

BIOLOGY 340 - HUMAN BODY AND BRAIN (LECTURE)

SPRING 2016

Instructor: Maryam Bamshad. I am an Associate Professor in the [Department of Biological Sciences at Lehman College](#). I have taught courses in anatomy and physiology for nursing majors and endocrinology for bio majors. My research is in the area of Behavioral Ecology and Neuroendocrinology. You can see me at my [office](#) during my office hours or [email](#) me to make an appointment.

Bio 340 Course Description: Human Body and Brain-Lecture. 3 hours (2, lecture; 1 online discussion), 3 credits. Bio 340 is a hybrid course in anatomy and physiology that will prepare students for careers in health professions and science. Students will gain an understanding of interrelationships between various body systems and the brain's role in coordinating activities essential for survival and reproduction. Through online group discussions, students will learn to think critically as they explore current research topics in neuroscience, neuropsychology, and neuroendocrinology related to regulation of human body functions. Students will be prepared for careers in science by learning skills such as effective communication and digital literacy.

Prerequisites: BIO 166, Bio 167.

Place of course in the Biology program: fulfills requirements for biology majors.

Required Online Resources:

- [WileyPLUS](#), an online program for Principles of Anatomy and Physiology, 14th edition by *Gerard J. Tortora and Bryan H. Derrickson*, and Laboratory Manual for Anatomy & Physiology, 5th edition by *Connie Allen and Valerie Harper*, John Wiley & Sons, Inc. 2014 (**access code must be purchased**)*.

*Registration for WileyPLUS **once** will give you access to the e-textbook, lab manual and all the exercises required to complete the lecture and laboratory components of the class for the semester.

Goals: My goal is to prepare you for medical and professional healthcare schools by giving you a strong foundation in human anatomy and physiology. Throughout the course, I will emphasize a holistic view of the body and will guide you in understanding the brain's role in coordinating the activities of multiple body systems. Thus, this course differs from other anatomy and physiology courses because of the particular attention we will pay to the brain's interactions with various body organs. Based on research, we will explore the central role of the brain in maintaining homeostasis by controlling human body responses to internal and external stimuli.

-Learning Objectives: at the end of this class, students should be

- Able to identify the major anatomical features of the nervous system, endocrine system skeletomuscular system, cardiovascular system, respiratory system, digestive system, urinary system and reproductive system.
- Demonstrate an understanding of the major physiological functions of the nervous system, endocrine system skeletomuscular system, cardiovascular system, respiratory system digestive system, urinary system and reproductive system.
- Demonstrate an understanding of how the brain and various body systems work together to control body's reactions to stimuli.
- Demonstrate an understanding of how the brain and various body systems work together to maintain homeostasis.
- Demonstrate an understanding of how the brain and various body systems work together to produce and nurture an offspring.
- Demonstrate an ability to use online tools for extracting and organizing relevant information.
- Demonstrate an ability to communicate what they have learned to their peers.
- Demonstrate their ability for team learning, team teaching, and leadership in completing group projects.
- Able to apply their knowledge by using case studies.

Strategies for successful completion of the course: success in my class requires teamwork and students' active participation in learning. I have divided the class into five groups. The group members are responsible for researching and teaching each other about a selected topic. Members of each group will work together to conduct online research and to teach members of another group about their topic. Group members are responsible for creating a website to present their findings to the class. Following the strategies listed below will help you complete the course successfully.

- Come to class on time and remain attentive throughout class.
- Read each chapter of your e-textbook before coming to class.
- Complete the assigned exercises on WileyPLUS by the due date.
- Participate in class discussions.
- Work with your group members online or face-to-face to exchange study materials, share ideas, and help each other learn.

Assessment of your knowledge: I will assess your knowledge of the course based on: **

- Scores for two mid-term exams and a cumulative final exam.
- WileyPLUS homework assignments.
- Wiki content and quality.
- Group collaborations during class and online.

**Although attending class and completing all the required exercises will help boost your grade, passing the mid-term and final exams are essential for passing the course.

Classroom Policies: I expect you to

- Attend class on time.
- Turn off your cell phone and all other electronic devices during class and during exams.
- Avoid talking or texting during class and during exams, unless the conversation is regarding the lecture.
- Be respectful when communicating online or face-to-face with your classmates.
- Post on your website only materials that are relevant to and appropriate for learning the course material.
- Avoid plagiarizing information you post online or cheating during tests (see the Lehman College academic policy shown below).

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When to Learn?	What to Learn?	How to Learn?
Tuesday-February 2, 2016	Lecture 1- Introduction to human body and brain How do the body and brain communicate?	Read the textbook and complete WileyPLUS exercises for chapter 12.
Tuesday-February 16, 2016	Lecture 2 - How does the brain function?	Read the textbook and complete WileyPLUS exercises for chapter 14.
Tuesday-February 23, 2016	Lecture 3 - How does the brain sense stimuli?	Read the textbook and complete WileyPLUS exercises for chapter 16.
Tuesday-March 1, 2016	Lecture 4 - How does the brain perceive stimuli?	Read the textbook and complete WileyPLUS exercises for chapter 14.
Tuesday-March 8, 2016	Lecture 5 - What are reflexes and how do they work?	Read the textbook and complete WileyPLUS exercises for chapter 13
Tuesday-March 15, 2016	Lecture 6 - Testing your knowledge	First Midterm Exam
Tuesday-March 22, 2016	Lecture 7 - How do the brain and the skeletomuscular system communicate to control body motion?	Read the textbook and complete WileyPLUS exercises for chapter 6, chapter 9 and chapter 10.
Tuesday- March 29, 2016	Lecture 8 - How do the brain and the heart communicate to control transport of substances within the body?	Read the textbook and complete WileyPLUS exercises for chapter 20 and chapter 21.
Tuesday- April 5, 2016	Lecture 9 - How do the brain and the lungs communicate to control gas exchange within the body?	Read the textbook and complete WileyPLUS exercises for chapter 23.
Tuesday-April 12, 2016	Lecture 10 - How do the brain and the gastrointestinal tract communicate to control food digestion and metabolism?	Read the textbook and complete WileyPLUS exercises for chapter 24 and chapter 25.
Tuesday-April 19, 2016	Lecture 11 - Testing your knowledge	Second Midterm Exam
Tuesday-May 3, 2016	Lecture 12 - How do the brain and the kidneys communicate to control body's internal environment?	Read the textbook and complete WileyPLUS exercises for chapter 26 and chapter 27.
Tuesday-May 10, 2016	Lecture 13 - How do the brain and the reproductive organs communicate to pass on the genes to the next generation?	Read the textbook and complete WileyPLUS exercises for chapter 28.
Tuesday-May 17, 2016	Lecture 14 – Wiki group projects	Class Presentations
Tuesday-May 24, 2016	Lecture 15 - Testing your knowledge.	Cumulative Final Exam

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Grading is based on the activities listed in the following table.

Exams	Other Activities
Exam 1: 15%	WileyPLUS Quizzes (10%)
Exam 2: 15%	Orion: (5%), Clickers (10%)
Final exam: 30%	Group Presentation (Wiki content and quality): 10%
	Collaboration (online conversations): 5%

Percent	Grade
93%	A
90%	A-
87%	B+
83%	B
80%	B-
77%	C+
73%	C
67%	D+
63%	D
60%	F

- GRADES WILL NOT BE CHANGED UNDER ANY CIRCUMSTANCES UNLESS I HAVE MADE AN ERROR IN CALCULATING YOUR GRADE.
- **MAKE-UP EXAMS** ARE ONLY GIVEN PRIOR TO THE EXAM DATE WITH PROOF OF LEGITIMATE EXCUSE.
- YOU WILL LOSE 100 POINTS IF YOU MISS AN EXAM.

ACADEMIC INTEGRITY

Cheating and plagiarism are two forms of academic dishonesty. Academic dishonesty is a very serious issue and will not be tolerated in any of the Anatomy and Physiology classes.

- Cheating is taking or giving help while taking an exam (examples: swapping quizzes, talking during an exam, leaving the exam accessible to be viewed).
- Cheating is using notes, books or papers during an exam.
- Cheating is obtaining or distributing or using unauthorized copies of an exam.
- Cheating is not writing in your own words, but copying works of others.
- Plagiarism is failing to give credit to the source of another person's idea or paper.
- Plagiarism is copying and pasting from the Internet when the work should have been written in your own words.

If cheating or plagiarism does occur in class, the instructor will inform the student of the suspicion, charges and sanctions both orally and in a written form.

If the suspicion was unfounded, the instructor will take no further action. If the suspicion is founded and the instructor and student cannot reach an agreement on a resolution, the chair of the department will refer the matter to the Vice President for Student Affairs.

Possible sanctions in case of cheating or plagiarism include, but are not limited to:

- Receiving a grade of F for the exam or paper
- Receiving a grade of F for the course

GRADING POLICY

Grades will not be changed under any circumstances unless the instructor has made an error in calculating a grade. An incomplete is given only if the student has missed one exam and has a passing grade in the course. Instructors are not allowed to give any projects for extra credits to change a grade.