

Botany Syllabus for Fall 2007

BY 161

Course Objectives:

After this course you will

- Know the morphology and anatomy of land plants
- Understand how plants carry out their life processes
- Be capable of distinguishing among the major classifications of land plants
- Be able to recognize major classification groups of fungi and plant-like algae
- Appreciate how plants can be used as model organisms for a variety of experiments
- Be confident in utilizing the scientific process to design, carry out, and analyze experiments
- Understand the procedure of employing DNA for species identification.
- Know how to write and review scientific lab reports

Grading:

Evaluation for this course consists of written formal examination, lab reports and their reviews, weekly quizzes, and homework assignments. I will be using percentage points for overall grading. Point values given are estimates.

13% Midterm Exam I @ 130pt

13% Midterm Exam II @ 130

13% Midterm Exam III @ 130

15% Comprehensive Final @ 150

54% Formal Exams

Experiment First Draft @ 30

Experiment Review I @ 20

Experiment Review II @ 20

Experiment Final Draft @ 100

17% Designed Lab Experiment

DNA Extraction First Draft @ 30

DNA Extraction Review @ 20

5% DNA Extraction

10% Total Unknown Plant Project Report (Including Experiment & Extraction)

6% In Lab Quizzes (12 total) @ 5pts each

6% Homework (4-6 total) @ 5-20pts each

1% Is your plant alive? (2 total) @ 10

1% Participation

Late assignments will decrease 5% for each 24hours they are late. The maximum is five days late, after which the credit for the assignment will be zero. Remember if you are late with drafts, your reviewer will have also have shorten about of time to give feedback!

Tentative Weekly Schedule for Botany

Date	Topics	Reading in Raven	Due that day
Aug-21	Syllabus & Introduction		
Aug-23	Unknown Plant Project Begin Experiment I	Handouts	
Aug-24	Cells and Tissues	Chapter 3 & 23	Online Quiz
Aug-28	Early Development of Plant Body	Ch. 22	
Aug-30	Seeds Ex. 20 Cells & Tissues Ex. 21 Roots Ex. 22		
Aug-31	The Root: Structure & Development	Ch. 24	
Sept-4	The Shoot	Ch. 25	
Sept-6	Stems Ex. 23 (not 23-II) Leaves Ex. 24 (not 24-IV)		
Sept-7	Leaves	Ch. 25	
Sept-11	Secondary Growth in Stems	Ch. 26	
Sept-13	Woody Stem Ex. 25 & 26 Prepare Ex. 28-IIC		Experiment I reports
Sept-14	The Plant Hormones	Ch. 27	
Sept-18	Exam 1 Introduction through Secondary Stems		Experiment I reviewed by III & IV
Sept-20	Hormones Ex. 27 Set Experiment II Prepare Ex. 28-IA		
Sept-21	External Factors and Plant Growth	Ch. 28	
Sept-25	External Factors continued	Ch. 28	
Sept-27	External Factors Ex. 28 Set Experiment III		Experiment II reports
Sept-28	Photosynthesis, Light, and Life	Ch. 7	
Oct-2	Photosynthesis continued	Ch. 7	Experiment II Reviewed by IV & I
Oct-4	Photosynthesis Ex. 8 Set Experiment IV		Experiment III reports
Oct-5	Plant Nutrition and Soils	Ch. 29	
Oct-9	Movement of Water and Solutes	Ch. 30	Experiment III Reviewed by I & II
Oct-11	Minerals Ex. 29 Transpiration Ex. 30 First Plant Check		Experiment IV Reports
Oct-12	Catch-up if needed Review Chemistry of Heredity	Ch. 9	
Fall Break	Fall Break	Fall Break	Fall Break
Oct-23	The Process of Evolution	Ch. 11	Experiment IV Reviews II & III Experiment I Final
Oct-25	DNA Extraction		
Oct-26	Exam 2 Hormones through Movement of Solutes		
Oct-30	Systematics	Ch 12	Evolution Homework
Nov-1	PCR prep Angiosperm Flowers Ex. 18		

Nov-2	Angiosperms	Ch. 19 & 20	Experiment II Final
Nov-6	Sexual Encounters of the Floral Kind		
Nov-8	PCR run Fruit Ex. 19 Pollination & Dispersal		
Nov-9	Meet at the Library Blasting in Genbank Researching unknown plant		Experiment III Final
Nov-13	Gymnosperms	Ch. 18	
Nov-15	Gymnosperms Ex. 17 Ferns Ex. 16 Bryophytes Ex. 15		
Nov-16	Seedless Vascular Plants	Ch. 17	Experiment IV Final
Nov-20	Bryophytes	Ch. 16	All Plant Extraction Reports
Nov-22	Thanksgiving Break		
Nov-23	Thanksgiving Break		
Nov-27	Protista	Ch. 15	Plant Extraction Reviews
Nov-29	Fungi & Lichen Ex. 12 Algae Ex. 13		
Nov-30	Fungi	Ch. 14	
Dec-4	Catch-up Ecology	Ch. 31	
Dec-6	Exam 3 with practical – Evolution through Fungi Plant Check 2		
Dec-7	Ecology	Ch. 31	Entire Unknown Project Report
Dec. 14	11am - Comprehensive Final Exam		

This syllabus is subject to change in the duration of the course. I will verbalize alterations and post them on Course Connect.

