BIOSC 1070 (also NROSCI 2070)
Human Physiology (Honors)
Fall Semester, 2003

Course Director

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Office Hours:
I am available most of the time to assist you; just phone or email to confirm availability

Virtual (via Web Site):
Mon: 8:00-11:00 PM

Other Faculty

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Teaching Assistants

Adam Anker	E-mail: ankeradam@hotmail.com
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A TA will be available to answer questions every Tuesday from 6-8 PM in Room 150 Eye and Ear Institute. In addition, the TAs will host a review session every Tuesday prior to an exam.

Class Meetings:

Lectures (1070 & 2070):	Monday and Friday	4:30—5:45 PM	Victoria 117
Lab and PBLs (1070 Only):	Wednesday	3:30—5:25 PM	Benedum B69
Journal Club (2070 Only):	Thursday	4:00—5:50 PM	Victoria 228

Textbook: Guyton, A.C. and Hall, J.E. *Textbook of Medical Physiology, 10th edn.* W. B. Saunders, Philadelphia, 2000. ISBN: 0-7216-8677-X.

1070 Lab Manual: Biopac Student Lab Manual

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

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. 2-66) 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 *Monday*	Course Overview and Logistics; Cardiovascular 1	Yates	*pp. 144-151*
27-Aug *Wednesday*	Muscle Contraction 1 *Striated Muscle*	Yates	*pp. 67-86*
29-Aug *Friday*	Muscle Contraction 2 *Smooth & Cardiac Muscle*	Yates	*pp. 87-94 & 96-99*
1-Sep *Monday*	Labor Day Holiday--No Class		
3-Sep *Wednesday*	1070: Laboratory # 1 *Biopac Lessons: Tutorial/Lesson 1/Lesson 2*	TAs	
4-Sep *Thursday*	2070: Journal Club # 1	Yates	
5-Sep *Friday*	Control Mechanisms 1 *Neural Mechanisms*	Yates	*pp. 697-708*
8-Sep *Monday*	Control Mechanisms 2 *Endocrine Signaling*	Yates	*pp. 836-857*
10-Sep *Wednesday*	1070: Laboratory # 2 *Biopac Lessons: Lesson 5/Lesson 6/12 Lead ECG*	TAs	
11-Sep *Thursday*	2070: Journal Club # 2	Yates	
12-Sep *Friday*	Control Mechanisms 3 *Integration*	Yates	*pp. 364-367*
15-Sep *Monday*	Cardiovascular 2 *Cardiac Cycle/Electrical Events and ECG/Mechanical Aspects of Heart Pumping*	Yates	*pp. 96-142 & 245-252*
17-Sep *Wednesday*	1070: Laboratory # 3 and Overview of 9/24/03 PBL *Biopac Lessons: Lesson 16/Lesson 17*	TAs	
18-Sep *Thursday*	2070: Journal Club # 3	Yates	
19-Sep *Friday*	Cardiovascular 3 *Cardiac Output and Capillary Exchange; Venous Return*	Yates	*pp. 152-174*
22-Sep *Monday*	Cardiovascular 4 *Special Circulations and Control Mechanisms 1*	Yates	*pp. 175-209*
24-Sep *Wednesday*	1070: Problem Based Learning and Overview of 10/8/03 PBL *"Post Spaceflight Orthostatic Intolerance"*	TAs	
25-Sep *Thursday*	2070: Journal Club # 4	Yates	
26-Sep *Friday*	Cardiovascular 5 *Control Mechanisms 2 and Examples*	Yates	*pp. 210-234*
29-Sep *Monday*	Cardiovascular 6 *Clinical Issues*	Yates	*pp. 235-244 & 253-262*
1-Oct *Wednesday*	**EXAM # 1; 8/25 - 9/19 Lectures (Cardio 1-3/Muscle Contraction/Control Mechanisms)**		
BLOCK 2 -- Renal			
3-Oct *Friday*	Renal 1 *Functional Anatomy of the Kidney*	Sved	*pp. 264-294*
6-Oct *Monday*	Renal 2 *Tubular Processing 1*	Sved	*pp. 295-312*
8-Oct *Wednesday*	1070: Problem Based Learning and Overview of 10/15/03 PBL *Renal PBL # 1*	TAs	
9-Oct *Thursday*	2070: Journal Club # 5	Sved	

DATE	Topic	Lecturer	Reading
BLOCK 2 -- Renal, Cont.			
10-Oct *Friday*	Renal 3 *Tubular Processing 2*	Sved	*pp. 313-328*
13-Oct *Monday*	Renal 4 *Regulation of Fluid Osmolarity/Control Mechanisms*	Sved	*pp. 329-345*
15-Oct *Wednesday*	1070: Problem Based Learning *Renal PBL # 2*	TAs	
16-Oct *Thursday*	2070: Journal Club # 6	Sved	
17-Oct *Friday*	Renal 5 *Clinical Topics*	Sved	*pp. 367-379*
BLOCK 3 -- Respiration			
20-Oct *Monday*	Respiratory 1 *Blood Composition and Clotting*	Yates	*pp. 382-391 & 419-429*
22-Oct *Wednesday*	1070: Laboratory # 4 and Overview of 11/12/03 PBL *Biopac Lessons: Lesson 12/Lesson 13*	TAs	*pp. 432-451*
23-Oct *Thursday*	2070: Journal Club # 7	Yates	
24-Oct *Friday*	Respiration 2 *Mechanics and Pulmonary Circulation*	Yates	*pp. 452-473*
27-Oct *Monday*	Respiration 3 *Gas Exchange & Transport*	Yates	
29-Oct *Wednesday*	**EXAM # 2; 9/22 - 10/17 Lectures (Cardio 4-7/Renal)**		
31-Oct *Friday*	Respiration 4 *Control Mechanisms*	Yates	*pp. 474-483*
3-Nov *Monday*	Respiration 5 *Clinical Aspects & REVIEW*	Yates	*pp. 484-493 & 496-509*
BLOCK 4 -- Gastrointestinal			
5-Nov *Wednesday*	Gastrointestinal 1 *Motility and Control*	Yates	*pp. 718-737*
7-Nov *Friday*	Gastrointestinal 2 *Secretion and Absorption*	Yates	*pp. 738-763*
10-Nov *Monday*	Gastrointestinal 3 *Clinical Issues / Regulation of Appetite*	Yates	*pp. 764-770, 803-814, 884-898*
12-Nov *Wednesday*	1070: Problem Based Learning *"Drug Side Effects"*	TAs	
13-Nov *Thursday*	2070: Journal Club # 8	Yates	
14-Nov *Friday*	Gastrointestinal 4 *Metabolism and Acid-Base Balance*	Yates	*pp. 346-363, 815-821, 858-883*
BLOCK 5 -- Other Issues in Physiology			
17-Nov *Monday*	Temperature and Growth Regulation	Yates	*pp. 822-833 & 889-915*
19-Nov *Wednesday*	**EXAM # 3; 10/20 - 11/14 Lectures (Respiration/Gastrointestinal)**		
21-Nov *Friday*	Immunology 1 *Leukocytes, Granulocytes; Macrophage Systems*	Rabin	*Supplement*
24-Nov *Monday*	Immunology 2 *Immunity; Allergy*	Rabin	*Supplement*

DATE	Topic	Lecturer	Reading
BLOCK 5 -- Other Issues in Physiology, Cont.			
11/26 - 11/28 *Wed - Fri*	Thanksgiving Holiday--No Class		
1-Dec *Monday*	Reproduction 1 *Male Reproductive System*	Ryan	*pp. 916-928*
3-Dec *Wednesday*	Reproduction 2 *Female Reproductive System*	Ryan	*pp. 929-943*
5-Dec *Friday*	Reproduction 3 *Pregnancy and Contraception*	Ryan	*pp. 944-957*
11-Dec *Thursday*	**EXAM # 4; 11/17 - 12/5 Lectures (Temperature & Growth Regulation/Immunology/Reproduction)**		