

Plant Biology (BIOL 340): 3 credits
Course outline: Fall 2013 (Mon/Fri 10:15-11:30)

1. General Information:

Class date, time and location: Monday & Friday: 10:15-11:30; Loyola: CC-312
Instructor: Dr. Andrew Wieczorek, Biology Department, Faculty of Arts and Sciences
(Andrew.wieczorek@concordia.ca)
Office: SP375.35 Office hours: Monday 12:00 – 13:00pm
Prerequisite: BIOL 225, BIOL226 or Instructor approval

2. Course description: This course surveys the biology of the plant kingdom. Topics include the evolution of the major groups and a comparative analysis of the form (anatomy), function (physiology), and life history of plants.

3. Objectives of this course are to assist students to gain competence and knowledge in evolution, form and function of plants.

4. Tentative Schedule:

Midterm test: November 7th 2014: 10:15-11:30
[Midterm test will cover material from the beginning of the term up to and including the Gymnosperms lecture]

Final exam date will be scheduled by Concordia University Examinations Office
[Final exam will cover material from Angiosperms lecture through the end of term]

Laboratory: SP380-05; Time: 13:30 – 17:30
Laboratory dates: Group A: September 23; October 7, 21; November 4, 18.
Group B: October 30, 14, 28; November, 11, 25
[Students will be assigned to groups A or B on September 19th 2014]

Lab coats are mandatory.

Please bring sharpened pencils, eraser and white copy papers for making drawings and notes.

All drawings and labeling must be done in pencil only.

Teacher's Assistant: TBA

Topics covered:

- Introduction to Plant Biology [Chapter 1]
- The process of Evolution [Chapter 11]
- Plant Systematics and Phylogenetics [Chapter 12]
- Prokaryotes: Cyanobacteria, purple and green bacteria, prochlorophytes [Chapter 13]
- Fungi [Chapter 14]
- Protista: Algae [Chapter 15]
- Bryophytes [Chapter 16]
- Seedless vascular plants [Chapter 17]
- Gymnosperms [Chapter 18]
- Angiosperms [Chapter 19]
- Evolution of Angiosperms [Chapter 20]
- Plants and People [Chapter 21]
- Early Development of the Plant Body [Chapter 22]
- Cells and Tissues of the Plant Body [Chapter 23]
- The Root: Structure and Development [Chapter 24]
- The Shoot: Primary structure and Development [Chapter 25]
- Secondary Growth in Stems [Chapter 26]
- Regulating Growth and Development – The Plant Hormones [Chapter 27]
- External Factors and Plant Growth [Chapter 28]
- Plant Nutrition and Soils [Chapter 29]
- The Movement of Water and Solutes in Plants [Chapter 30]
- Photosynthesis – C₃, C₄ and CAM plants [Chapter 7]
- Recombinant DNA technology, Plant Biotechnology and Genomics [Chapter 10]
- Secondary metabolites and Plant defense
- Plant Stress Physiology
- Special topics
 - Phytoremediation
 - Biofuel
 - Plant adaptation to climate change
 - Topics based upon student requests or of current interest

5. Course materials:

Text Book: Evert and Eichhorn (2013) Raven Biology of Plants (8th Edition), ISBN:13:978-1-4292-1961-7

References of additional reading materials will be posted on the course website (Moodle).

6: Grading:

1. Mid term test: 30
2. Final exam: 45
3. Laboratory assignments: 20
4. Quizzes: 05

Grading scheme: A+=90-; A=85-89; A-=80-84; B+=77-79; B=74-76; B-=70-73; C+=67-69; C=64-66; C-=60-63; D+=57-59; D=54-56; D-=50-53; F=<49

The mid-term test and the final exam will comprise multiple choice answer questions and questions requiring short essay type answers. The laboratory assignment marks will be based on lab reports.

7. Rights and Responsibilities:

<http://provost.concordia.ca/academicintegrity/plagiarism/>

8. Other:

- Cellular phones should be turned off and put away.

Disclaimer: "In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change".