Danielle Sherdan (TA)
sherdan@bio.fsu.edu

Chris Oakley (TA)
coakley@bio.fsu.edu

Plant Biology Lab
Fall 2006
214 BIO
2:00-5:00pm (1)
5:30-8:30pm (2)

Text required at each lab session: Raven et al. *Biology of Plants* 7th edition

Chapter	Date	Topic	Reading in Raven *et al.*
1	Aug 31	• Orientation to lab: TA instruction on scientific observation and problem solving; maintenance of a lab notebook; lab safety procedures; lab grading policies • Crop investigation: Research and presentation of crop domestication by students	Chapter 31
2	Sept 7	• Introduction to autotrophs and osmotrophs: Unique aspects of plant-cell structure and division	Chapter 3; Figs. 4-1, 4-5, 8-7, 12-15, 25-43, 25-42; pp74-77, 141-143, 148, 576-577; summary p161
Biology of Flowering Plants			
3	Sept 14	• Reproduction: Structure and function of floral parts; generalized life cycles; mechanisms of pollination (mutualistic plant-insect symbiosis and co-evolution)	Figs. 19-1, 19-2, 19-3, 19-4, 19-6, 19-7, 19-8, 19-9, 19-14, 19-15, 19-16, 19-22, 20-9; pp434-438, 442-444, 446, 458-459 460-463; Table 19-1
4	Sept 21	• Reproduction (continued): Mechanisms of seed and fruit dispersal • Morphology: External structure of typical flowering plants	Figs. 12-15c, 19-14, 19-16, 19-18a,b, 19-19, 19-20, 19-21, 20-21, 20-22, 20-23 20-24, 22-3, 22-7, 22-8, 22-13; pp236, 442-446, 466-470
5	Sept 28	• Quiz 1 (10% of final lab grade) • Regulation of plant growth by plant hormones • Principles of experimentation and data collection • Design and start gibberellic acid (GA) experiment	Chapter 27; Figs. 27-1; Table 27-1; pp605-615
6	Oct 5	• Anatomy: primary growth; regulation of plant-water relations (guard cells and endodermal cells) • GA treatments and data collection continue	Figs. 22-10, 22-11, 22-12, 23-1, 23-2, 23-24, 23-27, 24-2, 24-4, 24-5; pp506-507, 510, 513-522, 523-525, 530 540-541; Summary table pp526-527
7	Oct 12	• Regulation of water-use by terrestrial plants • Short experiment • Writing a short report • GA treatments and data collection continue	Chapter 6; pp559-566
8	Oct 19	• Quiz 2 (10% of final lab grade) • Data analysis and interpretation; basic statistics; using Microsoft Excel • Complete GA treatments and data collection	

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Biology of Protists and Fungi

9	Oct 26	• Symbiosis: Introduction to mutualistic and parasitic symbioses • Short experiment • Submit guard-cell experiment report	Figs. 14-39, 14-40, 14-41, 14-42, 14-43, 29-1, 29-9, 29-10, 29-11
10	Nov 2	• Autotrophic and osmotrophic protists • Submit mycorrhiza experiment report	Figs. 15-5, 15-15, 15-20, 15-23, 15-24, 15-27, 15-28, 15-29, 15-30, 15-41, 15-42 15-52, 15-53, 15-56, 15-58; pp300, 302 309-312, 340-343
11	Nov 9	• Quiz 3 (10% of final lab grade) • Complex osmotrophic eukaryotes (fungi)	Figs. 14-1, 14-3c, 14-11, 14-12, 14-14, 14-15, 14-16, 14-18, 14-19, 14-29, 14-30 14-31; pp260-265, 268-269, 272-274, 278-282, 285-291; Table 14-1

Biology of non-flowering embryophytes

12	Nov 16	• Biology of non-flowering plants • Submit GA report	Chapters 16 and 17; Figs. 18-12, 18-15, 18-16, 18-17, 18-17, 18-33, 18-35; pp346, 350-351
	Nov 30	• Review	
	Dec 7	• Final lab quiz	

Weighting of grades in BOT 3015L:

3 quizzes	30%
Final quiz	20%
GA report	15%
Water relations short experiment report	10%
Symbiosis short experiment	10%
Lab notebook	15%

Grading Scale: Grades will be assigned on an absolute scale: A ≥ 93 > A- ≥ 90 > B+ ≥ 87 > B ≥ 83 > B- ≥… (see also class policy)

NOTE: All students are required to have adequate accident insurance before registering for this course.

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This document and other documents required for this course are available upon request in a suitable alternative format for individuals with print-related disabilities. Please see "Class Policy" for an ADA statement, or see Dr. Outlaw.