

Instructor: Prof. Gregory Hoge, Ph.D.

Email: ghoge@jjay.cuny.edu

Office hours: TBA and also by appointment

Lecture: 5th-6th Period, Wednesdays (2:50p – 5:30p)

Room: 03.64

Textbook:

Human Physiology: An Integrated Approach (6th edition). *Mastering A&P package required*
by Dee Unglaub Silverthorn. Benjamin Cummings Publishers (Pearson), ©2011

Course description: This lecture course will explore the molecular physiological function of the cells, tissues, organs, and organ systems of the human body. Special attention will be paid to homeostasis and the integrated coordination of these diverse organ systems, the pathophysiology of common diseases, and pharmacological strategies to treat the underlying pathology. In addition to in-class examinations, students will research and deliver class presentations on diseases throughout the semester.

Hours: 3, Credits: 3

Prerequisites: Bio104, Che103 (or Che101 plus Che102), Eng201 (or Eng102)

Learning Goals:

After taking this course, students will be able to:

Knowledge:

- Understand the histological structure of major tissues and organs.
- Describe the purpose, function, and structural arrangement of the major organ systems of the human body.
- Explain in detail the molecular mechanisms of action of the major organs and cell types of the human body.
- Identify major pathological diseases, and their etiology, as they apply to human organ systems.

Reasoning:

- Apply knowledge of physiology to case studies of human disease.
- Define the physiological mechanism of action of major classes of pharmaceuticals.
- Explain how multiple organ systems integrate together to maintain homeostasis.
- Explain how some common pathophysiological treatment strategies work.
- Students will understand the basic concepts in the field of human biology:
 - The structure and function of major human cell types and tissues.
 - The basic anatomy and detailed physiology of the following human organ systems: digestive, circulatory, respiratory, excretory, reproductive, nervous and motor systems.
 - The pathophysiology and pharmacology treatment strategies of many common human diseases and conditions.
- Students will be able to research, prepare, and deliver oral presentations to a scientific audience

You must check Blackboard and your John Jay E-mail account regularly.

You are responsible for any and all course information, assignments, announcements, and communication that occurs through blackboard and/or your email account.

Important Course Policies

Statement of the College Policy on Plagiarism: Plagiarism is the presentation of someone else's ideas, words, or artistic, scientific, or technical work as one's own creation. Using the ideas or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

It is the student's responsibility to recognize the difference between statements that are common knowledge (which do not require documentations) and restatements of the ideas of others. Paraphrase, summary, and direct quotation are acceptable forms of restatement, as long as the source is cited. Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has free guides designed to help students with problems of documentation.

Americans with Disabilities Act (ADA) Policies: Qualified students with disabilities will be provided reasonable academic accommodations if determined eligible by the Office of Accessibility Services (OAS). Prior to granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility from the OAS which is located at L66 in the new building (212-237-8031). It is the student's responsibility to initiate contact with the office and to follow the established procedures for having the accommodation notice sent to the instructor.

The grade for the Bio-355 course is a composite of three in-class examinations, two oral presentations (one basic concept, one disease), completion of online homework, grades on in-class quizzes, and participation and performance during in-class group work on "case studies." All three exams will count. If you miss an exam (or foresee that you will miss an exam) for any reason, you **MUST** contact the instructor **as soon as humanly possible**. You may be allowed to take the exam late (or early). However, you are **ONLY** eligible for this one-time consideration if you contact the instructor immediately and you arrange to take the exam **BEFORE** the corrected exams are handed back to the class. In all other cases, the missed exam **WILL** count as a ZERO. (Exception: a documented medical or family crisis may result in being excused from an exam, but this will only be allowed **ONCE**. Further missed exams will count as a zero, regardless of reason.)

Exam One	15%
Exam Two	15%
Exam Three	20%
Online Homework	10%
In-class Quizzes	10%
Case Studies	10%
In-class Presentation	10%
Disease Presentation	10%
<i>Total</i>	100%

Disease Presentation Grade:	
History/Discovery of the disease:	10pts.
Prevalence, Genetics:	10pts.
Symptoms, Clinical Presentation:	10pts.
Relevant <i>normal</i> physiology:	20pts.
Cause/Pathophysiology:	25pts.
Past and Current Treatment:	10pts.
Prognosis:	5pts.
Current Research, Future Cures:	10pts.
Total:	100pts.

93.0 and above	A
90.0 - 92.9	A-
87.0 - 89.9	B+
83.0 - 86.9	B
80.0 - 82.9	B-
77.0 - 79.9	C+
73.0 - 76.9	C
70.0 - 72.9	C-
67.0 - 69.9	D+
63.0 - 66.9	D
60.0 - 62.9	D-
below 60.0	F

Online Homework: There will be one or two homework assignments due each week assigned through the online program, Mastering A&P, access to which must be purchased by each student if not already bundled with the required textbook. All homework assignments, regardless of length, are of equal weight and combine to comprise 10% of the final course grade. Homework submitted after the due date will be accepted with a penalty of 5% per day. The lowest two homework grades will be dropped before final calculations are made.

In-class quizzes: There will be at least one, and usually two, in-class quizzes each week. These quizzes will cover the required reading and the homework assignment for the day, and additional preparation instructions will be given by the instructor. Missed quizzes cannot be made up under any circumstances. All quizzes, regardless of length, are of equal weight and the combined grades will comprise 10% of the final course grade. The lowest three quiz grades will be dropped before calculations are made.

Case Studies: Each week, the class will be broken into groups of two to three students. Each group will be given several "case studies," which are examples of real physiological, pathophysiological, or pharmacological scenarios in which the knowledge covered by the chapter can be used to illustrate or solve a problem. Each case study will involve several questions to answer and problems to solve. Students will be allowed to use their textbook or other materials provided or approved by the instructor to look up information and prepare their responses, which will be presented to the class. Each group must work together to delegate the questions to each member to research and comprise a coherent and organized presentation. However, the instructor and other students may ask follow-up questions of any member, which can affect her/his grade. Each student will receive a single grade for their performance in the case study presentations, which will be determined by: 1.) the completeness and correctness of the group presentation, 2.) the student's performance on her/his part of the group presentation, 3.) the student's performance on follow-up questions from the instructor or fellow students, and 4.) the student's contribution of thoughtful and insightful questions of other groups. The grades for the case studies will be combined to form 10% of the final course grade. The two lowest case study grades will be dropped before calculations are made.

The oral presentations: Students will deliver two oral presentations for this class, each between 10 and 15 minutes in duration. One presentation will occur during class time, and will cover one of the major themes or concepts of the day's topic, and this may be a 'chalk talk' styled presentation. During the first week of class, the instructor will establish a schedule for these presentations for the entire semester and students must deliver their presentation as scheduled, unless a schedule change has been approved by the instructor. The second presentation must be a digital presentation and submitted to the instructor by the scheduled due date. The simplest format is a PowerPoint presentation and can be animated and narrated with recorded voice clips. Any similar digital presentation style will be accepted, it is preferable that *the final presentation can be deliverable to the entire class through the Blackboard page*. The required technology for recording such a presentation is freely available to students through the department of instructional technology; thus, it is the student's responsibility to develop and record the presentations without technical guidance from the instructor. The topic for the second presentation will be a disease, ailment, or intoxication of the student's choosing that is especially relevant to the physiology being studied in class around the given time period. However, the student *must* receive prior approval from the instructor regarding the selection of the disease to ensure that the disease is a good choice for illuminating physiology, has not been done by another student in recent semesters, and will not already be covered by case studies or detailed in-class examples. Each of the two presentations is worth 10% of the final course grade.

Class absences: Attendance will not be taken. However, students that are not present for a quiz receive a grade of zero and quizzes can never be made up for any reason. Similarly, absent students will also receive a grade of zero for the missed work in the case studies, which are an in-class learning experience that cannot be made up. Regardless of the reason for the absence, students may drop their lowest three quizzes and their lowest two case study grades, including zeros. However, absences that result in zero grades beyond the allowed drop limit cannot be dropped, except in the case of medical or family emergency or crisis that is supported by documentation and judged by the instructor to be of sufficient hardship or severity.

Lecture Schedule

#	Date	Topics	Textbook
1	Aug 28	Cells and Tissues Cell membranes and Transport	Chapter 3 Chapter 5
Sep-04 – No classes scheduled			
2	Sep 11	Cell Communication and Integration Neurons: Excitability, Action Potentials, Synapses	Chapter 6 Chapter 8
3	Sep 18	Central Nervous System Sensation/Perception	Chapter 9 Chapter 10
4	Sep 25	The Autonomic Nervous System Neurotransmitters, tone, pharmacology	Chapter 11 Chapters 8-11
5	Oct 02 also Oct 02	Exam #1: Chapters 3, 5, 6, 8-11 (75 minutes only) Muscle Tissue: Excitation/Contraction	Chapter 12
6	Oct 09	Cardiovascular Physiology: The heart	Chapter 14
7	Oct 16	Blood Flow and Blood Pressure	Chapter 15
8	Oct 23	Respiratory Physiology Cardiovascular: Oxygen Transport	Chapter 17 Chapter 18
9	Oct 30	Structure/Function of the Kidneys The Urinary System: Salt and pH Homeostasis	Chapter 19 Chapter 20
10	Nov 06 Nov 06	Exam #2: Chapters 12-19 (75 minutes only) Endocrine System: types, functions of hormones	Chapter 7
11	Nov 13	The Digestive System Homeostasis and metabolism	Chapter 21 Chapter 22
12	Nov 20	Reproduction: Hormones and Menstrual Cycle Reproduction: Pregnancy and Development	Chapter 26 Chapter 26
Nov-27 – Classes follow a Friday Schedule			
13	Dec 04	Blood The Immune System	Chapter 16 Chapter 24
14	Dec 11	Review for Exam #3	
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Wednesday, Dec 18		5:30p – 7:00p	EXAM #3: Chapters 20-24

Date of in-class presentation: _____

Due date of digital presentation: _____