

NROSCI/BIOSC 1070 and NROSCI 2070
Human Physiology (Honors)
Fall Semester, 2008

Course Director

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Other Faculty

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Teaching Assistants

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Class Meetings:

Lectures (1070 & 2070):	Monday & Friday	4:30-5:45 PM	Langley A224
Lab and PBLs (1070 Only):	Wednesday	3:30-5:25 PM	Benedum B63
Journal Club (2070 Only):	Thursday	5:30-7:00 PM	241 Crawford

Textbook: Guyton, A.C. and Hall, J.E. *Textbook of Medical Physiology, 11th edn.* Elsevier, Amsterdam, 2006.

1070 Lab Manual: Pfanzer, R.G. *Experimental Laboratory Physiology: Biopac Lab Exercises.* Kendall/Hunt, Dubuque, IA, 2004. **(3 copies are on reserve in Langley Library)**

Web Site: <http://courseweb.pitt.edu/>
Course is listed under NROSCI 1070

Course Reserve: A number of supplemental materials are on reserve in Langley Library. They include the following supplemental reading for the Immunology Section: Kindt, T.J., Osborne, B.A., and Goldsby, R.A. *Kuby Immunology, 6th edn.* Freeman, New York, 2007. ISBN: 1-4292-0211-4

Grading: Your grade will be calculated as follows:

1070 & 2070: 20% from each of 4 exams

1070: 20% from assignments accompanying laboratories and problem-based learning sessions.

2070: 20% from discussion of journal club articles and a written critical analysis of one of those articles.

Exams will cover material presented in lectures and handouts. Although textbook readings will not explicitly be covered on examinations, students are highly encouraged to at least skim this material to provide a better understanding of information from lectures. Furthermore, the textbook should be used as a reference while studying lecture notes and handouts and preparing for problem based learning exercises.

It is expected that students will be fully-knowledgeable concerning basic principles of control of cell function and membrane transport, which are covered in the prerequisites for this course. Although this material will not be explicitly examined, students must fully understand this information in order to comprehend the principles covered in this course. It is highly recommended that all students review basic cell biology by studying Chapters 1-5 (pp. 3-71) in the Guyton and Hall text.

Written assignments associated with laboratories and problem based learning sessions will be due 1 WEEK following the lab or discussion. Although students are encouraged to use all resources at their disposal (including the library, other students, and instructors) in completing these assignments, answers must be written individually, without collaboration from classmates.

If a legitimate reason (severe illness, etc.) prevents a student from taking an in-class exam or turning in an assignment on the scheduled date, he or she must notify Dr. Yates in advance and pre-arrange an alternate time to take the exam or turn-in the assignment. If arrangements are not made **BEFOREHAND**, the student will receive a failing grade for the exam/assignment.

DATE	Topic	Lecturer	Reading
BLOCK 1 -- Cardiovascular/Muscle			
25-Aug <i>Monday</i>	Course Overview and Logistics; Cardiovascular 1	Yates	<i>pp. 161-180</i>
27-Aug <i>Wednesday</i>	Muscle Contraction 1 <i>Striated Muscle</i>	Yates	<i>pp. 72-91</i>
29-Aug <i>Friday</i>	Muscle Contraction 2 <i>Smooth & Cardiac Muscle</i>	Yates	<i>pp. 92-100 & 103-106</i>
1-Sep <i>Monday</i>	Labor Day Holiday--No Class		
3-Sep <i>Wednesday</i>	1070: Laboratory # 1 <i>Biopac Lab Exercises 1,2, & 3</i>	TAs	<i>pp. 1-41</i>
4-Sep <i>Thursday</i>	2070: Journal Club # 1	Yates	
5-Sep <i>Friday</i>	Control Mechanisms 1 <i>Neural Mechanisms</i>	Yates	<i>pp. 748-760</i>
8-Sep <i>Monday</i>	Control Mechanisms 2 <i>Endocrine Signaling</i>	Yates	<i>pp. 905-930</i>
10-Sep <i>Wednesday</i>	1070: Laboratory # 2 <i>Biopac Lab Exercises 6-7 and 12 Lead ECG Handout</i>	TAs	<i>pp. 65-94</i>
11-Sep <i>Thursday</i>	2070: Journal Club # 2	Yates	
12-Sep <i>Friday</i>	Control Mechanisms 3 <i>Integration</i>	Yates	<i>pp. 311-314</i>
15-Sep <i>Monday</i>	Cardiovascular 2 <i>Cardiac Cycle/Electrical Events and ECG/Mechanical Aspects of Heart Pumping</i>	Yates	<i>pp. 106-157 & 269-277</i>
17-Sep <i>Wednesday</i>	1070: Laboratory # 3 and Overview of 9/24/08 PBL <i>Biopac Lab Exercises 8 & 9</i>	TAs	<i>pp. 95-129</i>
18-Sep <i>Thursday</i>	2070: Journal Club # 3	Yates	
19-Sep <i>Friday</i>	Cardiovascular 3 <i>Cardiac Output and Capillary Exchange; Venous Return</i>	Yates	<i>pp. 181-194 & 232-245</i>
22-Sep <i>Monday</i>	Cardiovascular 4 <i>Special Circulations and Control Mechanisms 1</i>	Yates	<i>pp. 195-203</i>
24-Sep <i>Wednesday</i>	1070: Problem Based Learning and Overview of 10/15/08 PBL <i>"Post Spaceflight Orthostatic Intolerance"</i>	TAs	
25-Sep <i>Thursday</i>	2070: Journal Club # 4	Sved	
26-Sep <i>Friday</i>	Cardiovascular 5 <i>Control Mechanisms 2 and Examples</i>	Sved	<i>pp. 204-231</i>
29-Sep <i>Monday</i>	Cardiovascular 6 <i>Clinical Issues</i>	Yates	<i>pp. 258-268 & 278-288</i>
1-Oct <i>Wednesday</i>	EXAM # 1; 8/25 - 9/19 Lectures (Cardio 1-3/Muscle Contraction/Control Mechanisms)		
BLOCK 2 --Respiration			
3-Oct <i>Friday</i>	Respiratory 1 <i>Blood Composition, Clotting, Respiratory Mechanics</i>	Yates	<i>pp. 419-428 & 457-468</i>
6-Oct <i>Monday</i>	Respiration 2 <i>Mechanics and Pulmonary Circulation</i>	Yates	<i>pp. 471-490</i>
8-Oct <i>Wednesday</i>	Respiration 3 <i>Control Issues</i>	Yates	<i>pp. 491-533</i>
10-Oct <i>Friday</i>	Respiration 4 <i>Clinical Aspects & REVIEW</i>	Yates	<i>pp. 537-551</i>

DATE	Topic	Lecturer	Reading
BLOCK 3 -- Renal			
14-Oct <i>Tuesday</i>	Renal 1 <i>Functional Anatomy of the Kidney</i>	Sved	<i>pp. 391-310</i>
15-Oct <i>Wednesday</i>	1070: Problem Based Learning and Overview of the 10/22/08 PBL <i>Respiratory PBL</i>	TAs	
16-Oct <i>Thursday</i>	2070: Journal Club # 5	Yates	
17-Oct <i>Friday</i>	Renal 2 <i>Tubular Processing 1</i>	Sved	<i>pp. 312-326</i>
20-Oct <i>Monday</i>	Renal 3 <i>Tubular Processing 2</i>	Sved	<i>pp. 327-364</i>
22-Oct <i>Wednesday</i>	1070: Problem Based Learning and Overview of the 11/5/08 PBL <i>Renal PBL # 1</i>	TAs	
23-Oct <i>Thursday</i>	2070: Journal Club # 6	Yates	
24-Oct <i>Friday</i>	Renal 4 <i>Regulation of Fluid Osmolarity/Control Mechanisms</i>	Sved	<i>pp. 365-382 & 402-415</i>
BLOCK 4 -- Gastrointestinal & Metabolism			
27-Oct <i>Monday</i>	Gastrointestinal 1 <i>Motility and Control</i>	Yates	<i>pp. 771-790</i>
29-Oct <i>Wednesday</i>	EXAM # 2; 9/22 - 10/10 Lectures (Cardio 4-6/Respiratory)		
31-Oct <i>Friday</i>	Gastrointestinal 2 <i>Secretion and Absorption</i>	Yates	<i>pp. 791-818</i>
3-Nov <i>Monday</i>	Gastrointestinal 3 <i>Clinical Issues / Regulation of Appetite</i>	TBA	<i>pp. 819-25 & 867-74 & 961-77</i>
5-Nov <i>Wednesday</i>	1070: Problem Based Learning and Overview of the 11/12/08 PBL <i>Renal PBL 2</i>	TAs	
6-Nov <i>Thursday</i>	2070: Journal Club # 7	Yates	
7-Nov <i>Friday</i>	Gastrointestinal 4 <i>Metabolism and Acid-Base Balance</i>	Yates	<i>pp. 805-07 & 881-88 & 931-60 & 383-401</i>
BLOCK 5 -- Immunology, Thermoregulation, and Growth Regulation			
10-Nov <i>Monday</i>	Temperature and Growth Regulation	Yates	<i>pp. 889-901 & 978-995</i>
12-Nov <i>Wednesday</i>	1070: Problem Based Learning <i>"Drug Side Effects"</i>	TAs	
13-Nov <i>Thursday</i>	2070: Journal Club # 8	Yates	
14-Nov <i>Friday</i>	Immunology 1	Woodward	<i>Supplement</i>
17-Nov <i>Monday</i>	Immunology 2	Woodward	<i>Supplement</i>
19-Nov <i>Wednesday</i>	EXAM # 3; 10/27 - 11/7 Lectures (Renal/Gastrointestinal)		

DATE	Topic	Lecturer	Reading
BLOCK 5 -- Immunology, Thermoregulation, and Growth Regulation, <i>Cont.</i>			
21-Nov <i>Friday</i>	Immunology 3	Woodward	<i>Supplement</i>
24-Nov <i>Monday</i>	Immunology 4	Woodward	<i>Supplement</i>
26-Nov — 30-Nov	Thanksgiving Holiday--No Class		
BLOCK 6 -- Reproductive Physiology			
1-Dec <i>Monday</i>	Reproduction 1 <i>Male Reproductive System</i>	Ryan	<i>pp. 996-1010</i>
3-Dec <i>Wednesday</i>	Reproduction 2 <i>Female Reproductive System</i>	Ryan	<i>pp. 1011-1026</i>
5-Dec <i>Friday</i>	Reproduction 3 <i>Pregnancy and Contraception</i>	Ryan	<i>pp. 1027-1041</i>
13-Dec <i>Saturday</i> 2:00-3:50 PM	EXAM # 4; 11/10 - 12/05 Lectures (Growth & Temperature Regulation/Immunology/Reproduction)		