

# HUMAN PHYSIOLOGY



WEST LOS ANGELES COLLEGE  
DEPARTMENT OF SCIENCE

Instructor	Marlon Abrazado, M.S.	Term	Spring 2015
Office	MSA 211	Class Meeting Days	Tuesday/Thursday
Email	mabrazado@gmail.com	Class Meeting Hours	6:45p - 10p
Class Location	MSA 211	Lab Location	MSA 211

## COURSE DESCRIPTION

The goal of this course is to provide the foundation for understanding the normal function of the human body. This course will survey the elements of human physiology, examined at several organizational layers: molecular, cellular, tissue, organ, and organ systems, with an emphasis on the control and integration of organ systems. Lecture topics include neural and hormonal regulation of body processes, integration of organ systems for homeostatic regulation, digestion and metabolism. Additional topics will include nutrition, homeostatic mechanisms in exercise, cardiopulmonary response to acute exercise, and systemic adaptation to chronic exercise.

This course will be presented in a lecture/discussion format and will invite class participation. Course materials are presented in Powerpoint format and will include videos, lecture notes, and study guides.

Laboratory exercises will introduce the student to EKG, blood pressure cuff, and pulmonary function tests. This course is intended to meet the requirements of students majoring in nursing, dental hygiene, occupational therapy, kinesiology, or life sciences.

## MINIMUM PREREQUISITE

College-level Biology **AND** Human Anatomy with a grade of "C" or better; concurrent enrollment in or successful completion of English 28. Basics of college-level chemistry is encouraged, but not required.

Physiology is a rigorous course that requires considerable discipline, time and dedication. Students are expected to learn and retain large amounts of material. Students taking this course are highly recommended to stay on top of the material (review notes after class) and seek outside material to master the understanding of all topics discussed in lecture.

## STUDENT LEARNING OBJECTIVES

A student who completes this class will be able to:

1. Discuss and apply knowledge of the normal function of the major organ systems of the body.
2. Explain the basic concepts and principles that govern the function of each organ and their respective systems.
3. Apply knowledge of these functions to maintain body homeostasis.
4. Recognize that an organism, particularly the human body, is comprised of multiple, interwoven self-regulating systems.
5. Explain the neural and hormonal regulation of bodily processes.
6. Describe the generation, conduction, and transmission of action potentials in nerve pathways.
7. Detail the physiology of cardiac muscle contraction, ECG, cardiac cycle, cardiac output and its regulation.
8. Calculate lung volumes, explain pulmonary ventilation, and elaborate on the process of gas exchange in the lung and tissue level.

## REQUIRED MATERIALS

Principles of Anatomy & Physiology, 13<sup>th</sup> Edition, by G. Tortora and B. Derrickson; [\[Link\]](#)

John Wiley & Sons; 2011 [ISBN-13: 978-0470565100]

~\$175 new or \$40 to rent (Amazon)

Option of purchasing 11<sup>th</sup> or 12<sup>th</sup>

## RECOMMENDED MATERIALS (NOT REQUIRED)

Learning Guide for Principles of Anatomy & Physiology, 12<sup>th</sup> Edition, by G. Tortora; [\[Link\]](#)

John Wiley & Sons; 2008 [ISBN-13: 978-0470138052]

Human Physiology; From Cells to Systems, 7<sup>th</sup> Edition, by L. Sherwood;

Cengage Learning; 2010 [ISBN 978-0-495-39184-5]

## EXAMINATION

### SCHEDULE

	Date	Day	Weight of Final Grade
Lecture Exam 1	March 10, 2015	Tuesday	60%
Lecture Exam 2	April 2, 2015	Thursday	
Lecture Exam 3	May 12, 2015	Tuesday	
Final Exam	June 4, 2015	Thursday	40%

All exams will consist of objective-type questions (e.g. True/False; Multiple Choice)

You will be expected to provide Scantron 882 Forms [\[Link\]](#) available at the bookstore and a No.1 or No.2 pencil.

Assuming you take all three lecture exams, the lowest one will be dropped, and the average of the two highest will count 60% of your course grade. Approximately 60% of the questions on the final exam will cover lecture material prior to the third exam.

No makeup examinations will be administered. Any missed examinations will be counted as a zero.

## **COURSE GRADE**

90 - 100%	A
80 – 89.9%	B
70 – 79.9%	C
60 – 69.9%	D
below 59.9%	F

## **ATTENDANCE POLICY**

Attendance will be recorded for the first week of instruction; absent students for the entire week will be dropped from the course in order to accommodate students on the waiting list or requesting to be added.

Non-enrolled students can request to be added within the first two weeks only. Please see instructor when directed.

Afterwards, student attendance is completely up to the student. Essentially, there is NO attendance policy and roll will not be taken. However, students will be held accountable for all information, exam announcements, date changes, etc. presented in class regardless of attendance.

Obviously, attendance is required on days of examination.

## **ENROLLMENT/WITHDRAWAL**

Students who are given add slips must complete the process by 2<sup>nd</sup> week. No replacement slips will be assigned.

Students are responsible for their own credit and enrollment status. Any problems (including class withdrawals) should be addressed with the admissions office. Students failing to follow the correct procedure for withdrawals will receive a grade of “F” for the semester. No withdrawals are permitted after Friday, November 15.

## **ACADEMIC INTEGRITY**

Students are expected to do their own work on all assignments, reports, examinations, etc. There is a ZERO tolerance for cheating. Violations will be referred to the Academic Dean.

Actions considered cheating:

- Sharing or showing any exam materials between students
- Talking during the exam
- Notes of any kind during examinations
- Changing answers on a returned exam

## CLASSROOM ENVIRONMENT

Our class should promote a safe and encouraging learning environment. Students are expected to participate in the discussions and encourage positive feedback from peers. Please feel free to ask questions at any time so that others may benefit from the discussion. Food and drink (except bottled water) are not allowed in class.

## ELECTRONICS

Additionally, in light of maintaining a stimulating educational atmosphere, I would request all cell phones stored away and silenced.

Laptops are permitted in class only for taking notes. Any abuse of this policy will result in banning your laptop use for the remainder of the semester.

## DISABLED STUDENT PROGRAMS AND SERVICES

West Los Angeles College recognizes and welcomes its responsibility to provide an equal educational opportunity to all disabled individuals. The Office of Disabled Students Programs and Services (DSPS) has been established to provide support services for all verified disabled students pursuing a college education. If in need of special accommodations for testing, students must provide the instructor with completed paperwork from DSPS in advance of the assessment in order for specific arrangements can be made.

## TIPS TO SUCCEED

1. Attend class, listen, and participate (contribute to discussion and ask questions!)
2. Study the day's lecture material before, and review after.
3. Dedicate a designated portion of each studying session reviewing previous material (essential for long-term memory integration!)
4. Revise class notes by reviewing notes and integrating textbook snippets of pertinent information.
5. Study groups/partners/parties
6. Mnemonics and associations for lecture material

## CLASS SCHEDULE (TENTATIVE)

(schedule subject to change)

Week	Day	Date	Lecture Topic	Laboratory	Tortora (13th)
1	Tuesday	February 10	Introduction; Basics (Organization/Homeostasis)		1-12
	Thursday	February 12	Biochemistry		29-61
2	Tuesday	February 17	Cellular Biology; Cellular Respiration		63-112
	Thursday	February 19	Cellular Respiration; Tissue Level		113-152
3	Tuesday	February 24	Neurophysiology (Neurons; Action Potentials)		447-491
	Thursday	February 26	Synaptic Transmission		581-605
4	Tuesday	March 3	Central Nervous System (Brain)		527-579
	Thursday	March 5	Central Nervous System (Spine)		492-526
5	Tuesday	March 10	LECTURE EXAMINATION 1		
	Thursday	March 12	Peripheral Nervous System (Somatic and Autonomic)		615-633
6	Tuesday	March 17	Peripheral Nervous System (Autonomic)		581-605
	Thursday	March 19	Sensory/Perception	Reflexes	606-620; 635-679
7	Tuesday	March 24	Endocrine (Central)		680-727
	Thursday	March 26	Endocrine (Peripheral)		680-727
8	Tuesday	March 31	Cesar Chavez Day - No Class		
	Thursday	April 2	LECTURE EXAMINATION 2		
9	Tuesday	April 7	Spring Break	Spring Break	Spring Break
	Thursday	April 9	Spring Break	Spring Break	Spring Break
10	Tuesday	April 14	Cardiovascular System - Blood and Heart Review		728-771
	Thursday	April 16	Cardiovascular System - Conduction	ECG Interpretation	772-782
11	Tuesday	April 21	Cardiovascular System - Heart, Vessels		782-874
	Thursday	April 23	Cardiovascular System - Vessels	Blood Pressure	772-874
12	Tuesday	April 28	Respiratory System - Ventilation		918-942
	Thursday	April 30	Respiratory System - Gas Exchange	Lung Volume	943-966
13	Tuesday	May 5	Respiratory System	Spirometry	943-966
	Thursday	May 7	Cardiopulmonary Response to Exercise	VO <sub>2</sub> max	
14	Tuesday	May 12	LECTURE EXAMINATION 3		
	Thursday	May 14	Digestive System		967-1023
15	Tuesday	May 19	Digestive System		967-1023
	Thursday	May 21	Metabolism and Nutrition		1024-1064
16	Tuesday	May 26	Urinary System		1065-1109
	Thursday	May 28	Disease Presentation Batch 1		
17	Tuesday	June 2	Disease Presentation Batch 2		
	Thursday	June 4	FINAL EXAMINATION		