



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 2017

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

Course Coordinator: Dr. J. Vamosi

Instructor: Dr. J. Vamosi BI 482 210-9594 jvamosi@ucalgary.ca
Dr. E. Yeung BI 391 220-7186 yeung@ucalgary.ca

D2L: PLBI 327 L01 - (WINTER 2017) - SYSTEMATICS & DIVERSITY PLANTS (W2017PLBI327L01)

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 Exam (Feb 27/17)	25 %	In-Class
Lecture Assignments	20 %	
Lecture Final Exam	25 %	
Lab Final Exam	30 %	

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

Each piece of work (assignment, 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.

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.

STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS. Students are expected to be familiar with <http://www.ucalgary.ca/pubs/calendar/current/sc-5-1.html> of the on-line calendar. See also <http://www.ucalgary.ca/pubs/calendar/current/e-5.html>.

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 (FOIPP). 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 2017

<u>Approx. Dates</u>	<u>Topic</u>	<u>Reading</u>	<u>Lecturer</u>
Jan. 9-11	Introduction – Constructing the tree of life Principles of evolution	Chapt 11, 12	JV
Jan. 13-25	Diversity and evolution - Algae Cyanobacteria; Evolution of Eukaryotes; Reproduction and life histories; Rise of multicellularity	Chapt 13, 15	JV
Jan. 27-Feb.3	The origin of land plants – Bryophyte morphology; adaptation to life on land; evolution of primitive tissues; reproductive strategies	Chapt 16	JV
Feb. 6-8	Evolution of non-seed vascular plants – Evolution of vascular tissues, heterospory; Lycophytes, Psilotales, Equisetales	Chapt 17	JV
Feb. 10-15	Evolution of non-seed vascular plants –con't: Reduction of gametophyte stage; Ferns	Chapt 17	JV
Feb. 17	Review		
Feb. 20-24	READING WEEK - NO CLASSES		
Feb. 27	Midterm Exam – In class		
Mar.1-Mar.6	Cycadophyta, Ginkgophyta		EY
Mar. 8-15	Coniferophyta		EY
Mar. 17	Gnetophyta		EY
Mar. 20- Apr. 12	Magnoliophyta (separate syllabus provided)		EY

April 12 - Last day of lectures

April 15-26 Final Exams

LEARNING OUTCOMES

PLBI 327 (J. Vamosi, E. Yeung)

- 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, siphonosteles and eusteles
- 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 - 2017

Labs are Thursdays in BI 126.

<u>Date</u>		<u>Lab #</u>	<u>Lab Topic</u>
Jan.	19	1	Algae I: Cyanobacteria, Euglenoids, Dinoflagellates
	26	2	Algae II: Diatoms, Brown Algae, Red Algae, Green Algae
Feb.	02	3	Bryophytes
	09	4	Seedless Vascular Plants I: Lycophytes, Psilotales, Equisetales
	16	5	Seedless Vascular Plants II: Ferns

Feb. 20-24 READING WEEK - NO LAB

Mar	2	6	Seed Plants - Gymnosperms I: Cycadophyta, Ginkgophyta
	9	7	Seed Plants - Gymnosperms II: Coniferophyta, Gnetophyta
	16	8	Angiosperms I: Features of Dicotyledonous and Monocotyledonous Plants
	23	9	Angiosperms II: Flower Morphology, Inflorescences and Embryology
	30	10	Angiosperms III: Floral Diagrams and Dicotyledonous Flower Evolution
Apr	06	11	Angiosperms IV: Monocotyledonous Flower Evolution

Registrar to schedule Final Lab Exam – 3 hours

GRADE SCALE

95%	A+
86%	A
81%	A-
78%	B+
74%	B
71%	B-
67%	C+
63%	C
60%	C-
55%	D+
50%	D
<50%	F