Department of Biology Course Outline

SC/BIOL 2030 4.00 Animals **Section A**
FALL 2024/2025

Course Description

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

Prerequisites

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 Instructors and Contact Information

Course Director: Dr. Andrew Donini adonini@yorku.ca
205 Lumbers Building

Lab Coordinator: Britney Picinic, PhD Candidate wb2030@yorku.ca

Technical Staff: Krystina Strickler

Schedule

Lecture Times: Tuesday 11:30 AM to 1:00 PM in Lassonde C (LAS C)
Thursday: 11:30 AM to 1:00 PM in Lassonde C (LAS C)

Lab Times: All lab sections run in Lumbers 124.
Mondays: 6:30 PM
Tuesdays: 2:30 PM & 6:30PM
Wednesdays: 10:00AM, 2:30 PM & 6:30 PM
Thursdays: 2:30 PM & 6:30PM
Fridays: 10:00AM & 2:30PM

Labs have a scheduled duration of 3 hours each and are a mandatory component of BIOL 2030. You must attend the lab section in which you are registered. No exceptions.

Evaluation

Laboratory Work (in-person) [quizzes, performance, marked dissection]:	40%
Term Test 1 (in-person Sunday, October 6th)	20%
Term Test 2 (in person Sunday, November 10th)	20%
Final Exam (In December Formal Exam Period):	20%

Important Dates

Term Test 1: Sunday October 6th, 2024
Term Test 2: Sunday November 10th, 2024

Laboratories: Labs are Mandatory**.** There is a lab each week, consult the schedule under course content in this course outline and/or the laboratory manual

Drop Deadline: November 8th 2024 (last date to drop without receiving a grade)
Course Withdrawal Period: November 9th – December 3rd 2024 (receive a grade of "W" on transcript)

NOTE: for additional important dates such as holidays, refer to the "Important Dates" section of the Registrar's Website at https://registrar.yorku.ca/enrol/dates/2024-2025/fall-winter

Resources

Textbook/s: There is no mandatory textbook for the Winter 2024 iteration of BIOL 2030. However, the following texts are a good source of information for the lecture material* and labs**. These can be considered suggested reading to enhance your understanding of course material.

*, ** Hickman, CP, SL Keen, A Larson, D Eisenhour. Animal Diversity, 7th Ed (2015) and more recent editions. McGraw Hill, Toronto.
** Freeman, WH., Bracegirdle, B. An Atlas of Invertebrate Structure, Heinemann Educational. OUT OF PRINT but available as a reference book in the library.
** Rowett, HGQ. Guide to Dissection. OUT OF PRINT but available as a reference book in the library.

Laboratory Manual: YORK SC/BIOL 2030 4.0 Animals Section A Fall 2024 Laboratory Manual
Course Director: Andrew Donini
Lab Coordinator: Britney Picinic

eClass website: Please note that lecture slides will be posted as a pdf document and lectures will **NOT BE RECORDED**. Extra Lab Resources are posted for each lab.

Learning Outcomes

This course introduces 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. Both living and extinct forms are considered (with an emphasis on extant organisms), by surveying across a range of phyla. General topics for consideration include classification, lifestyle/cycles, habitats, architecture (structure and function), development, and 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.

Week:	Weekly Topics	Date	Lecture Topic	Lab
1	Introduction			**NO LAB**
		Sept 5	Introduction	
2	Classification, Animal Architecture, Unicellular Eukaryotes	Sept 10	Classification / Animal Architecture	**NO LAB**
		Sept 12	Unicellular Eukaryotes	
3	Porifera & Cnidaria	Sept 17	Porifera	**NO LAB**
		Sept 19	Cnidaria	
4	Platyhelminthes	Sept 24	Platyhelminthes I	Lab 1 Unicellular Eukaryotes
		Sept 26	Platyhelminthes II	
5	Material Review & Term Test 1	Oct 1	Material Review	Lab 2 Porifera, Cnidaria
		Oct 3	To be determined	
		Oct 6	**TERM TEST1**	
6	Pseudocoelomates & Mollusca Annelida	Oct 8	Pseudocoelomates	Lab 3 Platyhelminthes/Nematode
		Oct 10	Mollusca	
Oct 12 – 18 – **READING WEEK** NO CLASSES OR LABS				
7	Annelida & Arthropoda	Oct 22	Annelida	Lab 4 Mollusca
		Oct 24	Arthropoda I	
8	Arthropoda & Echinodermata	Oct 29	Arthropoda II	Lab 5 Annelida **Marked Dissection**
		Oct 31	Echinodermata	
9	Material Review & Term Test 2	Nov 5	Material Review	Lab 6 Arthropoda
		Nov 7	To be determined	
		Nov 10	**TERM TEST 2**	
10	Vertebrate Beginnings & Fishes	Nov 12	Vertebrate Beginnings	Lab 7 Echinodermata/Chordata I
		Nov 14	Fishes I	
11	Fishes & Amphibians	Nov 19	Fishes II	Lab 8 Chordata II
		Nov 21	Amphibians	

12	Reptiles & Aves	Nov 26	Reptiles	Lab 9 Chordata III
		Nov 28	Aves	
13	Mammals	Dec 3	Mammals	**No Labs**

Experiential Education and E-Learning

Accessory Laboratory materials (images, videos), Lecture slides on eClass

Course Policies

Please read all Course Policies CAREFULLY and ENTIRELY

Accommodation and Accessibility Policies

- 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, the course director should be notified as early as possible so that a plan of action can be put in place. However, please note that **students must attend, in-person, all components of the course that require in-person attendance**. This includes test, exams and labs. In the case of BIOL 2030 labs, in-person attendance in and completion of all labs is mandatory, even if repeating the course.

Code of Student Rights & Responsibilities

- Students have rights and responsibilities. BIOL 2030 students must be fully aware of the Code of Student Rights & Responsibilities. See:

(https://www.yorku.ca/secretariat/policies/policies/code-of-student-rights-and-responsibilities-presidential-regulation/)
The Code of Student Rights & Responsibilities "*..is intended to be educative and promote accountability among students toward their peers and other members of the York community*.".

It is important to uphold an atmosphere of civility, honesty, equity and respect for others and not to disrupt or interfere with University activities (e.g. academic activities such as classes etc.).

Laboratories and missed labs Policies

LABORATORIES ARE MANDATORY AND YOU MUST ATTEND (IN-PERSON) THE LABORATORY SECTION THAT YOU ARE OFFICIALLY ENROLLED IN.

- There are 9 labs which you are required to complete.
- Each lab will be graded out of 10 (lab quiz worth 5, lab performance worth 5). At the end of term, the attended and completed lab in which you received the lowest grade will be dropped and the remaining 8 labs will be used to calculate your overall lab grade which is worth 34% of the final course grade. **Missed labs cannot be dropped.**
- Lab 5 will also include a marked dissection which will be worth 6% of the final course grade.
- Combined, the continuous assessment (best 8 out of 9 labs) plus the marked dissection are worth 34% + 6% = 40% of the final overall course grade.
- **There are NO make-up labs.**
- **A Make-Up marked dissection MAY be possible (see lab manual for further details).**
- If you miss a lab you can write the quiz associated with that lab on the following Monday at 9:30 AM (held in Lumbers 124). This is the only time a missed quiz will be offered and if this second opportunity is missed, the mark for that quiz will be zero.
- **Taking the above into consideration, the maximum grade that you may earn for a missed lab is 5/10 (i.e. if you earn 5/5 on the make-up quiz).**

Note: No documentation or reason is requested or required for missed labs. It is your responsibility to ensure you write the make up quiz at the designated time. If you miss the make up quiz you will earn a grade of 0/10 for the missed lab.

Term Test Weighting and Missed Term Tests Policy

- **Term Test 1** will be held on Sunday, October 6 on campus during class time and **Term Test 2** will be held on Sunday, November 10 on campus during class time, each weighted 20% of the course total.
- **Term Test 1** and **Term Test 2** will examine students on lecture material only. That is, these tests will not cover lab material unless it has appeared in lecture.
- **Term Test 1** and **Term Test 2** format will be approximately 75% multiple choice questions + 25% written format.
- There are **no** make up opportunities for a missed test; however, the lowest Test grade (including zero for a missed Test) will be automatically replaced by the Final Exam grade **only** if this results in a higher grade. No explanation or documentation required for missed tests. Policy will be applied as follows:
- **If Term Test 1 and Term Test 2 are written:**
  The lowest Test grade will be automatically replaced by the Final Exam grade only if this results in a higher grade.
- **If one Term Test is missed and one Term Test is written:**
  The missed Test will earn a grade of zero; however, as this will be the lowest Test grade, it will be replaced by the Final Exam grade.
- **If Term Test 1 and Term Test 2 are both missed:**
  The Final Exam grade will be applied to only one test (20%). A zero will be earned for the other test (20%).

The Final Exam is cumulative.

Note*:* No documentation or reason is requested or required if a student misses a Test.

Missed Final Exam Policies

- If you miss the Final Exam you must petition for Deferred Standing. The decision to grant deferred standing will be made by the appropriate petitions committee and not the instructor. See https://myacademicrecord.students.yorku.ca/academic-petitions for information on petitioning for deferred standing.

  If you are approved to write a deferred exam, the final exam will be in person at a date to be determined. The format of the deferred final exam may be essay, short answer, multiple choice or a mix of these options.

Grade Reappraisal Policies

- A BIOL 2030 student may, with sufficient academic grounds, request a reappraisal of a marked component of the course. However, **students need to be aware that a request for a grade reappraisal may result in the original grade being raised, lowered or confirmed.**
- To initiate the process of reappraisal, a clear, concise and specific **academic rationale** must be provided within **two (2) weeks** of receiving the graded component in question.
- Non-academic grounds are not relevant for grade reappraisals. Therefore, only requests with **appropriate academic grounds*** will move beyond the reappraisal request stage.
  [***Note:** Generalized reasons for requesting a reappraisal will not be accepted. For example, providing a rationale such as "I feel I deserve a better grade", or "I worked so hard on this..", or "I know the material better than this.." etc. are not academic grounds to request a grade reappraisal. While effort is appreciated, it does not make incorrect answers correct or a poorly executed exam question better.]

- If there is more than one area of a marked component that requires reappraisal, the student must provide a clear and concise academic rationale for each area individually.
- Irrespective of the area/areas outlined by the student, a reappraisal may take the entire graded component into consideration.

Grading Policy

- **The Senate approved grading scheme for undergraduate courses in the Faculty of Science provides specific definitions to accompany letter grades**. These are as follows:

A+. **Exceptional**; Thorough knowledge of concepts and/or techniques and exceptional skill or great originality in the use of those concepts, techniques in satisfying the requirements of an assignment or course.

A. Excellent; Thorough knowledge of concepts and/or techniques with a high degree of skill and/or some elements of originality in satisfying the requirements of an assignment or course.

B+. **Very Good**; Thorough knowledge of concepts and/or techniques with a fairly high degree of skill in the use of those concepts, techniques in satisfying the requirements of an assignment or course.

B. Good; Good level of knowledge of concepts and/or techniques together with considerable skill in using them to satisfy the requirements of an assignment or course.

C+. **Competent**; Acceptable level of knowledge of concepts and/or techniques together with considerable skill in using them to satisfy the requirements of an assignment or course.

C. Fairly Competent; Acceptable level of knowledge of concepts and/or techniques together with some skill in using them to satisfy the requirements of an assignment or course.

D+. Passing; Slightly better than minimal knowledge of required concepts and/or techniques together with some ability to use them in satisfying the requirements of an assignment or

course.

D. Barely Passing; Minimum knowledge of concepts and/or techniques needed to satisfy the requirements of an assignment or course.

E. Marginally Failing

F. Failing

Other Information

Who do I ask what?

The **Course Director** (Dr. Andrew Donini) will be teaching the course and is the person to ask any questions pertaining to overall course content (e.g. lectures, exams etc.). Dr. Donini can also help with lab material related questions BUT students are encouraged to first ask your TA about lab related material.

The **Lab Coordinator** (Britney Picinic) organizes the labs, lab scheduling, lab marking, TA meetings ahead of labs, student attendance in labs etc.

Take note of your **TA's** name! Your TA runs your lab section, administers your quizzes, decides your lab performance grade, marks your graded dissections. **Your TA is the first person you should ask any question that relates to lab material.**

Expectations and Format of Tests and Exam

- All tests and the exam will be presented/administered (and must be undertaken) in-person.
- Once a student opens a test or exam, this test or exam will be marked and used as part of the overall grade whether the student completes it or not. **No opportunity to replace a test/exam grade with the a higher final exam grade** will be provided if a student opens an exam and does not complete it.
- A student must complete all BIOL 2030 Tests and Exam in accordance with all University policies on *Academic Honesty and Integrity* (see "University Policies" section). That is, all BIOL 2030 Tests and Exam must be completed by the student registered in the class without the use of **any** study aid/s and without any **discussion/consultation** with other individuals.
- **Any indication** that a student has completed a BIOL 2030 Test or Exam in a manner that violates University policies on *Academic Honesty and Integrity* will result in an exploratory

meeting at the unit level to determine whether or not there are reasonable and probable grounds to proceed with a charge of breach of academic honesty.

Format of Term Tests and Final Exam

- Term Tests 1 and 2 and the Final Exam will be composed of multiple choice questions as well as written answer questions (i.e. short essay-style questions).
- Written answer questions **require** a student to provide an answer **in the student's own words** and this must be in full sentences (i.e. point form, note form, bullet point etc. answers will **NOT** be accepted)

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 (http://secretariat-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 - http://www.yorku.ca/academicintegrity/

A note on sharing assignments, tests, exams:

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.

Accessibility

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 - https://www.glendon.yorku.ca/counselling/

York Accessibility Hub - http://accessibilityhub.info.yorku.ca/

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 http://www.registrar.yorku.ca/pdf/exam_accommodation.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 - http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/

Other Resources

Learning Commons

The Learning Commons brings together key supports for your learning: writing, research, learning skills and career services. http://www.library.yorku.ca/cms/learning-commons/

goSAFE

goSAFE is a complimentary service provided to the York Community. At the Keele campus, goSAFE has two routes: North Route & South Route which will safely transport community members by vehicle from one specified hub to another on campus. goSAFE operates seven days a week, all year round, including University closures (with the exception at Glendon during the Christmas holiday closure).

Call the goSAFE office at 416-736-5454 or extension 55454 during hours of operation. Please give your name, location and destination. http://www.yorku.ca/goSAFE/

Mental Health and Wellness at York University

Outlines a variety of resources available to support mental health and wellness
http://mhw.info.yorku.ca/resources/resources-at-york/students/

Good2Talk

Post-Secondary Student 24 hour Helpline
http://www.good2talk.ca/ 1-866-925-5454