

Human Physiology- BioScience 134 – 4223 Fall 2008

Instructor : Debra J. Barnes, Ph.D.

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Office Hours: Mondays/Wednesdays

9-9:30, 11- 12; Tues 10 – 12 (Physio tutorial); Thurs 2 - 3 and by appointment

Course Hours: Lectures: TTh 12:40-2 in B 7. Laboratory is Th 9:10- 12 in B 39.

Pre-requisites: C or better in either BioSci 110 or Chem 119 or an equivalent course
AND Credit in BioSci 106 or pass test out exam.

Texts: Human Physiology by Germann and Stanfield, 3rd edition (2nd is okay) and Human Physiology Laboratory Manual by Debra Barnes, 2001 are the required texts. Both are available in the bookstore. Three copies of the text are on reserve in the library for daily and overnight use (2 of the 3 can go out overnight). A Study Guide is also available but it is not required. Some students find The Physiology Coloring Book helpful, but it is not required.

ALL EXAMINATION MATERIALS WILL COME FROM INFORMATION GIVEN IN LECTURE AND LABORATORY !!!!!

Examinations: There will be Written Midterm Examinations in this course. Written exams will contain multiple choice, true or false, fill in, short essay and perhaps matching sections. These will be given in class during lecture times as scheduled. There will be a total of 2 of these types of midterms. Each one is worth 75 points. There will be a third midterm worth 100 points. It will be a take-home short answer/essay exam. There will be Written and Practical Final Exams. The format of the Written Final will be similar to that for the first two midterms and it is not comprehensive. However, it will include material from the third midterm as well as the final part of the course. This final is worth 100 points. The Practical final is comprehensive and will cover material from all of the laboratories during the semester. It is worth 150 points. In addition, there will be lab write-ups and problems of the week. Problems of the week are worth 15 points each and there will be 8 of them for a total of 120 points. Lab write-ups are worth 20 points each and there are a total of 7 write-ups for a total of 140 points. Lab write-ups and problems of the week are due as scheduled (see Lab Schedule). Lab write-ups handed in late will lose points as follows: 2 points for each day late up to 8 points for 4 days late. After 4 days late, write-ups will not be accepted except in the case of an excused absence (written and signed bonafide excuse). No late Problems of the Week will be accepted. The rest of the grade comes from a Journal Review Project consisting of a written paper worth 100 points and an oral presentation worth 40 points for a total of 140 points. There is a separate handout and a lab book section for the Journal Review Project detailing possible subjects, due dates, and project requirements. Failure to follow the project requirements will result in a zero on the project (both oral and written).

While you may work with others on write-ups/problems of the week/third midterm, the answers you give **must be in your own words and must reflect your work**. If any answers other than numerical values and fill-in answers on these assignments and midterm match someone else's or any textbook or online source, **you will receive a zero**

on the entire write up/problem or midterm. If two or more people's answers match, all will receive a zero, regardless of whose work was copied.

Cheating in any form, including plagiarism of the term paper or use of another student's work on the term paper, will result in a failure of the ENTIRE COURSE, regardless of the grade at the time of the incident.

The total points in the course are distributed as follows:

Midterms	250 points	}	55% of the grade
Finals	250 points		
Problems of the week	120 points	}	45% of the grade
Lab Write-ups	140 points		
Journal Review Project	140 points		
Total Points:	900 points		

Course grades: Grades are calculated based on 900 points or the highest number of points achieved in the class (minus extra credit. Course grades are assigned as follows: 88.5-100% A; 78.5- 88.4% B; 68.5 – 78.4% C; 58.5 -68.4% D; below 58.4 F. The only extra credit given in the course are the plagiarism and library assignments, worth 7.5 points each for a total of 15 points. There will be no additional extra credit given. It is imperative that you complete all your work on time and do well on exams.

Attendance: After two unexcused absences, you will be dropped from the class - this includes lab and/or lecture.

Midterm Examination Dates:

Exam # 1 Written midterm: Thursday, September 11th, in class

Exam # 2 Written midterm: Tuesday, October 14th, in class

Exam # 3 Take-home midterm handed out on Oct 23rd, Due on Nov 25th

Term Paper DUE: October 30th – no exceptions! See separate handout details

Lecture Schedule

DATE	TOPIC	READING (G and S, 3 rd ed)
Aug 19	Introduction to Physiology / Cytology	Ch 1.Ch 2.
Aug 21	Cytology and Roles of Proteins	Ch 2.
Aug 26	Basic Chemistry/Protein Synthesis	Ch 2.Ch 3.Handout
Aug 28	Protein Structure and Properties	Ch 2. Ch 4.
Sept 2	Membrane Transport Mechanisms	Ch 4. Handout
Sept 4	Membrane Transport Mechanisms/Potentials	Ch 4. Ch 5.
Sept 9	Nerve Conduction/Action Potentials	Ch 7. Ch 8: 196-202
Sept 11	***Examination #1-Written in class****	

Sept 16	Nerve Conduction/Action Potentials	Ch 8. Ch 9:215-241
Sept 18	Nerve Conduction/Graded Potentials	Ch10:252-268;283-289
Sept 23	Neuromuscular Junctions/Muscle Types	Ch 11.Ch 12.
Sept 25	Neuromuscular Junctions/Muscle Types	Ch 12.
Sept 30	Cardiac Muscle/Cardiac Cycle	Ch 13.
Oct 2	Cardiac Cycle	Ch 13.Ch 14.Handout
Oct 7	Cardiac Cycle	Ch 14. Handout
Oct 9	Cardiac Cycle/Circulation	Ch 14.
Oct 14	***Examination # 2 Written in class ***	
Oct 16	Circulation/Hematology	Ch 15.Handout
Oct 21	Hydrostatic and Oncotic Pressures	Ch14. Handout
Oct 23	Tissue Fluid-Plasma Exchange	Handout
	**** Take home midterm (#3) Handed out in lecture****	
Oct 28	Tissue Fluid-Plasma Exchange/Immune System	Handout
Oct 30	Immune System/Inflammation	Ch 23.Handout
	****Term paper due today ****	
Nov 4	Immune System	Ch 23.Handout
Nov 6	Immune System	Ch 23.Handout
Nov 11	Respiration	Ch 16. Ch 17. Handout
Nov 13	Respiration/Hb Saturation Curve	Ch 17. Handout
Nov 18	Digestion and Absorption	Ch 20. Handout
Nov 20	Regulation of Digestive Functions	Ch 20.Handout
Nov 25	Digestion/Acid and Base Balance	Handout
	**** Examination # 3 - Take home midterm is DUE today in lecture**	
Nov 27	*****Holiday*****	
Dec 2	Glucostat/Endocrinology	Ch 21. Handout
Dec 4	Renal Physiology	Ch 18. Handout
Dec 9	Renal Physiology/Acid Base Control	Ch 19. Handout
Dec 11	Acid Base Balance/Acidosis and Alkalosis	Ch 19: 556-567. Handout

Final Exams: Written on Tuesday, Dec 16 from 1 – 2:40 in B7
Practical on Thursday, Dec 18 from 9:30 to 11:15 in B 39

Laboratory Schedule

Week	Date	Exercise (Lab Manual)	Write-up/Prob Week (POW)
1	Aug 21	Metric System/pH/Graphing Molarity/Basic Chemistry	Write-up #1 (Handout) DUE at end of lab
2	Aug 28	Diffusion and Osmosis/Osmolarity	POW#1 handed out
3	Sept 4	Protein Affinity/Competition and Sensory Lab	POW#1 DUE/ POW#2 handed out
4	Sept 11	Mac Lab/Library Assign	POW#2 DUE/POW#3 handed out
5	Sept 18	Neuronal Conductivity	Write-up#2/POW#3 DUE/POW#4 handed out
6	Sept 25	Skeletal Muscle (frog)	Write up#2 DUE/Write up #3
7	Oct 2	Cardiac Muscle	Write up #3 DUE/POW#4 DUE
8	Oct 9	Smooth/Cardiac Muscle Comparison	Write up #4/POW #5 handed out
9	Oct 16	EKG/Heart Sounds/Blood Pressure	Write up#4 DUE
10	Oct 23	Blood and Blood Flow	Write-up #5/POW #5 DUE/POW #6 handed out
11	Oct 30	MacLab Blood Flow/Pulse	Write-up #5 DUE
12	Nov 6	Respiration and Buffers	Write-up #6/POW #6 DUE/POW #7 handed out
13	Nov 13	Digestion Lab: Enzymes	Write-up #6 DUE
14	Nov 20	Renal Function/Urinalysis	Write-up #7/POW #7 Due/POW #8 handed out
15	Nov 25	OPEN LAB	
16	Dec 4	Student Presentations	Write-up #7 DUE/POW #8 DUE
17	Dec 11	Student Presentations	

Written Final Exam: Tuesday, Dec 16th from 1 – 2:40 in B7

Practical Final Exam: Thursday, Dec 18th from 9:30 am to 11:15 in B 39