

COURSE SYLLABUS

COURSE TITLE: BIOL 222 The Living Plant

COURSE CODE: 60421

TERM: Spring and Summer 2018

COURSE CREDITS: 3.0

DELIVERY: Lecture & Practicum (Lab)

CLASS SECTION: 01

START DATE: June 28th, 2018

CLASS LOCATION: BIOL 124

LAB LOCATION: Room 213 Biology Building

CLASSTIME: 8.30 to 10.50 pm (M-F)

LAB TIME: 1:30-4:20pm

WEBSITE: via Blackboard. Lecture notes will be posted on the BLACKBOARD homepage.

Course Description:

This course examines the organization of the plant body and how cells, tissues and organs function and contribute to growth, development and reproductive success. The course will deal broadly with plant biology, emphasizing flowering plants, and provides a foundation for senior courses on plants.

Prerequisite(s): BIOL 120.3. Note: BIOL 121.3 is strongly recommended. Students with credit for BIOL 202.3 or BIOL 205.3 may not take this course for credit.

Anticipated Learning Outcomes:

By the completion of this course, students will be expected to:

1. Understand both basic and advanced functions of plants, spanning the mechanisms and strategies of their development, growth, physiology, reproduction, and interactions with their environment.
2. Show proficiency in their ability to handle and examine plant parts (e.g., stems, roots), including application of stains (dyes) that help distinguish cell types and tissues such that students can appreciate the differentiation in plant organs that translates to the functional role of these structural aspects.
3. Learn how to correctly operate microscopes (compound, dissecting) plus utilize an image-capture system that facilitates the production of images (e.g., stained stem in cross-section) that can then be labeled to correctly identify the section's various tissues and cell types.
4. Have a basic understanding that plants are diverse (e.g., not all plants reproduce in the same way - seeds versus non-seed plants), although by necessity the lectures and labs will emphasize flowering plants (angiosperms), which are the most dominant plant group that students will encounter.
5. Apply programs like Excel Graphics to prepare simple graphs of plant-science data.
6. Learn to work efficiently both as individuals and within group settings in the lab.

Note: The University of Saskatchewan Learning Charter is intended to define aspirations about the learning experience that the University aims to provide, and the roles to be played in realizing these aspirations by students, instructors and the institution. A copy of the Learning Charter can be found at:

<http://www.usask.ca/secretariat/documents/LearningCharter.pdf>

INSTRUCTOR CONTACT INFORMATION

Dr. Doug Smith Biology RM 150 Biology 966-4415
Lecturer dh.smith@usask.ca

Gillian Murza Biology Building RM 216 966-4423
Lab Coordinator gillian.murza@usask.ca

INSTRUCTIONAL RESOURCES: TEXTBOOK AND LAB MANUAL

Text Book: Raven – Biology of Plants (8th Edition) by Evert, Ray and S. Eichhorn, W. H. Freeman Company Publishers, 2013.

This texts is on reserve in the Science Library

Lab Manual: **Biology 222 Lab Manuals (2018)** are available through the bookstore. Previous manuals are out of date; purchase a new lab manual.

Evaluation of Student Performance

Midterm exam: Wednesday July 11 th , 2018 at 8:30 am	20%
Laboratory component:	40%
Final Lecture exam: July 20 th or 23 rd , 2018	<u>40%</u>
	100%

Laboratory Assignments:

Value: 20% of the final course grade.

Date: Deadline dates vary, because these items are assigned throughout the term.

Format: Assignments, Quizzes, Lab Reports.

Description: Each student will work independently (unless specified otherwise) to prepare these items that relate to the laboratory (practical) portion of the course.

Lecture Midterm Exam:

Value: 20% of the final course grade.

Date: During the lecture slot on **Wednesday, July 11th, 2018.**

Duration: 50 minutes.

Format: Combination of multiple choice, short answers, diagrams, and paragraph-style answers.

Description: Coverage will include lecture material from June 28 – July 10, 2018. Note that no phones, laptops, tablets or other electronic or written materials are allowed. Please bring your valid U of S student card plus an HB pencil and eraser.

Laboratory Exam:

Value: 20% of the final course grade.

Date/Time: Within your regular lab period, on **July 18th, 2018**.

Format: Combination of spot test identifications plus practical exercises such as dissections, hand-sectioning, staining, drawing and labeling.

Description: This exam is comprehensive; its coverage includes the weekly laboratory exercises and demonstration materials presented during Labs 1-8. Students are strongly encouraged to take advantage of the Review Lab on July 16 and 17, 2016, to help prepare for this exam.

Lecture Final Exam Value:

Value: 40% of the final course grade.

Date: Either on **July 20th or 23rd, 2018**. Date arranged by the Registrar.

Students must avoid making prior travel, employment, or other commitments for this period. Students are encouraged to review all University examination policies and procedures: <http://www.usask.ca/calendar/exams&grades/examregs/>

Duration: Three hours

Format: Combination of multiple-choice, short answers, diagrams, and paragraph-style answers.

Description: This exam is comprehensive and will cover all lecture material. However, material delivered since the Lecture Midterm Exam will be emphasized. Please bring your valid U of S student card plus an HB pencil and eraser.

Criteria That Must Be Met to Pass

The Lecture Midterm Exam, Laboratory Exam and Lecture Final Exam are **required** elements of the course and, therefore, must be completed in order for a student to be eligible to pass this course.

Deferred Exam Policy

Students absent for the **midterm exam** must advise Dr. Smith in person, by telephone (966-4415) or by email within **TWO (2) WORKING DAYS** of the missed midterm on July 11th) and will need to present documentation explaining their absence within the designated time period. Otherwise, a grade of zero will be assigned.

Application for a **deferred final exam** must be made within **THREE (3) WORKING DAYS** of the missed final, but requests are made to the Dean's Office of the College in which the student is enrolled.

Academic Dishonesty

Academic dishonesty is a serious and increasing offence on this campus. Academic dishonesty is what the university calls cheating. The Student Academic Dishonesty Rules of the University of Saskatchewan Council are provided on the following website:

<http://www.usask.ca/secretariat/student-conduct-appeals/academic-misconduct.php>

Students should access this web site and read very carefully the list of criteria provided.

Penalties for cheating vary depending on the seriousness of the offense e.g. a grade of zero in the exam or assignment to dismissal from this university (and all other universities in North America) for a period of time e.g. one year, three years or permanently. All students should familiarize themselves with the many forms of dishonesty that may be dealt with at the Department, College or University level.

There is an onus on every student to become informed as to what does or does not constitute academic dishonesty at this university. Ignorance of applicable standards for academic dishonesty **will not be considered to be an acceptable excuse** in situations where the university decides that academic honesty has been breached by a student.

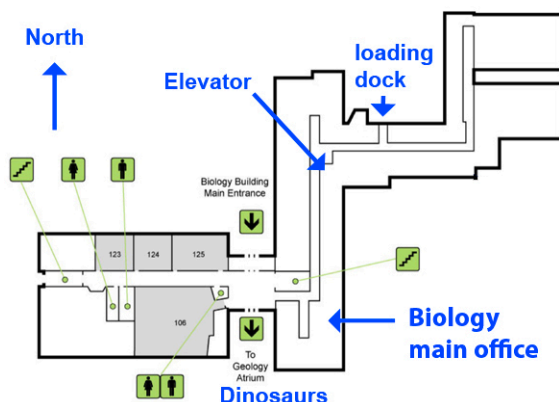
In particular, notice that providing false or misleading information with the intent **to avoid or delay writing an examination or fulfilling any other academic requirement** is also considered academic dishonesty. We have provided you with information well in advance of the exam times and we expect you to be prepared to write on the dates indicated.

STUDENTS WITH A DISABILITY

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Access and Equity Services (AES) if they have not already done so.

Students who suspect they may have disabilities should contact AES for advice and referrals. In order to access AES programs and supports, students must follow AES policy and procedures.

For more information, check <http://students.usask.ca/disability/>, or contact AES at 306-966-7273 or aes@usask.ca. Students registered with AES may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through AES by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by AES.



Students requiring an elevator for access to the second floor in the Biology Building (teaching labs and some faculty offices) may use the elevator in the Museum of Natural Sciences. Alternatively, or if offices on the 3rd floor of the Biology Building need to be accessed, there is an elevator located at the north end of the research wing, opposite Room 130.

Lecture Topics and Tentative Schedule

Introduction to Plant Origins and Plant Growth

June 28 – July 5

Organization of the plant body
Meristems, Growth and Differentiation

Plant Form and Function

July 6 – July 12 (Midterm - July 11)

Stems, Leaves and Photosynthesis
Roots and Nutrient Uptake
Nutrition and Transport in Plants
Plant Responses to the Environment

Plant Reproduction and Development

July 13 – July 19

Sexual and Asexual Plant Reproduction
Structure and Function of Seeds and Fruits
Hormones and Plant Development

Dates to note:

June 28 th	University classes begin for Q3
July 2 nd	Canada Day- No class
July 3 rd	Labs begin
July 11 th	Biology 222 Midterm examination
July 18 th	Lab Exam
July 19 th	Last day of classes for Q3
July 20 th or 23 rd	Biology 222 Final lecture examination

Laboratory Schedule

<u>Dates</u>	<u>Lab #</u>	<u>Topic</u>
June 28 (Thur.)		NO LAB
June 29 (Fri.)		NO LAB
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July 2 (Mon.)	Canada Day –	NO LAB
July 3 (Tues.)	Lab 1	Introduction to Plants and Lab Skills
July 4 (Wed.)	Lab 2	Plant Tissue Systems and Stems
July 5 (Thur.)	Lab 3	Meristems, Primary and Secondary Growth
July 6 (Fri.)	Lab 4	Leaves and Photosynthesis
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July 9 (Mon.)	Lab 5	Roots
July 10 (Tues.)		NO LAB
July 11 (Wed.)	Lab 6	Transport
July 12 (Thur.)	Lab 7	Flowers and Fruits
July 13 (Fri.)	Lab 8	Sexual Reproduction and Vegetative Reproduction
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July 16 (Mon.)		Review
July 17 (Tues.)		Review
July 18 (Wed.)		Final Lab Exam
July 19 (Thurs.)		NO LAB

Lab Coordinator – Gillian Murza – Lab Office 216 (306-966-4423)