

# **Department of Biology Course Outline**

SC/BIOL 2030 3.00 Animals FALL 2020/2021

# **Course Description**

A study of the diversity of animals, their structure, physiology and evolution. Three lecture hours. One term. Three credits.

# Prerequisites (strictly enforced)

SC/BIOL 1010 6.00 or SC/BIOL 1000 3.00 and SC/BIOL 1001 3.00. Course credit exclusions: SC/BIOL 2030 5.00, SC/BIOL 2031 4.00, SC/BIOL 2031 3.00

Course Instructo	r(s) and Contact Information	
Course Director:	Dr. Scott P. Kelly 021 Farquharson Building	spk@yorku.ca
	Office hours (via Zoom): Thursda	ay 1:00 AM – 2:15 PM (or by appointment)

# Schedule/Course Format

## Asynchronous Content:

- 1. Lecture material will be recorded and posted on eClass in advance of synchronous meetings
- 2. Posting times will typically be at the start of each calendar week
- 3. See schedule below for topics to be covered during each course/calendar week

#### Synchronous Content:

Tuesday 11:30 AM – 12:45 PM Thursday 11:30 AM – 12:45 PM

- 1. Discuss lecture material
- 2. Answer student questions
- 3. Administer quizzes
- 4. Administer evaluations/exams etc.

## Technology Requirements

Computer access, internet connection (**stable** and ideally high speed), audio capability (microphone), ability to stream online synchronous meetings/content, ability to stream asynchronous lectures, ability to support video conferencing software.

Evaluation		
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Quizzes:	8%	
Course Assignment #1:	16%	
Course Assignment #2:	16%	
Exam 1:	20%	
Exam 2:	20%	
Exam 3:	20%	

**PLEASE NOTE**: Final course grades may be adjusted to conform to Program and/or Faculty grades distribution profiles.

# **Important Dates**

First Class (synchronous event):Sept 10th 2020Last Class:Dec 8th 2020Drop Deadline (last day to drop without course on transcript):Nov 6th 2020Course Withdrawal Period (course still appears on transcript with "W"):Nov 7th – Dec 8th

**NOTE**: For all and additional important dates such as holidays etc., refer to the "Important Dates" section of the Registrar's Website: <u>https://registrar.yorku.ca/enrol/dates/fw20</u>

Quiz dates:Thursdays; Sept 17th & 24th, Oct 1st, 22nd & 29th, Nov 5th, 19th & 26th, Dec 3rdCourse Assignment 1 Deadline:Tuesday Oct 20thCourse Assignment 2 Deadline:Tuesday Oct 20thExam 1:Thursday Oct 8thExam 2:Thursday Nov 12thExam 3:Tuesday Dec 8th

**NOTE**: All quizzes and Exams will be administered via eClass

#### Resources

eClass, York University Library

#### Learning Outcomes

The purpose of this course is to introduce animal diversity through discussion of lifestyles/cycles, relationships between anatomy/structure and function (internal and external anatomy), and the evolutionary history of unicellular and multicellular eukaryotic organisms. In this course, both living and extinct forms are considered (although an emphasis is placed on extant organisms), by surveying across a range of phyla. General topics for consideration include classification, lifestyle/cycles, habitats, architecture (structure and function), development, as well as systems involved in locomotion, feeding, digestion, circulation, communication, osmoregulation, gas exchange, reproduction and sensory operations.

Upon course completion, student learning outcomes will include being able to:

- 1. Discuss/define what unicellular eukaryotes and animals are, using specific characteristics that unify different groups of organisms (e.g. unifying features of a Phylum)
- 2. Discuss the diversity of unicellular eukaryotes and animals in terms of lifestyles/cycles, development, structure and habitats
- 3. Describe, with specific examples, how body form and structure of unicellular eukaryotes and animals relate to function
- 4. Describe, using examples, how unicellular eukaryotes and animals can impact human health
- 5. Describe the evolution of vertebrate animals from aquatic ancestors to terrestrial forms
- 6. Outline structures and mechanisms that specific (select) unicellular eukaryotes and animals have evolved for locomotion, osmoregulation, feeding and digestion, development/reproduction, and sensing the world around them

# **Course Content**

This course introduces unicellular eukaryote and animal diversity. Lifestyles/cycles, anatomy (from a structure and function viewpoint), and the evolutionary history of unicellular eukaryotes and animals are discussed. Both living and extinct forms are considered (although primarily living). General topics for consideration include (but are not limited to) classification, architecture and development, lifestyles/cycles as well as systems involved in locomotion, feeding/digestion, circulation, osmoregulation, gas exchange, and sensory operations.

Course Week	Calendar Week(s)	Topic(s)	Evaluation
1-2	Sept 9 <sup>th</sup> – 18 <sup>th</sup>	<ol> <li>Introduction to Class</li> <li>Classification</li> <li>Architecture</li> <li>Unicellular Eukaryotes</li> </ol>	<b>Quiz 1</b> (Sept 17 <sup>th</sup> ) Topics <b>2-4</b> covered
3	Sept 21 <sup>st</sup> – 25 <sup>th</sup>	<ol> <li>5. Phylum Porifera</li> <li>6. Phylum Cnidaria</li> </ol>	<b>Quiz 2</b> (Sept 24 <sup>th</sup> ) Topics <b>5</b> & <b>6</b> covered
4	Sept 28 <sup>th</sup> – Oct 2 <sup>nd</sup>	7. Phylum Platyhelminthes	<b>Quiz 3</b> (Oct 1 <sup>st</sup> ) Topic <b>7</b> covered
5	Oct 5 <sup>th</sup> – 9 <sup>th</sup>	<ul> <li>8. EXAM 1 guidelines</li> <li>9. EXAM 1 expectations</li> <li>10. Example questions</li> <li>11. EXAM 1 material review</li> <li>(synchronous event Oct 6<sup>th</sup>)</li> </ul>	<b>EXAM 1</b> (Oct 8 <sup>th</sup> ) Topics <b>2-7</b> covered
6	Oct $12^{th} - 16^{th}$	READING WEEK	
7	Oct 19 <sup>th</sup> – 23 <sup>rd</sup>	<ul> <li>12. Psuedo/blastocoelomates</li> <li>Phylum Rotifera</li> <li>Phylum Nematoda</li> <li>13. Mollusca</li> </ul>	Quiz 4 (Oct 22 <sup>nd</sup> ) Topics 12 & 13 covered Course Assignment #1 Deadline (Oct 20 <sup>th</sup> )
8	Oct 26 <sup>th</sup> – 30 <sup>th</sup>	<ul><li>14. Phylum Annelida</li><li>15. Phylum Arthropoda – I</li></ul>	Quiz 5 (Oct 29 <sup>th</sup> ) Topics 14 & 15 covered
9	Nov 2 <sup>nd</sup> – 6 <sup>th</sup>	<ul> <li>16. Phylum Arthropoda – II</li> <li>17. Phylum Echinodermata</li> </ul>	<b>Quiz 6</b> (Nov 5 <sup>th</sup> ) Topics <b>16</b> & <b>17</b> covered
10	Nov 9 <sup>th</sup> – 13 <sup>th</sup>	<ul> <li>18. Vertebrate Beginnings Invertebrate Chordates</li> <li>19. EXAM 2 material review (synchronous event Nov 10<sup>th</sup>)</li> </ul>	<b>EXAM 2</b> (Nov 12 <sup>th</sup> ) Topics <b>12-18</b> covered
11	Nov 16 <sup>th</sup> – 20 <sup>th</sup>	<b>20.</b> Fishes I & II	<b>Quiz 7</b> (Nov 19 <sup>th</sup> ) Topic <b>20</b> covered
12	Nov 23 <sup>rd</sup> – 27 <sup>th</sup>	<ul><li>21. Amphibians</li><li>22. Reptiles</li></ul>	<b>Quiz 8</b> (Nov 26 <sup>th</sup> ) Topics <b>21</b> & <b>22</b> covered
13	Nov 30 <sup>th</sup> – Dec 4 <sup>th</sup>	<b>23.</b> Aves <b>24.</b> Mammals	Course Assignment #2 Deadline (Dec 1 <sup>st</sup> ) Quiz 9 (Dec 3 <sup>rd</sup> ) Topics 23 & 24 covered
14	Dec 7 <sup>th</sup> – 8 <sup>th</sup>	25. EXAM 3	EXAM 3 (Dec 8 <sup>th</sup> ) Topics 20 - 24 covered I

# **Course Policies**

#### Policies for Accommodation and Accessibility

- The administration and execution of BIOL 2030 commits to principles of respect, inclusion and equality of all persons with disabilities. Where accommodation/s is/are required, the course director should be provided with as much advance notice as possible so that a mutually agreeable plan of action can be put in place. This will ensure that any impediment to receiving necessary academic accommodations that meet the needs of a student is avoided.
- If a student is aware of an accessibility issue with respect to the execution of BIOL 2030 (e.g. student is located in a different time zone, limited/intermittent internet access etc.), the course director should be notified as early as possible so that a plan of action can be put in place.

## Policies for a Missed Quiz: READ CAREFULLY and ENTIRELY

 If a student misses a Quiz, a mark of ZERO (0%) will be assigned for this graded component of the course. However, note that the best 8 out of 9 quiz marks will be used towards the overall BIOL 2030 grade. Therefore, if a student misses a quiz and is assigned a mark of ZERO (0%), this mark can be dropped as the lowest quiz mark

## Policies for a Missed Exam: READ CAREFULLY and ENTIRELY

- Exams will be held during regularly scheduled class times on Oct 8<sup>th</sup> 2020 (Exam I), Nov 12<sup>th</sup> (Exam II) and Dec 8<sup>th</sup> (Exam III)
- No Final Exam will be scheduled for BIOL 2030 during the Fall Examination period
- Exams I-III will consider evenly sourced lecture material as detailed in the Course Content section of the Course Outline as well as in the Introduction Lecture
- Exams I-III format will be a combination of multiple choice and written format (essay-style) questions
- If a student misses an Exam, there will be **NO** opportunity to take a make up exam
- A student who misses an Exam must notify the course director within (no later than) 24 hours of/following the missed Exam start time.
- A student who misses an Exam will have an opportunity to complete a Make Up Assignment (Essay), to be submitted **no later than one week** following the missed Exam date. The topic of the Make Up Assignment (Essay) will be provided **within 24 hours** of the student notifying the course director of the missed exam.
- A Make Up Assignment (Essay) *in lieu* of a missed exam will be an approximately eight (8) page essay on a topic assigned by the course director. The essay will be in the form of a scientific literature review on the assigned topic and will require the use of primary literature (i.e. research articles).
- If a student misses an Exam and <u>does not notify the course director within 24 hours</u> OR <u>does</u> <u>not complete the Make Up Assignment</u> in accordance with the details provided in the course outline, a mark of ZERO (0%) will be assigned for this graded component of the course

<u>Note</u>: No documentation or reason is requested or required if you miss an Exam. The Make Up Assignment is a final opportunity to acquire a mark for a missed Exam and no documentation will provide an additional opportunity.

## Policies for Missed or Late Make Up Assignments: READ CAREFULLY and ENTIRELY

 A student who does not notify the course director of a missed exam and their intent to take on a Make Up Assignment within (no later than) 24 hours of/following the missed Exam start time <u>will not</u> be provided the opportunity to conduct a Make Up Assignment. A missed Make Up Assignment will receive a grade of ZERO (0) % Make Up Assignment submission deadlines are one week following the missed Exam date

Make Up Assignment 1 submission deadline – 1 PM, Oct 15<sup>th</sup> 2020 Make Up Assignment 2 submission deadline – 1 PM, Nov 19<sup>th</sup> 2020 Make Up Assignment 3 submission deadline – 1 PM, Dec 15<sup>th</sup> 2020

• If a Make Up Assignment is not submitted by the deadline, a deduction of 10% will be allotted for each 24 hour period the assignment is late (up to a maximum of 3 days). If a Make Up Assignment is more than 3 days late, **ZERO** (0%) will be assigned for this graded component of the course

#### Policies for Late Course Assignments 1 or 2: READ CAREFULLY and ENTIRELY

• If Course Assignment 1 or 2 is not submitted by the deadline, a deduction of 10% will be allotted for each 24 hour period the assignment is late (up to a maximum of 3 days). If Assignment 1 or 2 is more than 3 days late, **ZERO** (0%) will be assigned for this graded component of the course

## Other Information

#### Exam/Quiz Expectations and Formats

- All exams and quizzes will be presented/administered via eClass
- Once a student opens an exam on eClass, this exam will be marked and used as part of the overall grade whether the student completes it or not
- No opportunity to conduct a Make Up Assignment will be provided to a student who has opened an exam on eClass and not completed it
- Once a student opens a quiz on eClass, this quiz will be marked and used as part of the overall grade whether the student completes it or not (NOTE: Best 8 out of 9 quiz marks are used to calculate the overall grade)
- If a student misses a quiz, there will be no opportunity to take a make up quiz. However, a missed quiz can be dropped as the lowest grade quiz and the remaining 8 quiz marks used to calculate the overall grade.
- All exams and quizzes should be completed by the student registered in the class without the use of <u>any</u> study aid (e.g. course notes, internet search etc.) or <u>discussion/consultation</u> with other individuals. A student is expected to complete exams and quizzes as they would if the evaluation were being administered in person and in accordance with all University policies on *Academic Honesty and Integrity* (see section below).
- Any indication that a student has completed an evaluation (i.e. exam or quiz) using a non-approved aid and/or through discussion/consultation with another individual will result in ZERO (0%) being assigned for that graded component of the course.

#### Format of Exams 1, 2 and 3

Exams 1 - 3 will be composed of multiple choice and written answer questions (i.e. short essaystyle questions). Written answer questions will require the student to provide an answer **in the student's own words** and this will be in full sentences (i.e. no point form answers)

#### Format of Quizzes

Quiz questions may vary in format

## Course Assignment 1 & 2 Format

• Each Course Assignment will be an approximately three (3) page "Animal Fact Sheet" that will provide a detailed overview of an animal assigned by the course director

## **Course Assignment format**

Each "Animal Fact Sheet" will provide the reader with **succinct** BUT **complete** information on an animal species, must be **in the student's own words** and should include the following topics:

- 1. Taxonomy
- 2. General morphology, including figures drawn by the student
- 3. Ecological information (i.e. range/distribution, habitat, abundance)
- 4. Life-history information (e.g. reproduction, life stages, food, predators, behaviour etc.), including figures drawn by the student
- 5. Relevance to humans
- 6. Bibliography

## Make Up Assignment (Essay) format and rubric (marking scheme)

- A Make Up Assignment (Essay) *in lieu* of a missed exam will be an approximately eight (8) page essay. The 8 pages should include diagrams/figures and reference citation but it does not include the title page. Format will be 1.5 line spacing and 12 point font. The topic will be assigned by the course director and will relate to Animal Diversity and one or more of the animal groups covered on the missed exam. The essay will articulate a topic **in the student's own words** and will be in the style of a scientific literature review. The assignment will require the use of primary literature (e.g. research articles from peer reviewed scientific journals), which can be sourced online via the York University library.
- Make Up Assignment Rubric (marking scheme):

Abstract – 5% Introduction – 15% Discussion (with subheadings) – 40% Conclusion – 15% References – 10% Overall (e.g. presentation, figure use, figure quality etc.) – 15%

#### University Policies

## **Academic Honesty and Integrity**

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<u>http://secretariat-</u>

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.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - <a href="http://www.yorku.ca/academicintegrity/">http://www.yorku.ca/academicintegrity/</a>

*Important* A note from the Faculty of Science Committee on Examinations and Academic Standards: 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. The Faculty's Committee on Examinations and Academic Standards (CEAS) found in these cases that the burden of proof in a charge of aiding and abetting had been met, since the uploading students had been found in all cases to be wilfully blind to the reasonable likelihood of supporting plagiarism in this manner. Accordingly, to avoid this risk, students are urged not to upload their work to these sites. Whenever a student submits work obtained through Course Hero or One Class, the submitting student will be charged with plagiarism and the uploading student will be charged with aiding and abetting.

Note also that exams, tests, and other assignments are the copyrighted works of the professor assigning them, whether copyright is overtly claimed or not (i.e. whether the © is used or not). Scanning these documents constitutes copying, which is a breach of Canadian copyright law, and the breach is aggravated when scans are shared or uploaded to third party repository sites.

#### Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Student's in need of these services are asked to register with disability 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 disabilities 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:

Counselling & Disability Services - http://cds.info.yorku.ca/

Counselling & Disability Services at Glendon - <u>https://www.glendon.yorku.ca/counselling/</u> York Accessibility Hub - <u>http://accessibilityhub.info.yorku.ca/</u>

#### **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. Please note that 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 Examination Accommodation Form at least 3 weeks before the exam period begins. The form can be obtained from Student Client Services, Student Services Centre or online at https://secure.students.yorku.ca/pdf/religious-accommodation-agreement-final-examinations.pdf

#### **Student 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 - <a href="http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/">http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/</a>