

BIOC19: Animal Developmental Biology

Fall 2021

Instructor: Prof. Minoru Koyama

Email: minoru.koyama@utoronto.ca (put BIOC19 in subject)

Office: SW525

Lectures: Thursdays 1-3 pm live on Zoom

Office Hours: Mondays 10-11:30 am on Zoom (except September 13th)

TA: Fatima Naimi

Email: fatima.naimi@mail.utoronto.ca

This course is loosely based on Developmental Biology (Barresi and Gilbert, 12th edition). However, it is not required to purchase the textbook.

Welcome to Animal Developmental Biology!

In this course, you will learn fundamental knowledge in animal developmental biology. This field has a broad reach across many branches of biology including medicine, evolutionary biology, and ecology. Thus, what you learn in the course will be fundamental to your understanding of our health and environment!

Learning outcomes:

1. Understand the cellular and molecular mechanisms fundamental to many developmental processes in animals
2. Describe the cellular and molecular mechanisms of early embryogenesis and neural development
3. Build fundamentals to understand the latest findings in animal developmental biology with an emphasis on neural development

Course policies:

You will be evaluated by the following: midterm exam, final exam, and a group presentation.

Grade breakdown is as follows.

Midterm Exam	Group Presentation	Final Exam
40%	15%	45%

Lectures:

Lectures will be given live Thursdays from 1pm to 3 pm on Zoom. Check Quercus Calendar for its link and passcode. Lectures will also be recorded and uploaded to Quercus.

Questions:

I will have the policy of not answering questions about course materials over email. If you have questions post them to the Quercus discussion board and I will answer them every Monday. You must virtually raise your hand if you have questions during lecture, I will not answer chat questions.

Office Hours:

I will have office hours from 10 am to 11:30 am every Monday (except September 13th due to my lab move). Six 15-min slots will be posted after each lecture on Quercus Calendar. Up to 4 students can sign up for each slot. Each student can sign up for one slot per week.

Exams:

Both exams will cover all lecture materials. Exams will be online and a combination of multiple-choice questions, matching questions, short answer questions, and essay questions. UTSC academic ethics/cheating policies will be enforced. See policies at the end of the syllabus.

Group Presentation:

Students work in teams of 4 to present an article on Animal Development Biology research. Each team will record a 10-min presentation using Zoom or any other method and upload it to Quercus. Some potential presentation topics and papers will be provided on Quercus. Teams may also choose their own topic and research paper with my approval.

Each student is expected to watch the uploaded presentations of others and give constructive feedback. We will have two group presentation sessions at the end of the course. Each team will have a 10-min Q&A session to answer questions from other students.

Optional Reading Materials:

At the end of each lecture, I may provide optional reading materials. They are strictly to facilitate your learning and do not have any direct impact on grades.

MISSED TERM WORK SYLLABUS INFO:

If you miss term work (including term tests) due to illness you must self-declare within 48 hours via Acorn. Please note it is mandatory for you to fill in the notes field within the self-declaration tool on Acorn to specify what term work you are missing and applicable due dates to be considered. For some additional instructions on how to declare illness please review the following resource <https://help.acorn.utoronto.ca/blog/uFAQs/how-do-i-declare-an-absence/>. If you are missing term work for another reason including: short-term illness under the care of a Physician or someone affiliated with Health and Wellness, disability reasons, a family death, vehicle accident, essential travel that is not vacation related, or varsity activities must e-mail the course instructor and Jennifer Campbell (jac.campbell@utoronto.ca) in advance or within 48 hours of the term work due date. Please note all documentation will be verified for authenticity by Jennifer Campbell and any accommodations (if applicable) will be determined by the course instructor.

Please note that we understand that life happens and you may miss term work for valid reasons and we will help you navigate through those situations. Please remain in communication with our departmental admin office as well as your course’s teaching team.

A make-up midterm exam will only be administered for students who self-declared as described above. Students without a valid reason will receive a zero. There will only be one make up time for the midterm. Students who miss the final exam must petition.

Schedule

(Topics and timing may change)

Date	Lecture	Topic
Sept 9	1	Course introduction; Introduction to animal development; A basic approach and techniques
Sept 16	2	Cell specification and differential gene expression
Sept 23	3	Cell-to-Cell communication
Sept 30	4	Stem cells
Oct 7	5	Invertebrate early embryogenesis
Oct 21	Midterm (in class)	
Oct 28	6	Vertebrate early embryogenesis
Nov 4	7	Neural tube formation and brain growth

Nov 11	8	Neural crest and axonal specificity
Nov 18	9	Development and function of spinal cord
Nov 25	Group Q&A sessions	
Dec 2	Group Q&A sessions	
Dec 9-21		Final Exam Period

AccessAbility statement: 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, please feel free to approach me and/or the AccessAbility Services Office as soon as possible.

AccessAbility Services staff (located in Rm AA142, Arts and Administration Building) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations 416-287-7560 or email ability.utscc@utoronto.ca. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Academic integrity: The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

Potential offences in papers and assignments include using someone else's ideas or words without appropriate acknowledgement, submitting your own work in more than one course without the permission of the instructor, making up sources or facts, obtaining or providing unauthorized assistance on any assignment.

On tests and exams cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

THE UNIVERSITY OF TORONTO'S CODE OF BEHAVIOUR ON ACADEMIC MATTERS APPLIES TO ALL UNIVERSITY OF TORONTO SCARBOROUGH STUDENTS. THE CODE PROHIBITS ALL FORMS OF ACADEMIC DISHONESTY INCLUDING, BUT NOT LIMITED TO, CHEATING, PLAGIARISM, AND THE USE OF UNAUTHORIZED AIDS. STUDENTS VIOLATING THIS CODE MAY BE SUBJECT TO PENALTIES UP TO AND INCLUDING SUSPENSION OR EXPULSION FROM THE UNIVERSITY.

CODE OF BEHAVIOUR ON ACADEMIC MATTERS - SECTION B1 1. It shall be an offence for a student knowingly:

- (a) to forge or in any other way alter or falsify any document or evidence required by the University, or to utter, circulate or make use of any such forged, altered or falsified document, whether the record be in print or electronic form;
- (b) to use or possess an unauthorized aid or aids or obtain unauthorized assistance in any academic examination or term test or in connection with any other form of academic work;
- (c) to personate another person, or to have another person personate, at any academic examination or term test or in connection with any other form of academic work;
- (d) to represent as one's own any idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e. to commit plagiarism (for a more detailed account of plagiarism, see Appendix "A") ;
- (e) to submit, without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course or program of study in the University or elsewhere;

(f) to submit any academic work containing a purported statement of fact or reference to a source which has been concocted.

Intellectual property: Recording or photographing any aspect of a university course - lecture, tutorial, seminar, lab, studio, practice session, field trip etc. – without prior approval of all involved and with written approval from the instructor is not permitted. For further information on University policies, please refer to the following links for details.

Notice of video recording and sharing

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor.

For questions about the recording and use of videos in which you appear, please contact your instructor.

Original university statement:

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site <https://uoft.me/pdt-faq>.