

COURSE SYLLABUS

COURSE TITLE: BIOL 222 The Living Plant

COURSE CODE: 60421

TERM: Spring and Summer 2017

COURSE CREDITS: 3.0

DELIVERY: Lecture & Practicum (Lab)

CLASS SECTION: 01

START DATE: June 29th, 2017

CLASS LOCATION: BIOL 125

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.

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

Description: Coverage will include lecture material from June 29 – July 10, 2017. 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 18, 2017**.

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 14 and 17, 2016, to help prepare for this exam.

Lecture Final Exam Value:

Value: 40% of the final course grade.

Date: Either on **July 21st or 24th, 2017**. 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 or by telephone (966-4415) within **TWO (2) WORKING DAYS** of the missed midterm (July 12th) and will need to present documentation explaining their absence. 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.

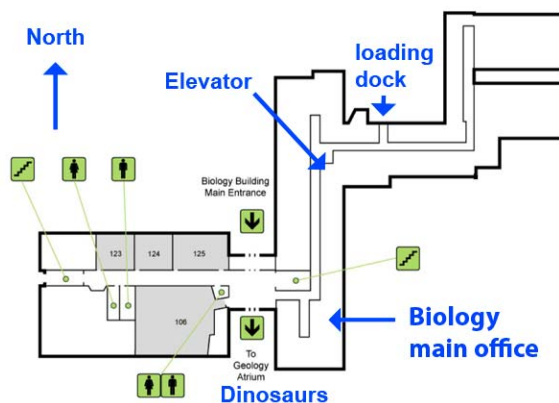
In particular, notice that providing false or misleading information with the intent **to avoid or delay writing an examination or fulfilling any other academic requirement** is also considered academic dishonesty. We have provided you with information well in advance of the exam times and we expect 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 Disability Services for Students (DSS) if they have not already done so.

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

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



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 29 – July 6

Organization of the plant body
Meristems, Growth and Differentiation

Plant Form and Function

July 7 – July 14(Midterm - July 12)

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

Plant Reproduction and Development

July 17 – July 20

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

Dates to note:

| | |
|---|---------------------------------------|
| June 29 th | University classes begin for Q3 |
| June 30 th | Labs begin |
| July 3 rd | Canada Day- No class |
| July 12 th | Biology 222 Midterm examination |
| July 18 th | Lab Exam |
| July 20 th | Last day of classes for Q3 |
| July 21 st or 24 th | Biology 222 Final lecture examination |

Laboratory Schedule

| <u>Dates</u> | <u>Lab #</u> | <u>Topic</u> |
|------------------|--------------|---|
| June 29 (Thur.) | | NO LAB |
| June 30 (Fri.) | Lab 1 | Introduction to Plants and Lab Skills |
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| July 3 (Mon.) | Canada Day – | NO LAB |
| July 4 (Tues.) | Lab 2 | Plant Tissue Systems and Stems |
| July 5 (Wed.) | Lab 3 | Meristems, Primary and Secondary Growth |
| July 6 (Thur.) | Lab 4 | Leaves and Photosynthesis |
| July 7 (Fri.) | Lab 5 | Roots |
| | | |
| July 10 (Mon.) | Lab 6 | Transport |
| July 11 (Tues.) | | NO LAB |
| July 12 (Wed.) | Lab 7 | Flowers and Fruits |
| July 13 (Thur.) | Lab 8 | Sexual Reproduction and Vegetative Reproduction |
| July 14 (Fri.) | | Review |
| | | |
| July 17 (Mon.) | | Review |
| July 18 (Tues.) | | Final Lab Exam |
| July 19 (Wed.) | | NO LAB |
| July 20 (Thurs.) | | NO LAB |

Lab Coordinator – Marlene Mahoney – Office Room 150 (306-966-4415) – Lab Room 213
(306-966-4423)