UNIVERSITY OF SASKATCHEWAN

BIOLOGY 325 SYLLABUS

COURSE TITLE:	**Plant Cells and Tissues**		
COURSE CODE:	**Biol 325**	**TERM:**	**Fall 2015**
COURSE CREDITS:	**3**	**DELIVERY:**	**Lecture and Lab**
CLASS SECTION:	**1**	**START DATE:**	**Sep 3, 2015**
CLASS LOCATION:	**Biology room 124**	**LAB LOCATION:**	**Biology room 213**
CLASS TIME:	**TR 8:30 - 9:20**	**LAB TIME:**	**Tuesday 1:30-5:20**
WEBSITE:			

Course Description

A structural and functional study of the organization of the plant body. The course deals with plant cell organelles, cell morphogenesis, cell types and tissue organization. Examination of live material is emphasized in the laboratory.

Prerequisites

Biol 120 and 222

Learning Outcomes

By the completion of this course, students will be expected to understand the internal structure and organization of plants from cells, to tissues, to organs. Students will also gain proficiency in microscopy and experimental design.

Course Overview

The course covers a broad range of topics in the fields of plant cell biology and tissue morphogenesis. The laboratory portion supplements the lectures and gives technical experience with plant dissection, microscopy, imaging and image analysis. When possible, laboratory exercises will coincide with the lecture portion.

Class Schedule

Week	Module	Lab
1	Body plan, tissues, cell types	No lab
2	Tissues, cell types	Live specimen analylsis
3	Tissues, cell types	Live and fixed specimen analysis
4	Microscopy types and methods	Live and fixed specimen analysis
5	Cell shape, cytoskeleton, cell division	Live and fixed specimen analysis
6	Cell division, genetic methods	Live and fixed specimen analysis
7	Cell walls, organelles, endomembrane system	Mid-term
8	Endomembrane system, auxin, model plant systems	Image analysis
9	Model cell systems, trichomes	Image analysis
10	Tip growth, root hairs, pollen tubes, guard cells	Confocal microscopy
11	Break Week	---
12	Cell polarity, asymmetric divisions	Confocal microscopy analysis
13	Reproductive structures	Confocal microscopy analysis
14	Cytoskeletal research	Confocal microscopy analysis
15-16	Final Exam (Date TBA)	---

(Syllabus is subject to change with notice)

Midterm and Final Examination Scheduling

Midterm and final examinations must be written on the date scheduled.

Final examinations may be scheduled at any time during the examination period (December 9-23); students should therefore avoid making prior travel, employment, or other commitments for this period. If a student is unable to write an exam through no fault of his or her own for medical or other valid reasons, documentation must be provided and an opportunity to write the missed exam may be given. Students are encouraged to review all examination policies and procedures:

http://www.usask.ca/calendar/exams&grades/examregs/

Required Resources

Readings/Textbooks

No books required.

Grading Scheme

Quizzes	40
Lab report	10
Midterm exam	25
Final exam	25
Total	100%

Evaluation Components

Quizzes and Lab Reports

Value: 50% of final grade
Date: See Course Schedule
Length: variable
Type: Comprehensive
Description: These are short quizzes given at the beginning of lab sessions. They cover lecture and laboratory material.

Midterm Exam

Value: 20% of final grade
Date: See Course Schedule
Length: 1 hours
Type: Comprehensive

Final Exam

Value: 20% of final grade
Date: See Course Schedule
Length: 3 hours
Type: Comprehensive
Description: Comprehensive final exam

Submitting Assignments

Submit during lecture

Late Assignments

-25% each day overdue

Criteria That Must Be Met to Pass
Get 50% or higher.

Attendance Expectations
You don’t have to, but if you don’t your life will be harder.

Participation
Yes

Student Feedback
Feedback is always welcome.

Acknowledgements
Vipen Sawhney, Alan Hiebert, Larry Fowlke

Instructor Information
Contact Information
966-4409; chris.ambrose@usask.ca

Office Hours
Fridays 10am-11am

Instructor Profile
PhD at Penn State in 2006 in plant cell and molecular biology. My research focuses on cytoskeletal organization, cell wall structure and formation, and plant development. Other courses I have taught are Cell Biology and Plant Anatomy.

University of Saskatchewan Grading System (for undergraduate courses)

Exceptional (90-100) A superior performance with consistent evidence of

- a comprehensive, incisive grasp of the subject matter;
- an ability to make insightful critical evaluation of the material given;
- an exceptional capacity for original, creative and/or logical thinking;
- an excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently.

Excellent (80-90) An excellent performance with strong evidence of

- a comprehensive grasp of the subject matter;
- an ability to make sound critical evaluation of the material given;
- a very good capacity for original, creative and/or logical thinking;
- an excellent ability to organize, to analyze, to synthesize, to integrate ideas, and to express thoughts fluently.

Good (70-79) A good performance with evidence of

- a substantial knowledge of the subject matter;
- a good understanding of the relevant issues and a good familiarity with the relevant literature and techniques;
- some capacity for original, creative and/or logical thinking;
- a good ability to organize, to analyze and to examine the subject material in a critical and constructive manner.

Satisfactory (60-69) A generally satisfactory and intellectually adequate performance with evidence of

- an acceptable basic grasp of the subject material;
- a fair understanding of the relevant issues;
- a general familiarity with the relevant literature and techniques;
- an ability to develop solutions to moderately difficult problems related to the subject material;
- a moderate ability to examine the material in a critical and analytical manner.

Minimal Pass (50-59) A barely acceptable performance with evidence of

- a familiarity with the subject material;
- some evidence that analytical skills have been developed;
- some understanding of relevant issues;
- some familiarity with the relevant literature and techniques;
- attempts to solve moderately difficult problems related to the subject material and to examine the material in a critical and analytical manner which are only partially successful.

Failure (<50) An unacceptable performance

Integrity Defined (from the Office of the University Secretary)

The University of Saskatchewan is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals section of the University Secretary Website and avoid any behavior that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should read and be familiar with the Regulations on Academic Student Misconduct (http://www.usask.ca/university_secretary/honesty/StudentAcademicMisconduct.pdf) as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals (http://www.usask.ca/university_secretary/honesty/StudentNon-AcademicMisconduct2012.pdf)

For more information on what academic integrity means for students see the Student Conduct & Appeals section of the University Secretary Website at:
http://www.usask.ca/university_secretary/pdf/dishonesty_info_sheet.pdf

Examinations with Disability Services for Students (DSS)

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://www.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.