Moravian College

Biology Department

Vertebrate Physiology - BIO 350

Spring 2013

Instructor:	Dr. Cecilia M. Fox
Phone:	610-861-1426
E-mail:	cfox@moravian.edu
Office:	Collier Science - Room 304
Office Hours:	T 12:30-2:30pm, W 12:30am-2:30pm and by appointment
Lecture:	Monday, Wednesday and Friday 10:20-11:10am Room PPHAC 117
Lab:	Tuesday 8:30am-11:30am Collier Room 303
Prerequisites:	BIO 112, CHEM 113, 114
Textbook:	Human Physiology, 12th Edition by Widmaier, Raff and Strang McGraw Hill Publishing
Lab Manual:	PhysioEx. 9.0– Laboratory Simulations in Physiology By Stabler, Zao and Gibson Benjamin Cummings All BIOPAC Lab Handouts will be distributed in the laboratory

Course Description: Biology 350 examines the functions of the vertebrate organ systems, with special emphasis on the human body. Topics include the nervous, sensory, muscular, endocrine, circulatory, respiratory, digestive, urinary and reproductive systems. Laboratory work emphasizes experimental techniques and computer assisted analysis of human and animal physiology.

Course Objectives: Upon completion of this course, the student will be able to:

a) understand the basic anatomy of the nervous, muscular, endocrine, circulatory, respiratory, digestive, urinary and reproductive systems of the human body
b) comprehend the relationships between structure and function in the various systems
c) recognize the importance of control mechanisms that regulate homeostatic processes in animal and human physiology
d) understand the physiological mechanisms behind the body's response to normal and stressed situations
e) investigate the mechanisms described in the various systems using hands-on experimentation, computer simulations and computer-assisted physiology data acquisition

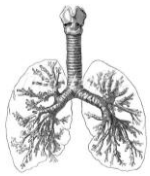
Grading: The grading system is as follows: *(+/- will be administered as the professor deems appropriate)*

A = 90 - 100
B = 80 - 89
C = 70 - 79
D = 60 – 69

Your final grade will be based on the following criteria:

Three lecture exams:	100 points each =	300 points
Three laboratory reports:	100 points each =	300 points
Physiology lab design and presentation:		150 points
Physiology *"In the News"* presentation:		50 points
Cumulative final lecture exam:		200 points
		1000 points

** Both lecture material and textbook readings are fair game for lecture exams.
** Physiology lab design will be discussed as the course progresses.
** Please note: it is within the instructor's purview to apply qualitative judgment in determining grades for an assignment or the entire course



Expectations:

a) Attendance: Regular lecture and lab attendance is expected. **Please be on time. No** make-up exams will be given unless you have an acceptable and documented reason (family emergency, illness, etc). If an emergency should arise, you must notify me prior to the exam and **not** after. If you plan to miss lab please notify me in advance.

b) Cheating: will not be tolerated. Students will be held to the highest standards as specified by the Moravian College Honor Code. Violations of this code will be handled in the most severe manner allowed by college policy.

c) Reading Assignments: should be completed prior to lecture as well as lab.

d) Laboratory Assignments: must be typed and written **independently**. You may record data in the charts provided in the lab exercise handouts, but the final lab report must be typed and submitted no later than **two weeks** after the laboratory exercise has been completed **(lab reports will not be accepted if handed in after this two week time period has lapsed)**. The last lab report that may be submitted for a grade will be of the Urinalysis Laboratory. You are expected to answer all questions and complete all data charts unless instructed otherwise. Please proofread your work prior to submission. If you and your lab partner submit lab reports that are too close to have been accomplished independently, the lab reports will be handed back to you for rewriting. If this occurs a second time (whether with the same report or a subsequent report), you and your lab partner will have earned a 0 for the assignment.

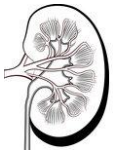
e) Lab Preparation: You are expected to come to lab prepared for that day's exercise. For each lab session be sure to bring your textbook and PhysioEx manual. BIOPAC materials will be distributed in lab.

f) Cell Phones and Pagers: Please turn them off (or at the very least, set on vibrate) before walking into the lecture hall and laboratory. **Please refrain from texting in lecture or lab.**

g) Accommodations: Students who wish to request accommodations in this class for a disability should contact the office of Learning Services for Disability Support, 1307 Main Street (extension 1510). Accommodations cannot be provided until authorization is received from the office of Learning Services.

h) Extra Help: If difficulties interpreting lecture or lab material arise, please contact me. I will be more than happy to help!!

** As the professor of this course, I reserve the right to alter this syllabus at any time during the semester**



Lecture Schedule

Week of:	Topic	Reading Assignment
January 14	Homeostasis – A Framework for Human Physiology	Chapter 1
January 21	**No Class on the 21st Martin Luther King Jr. Holiday**	
January 21	Neuronal Signaling and Structure of The Nervous System	Chapter 6
January 28	Sensory Physiology Consciousness, The Brain And Behavior	Chapter 7 Chapter 8
February 4	Muscle Physiology	Chapter 9
February 11	Muscle Physiology (con't) Control of Body Movement	 Chapter 10
February 13	**Exam 1 (Homestasis-Neuro)**	
February 18	Endocrine System: Hormonal Control	Chapter 11
February 22	**Midterm of the Semester**	
February 25	Cardiovascular Physiology	Chapter 12
March 4-10	**Spring Break**	
March 11	Cardiovascular Physiology (con't)	Chapter 12
March 15	**Exam 2 (Muscle-Cardiovascular)**	

March 18, March 25	Respiratory Physiology	Chapter 13
March 29-April 1	**Easter Recess**	
April 1,8	Renal Physiology	Chapter 14
April 15	Male Reproductive Physiology	Chapter 17
April 17	**Exam 3** **(Respiratory-Renal)**	
April 22	Female Reproductive Physiology	Chapter 17
April 30 **(8:30 am)**	**Final Exam**	

Laboratory Schedule

Week of:	**Topic**	**Laboratory Exercise**
January 14*	Homeostasis	Exercises provided in lab
January 21	Neurophysiology of Nerve Impulses Reflexes and Senses	PhysioEx 9.0 Exercises provided in lab
January 28	Neuroanatomy and EEG (brain dissection)	Dissection materials provided in lab BIOPAC – EEG 1
February 4	Histology of Muscle Types Muscle Physiology	Exercise provided in lab BIOPAC – EMG 1
February 11	Muscle Physiology (con't)	PhysioEx 9.0 BIOPAC – EMG 2
February 18*****	Histology of Endocrine Tissue Hormonal Control Rat Endocrine Exercise	Exercise provided in lab PhysioEx 9.0 Exercise provided in lab
February 25*	Cardiovascular Physiology (sheep heart dissection) Frog Cardiovascular Physiology	Dissection materials provided in lab PhysioEx 9.0
March 4	**No Lab - Spring Break**	

March 11	Cardiovascular Physiology	BIOPAC – Blood Pressure BIOPAC – ECG and Pulse
	Blood Pressure and Heart Rate Exercise	
March 18	Blood Typing and Comparison Blood Clotting Introduction to Respiratory Volumes and Capacities	Exercises provided in lab
March 25	Respiratory Physiology	BIOPAC - Respiratory Cycle BIOPAC - Pulmonary Fn. 1
	Respiratory System Mechanics	PhysioEx 9.0
April 1	Urinalysis Renal Physiology – Function of the Nephron	Exercise provided in lab PhysioEx 9.0
April 8*****	Presentations of Physiology Lab Design	
April 15*	Presentations of Physiology Lab Design	
April 22*****	Investigating Digestive Processes Chemical and Physical Processes of Digestion	Exercise provided in lab PhysioEx. 9.0
	Immunity Exercise	Exercise provided in lab

*** Not eligible for lab report assignment.**

** The lecture and laboratory schedules may be subject to change as the course progresses**