



ANSC*4610 - Critical Analysis in Animal Science

Winter 2026 Course Outline

Section: 01

Credits: 0.50

Land Acknowledgement: Guelph

The University of Guelph resides on the ancestral lands of the Attawandaron people and the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer respect to our Anishinaabe, Haudenosaunee and Métis neighbours. Today, this gathering place is home to many First Nations, Inuit, and Métis peoples and acknowledging them reminds us of our important connection to this land where we work and learn.

Calendar Description

Students are guided to independently research and critically review a topic of emerging importance in animal biosciences. Students select a topic in consultation with the instructor.

Prerequisite(s): 15.00 credits including 2.00 in ANSC or EQN

Department(s): Department of Animal Biosciences

Course Description

At the starting of the course, a class student survey will be conducted by the instructor to facilitate and allow class students an opportunity to narrow down and select their interested specific disciplinary topic areas for further topic analysis and expertise development. Then class students will learn how to effectively carry out scientific literature research in working with a university librarian and the course instructor. Students will be further guided to search and define their critical review paper topic and select their original papers for critical analysis in consultation with the course instructor. The instructor will demonstrate to the class how to conduct a critical review, prepare written reviewing reports, and present reviewing results in a panel discussion format as a primary and a secondary reviewer for an original research paper. The instructor will further demonstrate to the class how to present a critical review topic paper to the public. Class student critical review papers will also be presented to their class group as a formal seminar. Thus, students are guided to independently search and critically review a topic of emerging importance in animal biosciences. This course is designed for students in their final year of the Animal Biology and Animal Science major.

Lecture Schedule

Th 2:30pm-5:20pm in ANNU*030 (1/5 to 4/21)

Instructor Information

Ming Fan

Email: mfan@uoguelph.ca

Learning Resources

Required Resources

Required Texts (Textbook)

None

Recommended Resources

Recommended Texts (Textbook)

None

Additional Resources

Lab Manual (Lab Manual)



None

Course syllabus, guidelines and other class related information will be posted on the course site as PDF files by the course instructor through using D2L. The Instructor recommended and class students selected original research papers (published in peer-reviewed journals) to be used for class panel discussions will be circulated to class students via email by the course instructor.

Cost of Textbooks and Learning Resources

Not related

Course Learning Outcomes

1. To become familiar with Web-based literature search tools to effectively search academic publications from referred journals.
2. To critically obtain conceptual findings through reading most recently published original research papers as well as review papers in referred journals and develop critical reviewer's written reports.
3. To learn how to write a review article in emerging animal bioscience topic areas.
4. To learn how to present an overview in emerging animal bioscience topic areas.

Schedule of Topics and Assignments

Day	Date:	Topic	Activities	Due
Thu	1/8	To discuss course delivery and requirements To conduct in-class student research interest survey and choose a review topic To arrange student paper critique & reviewing and oral panel discussion schedules		
Thu	1/15	Web#based Literature searching strategies with the instructor To search original research papers by students in class		
Thu	1/22	How to conduct a critical reviewing of an original research paper Critical reviewing of an original research paper by the instructor How to effectively develop an outline and write up a review paper		
Thu	1/29	Critical reviewing of original research papers by class students		
Thu	2/5	Critical reviewing of original research papers by class students		
Thu	2/12	Critical reviewing of original research papers by class students		
Thu	2/19	Winter Break		
Thu	2/26	Critical reviewing of original research papers by class students		
Thu	3/5	How to prepare and present a major review paper in a seminar Major reviewing-based presentation for demonstration: "Monomolecular and Multi-functional Processive Endocellulases" by Dr. Ming Z. Fan		



Thu	3/12	Final class oral presentations of student major review papers
Thu	3/19	Final class oral presentations of student major review papers
Thu	3/26	Final class oral presentations of student major review papers
Thu	4/2	Final class oral presentations of student major review papers

Assessment Breakdown

Description	Weighting (%)	Due Date
Participation in Class Discussion before the Winter Break	10%	Feb 12
Major Review Paper - Title and Outline	10%	March 05
Paper critique as a primary reviewer (once)	20%	March 05
Paper critique as a secondary reviewer (once)	5%	March 05
Major review paper oral presentation to class	20%	Apr 02
Participation in class discussions after the Winter Break	10%	Apr 02
Major Review Paper	25%	Apr 16

Assessment Details

Participation

Participation in Class Discussion before the Winter Break	10%
Date: Thu, Jan 08 - Thu, Feb 12	
Learning Outcome: 1, 2, 3, 4	

Research Paper

Major Review Paper - Title and Outline	10%
Date: Thu, Mar 05	
Learning Outcome: 1, 2, 3	

Paper Critique as a Primary Reviewer	20%
Date: Thu, Mar 05	
Learning Outcome: 1, 2, 3	

Paper Critique as a Secondary Reviewer	5%
Date: Thu, Mar 05	
Learning Outcome: 1, 2, 3	

Presentation

Major Review Paper - Oral Presentation to Class	20%
Date: Thu, Mar 12 - Thu, Apr 02	
Learning Outcome: 4	

Participation

Participation in Class Discussion after the Winter Break	10%
Date: Thu, Feb 26 - Thu, Apr 02	



Learning Outcome: 1, 2, 3, 4

Research Paper

Major Review Paper

25%

Date: Thu, Apr 16

Learning Outcome: 1, 2, 3

Additional Notes

Marking rubrics for students' class participation will be provided to class students at the beginning of the semester.

Specific guidelines regarding how to lead an original paper critique as a primary reviewer and a secondary reviewer as well as marking rubrics will be provided to class students at the beginning of the semester.

Specific guidelines regarding how to develop a major review paper outline and write up the review paper; and their marking rubrics will be provided to class students at the beginning of the semester.

Specific guidelines regarding how to prepare an overview PowerPoint file; and present an oral major review paper to class; and the oral presentation evaluation rubrics will be provided to class students at the beginning of the semester.

Last Day to Drop Course

The final day to drop Winter 2026 courses without academic penalty is the last day of classes: April 06

After this date, a mark will be recorded, whether course work is completed or not (a zero is assigned for missed tests/assignments). This mark will show on the student's transcript and will be calculated into their average.

Course Standard Statements

Netiquette Expectations

For distance education courses, the course website is considered the classroom and 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;
- Sharing your username and password; and
- Recording lectures without the permission of the instructor.



Courselink System Requirements

You are responsible for ensuring that your computer system meets the necessary system requirements. (<https://opened.uoguelph.ca/student-resources/system-and-software-requirements>) Use the browser check (<https://courselink.uoguelph.ca/d2l/systemCheck>) tool to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window)

Zoom Requirements

This course uses **Zoom** as a video communication tool.

System Requirements:

1. An internet connection – broadband wired or wireless (3G or 4G/LTE)
2. Speakers and a microphone – built-in or USB plug-in or wireless Bluetooth
3. A webcam or HD webcam - built-in or USB plug-in

Microsoft Teams System Requirements

This course may use **Microsoft Teams** as a video communication tool. A Webcam, a microphone to record video, and headphones/speakers to play back the recording are also needed. In order to use Microsoft Teams, you must meet the following technical requirements:

1. An internet connection – broadband wired or wireless (3G or 4G/LTE);
2. Speakers and a microphone – built-in or USB plug-in or wireless Bluetooth;
3. A webcam or HD webcam - built-in or USB plug-in;

Supported mobile platforms: Android 4.4 or later and iOS 10.0 or later.

Technical Skills

As part of your online experience, you are expected to use a variety of technology as part of your learning:

- Manage files and folders on your computer (e.g., save, name, backup, rename, delete, and check properties);
- Install software, security, and virus protection;
- Use office applications (e.g., Word, PowerPoint, Excel, or similar) to create documents;
- Be comfortable uploading and downloading saved files;
- Communicate using email (e.g., create, receive, reply, print, send, download, and open attachments);
- Navigate the CourseLink learning environment and use the essential tools, such as **Dropbox**, **Quizzes**, **Discussions**, and **Grades** (the instructors for this are given in your course);
- Access, navigate, and search the internet using a web browser (e.g., Chrome, Firefox, Microsoft Edge, Safari, etc.);
- Perform online research using various search engines (e.g., Google) and library databases.

Technical Support

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

Courselink Support

University of Guelph

Day Hall, Room 211

Email: courselink@uoguelph.ca (<https://calendar.uoguelph.ca/syllabi/commoncontext/detechnology/email%20to:courselink@uoguelph.ca>)

Tel: 519-824-4120 ext. 56939

Toll-Free (CAN/USA): 1-866-275-1478

Walk-In Hours (Eastern Time):

Monday thru Friday: 8:30 am-8:30pm

Phone/Email Hours (Eastern Time):



Monday thru Friday: 8:30am-8:30pm
Saturday: 10:00am - 4:00pm
Sunday: 12:00pm - 6:00pm

Standard Statements for Undergraduate Courses

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 discourages misconduct. 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.

The Academic Misconduct Policy (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-misconduct/>) is outlined in the Undergraduate Calendar.

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 10 days in advance, and no later than the first business day in November, March or July as appropriate for the semester. Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time. For students at the Guelph campus, information can be found on the SAS website. (<https://www.uoguelph.ca/sas>)

Accommodation of Religious Obligations

If you are unable to meet an in-course requirement due to religious obligations, please email the course instructor within two weeks of the start of the semester to make alternate arrangements.

See the Academic calendar for information on regulations and procedures for Academic Accommodations of Religious Obligations (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-accommodation-religious-obligations/>).

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.

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 undergraduate students 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 the Undergraduate Calendar - Dropping Courses (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/dropping-courses/>).

Email Communication

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

Health and Wellbeing

The University of Guelph provides a wide range of health and wellbeing services at the Vaccarino Centre for Student Wellness (<https://wellness.uoguelph.ca/>). If you are concerned about your mental health and not sure where to start, connect with a Student Wellness Navigator (<https://wellness.uoguelph.ca/navigators>) who can help develop a plan to manage and support your mental health or check out our mental wellbeing



resources (<https://wellness.uoguelph.ca/shine-this-year>). The Student Wellness team are here to help and welcome the opportunity to connect with you.

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).

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.

Resources

The Academic Calendars (<http://www.uoguelph.ca/registrar/calendars/?index>) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

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. See the Undergraduate Calendar for information on regulations and procedures for Academic Consideration. (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>)