



ZOO*2700 Invertebrate Morphology & Evolution

Winter 2023

Section(s): 01

Department of Integrative Biology

Credit Weight: 0.50

Version 1.00 - January 06, 2023

1 Course Details

1.1 Calendar Description

This course examines the vast diversity of invertebrate taxa and the tools and concepts used to classify them and understand their origins. Principles of zoogeography, phylogeny, natural selection and comparative analyses will form the conceptual backbone of the course. In lectures and labs, students will 'climb' the tree of life, from the most ancient pre-invertebrates to more derived forms, and explore their anatomical and morphological diversity.

Pre-Requisites: 4.00 credits including BIOL*1070

1.2 Course Description

We are excited to join with you delving into the wonderful world invertebrates, examining the vast diversity of invertebrate taxa and the tools and concepts used to classify them and understanding their origins. Principles of zoogeography, phylogeny, natural selection and comparative analyses will form the conceptual backbone of the course. In lectures and labs, students will explore the tree of life, from the most ancient pre invertebrates to more derived forms, and explore their anatomical and morphological diversity. ZOO*2700 lectures will be remote synchronous using Zoom and labs will be in person on campus. All lectures will be recorded and posted for asynchronous viewing ASAP after the lecture.

The knowledge and skills gained during this course will form an essential foundation for ZOO*3700 Integrative Biology of Invertebrates. (Prerequisites 4.0 credits including BIOL*1070)

1.3 Timetable

Please note: All times reported are Eastern Time (Guelph, Ontario, Canada)

This course will be offered with three 50-minute virtual interactions (lectures) per week using Zoom. The live (synchronous) virtual lectures will be during scheduled lecture times on Monday, Wednesday and Friday, 11:30-12:20am, using Zoom. After each lecture, a recording of the lecture will be posted to Courselink for asynchronous viewing by students.

All labs will be in person, on campus during the scheduled lab periods.

- **Lectures: 11:30 -12:20 Mon, Wed, Fri**
in Zoom.

Face to Face labs will occur during scheduled lab times.

- **Labs:** Monday, Tuesday or Wednesday, 2:30-5:20 OR Tuesday, 10:00-12:50 SSC 2314.

Please note the proposed course format, schedule or location for the Winter 2023 semester may change up to the first day of classes (or after classes begin) due to personnel, resource, and public health circumstances and if conditions cannot be met to ensure the safety of our students and instructors. Continue to watch the Student Planning website as format information could be updated until the first day of classes.

1.4 Final Exam

The final exams (lab and lecture) will be held during the last week of class.

The final Lecture exam will be administered using Quizzes in Courselink.

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Alex Smith
Email:	salex@uoguelph.ca
Telephone:	+1-519-824-4120 x52007
Lab Co-ordinator:	Sheri Hincks
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Telephone:	519-824-4120 x. 56010
Office:	SSC 3509

3 Learning Resources

3.1 Required Resources

Invertebrates 3rd Edition (Textbook)

- R.C. Brusca, W. Moore and S. Shuster . Invertebrates 3rd Edition. (Sinauer Press)

A digital version of the text can be rented for 180 days (information coming)

Lab Manual (Lab Manual)

You will be required to purchase an "Invertebrate Zoology Lab Manual". You must purchase this prior to the beginning of lab 1. Details will be made available week 1.

The lab manual may be supplemented with additional items throughout the course including sampling skin mites, raising and studying *Planaria* regeneration and exploring food security by baking with cricket protein. (there will be no additional charges for these items)

Bound Lab Notebook (Equipment)

Students will be required to keep a lab notebook for various activities. Blank notebooks (unlined or lined) may be purchased from the bookstore or off campus. More details and examples will be available week 1.

Dissecting Kit (Equipment)

Students will be doing many dissections throughout the semester (and again in ZOO*3700), and are required to supply their own dissecting equipment. Dissecting kits are available through the University bookstore.

Courselink (Website)

<https://courselink.uoguelph.ca>

This course will be offered online using CourseLink (powered by D2L's Brightspace), the University of Guelph's online learning management system (LMS). By using this service, you agree to comply with the University of Guelph's Access and Privacy Guidelines. Please visit the D2L website to review the Brightspace privacy statement and Brightspace Learning Environment web accessibility standards.

<http://www.uoguelph.ca/web/privacy/>

<https://www.d2l.com/legal/privacy/>

<https://www.d2l.com/accessibility/standards/>

You are responsible for all information posted on the Courselink page for ZOO*2700. Please check it regularly.

Zoom (Software)

<https://zoom.us>

Students registered in the course must register for a free basic Zoom account in order to attend the synchronous Zoom meetings for lectures, seminars, virtual office hours, and virtual one-on-one meetings.

Please visit <https://zoom.us> to register for a free basic Zoom account using your University of Guelph email address (Gryphmail).

It is very important that you use your Gryphmail to register for your account and not any other email address (like a Gmail account) or Facebook

3.2 Additional Resources

Invertebrate Zoology: A Functional Evolutionary Approach 7th Edition (Textbook)

- E. E. Ruppert, R. S. Fox, and R. D. Barnes *Invertebrate Zoology: A Functional Evolutionary Approach*, 7th ed. Thomson
- On reserve

The Invertebrates: A Synthesis (Textbook)

- R.S.K. Barnes, P. Calow, P.J.W. Olive, D.W. Golding, and J.I. Spicer. *The Invertebrates: A Synthesis*, 3rd ed. Blackwell Science.
- On reserve

4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. Appreciate the vast diversity of invertebrate taxa
 2. Demonstrate a solid understanding of basic evolutionary principles
 3. Construct and interpret simple phylogenetic trees
 4. Appreciate and summarize the evolutionary history of invertebrates
 5. Outline key morphological innovations of the major invertebrate taxa
 6. Recognize and identify the major groups of invertebrates using practical skills
 7. Recognize the evolutionary trends that exist among invertebrate taxa
 8. Explain how one would answer a question using the scientific method
 9. Produce a proper lab notebook
 10. Prepare and present short oral presentations
 11. Identify and quantify the inherent natural variation and diversity within and among individuals, populations and species through examination of variability among real organisms or their parts
 12. Develop tactile skills involved in effective dissection, cell and tissue preparation and live animal observation
 13. Observe real animals (alive or dead) or their component parts to pose questions about form and function that motivate self-directed research leading to enhanced understanding of process in animal biology
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5 Teaching and Learning Activities

5.1 The Invertebrates Curriculum at Guelph

If you are interested in invertebrates, you are extremely lucky to be at the University of Guelph, which is one of only a few universities that offer two full semesters of invertebrate biology. This plus the huge range of upper level courses in Entomology offered by the Department of Environmental Biology in OAC means that Guelph offers more opportunities to study invertebrates for undergraduates than most other universities in the world. This term in ZOO*2700, we will focus primarily on getting a handle on the unity and staggering diversity of invertebrates. To do this, we will use an evolutionary framework and expose you in lab to as many of the major groups of invertebrates that we can. In ZOO*3700 (which many of you will take next fall), we will take a more comparative, synthetic approach to try and understand the various strategies that invertebrates use to survive and reproduce in their respective habitats.

5.2 Course Structure

We are excited to have you join us to share in our enthusiasm for invertebrates! The lab and lecture components of this course are closely connected, and it will be very difficult for you to succeed in this course if you neglect either of them. Lecture slides will be posted after the lecture period. Remember that these slides are, by no means, a substitute for taking notes. Use the slides as a way of reviewing the lectures in concert with the appropriate material in the textbook. We may also occasionally post a list of "Study Questions" on the course website

that will give you examples of the kinds of questions you should be able to answer after that lecture. We also expect you to come prepared to the lab sessions. Please read the lab outline prior to that week's lab.

5.3 Course Content

WEEK	LECTURE TOPIC (TENTATIVE)	LAB TOPIC	TAXA TO READ UP ON	TEXTBOOK
Week 1 Jan 09	Metazoan origins Protozoans and the rise of multicellularity	No Labs	Intro to Eukaryotes Protists, Metazoa	Chapter 1, 2, 28
Week 2 Jan 16	Body plans, symmetry, and development	Course Overview and Getting to know you An Introduction to Scientific sketching/ Lab Notebooks	Porifera and Placazoa Eumetazoa	Chapter 3,4,5,6
Week 3 Jan 23	Cnidarians and ctenophores	Microscopes and Protists	Cnidaria, Ctenophora Bilateria, Protostomia	Chapter 7, 8, 9
Week 4 Jan 30	Bilateria, flatworms and segmented worms ribbon worms, horseshoe worms, rotifers and lamp shells	The Non- Bilateria: Porifera, Cnidaria and Ctenophores	Platyhelminthes Annelid Echiura Sipuncula Nemertea Phoronida Brachiopoda	Chapter 10, 16, 17

WEEK	LECTURE TOPIC (TENTATIVE)	LAB TOPIC	TAXA TO READ UP ON	TEXTBOOK
			Rotifera Bryozoa Chaetognatha	
Week 5 Feb 6	Annelids, Molluscan body plan and radiation	Rotifera Platyhelminthes Face Mites	Lecture Quiz 1	Chapter 12, 13
Week 6 Feb 13	Molluscs and moulting animals and the segmented body plan	Bryozoa, Brachiopods, Annelida	Mollusca	
Week 7 Feb 20	WINTER BREAK	No Labs		
Week 8 Feb 27	Intro to Arthropoda	Lab QUIZ 1	Cycloneuralia Panarthropoda Arthropoda Crustacea, Malacostraca	Chapter 20, 21
Week 9 March	Arthropod radiation part I	Spiralia II: Mollusca Gastropoda, Bivalvia, and Cephalopoda	Crustacea, Maxillopoda Hexapoda	Chapter 23, 24

WEEK	LECTURE TOPIC (TENTATIVE)	LAB TOPIC	TAXA TO READ UP ON	TEXTBOOK
6				
Week 10 March 13	Arthropod radiation part II	Ecdysozoa I: Panarthropoda: Neamtodes, Tardigrada, Arthropoda (Crustacea) Ecdysozoa II: Arthropoda-Hexapoda, Chelicerata and Myriopoda	Myriapoda Chelicerata Lecture Quiz 2	Chapter 22
Week 11 March 20	The arthropod radiation part III and Intro to Deuterostomes	Deuterostomia: Echinodermata, Hemichordata	Chelicerta Deuterostomia	Chapter 25, 26
Week 12 March 27	The echinoderm radiation	*Cricket Baking Challenge * Subject to change	Echinodermata Chordata	Chapter 27
Week 13 April 3	The chordate body plan and radiation	LAB QUIZ 2		
Week 14			Lecture Quiz 3	

WEEK	LECTURE TOPIC (TENTATIVE)	LAB TOPIC	TAXA TO READ UP ON	TEXTBOOK
April 10				

- **Lecture and Lab schedule subject to change. Please see Courselink for up to date details**
- Some labs will involve dissection of selected invertebrates.
- Some weeks will have graded lab handouts
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5.4 Readings

Although the content we cover will span nearly every chapter of your Brusca text, we appreciate that it is *nearly* impossible for you to read and learn the entire text in one semester. The above assigned readings, therefore, are a rough guide to the parts of your text that cover the material we will be exploring in lecture and lab each week. You should use the lectures as a guide for deciding which parts of the text to focus on, and if you missed something in lecture, the text is often the best place for clearing things up.

5.5 A Note on Evolution and Phylogenies

The most important unifying theme of this course is that the diversity and unity of invertebrates can best be explained by the theory of Evolution by Natural Selection. It is therefore critical that students understand this process. It is also important that students understand how biologists construct phylogenies that explain the ancestry and degree of relatedness between different groups of organisms. There has been great progress made even in the last ten years in elucidating the structure of the tree of life, and we will use the most recent phylogenies available for this course. Some of these phylogenies will conflict directly with trees presented in your textbook. In these cases, you should use the trees we provide for you in lecture and lab. You should be aware that the tree of life is constantly being revised as biologists collect more and more data and carry out more sophisticated analyses. The Tree of Life web project (www.tol.org) is a searchable and browse-able phylogenetic tree that is packed with great resource material. Once you have read this syllabus to completion, please email shincks@uoguelph.ca a picture of an invertebrate, and salex@uoguelph.ca a picture of an ant. We will be using a phylogeny that is based on a paper by Dunn et al. (2014) as well as many of the phylogenies presented in your textbook. Although phylogenies are hypotheses about biological evolution and are therefore likely to shift over time, for our purposes, this online phylogeny will be used throughout the course. The Dunn et al. phylogeny (Annu. Rev. Ecol. Evol. Syst. 2014. 45:371–95) will be the authoritative large-scale phylogeny.

6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Lecture Quiz 1	15
What's in a Name?	5
Lab Quiz 1	12.5
Cricket Baking Challenge	10
Lecture Quiz 2	15
Lab Quiz 2	17.5
Lecture Quiz 3	20
Lab Handouts	5
Total	100

6.2 Assessment Details

Lecture Quiz 1 (15%)

Date: Fri, Feb 10, In class

Learning Outcome: 1, 2, 3, 4, 5, 7, 8

- Three CourseLink quizzes on lecture material for the first 12, 24 and 36 lectures respectively
- The exam may consist of multiple choice, short answer and essay questions.
- First two Lecture quizzes will be worth 10%, third is worth 20%.
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- These online quizzes were written as an in-class 50 minute "in-class" exam. **However**, you have 2 hours to complete the exam , but remember IT SHOULD NOT TAKE THIS LONG.
- The quiz can be started anytime after 8:00 EST (Guelph time).
- The quiz will close at 6:00 pm (EST) Guelph time
- You will receive True/False questions 9 Multiple Choice questions to answer in that time.
- This quiz is open book so you may use your notes, text etc.
- YOU MUST COMPLETE THE QUIZ INDEPENDANTLY!
- This quiz is confidential. Discussion of it, in whole or in part, with individuals who have not yet written it, is an act of academic misconduct.

- Telling another student what questions to expect on a quiz/test/exam you have already taken is also academic misconduct.
- This exam is confidential. Discussion of it, in whole or in part, with individuals who have not yet written it, is an act of academic misconduct. Telling another student what questions to expect on a quiz/test/exam you have already taken is also academic misconduct. The penalties for academic misconduct are severe and can lead to expulsion from the University.

What's in a Name? (5%)

Due: Fri, Feb 17, 11:59 PM, Dropbox

Learning Outcome: 10

- In this short (< 1 page, ~1 hour) assignment you will learn how species are named. You will briefly explore recent and publicly available literature of species descriptions to help get a feel for the creative process that is naming a species.
Details will be provided in lecture

Lab Quiz 1 (12.5%)

Date: Mon, Feb 27 - Wed, Mar 1, In Lab

- The Lab Quiz will cover only lab material and will be written in the laboratory. Specimens will be provided for some questions and you will be required to answer questions about the organisms on display. Exams will have short answer and longer essay questions.
- An outline of questions may be provided to the students BEFORE the exam

Lecture Quiz 2 (15%)

Date: Fri, Mar 17, ONLINE

- Three CourseLink quizzes on lecture material for the first 12, 24 and 36 lectures respectively
- The exam may consist of multiple choice, short answer and essay questions.
- First two Lecture quizzes will be worth 10%, third is worth 20%.
- Three CourseLink quizzes on lecture material for the first 12, 24 and 36 lectures respectively
- The exam may consist of multiple choice, short answer and essay questions.
- First two Lecture quizzes will be worth 10%, third is worth 20%.
-
- These online quizzes were written as an in-class 50 minute "in-class" exam.
However, you have 2 hours to complete the exam , but remember IT SHOULD NOT TAKE THIS LONG.

- The quiz can be started anytime after 8:00 EST (Guelph time).
- The quiz will close at 6:00 pm (EST) Guelph time
- You will receive True/False questions 9 Multiple Choice questions to answer in that time.
- This quiz is open book so you may use your notes, text etc.
- YOU MUST COMPLETE THE QUIZ INDEPENDANTLY!
- This quiz is confidential. Discussion of it, in whole or in part, with individuals who have not yet written it, is an act of academic misconduct.
- Telling another student what questions to expect on a quiz/test/exam you have already taken is also academic misconduct.
- This exam is confidential. Discussion of it, in whole or in part, with individuals who have not yet written it, is an act of academic misconduct. Telling another student what questions to expect on a quiz/test/exam you have already taken is also academic misconduct. The penalties for academic misconduct are severe and can lead to expulsion from the University.

Lab Quiz 2 (17.5%)

Date: Mon, Apr 3 - Wed, Apr 5

Learning Outcome: 1, 3, 4, 5, 6, 7

- Lab Quiz 2 will be in two parts.
- Part 1 will be written during your lab period. Specimens will be provided for some questions and you will be required to answer questions about the organisms on display. An outline of questions may be provided to the students BEFORE the exam.
- Part 2 will be a take-home assignment and will be focussed on an invertebrate or activity of your choice.

LECTURE QUIZ 3 (20%)

Date: Mon, Apr 10, Online and before Final Examination Period

Learning Outcome: 1, 2, 3, 4, 5, 7, 8

- Three CourseLink quizzes on lecture material for the first 12, 24 and 36 lectures respectively
- The exam may consist of multiple choice, short answer and essay questions.
- First two Lecture quizzes will be worth 10%, third is worth 20%.
- Three CourseLink quizzes on lecture material for the first 12, 24 and 36 lectures respectively
- The exam may consist of multiple choice, short answer and essay questions.
- First two Lecture quizzes will be worth 10%, third is worth 20%.
- This quiz (worth 20% of your final grade.) consists of multiple choice, true/false or

short answer questions, written answer and a couple of chances to express your creativity!

- The question order is randomised - so the written questions may appear for you at any point in the exam. Remember, you can skip back and forth between questions).
- This quiz was written as if you had two hours to write it - but you will have 4 hours (240 **minutes**) to complete the exam. I don't expect that it will take you that long!
- You can start the exam anytime after 8am but must be logged out and finished by 10pm .

Lab Handouts (5%)

Date: , Courselink Quizzes or in lab handout

Learning Outcome: 1, 3, 4, 5, 6, 7

- Six weekly lab handouts will be given throughout the semester and will be worth a total of 5%.
- Students will complete and submit these handouts with their lab group (maximum 4 students per group) during the lab period.
- They will be graded in lab and students **MUST** be present during the marking of these activities in order to receive a grade.
- **NO** make-up handouts will be given.
- We will count your top 5 of 6 handouts in your final grade.

Lab Notebook (0%)

Each student will keep and maintain their own Lab Notebook. Your lab book will serve as a written record of everything you do in the lab and will include observations, data sheets, drawings, questions, insights, ponderings, and aha moments. If you keep a neat and tidy lab book and carefully record what you do and see in the lab, it will serve as an invaluable study tool for exams. These notebooks will not be assessed. However, you will be allowed to use **YOUR** notebook for part of the lab exam - details of what may and may not be included will be discussed in lab.

Cooking with Crickets (10%)

Date: TBD

With an increasing population, the demand for meat is increasing and the availability of agricultural land is decreasing. There is an urgent need to find alternative protein sources. There have been various recommendations about what we can do- including eating insects. In this challenge, we will host a cricket bake sale. You will have two options

- a. you will work with a team to bake something using cricket powder (we will supply the powder) OR
- b. you will work with a team to promote this event and provide information about entomophagy.

Some of the proceeds from the bake sale will be donated to the student foodbank. This will be a group activity. More details will be discussed in lecture/lab. **Please note this may be canceled pending University protocols.*

Scavenger Hunts - BONUS MARKS (0%)

Weekly Scavenger Hunts- On select weeks we will release a new invertebrate challenge related to the course content. You will post your "find" on the course discussion boards and will receive bonus points based on the number of challenges you participate in. (Max. 3%)

6.3 Final Marks

Final marks will be calculated from the assessments above. In all cases, students will be expected to write using complete sentences and proper grammar. All students are expected to complete and submit work individually unless otherwise stated.

7 Course Statements

7.1 Virtual Lectures/ Labs and their Content

PLEASE NOTE: ALL TIMES REPORTED ARE EASTERN TIME (GUELPH, ONTARIO, CANADA). Three 50-minute virtual lecture interactions per week (11:30-12:20 AM on Monday and Wednesday and Friday), using Zoom. Real-time closed captioning of these lectures will be provided to students and lectures will be posted to YouTube afterwards. A one 3-hour lab period each week will be held. Labs will be conducted in-person as regulations allow. Please watch courselink for updates. In- person labs will be mandatory. Please see the lab schedule posted on courselink for full lab schedule details.

If you are joining us from another time zone, please ensure that you take into account the time change when joining lectures or labs, when submitting assignments, and when completing the midterm and final exam.

7.2 Zoom (Software)

<https://zoom.us>

Students registered in the course must register for a free basic Zoom account in order to attend the synchronous Zoom meetings for lectures, seminars, virtual office hours, and virtual one-on-one meetings with students.

Please visit <https://zoom.us> to register for a free basic Zoom account using your University of Guelph email address (Gryphmail).

It is VERY IMPORTANT that you use your Gryphmail to register for your account and NOT any other email address (like a Gmail account) or Facebook

This course has been designed to foster interaction between students, student teams and with the instructors. The Discussions in Courselink, and our synchronous ZOOM sessions provide a means for team members to share ideas, opinions, and resources. Please show respect for the opinions of others at all times, even if you do not agree with their ideas. We encourage you to disagree, critique and add new insights, but this must be done in a positive manner. Discussions in the online conferences and synchronous learning sessions must be treated the same as face-to-face discussions. In the conferences others cannot see such things as facial expression and body language, both of which we normally take into account when talking face-to-face with someone. Therefore, be very careful in the phrasing of your contributions and responses, as they may be interpreted differently than what you had intended. Please respect your fellow students.

7.3 Absence & Illness

If you are absent from classes during the semester, you will be expected to make up missed lecture and laboratory material on your own. No make-up or late weekly handouts will be provided. When, for legitimate, documented medical or compassionate reasons any assignments are missed, make sure that you have both given the instructor supporting documentation and obtained a written statement of your revised grade evaluation from the instructor. See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

7.4 Use of Animals

This course uses selected invertebrates for dissection. The University is committed to principles of conducting research and teaching in accord with the highest ethical standards. Given that the use of animals, in research and teaching, is a critical aspect of the work of the University of Guelph, the Department of Integrative Biology is committed to minimizing the use, pain, and suffering of animals used for teaching and to ensuring that animals which are used will receive care and treatment that meets or exceeds the standards outlined by provincial guidelines and statutes, and by the Guidelines of the Canadian Council on Animal Care. For more information

http://www.uoguelph.ca/research/assets/acs/docs/university_animal_care_policy_and_procedures.pdf

7.5 Rights and Responsibilities for Learning Online

For online 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.

For more information on your rights and responsibilities when learning in the online environment, visit Rights and Responsibilities.

<http://uoguelph.ca/student-resources/rights-and-responsibilities>

Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor, TA's 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 (or other) 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, TA or instructor online;
- Attempting to compromise the security or functionality of the learning management system
- 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.
- Recording lectures or other information without consent

7.6 Use of Social Media

The university is aware that many students use Facebook Groups and other social media to communicate with their peers about course work. These media can be useful for communicating about and learning course material. However, please we aware that:

Discussion boards on courselink are also beneficial as they are monitored by instructors who can provide guidance and factual information about a course and avoid false or misleading information.

- All students have a responsibility to behave with the utmost of integrity when in a class Facebook (or other social media) group just as in other forms of course interaction.
- Any behaviour that violates the course expectations and the trust upon which all learning depends, constitutes academic misconduct (see Undergraduate Calendar).
- Academic misconduct includes sharing answers from online quizzes or sharing information about exams with those who have yet to complete them. Accepting answers distributed by students also makes you complicit in academic misconduct.
- All potential forms of misconduct on social media are taken as seriously as any other form of misconduct on campus and will be investigated vigorously.

Please consider the potential impact of academic misconduct on your record. Take all steps to avoid instigating or participating in this kind of activity. It's not worth it.

7.7 Recording of Course Material

Instructors will record their Zoom lectures and post to Courselink following each lecture.

- Background lab content given by instructors or TA's will be recorded and shared with students in Courselink. Breakout rooms and group discussions may be recorded but will not be shared with students on Courselink
- Electronic recording of lectures or labs by students is expressly forbidden without consent of the instructors.
- When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructors.

8 Department of Integrative 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 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

9.10 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).

9.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.
