BS in Biomedical Sciences
Mission 5: Introduction to Integrated Body Systems Part 1
Mission Equivalency: 1108, 3104, 3108
Spring 2017: 1/16–3/10

***This syllabus represents the current mission plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*

TEXTBOOK AND/OR RESOURCE MATERIAL

ALL REQUIRED CONTENT FOR THIS COURSE IS PAID FOR VIA COURSE FEES AND IS DELIVERED VIA IPAD, WHICH WILL BE ISSUED TO YOU AT YOUR ORIENTATION MEETING FOR THE PROGRAM. THIS LEARNING MATERIAL WILL INCLUDE CAREFULLY CURATED READINGS, VIDEO, INTERACTIVES, ANIMATIONS, APPS, AND OTHER SOURCES. THESE KEY RESOURCES, AND MANY OTHERS, ARE INCLUDED:

- Principles of Biology, Sapling Learning
- Anatomy and Physiology, OpenStax College, https://openstaxcollege.org/textbooks/anatomyand-physiology
- Conceptos de Biología, OpenStax College, http://cnx.org/contents/e7a016d3-91fc-4ba0- 9e05-a33e986f3d94:1/Conceptos-de-Biolog%C3%ADa
- Khan Academy, Anatomy and Physiology, https://www.khanacademy.org/science/health-andmedicine/human-anatomy-and-physiology
- Khan Academy, Anatomía y fisiología humana, https://es.khanacademy.org/science/health-andmedicine/human-anatomy-and-physiology
- Get Body Smart, http://www.getbodysmart.com/
- OSCE Skills App--This app gives you step-by-step illustrated instructions for a large number of Objective Structured Clinical Examinations of the kinds used to test future doctors on their competence in performing clinical skills.
- Quick Medical Terminology and Abbreviation Reference App by Simple Tree LLC--This tool allows you look up comprehensive definitions of medical terminology, word parts, and topics. This is a rich tool to which you will likely refer throughout your studies and career.

MISSION DESCRIPTION AND PREREQUISITES

Welcome to the next step of your journey into the world of the biomedical sciences. As you reach each of your learning goals, you will develop the knowledge and skills needed for future courses.

You will also learn what the professionals in the field know about medicine and the inner workings of the human body. It will be a fascinating trip through one of the fastest growing areas of scientific study. In this mission, you will study:

The Nervous System

- Neurons and Glial Cells
- The Central and Peripheral Nervous System
- Higher Brain Function

The Musculoskeletal Systems

- Bone as a Tissue
- Muscle Tissues and Physiology

The Cardiovascular Respiratory Systems and the Blood

- The Cardiac Cycle and the Heart
- Arteries and Veins
- The Respiratory System

LEARNING OBJECTIVES/OUTCOMES FOR THE MISSION

As you do the activities in this course, you will work toward demonstrating competence in each of these programmatic objectives:

- Apply knowledge of biology in defining and discussing basic biomedically-related science concepts. (Level 1)
- Describe the structure and function of the body and explain the basis of major pathologies and diseases at the molecular, cellular, organ, and system levels. (Level 1)
- Critically examine the science behind disease prevention and health promotion, especially as related to common chronic conditions. (Level 1)
- Recall the most relevant equations used in the biomedical sciences, describe the phenomenon they explain, and cite how and when they are applied. (Level 1)
- Describe the social and environmental determinants of health and their influences on healthcare and biomedical research; discuss related impacts on individuals, communities, and populations–regionally, nationally, and globally. (Level 1)
- Demonstrate a desire to help others as well as sensitivity to others' needs and feelings. (Level 1)
- Demonstrate knowledge of socio-cultural factors that affect interaction and behaviors, multiple dimensions of diversity, and strategies for interacting effectively with people from diverse backgrounds. (Level 1)
- Demonstrate ability to collaborate with others to achieve shared goals. (Level 1)
- Behave in an honest and ethical manner; cultivate personal and academic integrity; adhere to ethical principles; follow rules and procedures. (Level 2)
- Consistently fulfill obligations in a timely and satisfactory manner; take responsibility for personal actions and performance. (Level 2)
- Set goals for continuous improvement and for learning new concepts and skills; solicit and

respond appropriately to feedback. (Level 2)

- Appropriately utilize campus, community, and other resources to aid in success in the university setting, including progressive awareness of how and when to seek academic assistance or other professional support. (Level 2)

GRADING POLICIES

You will demonstrate your achievement of program competencies by completing the following types of activities. You must receive at least a 70% to receive credit for demonstrating competence. The entire mission is worth 3,000 points.

You will complete the following kinds of activities as you work your way through the program:

Checks for Understanding After you've read, you'll have an opportunity to self evaluate your understanding on the content through a quiz. You will receive a grade based on the practice set that follows.

Practice consists of quiz-like questions with dynamic feedback designed to determine your knowledge and skills, such as problem solving. *You will receive 112-114 points for Practice activities completed, for a total of 900 points or approximately 30% of your total grade. You must receive at least a 70% in order to move forward. You may redo Practice activities as many times as you like, and the highest score you receive will be recorded.*

Contextualized Performance-based Assessment (PBA) activities require you to apply content and concepts you have learned to aspects of human biology and health. Some of these assessments will be done in class and they will be graded by your instructor*. In this Mission, you can earn up to 450 points, or 15% of your total grade, on the three PBAs.*

Team-based Learning activities (TBL) are completed in groups in class and require out of class preparation prior to attending class. These activities emphasize *integration* of content and concepts learned in other activities. They also emphasize diseases, conditions, and other aspects of human biology and health. *You can earn up to 450 points, or approximately 15% of your total grade, on TBLs.* Team-based Learning activities are graded using an immediate format form (readiness assessment test). The TBL will contain two sets of grades: an individual grade and a team based grade.

End of Mission Exams cover all the content in the Mission, and are taken after you have successfully completed all of the activities in the Mission and reviewed what you have learned. You

will take this exam in class and not on TEx. *You can earn up to 1200 points on the exam for a total of 40% of your final grade.* **No retake of the End of Mission Exam will be allowed without a legitimate excuse.**

Assessment	**Total Points**	**Percent**
Practice Set	900	30%
PBAs	450	15%
TBLs	450	15%
End of Mission Exams	1200	40%
Total	**3000**	**100%**

STAYING ON TRACK

The TEx app on your iPad will help you keep track of your schedule of activity due dates and will let you know if you begin to get off track. Your Instructional Facilitator and Instructors will also be monitoring your work and are there to help you; contact them immediately if you start to struggle. If you get behind, don't give up—work with them to make a plan to get back on track.

ABSENCE AND MAKEUP POLICY

Coached Study Hours and Class Activities are mandatory. If an excused absence is unavoidable, at the Instructor's sole discretion, students may complete an alternate assignment, which may include completing an individual version of the Team-based Learning activity or reading and summarizing a scientific article chosen by the Instructor.

CALENDAR OF EVENTS

The UTRGV academic calendar can be found at http://my.utrgv.edu at the bottom of the screen, prior to login. Important dates for Spring 2017 include:

January 16 Martin Luther King Holiday; no classes

January 17 Classes begin

March 6-10 Final Exams

Date	Day	Activity	Points	Contact
1/16/17	Week 1	Module 1, Unit 1: Neurons and Glial Cells		
1/16	Mon	**Martin Luther King Holiday; university closed**		
1/17	Tue	The Term Begins! Intro to Mission 5: Integrated Body Systems 1 Intro video 1.1 Fundamentals 1.1 Going Deeper 1.1 Additional Resources Practice 1.1: Neurons and Glial Cells	114	Faculty
1/18	Wed			
1/19	Thurs			
1/20	Fri			
Dates Vary	Day Varies	Face to Face Session		Faculty
1/23/17	Week 2	Module 1, Unit 2: The Central and Peripheral Nervous System		
1/23	Mon			
1/24	Tue	1.2 Fundamentals 1.2 Going Deeper 1.2 Additional Resources Practice 1.2: The Central & Peripheral Nervous System	114	

1/25	Wed			
1/26	Thurs			
1/27	Fri			
Dates Vary	Day Varies	Face to Face Session – Team Based Learning 1	75	Faculty
1/30/17	Week 3	Module 1, Unit 3: Higher Brain Function		
1/30	Mon			
1/31	Tue	1.3 Fundamentals 1.3 Going Deeper 1.3 Additional Resources Practice 1.3: Higher Brain Function	112	
2/1	Wed	Performance-based Assessment 1 Due	150	Faculty
2/2	Thurs			
2/3	Fri			
Dates Vary	Day Varies	Face to Face Session – Team Based Learning 2	75	Faculty
2/6/17	Week 4	Module 2, Unit 1: Bone as a Tissue		
2/6	Mon			
2/7	Tue	2.1 Fundamentals 2.1 Going Deeper 2.1 Additional Resources	112	

		Practice 2.1: Bone as a Tissue		
2/8	Wed			
2/9	Thurs			
2/10	Fri			
Dates Vary	Day Varies	Face to Face Session – Team Based Learning 3	75	Faculty
2/13/17	Week 5	Module 2, Unit 2: Muscle Tissue and Physiology		
2/13	Mon			
2/14	Tue	2.2 Fundamentals 2.2 Going Deeper 2.2 Additional Resources Practice 2.2: Muscle Tissue & Physiology	112	
2/15	Wed	Performance-based Assessment 2 Due	150	Faculty
2/16	Thurs			
2/17	Fri			
Dates Vary	Day Varies	Face to Face Session – Team Based Learning 4	75	Faculty
2/20/17	Week 6	Module 3, Unit 1: The Cardiac Cycle and the Heart		
2/20	Mon			
2/21	Tue	3.1 Fundamentals 3.1 Going Deeper 3.1 Additional Resources		

		Practice 3.1: The Cardiac Cycle & the Heart	112	
2/22	Wed			
2/23	Thurs			
2/24	Fri			
Dates Vary	Day Varies	Face to Face Session – Team Based Learning 5	75	Faculty
2/27/17	Week 7	Module 3, Unit 2: Hemodynamics and Blood		
2/27	Mon			
2/28	Tue	3.2 Fundamentals 3.2 Going Deeper 3.2 Additional Resources Practice 3.2: Hemodynamics	112	
3/1	Wed			
3/2	Thurs			
3/3	Fri			
Dates Vary	Day Varies	Face to Face Session – Team Based Learning 6	75	Faculty
3/6/17	Week 8	Module 3, Unit 3: The Respiratory System		
3/6	Mon			
3/7	Tue	3.3 Fundamentals 3.3 Going Deeper 3.3 Additional Resources	112	

		Practice 3.3:The Respiratory System		
3/8	Wed	Performance-based Assessment 3 Due	150	Faculty
3/9	Thurs			
3/10	Fri			
Dates Vary	Day Varies	FINAL EXAM	1,200	
	Total		**3,000**	

INSTRUCTOR AND INSTITUTIONAL POLICY

FORMATTING

In order to ease the peer review and submission processes, please use a font and text size that will make it easier for your readers to print and respond to your work. Additionally, when submitting drafts to your instructor, please save and submit your rough drafts in one of the following formats: DOC/DOCX, RTF, Google Docs. Submitted final drafts should be saved as PDF, JPEG, or some other final and universal format.
When you save your drafts, use the following naming convention: UTRGV username (your email address before the @ sign), assignment abbreviation (this will be announced with each assignment), due date. For example: azapata8 GA 06.15.15

STAYING ON TRACK

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LATE WORK

Late work makes life hard for all of us (you, your instructor, your peers, the program, the department, the institution, etc.), so don't count on turning any in. If you know of an upcoming absence, complete and turn in your work early. The class is designed so that you can miss some work in an emergency without it destroying your standing in the class. However, given your busy calendar, you should endeavor to complete your work with some pace.

MATERIAL IN CLASS AND PUNCTUALITY

Bring everything to class every day, including your iPad, and be on time. If we start an activity and you don't have the necessary materials or walk in late, you won't be able to constructively contribute to the work we do in class.

UTRGV POLICY STATEMENTS

Students With Disabilities:
If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at accessibility@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at accessibility@utrgv.edu.

Mandatory Mission Evaluation Period:
Students are required to complete an ONLINE evaluation of this mission, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades.

Attendance:
Students are expected to attend all scheduled classes and may be dropped from the mission for excessive absences. UTRGV's attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

Scholastic Integrity:
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the mission and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

Sexual Harassment, Discrimination, And Violence:
In accordance with UT System regulations, your instructor is a "responsible employee" for reporting purposes under Title IX regulations and so must report any instance, occurring during a student's time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this mission through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

Course Drops:
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the "3-peat rule" and the "6-drop" rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six missions during their undergraduate career. Missions dropped at other Texas public higher education institutions will count toward the six-mission drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.