

BIO 162 INTRODUCTION TO ORGANISMAL FORM AND FUNCTION WINTER 2007

FACILITIES

PROFESSORS - LECTURES

PETER JANKAY, PH.D.
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Office:	33-257A,	x6-2721
Hours ¹ :	Monday, Wednesday, Friday	09:00 – 10:00 AM

LARS TOMANEK, PH.D.
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Office:	33-372	x6-2437
Hours:	Tuesday	12:00 – 01:00 PM
	Wednesday	11:00 – 12:30 PM
	Friday	11:00 – 12:30 PM

LABORATORY EXERCISES (COORDINATOR)

EMILY TAYLOR, PH.D.
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Office:	33-265,	x6-2616
Hours	Monday	02:00 – 04:00 PM
	Thursday	12:00 – 02:00 PM

BIO 162 ASSIGNMENT CALENDAR²

Lecture: MWF 10:10 AM – 11:00 AM Science (Spider Building) 52-E27

January 18 th	Last day to drop the class ³	
February 5 th	Lecture mid-term 1 ⁴	125 points
February 8/9 th	Laboratory exam 1	100
February 8/9 th	Laboratory notebook due (1 st correction) ⁵	75
February 28 th	Lecture mid-term 2	125
March 15/16 th	Laboratory exam 2	100
March 15/16 th	Laboratory notebook due (2 nd correction)	75
March 20 th	Final (10:10 AM-1:00 PM) ⁶	300
	<u>Unannounced lab quizzes</u>	<u>100</u>
	Total:	1000

COURSE OBJECTIVES

To provide the fundamentals of the structure and physiology of higher plants and animals: energy acquisition, food distribution, gas exchange, fluid transport, and sensing and responding to the environment

REQUIRED MATERIALS:

TEXTBOOK: Freeman, Scott (2005): *Biological Science*. 2nd Edition. Pearson Prentice Hall, Upper Saddle River, NJ. ISBN:0-13-140941-7

ALTERNATIVE TEXTBOOKS (ON RESERVE AT KENNEDY LIBRARY):

Campbell, Neil A., and Reece, Jane B. (2005): *Biology*. 7th Edition. Benjamin Cummings, San Francisco, CA. ISBN: 0-321-26984-5.

Sadava, David, et al. (Purves) (2006): *Life: The Science of Biology*. 8th Edition. Sinauer Associates, Sunderland, MA. ISBN: 978-0-7167-7671-0.

LABORATORY MANUAL: The Lab Manual will be provided.

LABORATORY SUPPLIES: Notebook, dissection and botany kits (discussed at first lab meeting) can be purchased through El Corral Bookstore.

SUPPLEMENTAL READING: Posted on Blackboard or put on reserve at Kennedy Library.

LECTURE SCHEDULE

DAY (MONTH/DAY)	LECTURE TOPIC	CHAPTER ⁷
Wk 1 M (01/08)	Animals: Tissues and bioenergetics	41
W (01/10)	Animals: Temperature regulation	41
F (01/12)	Animals: Feeding and digestion	43
Wk 2 M (01/15)	<i>Martin Luther King's birthday</i>	
W (01/17)	Animals: Circulation and gas exchange	44
F (01/19)	Animals: Circulation and gas exchange	44
Wk 3 M (01/22)	Animals: Water balance and excretion	42
W (01/24)	Plants: Cells and tissues	8, 35
F (01/26)	Plants: 1° stem development & functions	35
Wk 4 M (01/29)	Plants: 2° stem development & functions	35
W (01/31)	Plants: 1° and 2° root development and functions	35
F (02/02)	Plants: Leaves, gas exchange and photosynthesis	35, 10
Wk 5 M (02/05)	Mid-Term #1	
W (02/07)	Animals: Chemical signals	47
F (02/09)	Animals: Reproduction	48
Wk 6 M (02/12)	Animals: Development	21, 22
W (02/14)	Animals: Nerve signals	45
F (02/16)	<i>Washington's birthday</i>	
Wk 7 M (02/19)	Animals: Nervous systems	45
W (02/21)	Animals: Sensory systems	46
F (02/23)	Animals: Movement and locomotion	46
Wk 8 M (02/26)	Animals: Immune system	49
W (02/28)	Mid-Term #2	
F (03/02)	Plants: Gas exchange and water transport	36
Wk 9 M (03/05)	Plants: Sugar transport	36
W (03/07)	Plants: Mineral uptake/digestion/excretion	37, 9
F (03/09)	Plants: Sensory systems	38
Wk 10 M (03/12)	Plants: Communication systems	39
W (03/14)	Plants: Defense systems	39
F (03/16)	Plants: Reproduction	40
Wk 11 Tuesday (03/20)	FINAL: 10:10 AM – 1:00 PM	

LABORATORY SCHEDULE

DATE	LABORATORY EXERCISE
Wk 1	
Jan 9, 10 (T, W)	Introduction to Animal Form (Rat Dissection)
Jan 11, 12 (Th, F)	Animals: Feeding and Digestion
Wk 2	
Jan 16, 17 (T, W)	Animals: Blood and Circulation
Jan 18, 19 (Th, F)	Animals: Gas Exchange
Wk 3	
Jan 23, 24 (T, W)	Animals: Water and Salt Balance
Jan 25, 26 (Th, F)	Plants: Cell Types
Wk 4	
Jan 30, 31 (T, W)	Plants: Primary Growth, Apical Dominance
Feb 01, 02 (Th, F)	Plants: Secondary Growth
Wk 5	
Feb 06, 07 (T, W)	Plants: Photosynthesis
Feb 08, 09 (Th, F)	Lab examination 1
Wk 6	
Feb 13, 14 (T, W)	Animals: Reproduction
Feb 15, 16 (Th, F)	Washington's birthday
Wk 7	
Feb 20, 21 (T, W)	Animals: Neural Control
Feb 22, 23 (Th, F)	Animals: Sensory Systems
Wk 8	
Feb 27, 28 (T, W)	Animals: Skeletal and Muscular Systems
Mar 01, 02 (Th, F)	Animals: Immune System
Wk 9	
Mar 06, 07 (T, W)	Plants: Water Transport
Mar 08, 09 (Th, F)	Plants: Defense Mechanisms
Wk 10	
Mar 13, 14 (T, W)	Plants: Reproduction
Mar 15, 16 (Th, F)	Lab examination 2

GRADING

LECTURE

Mid-Term 1 and 2 (Feb. 05 and 28)	25%
Lecture Final (March 20, 2007 10:10 AM-1:00 PM)	30%

LABORATORY

Unannounced Lab Quizzes	10%
Lab Notebook (Corrections Feb.08/09 th and March 15/16 th)	15%
Lab Examinations (Feb. 08/09 th and March 15/16 th)	20%
<u>TOTAL</u> ⁸	100%

Grades are assigned on an absolute scale (90-100%=A, 80-89.9%=B, etc.). Work must be turned in by the due dates; academic honesty will be assumed but assessed. Regrading policy: we will only regrade for incorrectly graded tests. A complaint must be submitted with a written explanation within a week of a test's return to you. Written portions of tests must be in ink.