, presentations) will be conducted via both in-person and virtual means.

1.4 Final Exam

There is no Final Exam scheduled for MCB*4600.

2 Instructional Support

2.1 Instructional Support Team

Course Co-ordinator: Nina Jones
Email: jonesmcb@uoguelph.ca
Office: SSC 3461
Office Hours: Please contact me by email for any course-related issues. Students are expected to complete all arrangements with a faculty supervisor and submit a signed Research Agreement to the Coordinator before the first week of classes.

Your Faculty Advisor is the most important member of your Teaching team. Students should be sure that they know how to contact them for guidance and advice.

3 Learning Resources

3.1 Required Resources

Courselink (Website)

<https://courselink.uoguelph.ca>

There is a Courselink site for this course. Information on the Courselink site includes:

- Deadlines for all assignments in the Courselink Calendar
 - A means of communicating your class schedules to the Coordinator so they can arrange the scheduling of student seminars (see methods of assessment below)
 - Assignment and Tutorial outlines, grading sheets
 - Dropbox to hand in assignments and tutorials
 - This course outline
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4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. **Problem Solving and Critical Thinking** Independently gather and critically assess the current scientific literature in a chosen topic area through completion of an **outline**, **synopsis**, and **research review article** and proposals for future research.
 2. **Communication** Compose a concise and well-written **research review article** that includes proposals for future research. Deliver an effective public **oral presentation** and defend their evaluation of the literature
 3. **Professional and Ethical Behaviour** Demonstrate time management, self-directed learning, and independence by setting goals and meeting deadlines, assessed through the **Semester Performance** grading.
 4. **Scientific Method** Propose future research to fill gaps identified in the scientific literature as part of the **review article** and **oral presentation**.
 5. **Breadth & Depth of Understanding in a Particular Discipline** Integrate knowledge gained from previous courses while examining the topic of interest through the formative **outline** and **synopsis** and summative **written and oral communications**.
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5 Teaching and Learning Activities

6 Assessments

6.1 Methods of Assessment

Students will find details of all Assessments on CourseLink.

Form of Assessment	Weight of Assessment	Due Date (2024)	Learning Outcomes	Graders
1. Outline of Research Topics and Plan	5%	Feb 2 @ 4:00PM to Dropbox	1	Coordinator

Form of Assessment	Weight of Assessment	Due Date (2024)	Learning Outcomes	Graders
2. Synopsis of Research Progress	5%	Mar 1 @ 4:00PM to Dropbox	1, 2	Coordinator
3. Final Oral Presentation	30%	Week of Apr 1st File submission to Dropbox, TBD	1,2,4,5	Faculty advisor + one other faculty member
4. Project Report	30%	Apr 8 @ 4:00PM to Dropbox	1,2,4,5	Faculty advisor + one other faculty member
5. Semester Performance	30%		3	Faculty advisor

6.2 Topic Outline

Students will discuss the choice of topic with their course advisor. Start with a clear idea of the questions you are trying to answer in your topic (usually a more specific idea is easier to research and to write about than a general topic). The student must write an outline (about 1-2 pages) of the proposed independent study topic. The outline can be a blend of sentences and bullet point format. When completed, the outline with title and the advisor must be submitted to the course coordinator.

Some suggestions for the research outline: The outline is meant to be viewed only as a proposed Topics Research plan. Students should clearly identify the planned focus of the research topic and its context. Include the following as appropriate:

1. State the research focus as questions or hypotheses you would like to try to answer in the research.
2. What are the subtopics within your main topic?
3. Identify important authors and relevant articles you expect to examine, who are the leaders in the area? Are there experts (other than your advisor) with whom you might consult?

Marks will be deducted for late outlines: LATE PENALTIES: 10% + 10% / day up to 50%, including weekends. A grade of zero will be assigned after 5 days late.

6.3 Topic Synopsis

A researcher should always review the progress of a project from time to time. The actual research readings may suggest new directions not anticipated at the outset. A mid-semester synopsis of this progress review is required. Students should use their original Topic Outline and report to the Coordinator on the questions/hypotheses, subtopics and authors/experts that have been reviewed.

Marks will be deducted for late synopses: LATE PENALTIES: 10% + 10% / day up to 50%, including weekends. A grade of zero will be assigned after 5 days late.

6.4 The Review Article

The article should clearly identify the focus of study, critically review and evaluate the relevant literature. The article should be written in concise and sufficiently nontechnical language to be intelligible both to general biologists and to specialists in other fields. The article should have no more than 20 pages of manuscript text.

Extra pages are allowed for the title page, list of references, figures and tables. The article must contain an abstract, of less than 100 words, summarizing the contents of the paper. Text is to be double-spaced with 2.5 cm margins on all sides. The text font should be similar to the font used in this sentence. Review articles in the journal *Cell* may be used as a model for style with respect to (1) section headings in the text, (2) literature citations in the text, and (3) list of references. Consult the journal "Instructions to Authors" for details.

The written paper must be submitted to your Dropbox on Courselink as a PDF file on or before the deadline. **Marks will be deducted for late papers: LATE PENALTIES: 10% + 10% / day up to 50%, including weekends. A grade of zero will be assigned after 5 days late.**

6.5 Oral Presentation

The oral presentation should highlight the main features of the topic chosen for independent study including any new research plans described in their review article. The course coordinator will schedule the time and location of the seminars. Upload your presentations to your Dropbox on Courselink at the time to be announced by the Coordinator. **Marks will be deducted for late presentations: LATE PENALTIES: 10% + 10% / day up to 50%, including**

weekends. A grade of zero will be assigned after 5 days late.

The oral presentation is to be 20 minutes in length, followed by a 10-minute question period. Marks are deducted if a seminar deviates significantly from the time allowed. Students **must** attend all of the oral presentations in their chosen session of the MCB Projects/Topics colloquium. Presentations should consist of computer-generated images projected onto a screen. Microsoft PowerPoint is the recommended software.

The oral presentation will be carried out through virtual means (Zoom).

6.6 Turnitin

In this course, we will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph.

All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

A major benefit of using Turnitin is that students can educate and empower themselves in preventing academic misconduct. In this course, you may screen your own assignments through Turnitin as many times as you wish before the due date. You will be able to see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment.

7 Course Statements

7.1 Grading

All course policies regarding tutorials and assignment submissions, including time and place for submission and penalties for late submissions, are listed for each assessment in the Assessment section. It is your responsibility to be aware of the different late penalties for each assessment.

7.2 Resolving Conflict

Working in teams can involve differences of opinions or personalities. If you experience a conflict with your faculty advisor that you are not able to resolve on your own, contact the Chair of the Department of Molecular and Cellular Biology for advice and assistance.

7.3 Netiquette Expectations

For this course the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because these courses are online. Inappropriate online behaviour will not be tolerated.

Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students;
- Using obscene or offensive language online;
- Copying or presenting someone else's work as your own;
- Adapting information from the Internet without using proper citations or references;
- Buying or selling term papers or assignments;
- Posting or selling course materials to course notes websites;
- Having someone else complete your quiz or completing a quiz for/with another student;
- Stating false claims about lost quiz answers or other assignment submissions;
- Threatening or harassing a student or instructor online;
- Discriminating against fellow students, instructors, and/or TAs;
- Using the course website to promote profit-driven products or services;
- Attempting to compromise the security or functionality of the learning management system;
and
- Sharing your username and password.

8 Department of Molecular and Cellular Biology Statements

8.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

8.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops

related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist.

<http://www.learningcommons.uoguelph.ca/>

- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: <http://www.lib.uoguelph.ca/get-assistance/studying/chemistry-physics-help> and <http://www.lib.uoguelph.ca/get-assistance/studying/math-stats-help>

8.3 Wellness

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. <https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.selfregulationskills.ca/>

8.4 Personal information

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <http://www.e-laws.gov.on.ca/index.html>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes.

For more information regarding the Collection, Use and Disclosure of Personal Information policies please see the Undergraduate Calendar. (<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/intro/index.shtml>)

8.5 Course Offering Information Disclaimer

Please note that course delivery format (face-to-face vs online) is subject to change up to the first-class day depending on requirements placed on the University and its employees by public health bodies, and local, provincial and federal governments. Any changes to course format prior to the first class will be posted on WebAdvisor/Student Planning as they become available.

9 University Statements

9.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

9.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

9.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

9.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

9.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared

responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

9.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

9.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student,

or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

9.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars
<https://www.uoguelph.ca/academics/calendars>

9.9 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major assignment).
