HUMAN PHYSIOLOGY BIOLOGY 235 FALL 2009

Instructor: Timothy Plagge
Office Hours: By appointment
E-mail: tplagge1@cox.net
Lecture: Tuesday and Thursday 5:30 – 6:55 p.m. Room J-203
Laboratory: Tuesday 7:00 – 10:10 p.m. in Room I-111
Thursday 7:00 – 10:10 p.m. in Room I-111
Textbook: Silverthorn, Human Physiology: An Integrated Approach, Prentice Hall, 5th edition, 2010
Lab Manual: Brothers, William. Human Physiology Biology 235 Laboratory Manual

Biology 235 Catalog Course Description:

3 hours of lecture and 3 hours of lab, 4 units
An introductory course which investigates the functions of the human body with emphasis on the nervous, endocrine, muscular, cardiovascular, respiratory, digestive, excretory and reproductive systems. This course is intended to meet requirements for students in the fields of nursing, paramedical sciences, psychology, biology and physical education.

Prerequisites

General Biology (Biology 103, 107 or 105 & 106). Human Anatomy (Biology 230) and an introductory course in college chemistry are highly recommended.

Course Information

Lecture Requirements:

There will be 4 exams over assigned textbook information and material covered in the class. See course calendar for exam dates. Each exam will consist of questions which may be multiple choice, matching, true & false, and essay. These questions will be of similar format to the regular exams. Lecture sessions may begin with a pop quiz. There will be an optional comprehensive final exam, if you choose to take this exam; the lowest exam score will be dropped.

Laboratory Requirements:

During the course, fourteen written laboratory reports will be handed in for grading. Laboratory reports for the lab sessions will be turned in the following week at the start of lab.

Course Point Breakdown:			**Grading Scale:**
Lecture Exams	4 @ 100 pts each	400	100% - 90% = A
Final Exam*		100	89% - 80% = B
Lab Reports	14 @ 10 pts each	140	79% - 70% = C
Quizzes	4 @ 10 pts each	40	69% - 60% = D
Total Possible Points:		**580**	59% or less = F

*This exam is optional, cumulative & if taken will replaces lowest exam score (provided the score is higher than one of your four exams).

Exam Policy

Lecture Exams must be taken on the scheduled exam day during lecture. An unscheduled missed lecture exam* will not be made up. More than one missed lecture exam will count as zero points. The optional comprehensive final exam can replace the student's lowest exam score and must be taken for an unscheduled missed lecture exam*. An exam will only be regarded until the next exam, after which the score/grade will not be changed.

Some exams can be made up by giving the instructor **prior notice of any future absence*

Two points (2) will be taken off the lab report is turned in after class discussions concerning the lab in question. An additional two points (2) will be taken off the lab score for each week late.

Important Dates (http://schedule.sdccd.edu/docs/Fall_matrix.pdf)	
Sept. 4	last day to receive, process and pay for add codes, and to drop classes with no "W" recorded on your transcript
Sept. 8	last day to drop and be eligible for refund of enrollment fees and/or non-resident tuition
Oct. 30	last day to withdraw from classes

SDCCD Attendance Policy

- It is the student's responsibility to drop all classes in which he/she is no longer attending.
- It is the instructor's discretion to withdraw a student after the add/drop deadline due to excessive absences.
- Students who remain enrolled in a class beyond the published withdrawal deadline, as stated in the class schedule, will receive an evaluative letter grade in this class.

Student Responsibilities
The student is responsible for the code of conduct as stated in the college catalog. Any violation of the code in the classroom will be brought to the student's attention first by a verbal reprimand and second by a written reprimand. A student caught cheating may be dropped from the class.

Cell phone use is not allowed during class (texting or talking). A student may be dropped with consistent violations or if it rings during exams. If texting is done during exams, it will be considered cheating, your test will be taken and a zero (that may not be made up by the optional final) will be recorded for the exam.

Students with disabilities who may need academic accommodations should discuss options with their professors during the first two weeks of class.
Any student thinking of dropping the course should consult the instructor prior to proceeding with this action, if at all possible.

Lab Safety
Please wear shoes with covered toes in the laboratory in order to protect your feet from potential chemicals and broken glass that may be spilled, or on the floor. Protective eyewear (safety glasses are available in the lab) should be worn when working with preserved specimens. An eye wash is available in the room in the event chemicals become splashed in the eyes.

Sharp objects (scalpels, razor blades and pins) and biohazards must be disposed of in the red sharps container. Disinfectant and Band-aids are available at the first aid station.

Changes
The instructor reserves the right to make changes to this syllabus with prior notice.

STUDENT LEARNING OUTCOMES:

Upon successful completion of the course the student will be able to:

1. Describe, analyze and apply the use of graphs, tables, charts and diagrams as related to lab exercises.
2. Define, distinguish and apply the principles of homeostasis.
3. Define, describe, and compare and contrast the basic cellular organelles.
4. Discuss and examine the functions of the plasma membrane and neuron physiology.
5. Recall and discuss the anatomy and functions of the central nervous system.
6. Interpret, discuss and describe the peripheral nervous system to include sensory apparatus, receptor physiology, somatic and autonomic nervous systems.
7. List, define and compare the structures and steps that contribute to a striated (skeletal) muscle contraction.
8. Apply the anatomy of the heart to evaluate cardiac function, control and select cardiovascular diseases.
9. Compare all of the various circulatory elements including the lymphatic system.
10. List, discuss and classify the homeostatic mechanisms for blood pressure.
11. Define and distinguish the cellular and non-cellular components of blood.
12. List, define and discuss the key elements of the immune system and evaluate immune diseases to include specific and non-specific immune responses.
13. Analyze the functions of the respiratory system including gas exchange, ventilation control, and cellular gas transport.
14. Define, compare, and contrast the functions of the urinary system.
15. Define, discuss and relate the mechanisms used to maintain fluid and pH homeostasis.
16. Recall the basic anatomy of the digestive system in order to discuss and analyze the digestion of various organic molecules.
17. Describe and relate energy balance and thermoregulation.
18. List the endocrine glands, compare and contrast their secretions and homeostatic functions.
19. Apply knowledge of the endocrine system to discuss and evaluate select diseases that represent upsets in endocrine homeostasis.
20. Compare and contrast gametogenesis, and the homeostatic functions of the reproductive system in order to evaluate select diseases of the reproductive system.

TENTATIVE LECTURE SCHEDULE

Week	Date	Topics	Readings
1	Aug. 25 Aug. 27	Introduction to Human Physiology, Homeostasis Biochemistry & Biomolecules	Chapter 1 Chapter 2
2	Sept. 1 Sept. 3	Cell Physiology Cell Physiology– Membrane Potentials	Chapter 3 Chapter 3
3	Sept. 8 Sept. 10	Membrane Transport Cellular Metabolism	Chapter 5 Chapter 4,22
4	Sept. 15 Sept. 17	**Exam 1** Hormones & Chemical Signaling	Chapter 6,7,23
5	Sept. 22 Sept. 24	Electrical Signaling & Nerve Cells	Chapter 8
6	Sept. 29 Oct. 1	Synaptic Transmission Central Nervous System	Chapter 8 Chapter 9
7	Oct. 6 Oct. 8	Central Nervous System Peripheral Nervous System	Chapter 9 Chapter 11
8	Oct. 13 Oct. 15	**Exam 2** Muscle Physiology	Chapter 12
9	Oct. 20 Oct. 22	Muscle Physiology Cardiac Physiology	Chapter 12,13 Chapter 14
10	Oct. 27 Oct. 29	Cardiac Physiology Blood Flow & Blood Pressure	Chapter 14 Chapter 15
11	Nov.3 Nov. 5	Cardiovascular Regulation Blood, Immunity	Chapter 12 Chapter 16,24
12	Nov. 10 Nov. 12	**Exam 3** Respiratory System: Breathing Mechanics	Chapter 17
13	Nov. 17 Nov. 19	Respiratory System: Gas Exchange Renal Physiology	Chapter 18 Chapter 19
14	Nov. 24 Nov.26	No Class – Thanksgiving Break	
15	Dec. 1 Dec. 3	Digestive Physiology Fluid & Electrolyte Homeostasis	Chapter 21 Chapter 20
16	Dec. 8 Dec. 10	Reproductive Physiology Female Reproductive Physiology Male	Chapter 26
17	Dec.15 Dec. 17	**Exam 4** Final Comprehensive Exam	

TENTATIVE LABORATORY SCHEDULE

Week	Monday Date	Laboratory Exercises	Page Number
1	Aug. 24	Data Expression and Analysis	1
2	31	pH and Buffers	15
3	Sept.7	Digestion-Enzyme Function (Monday Holiday)	27
4	14	Human Nervous System	41
5	21	Hearing	57
6	28	Physiology of Vision	65
7	Oct. 5	Skeletal Muscle	87
8	12	LabTutor	101
9	19	Electrocardiogram	121
10	26	The Frog Heart	145
11	Nov. 2	Cardiovascular Responses and The Vascular System	163 & 177
12	9	Blood Composition	187
13	16	Blood Composition/The Endocrine System	187 & 239
14	23	Holiday – No Labs	
15	30	Pulmonary Physiology	201
16	Dec. 7	Renal Function	229
17	14	Control of Breathing	223

Bring a thumb drive (flash memory card) to the lab session to store your data, allowing you to take it home and complete your lab write-ups.

Acknowledgement of Bio 235 Course Syllabus Fall 2009

Your signature signifies that you have read and understand the above syllabus

Name (print) _____ Date: _____

Signature _____