Department of Biology Course Outline

SC/BIOL 2010 4.0, Plant Biology
Winter Term 2020

Course Description

Current advances in plant biology research, highlighting plant structure, physiology, development and diversity.

Prerequisites

Prerequisite: SC/BIOL 1000 3.00 and SC/BIOL 1001 3.00 or SC/ISCI 1110 6.00 or both SC/ISCI 1101 3.00 and SC/ISCI 1102 3.00.

Course Instructors and Contact Information

Course Instructor: Nik Kovinich, PhD
(416) 736-2100 ext 33890
Life Sciences Building 327D
kovinich@yorku.ca
Office hours*: *Tuesdays* *10:30 am –12:00 pm*
Wednesdays *10:30 am –12:00 pm*
Fridays *10:30 am –12:00 pm*

*My office is located on the third floor of Life Sciences Building, which unfortunately requires a pass card for access. Students can stop by my office anytime, but must phone or email me *in advance* to request that I provide them access. Alternatively, just meet with me directly after the lecture.

Laboratory Coordinator Ms. Tiwari Tanushree, Phd student
Email: plants@yorku.ca, Office hours by appointment

Schedule

Lectures	MWF 9:30 in Lassonde Lecture Hall B
Laboratory	MTWR 2:30–5:30 and 6:30–9:30 in Lumbers 118

Evaluation

Evaluation

- Two term tests based on lectures, worth 25%. Your highest scoring test will be weighted 15%, and your lowest scoring test weighted at 10%. Term test 1 will cover the first 1/3 of the course and term test 2 will cover the second 1/3 of lectures.
- The final exam is worth 35% and covers the entire term's material, though emphasis is placed on the last 1/3 of lectures.
- Laboratory exercises, 3 write-ups and 2 lab quizzes, worth 40%. See your lab manual introduction for a detailed breakdown of the laboratories.
- In-class answers using Top Hat bonus 5% (yes it is possible to get more than 100% in this course!).

If you miss a term test, you will need to provide the laboratory co-ordinator, Ms. Tiwari Tanushree, with a letter stating that you were absent, and acknowledging that the weight of the missed term test (10%) will be added to the weight of the final exam.

It is not always possible to accommodate missed lab assignments or quizzes, in which case, the weight of the missed lab assignment/quiz will be added to the weight of the final exam.
"Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles."

Grading: The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests***** will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.).

For a full description of York grading system see the York University Undergraduate Calendar - http://calendars.registrar.yorku.ca/2011-2012/academic/grades/index.htm.

Students may take a limited number of courses for degree credit on an ungraded (pass/fail) basis. For full information on this option see Alternative Grading Option in the *(Faculty of Science and Engineering)* section of the Undergraduate Calendar: (http://ugbio.apps01.yorku.ca/)

Assignment Submission: Proper academic performance depends on students doing their work not only well, but on time. Accordingly, **lab** assignments for this course must be received on the due date specified for the assignment. Assignments are to be handed in to the TA for your laboratory section per their instructions.

Lateness Penalty: Assignments received later than the due date will be penalized (Late penalties will be determined by the laboratory coordinator).

Missed Tests: Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (e.g., doctor's letter) will have the weight of the missed term test transferred to the final exam.

IMPORTANT COURSE INFORMATION FOR STUDENTS
All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports, Initiatives, Documents) https://secretariat-policies.info.yorku.ca/

- Senate Policy on Academic Honesty and the Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation

Important Dates

Please find the **tentative dates** when the grades were made available to students:
Midterm 1: 03/02/2020
Midterm 2: 09/03/2020
Lab Quiz 1:11/03/2020
Lab Quiz 2: 09/04/020
Lab Report 1: 16/03/2020
Lab Report 2: 24/03/2020
Lab Report 3: 25/04/2020
Final Exam : 25/04/2020

NOTE: for additional important dates such as holidays, refer to the “Important Dates” section of the Registrar’s Website at http://www.yorku.ca/yorkweb/cs.htm

Resources

Course Text / Readings

Evert RF and SE Eichorn 2012 *Raven Biology of Plants*. Eighth Edition.

> *Raven Biology of the Plants* is one of the **best** biology textbooks out there. It includes excellent photographs and diagrams, as well as very clear and comprehensive explanations of biological terms and processes.

Bazely, Lew and others 2019. Laboratory Manual for SC/BIOL 2010 4.0 (Plant Biology).

> This is provided as pdf files, electronically at zero cost. The laboratory manual provides explanations of each of the lab exercises, diagrammatic representations of diverse life cycles and identification keys for major groups.

Learning Outcomes

Course Learning Objectives. Please note that the syllabus and lecture material will be posted on the course website (Moodle) provides a detailed and practical presentation of the Learning Objectives

Some specific learning objectives of the course:
Students will learn to:

- differentiate amongst the diversity of major organismal groups, including their characteristics (general appearance) and life cycles
- understand the key evolutionary transitions from photosynthetic prokaryotes (cyanobacteria) to protist eukaryotes (unicellular algae) to multicellular complexity (algae, fungi and land plants), and appreciate the remarkable depth and breadth of 4000 million years of evolution.
- develop and hone your observational skills
- develop the flexibility required to apply and integrate fundamental principles and mechanisms in the evolution of diverse organisms —both form and function.
- become comfortable and familiar with the scientific language used to describe organismal diversity and the eco-physiological basis of the life cycle of a flowering plant.
- develop your ability to independently analyze organismal diversity and the life of a flowering plant.

Course Content

Expanded Course Description
Plant Biology looks at plant and all other organismal groups EXCEPT for animals. We learn about their biodiversity, evolution, physiology, biotechnology and ecology.

This course has three lecture hours and three laboratory hours per week for one term, and is worth four course credits.

Overview. This course introduces you to botany. Non-biology majors with some background in biology may enroll with permission of the Course Director.

The lectures present information about prokaryotes, algae, fungi and plants, including their evolution, ecology, diversity, physiology, life cycles and their relevance to human society.

The laboratories are integrated with lectures, and illustrate the biological diversity of algae, fungi, and nonvascular and vascular plants, and highlight key aspects of plant biology.

Course Structure & Organization. This course has formal lectures given by the course director and weekly laboratories, run by teaching assistants. The textbook and lectures are crucial, and evaluation on this component is worth 60% of the final grade.

Most of the materials presented in laboratory exercises focus on developing observational skills of the gross form and structure of plants and other organisms, and also microscopic form and structure. We learn to identify material using keys, including those for identifying algae, conifers and pollen. We also do experiments and some laboratory write-ups require statistical analysis. The lecture and laboratory components are integrated, and aim to be relatively synchronous.

The final grade is a combination of lecture and laboratory tests and written assignments.

Experiential Education and E-Learning

Other Information

Course Policies

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Lateness Penalty: Assignments received later than the due date will be penalized (Late penalties will be determined by the laboratory coordinator).

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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/

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 - http://www.glendon.yorku.ca/counselling/personal.html
York Accessibility Hub - http://accessibilityhub.info.yorku.ca/

Ethics Review Process
York students are subject to the York University *Policy for the Ethics Review Process for Research Involving Human Participants.* In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an *Application for Ethical Approval of Research Involving Human Participants* at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

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 an Examination Accommodation Form, which can be obtained from Student Client

Services, Student Services Centre or online at
http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf (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/