

BIO B31H3S Plant Physiology
SYLLABUS – Winter 2013 – Dr. Connie Soros

***Course Overview:** BIOB31 is a lecture course taught in Winter 2013 term that examines some major topics in the field of plant physiology, an area of plant biology that focuses in the functioning of cells, tissues, organs and systems in a variety of photosynthetic organisms (eg. cyanobacteria, algae, non-vascular and vascular plants). The relationship between structure and function, a key unifying theme in biology in general, is stressed throughout this course. Also the impact of environmental conditions on the physiological functioning of plants is addressed.*

Lectures: Tuesdays 3:00-5:00. Rm. SY110

Tutorials: Thursdays 5:00-7:00 - **January 17, February 7, March 7 & March 28.** Rm. AC223

Tentative Lecture and Tutorial Schedule:

| | | Relevant Text Chapter |
|-------------------------------|--|--------------------------|
| Week 1 | (Jan. 8) Lecture 1 – Introduction to Course / Structure (Organs and Tissues) | 1 |
| Week 2 | (Jan. 15) Lecture 2 – Plant Structure (Cells) & Water | 3 & 4 |
| | (Jan. 17) Tutorial 1 – Lecture 3 - Water Balance of Plant Cells | 4 & 18 |
| Week 3 | (Jan. 22) Lecture 4 – Solute Transport | 6 |
| Week 4 | (Jan. 29) Assignment 1 | |
| Week 5 | (Feb. 5) Lecture 5 – Photosynthesis – Light Reactions | 7 |
| | (Feb. 7) Tutorial 2 - Lecture 6 – Photosynthesis – Carbon Reactions I | 8 |
| Week 6 | (Feb. 12) Assignment 2 | |
| READING WEEK – February 19-23 | | |
| Week 7 | (Feb. 26) Lecture 7 – Photosynthesis – Carbon Reactions II | 8 |
| Week 8 | (Mar. 5) Lecture 8 – Photorespiration and the CO ₂ Concentrating Mechanisms | 8 |
| | (Mar. 7) Tutorial 3 | |
| Week 9 | (Mar. 12) Lecture 9 – Photosynthesis – Ecological Considerations | 9 |
| Week 10 | (Mar. 19) Lecture 10 – Translocation in Phloem | 10 |
| Week 11 | (Mar. 26) Lecture 11 – Plant Growth and Development I | 16 |
| | (Mar. 28) Tutorial 4 | |
| Week 12 | (Apr. 2) Lecture 12 - Plant Growth and Development II/Review | 16 |

Final Exam Period: Monday April 15 – Tuesday April 30 (we will have a written final exam scheduled in this period).

The lecture notes and both labeled and some unlabeled diagrams will be posted on the intranet weekly as well as any course information and exam details etc).

Required Reading: each week there will be a short assigned reading, these will be assigned during the lecture (they will be not be posted, repeated in future lectures, or available on the intranet or via email). It is your responsibility to come to lecture or to get them from a classmate.

The chapters in the text that each lecture corresponds to are listed above (you are responsible for the material covered in lecture and the required readings and figures/charts from the text, other material in the text is there as a resource to help you).

Text (available at the UTSC bookstore)

Required Textbook: Taiz, L and Zeiger, E. 2010. **Plant Physiology**. 5th Edition. Sinauer Associates, Inc. Sunderland, Massachusetts 782 pp.

Students who decide earlier editions of the Textbook are responsible for comparing editions and being aware of any changes in page numbers, figure numbers and content between the edition they are using and the new 5th edition that is required for this course. Lectures, tests and exams in BIOB31 will be based on the 5th edition of the textbook.

The textbook comes with a companion Website at www.plantphys.net. This website includes special web topics and essays, as well as review material and sample questions to test your knowledge. Also note that a useful glossary is present at the back of the textbook. It is strongly recommended that your access the website associated with this textbook and use the resources provided to supplement the material presented in this course.

Course Regulations:

There is one 2-hour lecture weekly on Tuesday (3:00-5:00 pm in SY110). Attendance at these lectures is essential in order to get the maximum benefit from the course. There are four 2-hour Tutorials scheduled for BIOB31 in the Winter 2013 semester. These Tutorials are scheduled for Thursday (5:00-7:00pm in AC223) January 17, February 7, March 7 & March 28. This time period is shared with two other B-level courses. Details on material covered in these tutorials will be posted on either the Intranet, Blackboard or both prior to the scheduled tutorial, attendance at these tutorials is essential. In the tutorials, new material will be covered that supplements the lectures in the course. There will also be opportunities to ask questions and address problems with the lecture content, possible exam review and to assign and discuss the assignments.

Suggestions to optimize your opportunities for success in this course include:

- participating in lecture
- reading the relevant section in your textbook before the lecture (see lecture schedule on page 1 of the syllabus), do not take extensive notes or memorize the material – just read and familiarize yourself with the terms and concepts covered
- download the lecture note and diagrams from either Blackboard or the intranet before each lecture
- attending the lectures and taking notes and labeling diagrams with the aim of understanding the main concepts covered.

- reading the assigned reading given out in lecture for each lecture (usually a short interesting subject to augment the lecture) this material is always covered on exams!
- re-reading the relevant sections in your textbook as needed after lecture, creating your own study notes, reviewing your notes frequently.
- arranging to see the Prof. during scheduled office hours (1:00-3:00pm on Tuesdays) or by appointment, if you realize that you do not understand the concepts covered in lecture. Please DO NOT email questions about course content, especially information that can easily be looked up in the textbook or on this syllabus, use email for administrative purposes only.

Distribution of Marks:

| | |
|---------------------------|--|
| Midterm Examination | 35% (Time to be determined by registrar) |
| Assignments (2) | 20% (10% for each) |
| Final Written Examination | 45% (During final exam period) |

Lecture examinations may include ALL the lecture, required reading and cited text figure material for the particular topics covered on the examination

Lecture Examinations: the exact format of a particular lecture exam will be announced ahead in class. Lecture exams may include short answer such as multiple choice, fill in the blanks, definitions, matching type questions, labeling diagrams, etc. There may also be short and/or long essay questions. The Final exam may be any of the above and may be cumulative, although with slightly less emphasis placed on material from the first half of the course. The final exam will be held during the final exam period.

Missed Exams – students who miss an exam due to medical illness, must submit to Angela Jiang (the course coordinator see below for contact information) detailed UTSC Medical Certificate filled out by the physician you saw on the day of the test itself. The note is due three business days after the scheduled test. The date and format of the makeup test will be announced in lecture, on the intranet and via email. We will not accept any other medical certificate/note, and if the note is not filled out to our satisfaction, we do reserve the right to refuse it.

The UTSC Medical Certificate can be found here for your convenience:

http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf

Please see the BIOB31 intranet and /or blackboard site for more information on tests, missing tests and exam viewing.

The University of Toronto is dedicated to fostering an academic community in which the learning and scholarship of every member may flourish, with vigilant protection for individual human rights, and a resolute commitment to the principles of equal opportunity, equity and justice.

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. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

ACADEMIC INTEGRITY STATEMENT

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, 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 include, but are not limited to:

IN PAPERS AND ASSIGNMENTS: 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: Using or possessing unauthorized aids. Looking at someone else's answers during an exam or test. Misrepresenting your identity.

IN ACADEMIC WORK: Falsifying institutional documents or grades. Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see

<http://www.utoronto.ca/academicintegrity/resourcesforstudents.html>).

Instructor: Dr. Connie Soros

Office: S540B

***E-mail: csoros@utsc.utoronto.ca (please do not e-mail more than once in 48 hours, I promise to answer all queries as soon as I can) ***

OFFICE HOURS: I will be available on Tuesdays 1:00-3:00 in my office.

Course Coordinator: Angela Jiang

Office: S421-D, office hours: M/W/F 10-12, Tu/Th 2-4

Phone: 416 287-7404

Email: ajiang@utsc.utoronto.ca

Teaching Assistant (TA): Michael Stokes is familiar with course content. He will be marking course assignments and will not be holding regular office hours.

His email address is: michael.stokes@utoronto.ca

When making email inquiries, please use your UTSC or UToronto email address and be sure to include BIO B31 in the subject line.