

BIOC40H
Plant Physiology
Course Syllabus
Fall 2020

Lectures

Pre-recorded lectures and other materials will be posted online weekly. Once posted, materials will remain posted throughout the course.

<u>Course Personnel</u>	<u>Role</u>	<u>E-mail</u>
Prof. Greg Vanlerberghe	Instructor (<u>course content</u> , test and exam marking)	greg.vanlerberghe@utoronto.ca
Avesh Chadee	Teaching Assistant (test and exam marking)	avesh.chadee@mail.utoronto.ca

Questions about course content?

If you have questions about the course content, the **instructor** is available to help you with this. Send questions by e-mail to greg.vanlerberghe@utoronto.ca. E-mails will be responded to within one workday. Please note that only the instructor should be contacted if you have questions about the course content.

Textbook

Plant Physiology (6th edition) by Taiz, Zeiger, Møller & Murphy; Sinauer Associates Inc., 2015. You can buy the text at the UTSC bookstore.

Note that each chapter of the textbook ends with a useful summary. Also, a useful glossary of terms is present at the end of the textbook. The text also comes with a free companion web site at www.plantphys.net. This site includes special web essays and topics (that are also listed at the end of each textbook chapter), as well as sample questions. The instructor may occasionally make reference to material on the website.

Lecture materials

Pre-recorded lectures will be posted on the course page in Quercus each week. You should supplement these lectures with your own note-taking and textbook reading in order to help you learn and develop an understanding of the material. The Quercus course page will also be used for other purposes such as class announcements and online tests / exams.

Sample questions

Each week, the instructor will also post sample questions on Quercus. Use these sample questions to help you review the material and test your knowledge. Answers to the questions will be posted one week later, along with a new set of questions.

Test and exam format

The tests and final exam will include a mixture of question types that might include multiple choice, short answer, matching, interpreting graphed data etc. The tests and final exam will be performed online using Quercus (more details to follow).

Material to be tested

You will be tested on the topics and material that is presented in the recorded online lectures, as well as that which is assigned to you (i.e. take-home lectures 1 and 2). All materials will be posted on Quercus and should be considered your master outline of the course topics for which you are responsible. The lectures are based largely on material that can be found in the required text. Hence, the text is an important resource to help you develop your understanding of the material being presented in lecture.

Course Outline

<u>Week</u>	<u>Material</u>	<u>Section</u>	<u>Key Textbook Chapter(s)</u>
1	Lecture 1-2; Take-home lecture 1	Section I Unique features of the plant body and the plant cell	1
2	Lecture 3-4	Section II Biochemical and physiological aspects of photosynthesis Part 1: The light reactions	7,8,9
3	Lecture 5-6	Section II Biochemical and physiological aspects of photosynthesis Part 2: Carbon fixation	
4	Lecture 7-8; Take-home lecture 2	Section II Biochemical and physiological aspects of photosynthesis Part 3: Physiological aspects	
5	Lecture 9-10	Section III Water, mineral nutrients, and products of photosynthesis: acquisition, assimilation and transport Part 1: Water relations	3-6, 10, 11, 13
6		READING WEEK	
7	Lecture 11-12	Section III Water, mineral nutrients, and products of photosynthesis: acquisition, assimilation and transport Part 2: Mineral nutrition and solute transport	
8	Lecture 13-14	Section III Water, mineral nutrients, and products of photosynthesis: acquisition, assimilation and transport Part 3: Nutrient assimilation	
9	Lecture 15-16	Section III Water, mineral nutrients, and products of photosynthesis: acquisition, assimilation and transport Part 4: Phloem transport	
10	Lecture 17-18	Section IV Plant growth and cell walls	14
11	Lecture 19-20	Section V Plant photobiology	16, 18, 10
12	Lecture 21-22	Section VI Coordination of growth, development and stress acclimation by plant hormones Part 1: The plant hormone auxin	15, 17, 18
13	Lecture 23-24	Section VI Coordination of growth, development and stress acclimation by plant hormones Part 2: Auxin-mediated differential growth responses	

Course Assessments

<u>Method of Evaluation</u>	<u>Date</u>	<u>% of Final Grade</u>	<u>Material To Be Tested</u>
Term Test 1 ^a	to be announced ^b	25% ^c	Approximately lectures 1-8 and take-home lecture 1 (exact coverage to be announced)
Term Test 2 ^a	to be announced ^b	25% ^c	Approximately lectures 9-16 and take-home lecture 2 (exact coverage to be announced)
Final Exam	to be announced ^b	50% ^c	All material from the course, but with an emphasis on the materials not yet tested.

Please note that there is **no make-up test** if you miss a term test.

^a If you miss a term test and **provide appropriate documentation for having missed the test**, then the final exam will automatically be worth 75% of your final grade. Proper documentation must be submitted to Jennifer Campbell (SW421D; jac.campbell@utoronto.ca; [416] 287-7404) within 5 business days of having missed the test. This documentation will be confirmed.

^b The dates of the term tests and final exam will not yet be known at the beginning of term, but these dates will be announced on the course page (Quercus) as soon as they become known. Please note that these tests and exam may be scheduled for an evening or on a Saturday.

^c If you decide to take **BIOC90** and apply your grade in that course to BIOC40, then a modified grading scheme for BIOC40 will apply. Term tests 1 and 2 will each be worth 22.5% of your final BIOC40 grade, the final exam will be worth 45% of your final BIOC40 grade, and your BIOC90 mark will be worth 10% of your final BIOC40 grade. See below for more information about BIOC90.

BIOC90 Integrative Multimedia Documentary Project

This course is one of several that can be used to fulfill the BIOC90 program requirement that all students in Biological Science specialist and major programs need to complete before graduation. If you decide to enroll in BIOC90 this semester, you can do so through Acorn – you will need to enroll before the course add/drop date. Please note that if you are enrolled in more than one of the C-level courses that can be used to fulfill this program, you will need to decide which course you want the 10% grade for BIOC90 applied to (you can only apply this grade to ONE of the participating C-levels).

Please see <https://www.utoronto.ca/biosci/biob90h3-bioc90h3> for a list of participating courses. It is your decision as to when you will complete BIOC90 (you do not need to do so this semester, but you do need to complete this course to graduate if you are enrolled in the most recent versions of our programs). If you end up taking BIOC90 at a time when you are not enrolled in any of the participating classes, you cannot benefit from the assignment grade in any way. If you are not sure if you need to take BIOC90 to complete your program, please consult degree explorer – it will show up there as a program requirement if it is something you need to complete. Note: even if it is not one of your program requirements, you can still choose to complete this course if you wish to do so.

Under the 'BIOC90 Module' on our Quercus Page, the C90 Course Instructor will post all the information you will need to help you decide whether you want to take BIOC90 this term. Here, you will be able to find (i) the C90 course syllabus, as well as (ii) an information session held by the course instructor covering the details of the project.