



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. Course: PLANT BIOLOGY 327 – SYSTEMATICS AND DIVERSITY OF PLANTS

Lecture Section: L01 MWF 15:00-15:50 BI 587 WINTER 2018

Lab Sections: B01 R 12:00-14:50 BI 126
B02 R 15:00-17:50 BI 126

Course Coordinator/
Instructor: Dr. J. Vamosi BI 482 210-9594 jvamosi@ucalgary.ca

D2L: PLBI 327 L01 - (WINTER 2018) - SYSTEMATICS & DIVERSITY PLANTS (W2018PLBI327L01)

Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

- 2. PREREQUISITE(S):** Biology 371 or 233 or any two of Biology 231, 233, 241 and 243 and completion of at least 57 units (9.5 full-course equivalents)
See section 3.5.C in the Faculty of Science section of the online Calendar
(<http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html>)

- 3. Grading:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Lecture Midterm I	20 %	In-Class (Feb 9/18)
Lecture Midterm 2	20%	In-Class (Mar 7/18)
Lecture Assignments	20 %	
Lecture Final Exam	20%	
Lab Final Exam	20 %	

There will be a final lab exam and final lecture exam scheduled by the Registrar's office.

Each piece of work (assignments, laboratory final, midterm test or lecture final examination) submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Min. Percent Required	95	86	81	78	74	71	67	63	60	55	50

- 4. Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.3](#) of the University Calendar

- 5. Scheduled out-of-class activities:** Dates and times of approved class activities held outside of class hours. N/A

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

- 6. Course Materials: TEXT:** Required: *Biology of Plants*, Raven, Evert, and Eichhorn, Freeman and Company. 8th Edition

- 7. Examination Policy:** No aids are allowed on tests and examinations. Students should also read the Calendar, [Section G](#), on Examinations.

- 8. Writing across the curriculum statement:** In this course, the quality of the student's writing in Lecture Assignments will be a factor in the evaluation of those reports. See also [Section E.2](#) of the University Calendar.

9. **Human studies statement:** Indicating whether students in the course may be expected to participate as subjects or researchers. See also [Section E.5](#) of the University Calendar.

ETHICS IN THE BIOLOGICAL SCIENCES

Studies in the Biological Sciences involve the use of living and dead organisms. Students taking laboratory- and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

10. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties.
- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Student Accommodations:** Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities available at http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf.
- Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Biological Sciences, Dr. H. Addy by email addy@ucalgary.ca or phone 403 220-3140.
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOI/PA). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 403 220-3911 Email: suvpaca@ucalgary.ca
SU Faculty Rep. Phone: 403 220-3913 Email: science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca;
Student Ombuds Office: 403 220-6420 Email: ombuds@ucalgary.ca; <http://ucalgary.ca/provost/students/ombuds>
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval _____ ORIGINAL SIGNED _____ Date _____

DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE INFORMATION SHEET

Plant Biology 327 – Systematics and Diversity of Plants

TEXT: Required: *Biology of Plants*, Raven, Evert, and Eichhorn, Freeman and Company. 8th Edition

A number of additional texts and articles are on reserve in the Library

Lecture Schedule - Winter 2018

<u>Approx. Dates</u>	Topic	Reading	Lecturer
Jan. 8-10	Introduction – Constructing the tree of life Principles of evolution	Chapt 11, 12	JV
Jan. 12-29	Diversity and evolution - Algae Cyanobacteria; Evolution of Eukaryotes; Reproduction and life histories; Rise of multicellularity	Chapt 13, 15	JV
Jan. 31-Feb.7	The origin of land plants –adaptation to life on land; evolution of primitive tissues; reproductive strategies	Chapt 16	JV
Feb 9	Midterm 1		
Feb 10-12	Land Plants: Bryophyte morphology and diversity	Chapt 16	JV
Feb. 14-16	Evolution of non-seed vascular plants – Evolution of vascular tissues, heterospory; Lycophytes	Chapt 17	JV
Feb. 19-23	READING WEEK - NO CLASSES		
Feb. 26-Mar 5	Evolution of non-seed vascular plants –con't: Reduction of gametophyte stage; Ferns + allies	Chapt 17	JV
Mar 7	Midterm 2		
Mar 9	Introduction to Seed Plants; Evolution of seed morphology	Chapt 18	JV
Mar.12-16	Cycadophyta, Ginkgophyta, Gnetophyta	Chapt 18	JV
Mar. 19-23	Coniferophyta	Chapt 18	JV
Mar. 26-28	Introduction to Angiosperms; Evolution of floral morphology	Chapt 19	JV
Apr 2-.13	Diversity of Angiosperms; Review	Chapt 20	JV

LEARNING OUTCOMES

PLBI 327 (J. Vamosi)

- Define macroevolution
- Describe speciation and the general mechanisms by which plant speciation is thought to occur
- Compare and contrast the general principles by which taxonomic lineages are classified
- Describe the techniques used in inferring phylogenies based on morphological data
- Identify the morphological adaptations that allow for life on land
- Discuss the increased development of the sporophyte and why it might be advantageous
- Discuss the advantages and disadvantages of separated sexes
- Describe the trends in the evolution of vascular plants; e.g., differentiate between protosteles, siphonostele and eustele
- Identify major types of fruit and inflorescence structures of flowering plants
- Construct a dichotomous key for a small collection of plant specimens

Plant Biology 327

LAB Schedule - 2018

Labs are Thursdays in BI 126.

<u>Date</u>		<u>Lab #</u>	<u>Lab Topic</u>
Jan.	18	1	Algae I: Cyanobacteria, Euglenoids, Dinoflagellates
	25	2	Algae II: Diatoms, Brown Algae, Red Algae, Green Algae
Feb.	1	3	Bryophytes
	8	4	Seedless Vascular Plants I: Lycophytes, Psilotales, Equisetales
	15	5	Seedless Vascular Plants II: Ferns

Feb. 19-23 READING WEEK - NO LAB

Mar	1	6	Herbarium exercise: Introduction to Collections-Based Research.
	8	7	Seed Plants - Gymnosperms I: Cycadophyta, Ginkgophyta
	15	8	Seed Plants - Gymnosperms II: Coniferophyta, Gnetophyta
	22	9	Angiosperms I: Flower Morphology, Inflorescences and Embryology
	29	10	Angiosperms II: Floral Diagrams and Floral Evolution
Apr	05	11	Angiosperms III: Plants and People
	12	12	Lab Review

Registrar to schedule Final Lab Exam – 3 hours