



Department: Life Sciences (Biology)

<p>Anatomy and Physiology I Fall 2016 Biol 2101 Crn# 17617</p>

Course location and times:	Stafford-Scarcella Center Monday and Wednesday Room S102 3:30 – 5:00 PM
Course semester credit hours:	1 Semester Credit hours
Course contact hours:	48 hours Laboratory
Course length:	16 weeks
Instruction type:	In-person . Laboratory

Instructor:	Elizabeth Zaldivar
Email address:	elizabeth.zaldivar@hccs.edu
Office location and hours:	Office hours are arranged through email. Meeting will be in biology office Please feel free to contact me concerning any problems that you are experiencing in this course. You do not need to wait until you have received a poor grade before asking for my assistance. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics. Feel free to contact me and set up a meeting when needed.

Course Description:

BIOL 2101 is a web enhanced basic Human anatomy and physiology course that enables students to learn about human anatomy and physiology. Students will experience a myriad of online interactive tools and resources. Students will do lab practical sessions that enhance and complement the lecture part of the course.

Course Prerequisites:

College Level Reading as determined by SAT, ACT, TASP or successfully passing ENGL0305 with "C" or better. Biology 1406 (General Biology) is strongly recommended.

Program Learning Outcomes:

Program SLO #1

To recognize, identify, and describe the basic structures and functions associated with most life forms.

Program SLO #2

To develop basic laboratory techniques appropriate to the field of Biology.

Program SLO #3

To develop study skills and habits appropriate for pre-professional students interested in health-related fields.

Course Student Learning Outcomes:

1. Students will be able to understand and apply the principals of homeostasis and the importance of feedback loops.

PSLO* #1

2. Students will be able to evaluate information and make conclusions based on their knowledge of membrane transport.

PSLO#1

3. Students will be able to apply their knowledge of muscle structure to explain how muscles function.

PSLO#1

4. Students will be able to apply their knowledge of the structure of the skeletal system to its functions.

PSLO#1

5. Students will be able to understand and apply their knowledge of changes in polarity on membrane potential.

PSLO#1

6. Students will be able to apply and demonstrate their knowledge concerning reflex arcs

PSLO#s 1 and 2

7. Students will be able to apply the knowledge gained in lab utilizing anatomical models, physiological experiments, histological slides and the compound light microscope.

PSLO#2

8. Students will utilize online interactive evaluation tools to gauge their understanding of key anatomical and physiological concepts prior to lecture/examinations/quizzes where applicable.

PSLO#3

Course Goals:

Students will attain a solid foundation of basic of knowledge in the discipline of human anatomy and physiology. Topics to be covered in the course include the molecular, cellular, tissue and organ structure and function of the endocrine, cardiovascular, lymphatic and immune, respiratory, digestive, urinary and reproductive systems.

Course Student Learning Outcomes:

Students should be able to demonstrate mastery of key concepts in human anatomy and physiology. Students should also master the practical skills and learn relevant models and slides

Topics covered in this course include the molecular, cellular, tissue and organ structures and functions of the integumentary, skeletal, muscular, nervous systems and the special senses.

Learning objectives:

Students who have completed this semester of the course should be able to:

- 1) Explain the basic concept of homeostasis and how homeostatic mechanisms apply to body systems.
- 2) Understand the scope of studies in anatomy and physiology and be able to use and understand descriptive anatomical and directional terminology.
- 3) Identify cellular structures and explain their respective functions.
- 4) Describe the basic tissues of the body and their location and explain their functions.
- 5) Identify and describe the major gross and microscopic anatomical components of
 - a) The integumentary system and describe the functions of the system.
 - b) The skeletal system and explain their functional roles in osteogenesis, repair, and body movement.
 - c) The muscular system and explain their functional roles in body movement, maintenance of posture, and heat production.
 - d) The nervous system and explain their functional roles in communication, control, and integration.
 - e) The eye and ear and explain their functional roles in vision, hearing and equilibrium. Students should also be able to identify and locate the receptors responsible for olfaction and gustation and briefly describe the physiology of smell and taste.

Course Calendar:

Session	Lecture Schedule	
1	Introduction Lab safety, Rules and Regulations Anatomic Terminology 8/22	
2	Lab Exercise 1.1 8/24	
3	The microscope Lab 2 8/29	
4	The Cell Lab 3.1 8/31	
5	The Cell ,Lab3.2 9/7	
6	Tissues Lab 4 9/12	
7	Tissues Lab4 9/14	
8	Integumentary System Lab 5 9/19	
9	Skeletal System Lab 6.1 9/21	
10	Skeletal System Lab 6.2 9/26	
11	Skeletal System Lab 6.3 9/28	
	Skeletal System Lab 6.4 10/3	
12	Open Lab 10/5	

13	Practical Lab Exam1 10/10	
14	Muscular System 10/12	
15	Muscular System 10/17	
16	Muscular System 10/19	
17	Muscular System 10/24	
18	Muscular System 10/26	
19	Nervous System, tissue lab 10/31	
20	Nervous System , tissue lab 11/2	
21	Brain and Cranial nerves Lab 8.2 11/7	
22	Spinal Cord and Spinal Nerves 11/9	
23	Reflexes Lab 11/14	
24	Olfaction and Gustation lab 11/16	

25	Hearing and equilibrium lab 11/21	
26	Vision Lab 11/23	
27	Vision lab 11/28	
28	Open Lab 11/30	
29	Practical Lab Exam 2	

Note that your instructor reserves the right to change the schedule as needed at any point during the course.

Instructional methods:

BIOL 2101 is a required course to apply for many advanced study programs.

As an instructor, I want all my students to be successful. I feel that it is my responsibility to provide you with opportunities to learn about the field of human anatomy and physiology. You will have access to lessons, lab instruction and online tools and resources that will allow you to attain mastery of key concepts.

As a student your responsibility is to read the textbook, Submit assignments on time, participate in classroom activities, and enjoy yourself knowing that you are learning about the human body!

You are the center of the learning process! Your grades will reflect how much time and effort you invest in this course. You can take notes, draw structures, take pictures, and utilize online resources available. Planning and reading ahead of class and lab will be instrumental to your success. You can use the calendar in the syllabus to preview lessons, slides structures that will be presented in class. This will allow you to have a basic understanding of some concepts, enable you to ask targeted questions, and make your class and lecture time more productive and fun. The slides and or models that are put on the bench are reminders and don't always constitute a complete list.

You will encounter different teaching methods in this course. I will utilize classical lecture combined with active learning methods and different class activities. Your future academic and professional success is one of my top priorities!

Student Assignments : Students are required to read assigned chapters and to complete chapter and atlas Quizzes on schedule. Additional announced and unannounced quizzes during lecture or lab may be conducted throughout the semester. Additional assignments may assigned as specified by the instructor. You have to complete all the online assignments(quiz, homework, learning modules, etc.) on both connect and blue door websites.

Student Assessments : Students will be assessed via lecture and laboratory examinations, chapter quizzes, Comprehensive final lecture and lab examinations. Additionally, there is a required District Final examination at the end of the semester.

Program/Discipline Requirements	Proficiency Exam 2401 Exit Exam
HCC Grading Scale:	A = 90-100% B = 80-89% C = 70-79% D = 60-69% F = less than 60%

Instructor's Requirements :

Instructor Requirements:
You are spending a good deal of time, energy and money on this course – please, make the most of your investment! It takes approximately **2-3 hours of study time for each hour of class time to master the material**. This class will have over 96 contact hours (4 hr. credit) compared to 48 contact hours that comprise the normal class (3 hr. credit).

The class and study time necessary to succeed in this class will be close to 300 hours (20 hours per week)!

Basic requirements

Students should be on time for class and be prepared (having read and studied the assignments) with required materials including textbook and lab manual. Full class attendance is required including lecture and lab portions. Full attention during lecture and lab is required.

Phones/electronic devices

Absolutely no phone or other personal electronic devices are to be used during class (lecture and lab). This includes making or taking a call, reviewing messages, texting, playing games, checking email, surfing the web, anything that involves a phone or other personal electronic device. If your work or family situation requires that you be available via phone, your phone can be on vibrate mode and you can take the call during our regular scheduled breaks or you can exit the class to review the call. Notify your friends, family, employers, and anyone else who regularly contacts you that you will be in class and that you should be contacted only when necessary. The taking of calls during class is not only disruptive but it is also discourteous to classmates and the instructor.

Testing procedures

Be sure to arrive early for your examinations. There are time limits for exams.

You will not be given extended time for testing if you arrive late.

Entering and exiting the lecture room or lab room is not permitted once exams have begun. Please be sure to use bathroom before or after.

Department Guidelines:

A positive learning environment is essential to this course. This includes courteous and respectful behavior towards instructor and classmates. Disruptive behavior or any behavior that interferes with any educational activity being performed by the instructor will not be accepted. Additionally, no student may interfere with his/her fellow students' right to pursue their academic goals to the fullest in an atmosphere appropriate to a community of scholars. Disruptive behavior may result in removal from the class.

Lab policy

Lab safety is stated in lab manual. Lab rules and regulations will be discussed during the first lab and will be adhered to at all times. Each student is responsible for cleaning up after labs, this includes glassware, utensils, slides, specimens/models and other material used during lab time.

Instructor Grading Criteria:

Students must adhere to testing schedule. Failure to take a test (lab or lecture) will result in a "0" for the missed exam. Exceptions include work, family, or personal (health) emergency, and must be documented.

Only one make-up exam per semester is allowed (with proper documentation) and must be arranged with the instructor ASAP. There is no repeating of examinations or "dropping" of lowest grade/s.

Examination format

Lecture exams are cumulative. They will include multiple choice questions and essay/short answer questions.

Lab exams will include identification, labeling and short answers reviewing anatomical models and specimens.

Instructional Materials:

Textbook:
HCCS PACKAGES - Anatomy & Physiology: The Unity Of Form and Function. Seventh Edition, Saladin, 2015.

Hardbound - SALADIN ISBN# 1259390322

"BINDER" BOUND - SALADIN ISBN# 9781259390326

Lab book:

Blue door Online lab Manual.

Mcgraw hill connect (free with purchase of new required textbook; used books will require you to purchase a connect account)

<p>HCC Policy Statement: ADA</p>	<p>Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of each semester. Instructors are authorized to provide only the accommodations requested by the Disability Support Services Office. If you have any special needs or disabilities that may affect your ability to succeed in college classes or participate in any college programs or activities, please contact the DSS office for assistance. At Southwest College, contact: Dr. Becky Hauri 5407 Gulfton Houston, Texas 77081 Phone: 713-718-7909 Fax: 713-718-7781 TTY: 713-718-7909</p>
<p>HCC Policy Statement: Academic Honesty</p>	<p>Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Disciplinary proceedings may be initiated by the college system against a student accused of scholastic dishonesty. Penalties can include a grade of "0" or "F" on the particular assignment, failure in the course, academic probation, or even dismissal from the college. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion.</p>
<p>HCC Policy Statement: Student attendance , repeaters, withdrawal deadline</p>	<p>Attendance Students are expected to attend classes regularly. Students are responsible for materials covered during their absences, and it is the student's responsibility to consult with instructors for make-up assignments. Instructors check class attendance daily. A student may but not necessarily be dropped from a course for excessive absences after the student has accumulated absences in excess of 12.5% of the hours of instruction (including lecture and laboratory time). Note that 12.5% is approximately 4 classes or labs for a 4-semester hour course.</p> <p>Habitual tardiness will not be tolerated. Students are expected to be in attendance for the entirety of the scheduled class and are responsible for completing assignments scheduled during their absence/s. It is the responsibility of each student to amend their professional/personal schedule to meet the class schedule</p> <p>Repeaters Students who repeat a course for a third or more times may soon face significant tuition/fee increases at HCC and other Texas public colleges and universities. Please ask your instructor / counselor about opportunities</p>

for tutoring / other assistance prior to considering course withdrawal or if you are not receiving passing grades.

Withdrawals

Withdrawal from the course after the official day of record (see current catalog) will result in a final grade of "W" on the student transcript and no credit will be awarded. It is the student's responsibility to initiate and complete a request for withdrawal from any course. Students will be required to formally request a drop from their instructors prior to the administrative drop date deadline(Check HCC Academic Calendar) Abandoning the course or failing to formally drop, will result in a grade being given based on the work completed for the entire course (including missed exams) or an Fx grade at the instructors discretion.

The State of Texas has begun to impose penalties on students who drop courses excessively. For example, if you repeat the same course more than twice, you have to pay extra tuition. Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than SIX total course withdrawals throughout their educational career in obtaining a certificate and/or degree.

Receiving a "W" in a course may affect the status of your student Visa. Once a W is given for the course, it will not be changed to an F because of the visa consideration. Please contact the International Student Office at 713-718-8520 if you have any questions about your visa status and other transfer issues

GRADE DETERMINATION:

Lab Exercises	200 pts
Lab Quizzes on Bluedoorlabs	200 pts
Practical Lab Exam 1	300 pts
Practical Lab Exam 2	300 pts
TOTAL	1000pts

Scoring Rubrics:

Your grade will be determined by your scores on the assessments given by your instructor. These grading rubrics are just a general guide to student performance

ASSESSMENT RUBRICS

ANATOMY & PHYSIOLOGY I - BIOLOGY 2401

Performance Factors

Rating Scale

	F	D	C	B	A
<p>1. Students will be able to understand and apply the principals of homeostasis and the importance of feedback loops. PSLO* #1</p>	<p>Unable to demonstrate any understanding and application of feedback loops on homeostasis without the instructor's help.</p>	<p>Seldom able to demonstrate understanding and application of feedback loops on homeostasis without the instructor's help.</p>	<p>Occasionally able to demonstrate some understanding and application of feedback loops on homeostasis without the instructor's help.</p>	<p>In most instances able to demonstrate greater understanding and application of feedback loops on homeostasis without the instructor's help.</p>	<p>Consistently able to demonstrate understanding and application of feedback loops on homeostasis without the instructor's help.</p>
<p>2. Students will be able to evaluate information and make conclusions based on their knowledge of membrane transport. PSLO#1</p>	<p>Unable to explain membrane transport and usually cannot determine the outcome of scenarios concerning membrane transport</p>	<p>Sometimes able to explain membrane transport but usually cannot determine the outcome of scenarios concerning membrane transport</p>	<p>Occasionally able to explain membrane transport and determine the outcome of scenarios concerning membrane transport, but needs some prompting</p>	<p>In most circumstances able to explain membrane transport and determine the outcome of scenarios concerning membrane transport</p>	<p>Consistently able to explain membrane transport and determine the outcome of scenarios concerning membrane transport</p>

Performance Factors

Rating Scale

F

D

C

B

A

3. Students will be able to apply their knowledge of muscle structure to explain how muscles function. PSLO#1	Unable to describe muscle structure and use that knowledge to explain muscle function	Sometimes able to describe muscle structure but usually cannot use that knowledge to explain muscle function	Occasionally able to describe muscle structure and use that knowledge to explain muscle function, but needs some prompting	In most cases able to describe muscle structure and use that knowledge to explain muscle function	Always able to describe muscle structure and use that knowledge to explain muscle function
4. Students will be able to apply their knowledge of the structure of the skeletal system to its functions. PSLO#1	Does not know the structures of the skeletal system.	Knows some of the structure of the skeletal system, but cannot apply that knowledge to its functions.	Occasionally able to apply knowledge of the structure of the skeletal system to its functions, but needs some prompting	In most cases able to apply knowledge of the structure of the skeletal system to its functions.	Always able to apply knowledge of the structure of the skeletal system to its functions.
5. Students will be able to understand and apply their knowledge of changes in polarity on membrane potential. PSLO#1	Never able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	Seldom able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	Occasionally able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	In most instances able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	Consistently able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.

Performance Factors

Rating Scale

6. Students will be able to apply and demonstrate their knowledge concerning reflex arcs PSLO#s 1 and 2	Never able to demonstrate any parts, functions, and steps involved in a reflex arc.	Seldom able to demonstrate some parts, functions, and steps involved in a reflex arc.	Occasionally able to demonstrate some parts, functions, and steps involved in a reflex arc.	In most instances able to demonstrate most parts, functions, and steps involved in a reflex arc.	Consistently able to demonstrate all parts, functions, and steps involved in a reflex arc.
7. Students will be able to apply the knowledge gained in lab utilizing anatomical models, physiological experiments, histological slides and the compound light microscope.	Never prepared and never able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Never able to find and focus the specimen on the microscope slide without the instructor's help.	Seldom prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Seldom able to find and focus the specimen on the microscope slide without the instructor's help.	Occasionally prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Occasionally able to find and focus the specimen on the microscope slide without the instructor's help.	In most instances prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Often able to find and focus the specimen on the microscope slide without the instructor's help.	Consistently prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Consistently able to find and focus the specimen on the microscope slide without the instructor's help.

PSLO#2					
8. Students will utilize online interactive evaluation tools to gauge their understanding of key anatomical and physiological concepts prior to lecture/examinations/quizzes where applicable. PSLO#3	Never uses online tools to prepare for class, never ready for classroom discussions and instructor's Q&A sessions. Never takes online quizzes by the due date and are always past due. Does not participate in class discussions.	Seldom uses online tools to prepare for class, often not ready for classroom discussions and instructor's Q&A sessions, completes some online quizzes by the due date and others are past due. Often not interactive with the class.	Occasionally uses online tools to prepare for class, sometimes ready for classroom discussions and instructor's Q&A sessions, completes some online quizzes by the due date.	In most instances uses online tools to prepare for class, often ready for classroom discussions and instructor's Q&A sessions, completes all online quizzes by the due date.	Consistently uses online tools to prepare for class, always ready for classroom discussions and instructor's Q&A sessions, completes all online quizzes prior to due date.

*PSLO =Program Student Learner Outcome

Performance Factors

Rating Scale

	F	D	C	B	A
3. Students will be able to apply their knowledge of muscle structure to explain how muscles function. PSLO#1	Unable to describe muscle structure and use that knowledge to explain muscle function	Sometimes able to describe muscle structure but usually cannot use that knowledge to explain muscle function	Occasionally able to describe muscle structure and use that knowledge to explain muscle function, but needs some prompting	In most cases able to describe muscle structure and use that knowledge to explain muscle function	Always able to describe muscle structure and use that knowledge to explain muscle function
4. Students will be able to apply their knowledge of the structure of the skeletal system to its functions.	Does not know the structures of the skeletal system.	Knows some of the structure of the skeletal system, but cannot apply that knowledge to its functions.	Occasionally able to apply knowledge of the structure of the skeletal system to its functions, but needs some prompting	In most cases able to apply knowledge of the structure of the skeletal system to its functions.	Always able to apply knowledge of the structure of the skeletal system to its functions.

PSLO#1					
5. Students will be able to understand and apply their knowledge of changes in polarity on membrane potential. PSLO#1	Never able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	Seldom able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	Occasionally able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	In most instances able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.	Consistently able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.

Performance Factors

Rating Scale

	F	D	C	B	A
6. Students will be able to apply and demonstrate their knowledge concerning reflex arcs PSLO#s 1 and 2	Never able to demonstrate any parts, functions, and steps involved in a reflex arc.	Seldom able to demonstrate some parts, functions, and steps involved in a reflex arc.	Occasionally able to demonstrate some parts, functions, and steps involved in a reflex arc.	In most instances able to demonstrate most parts, functions, and steps involved in a reflex arc.	Consistently able to demonstrate all parts, functions, and steps involved in a reflex arc.
7. Students will be able to apply the knowledge gained in lab utilizing anatomical models, physiological experiments, histological slides and the compound light microscope. PSLO#2	Never prepared and never able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Never able to find and focus the specimen on the microscope slide without the instructor's help.	Seldom prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Seldom able to find and focus the specimen on the microscope slide without the instructor's help.	Occasionally prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Occasionally able to find and focus the specimen on the microscope slide without the instructor's help.	In most instances prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Often able to find and focus the specimen on the microscope slide without the instructor's help.	Consistently prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. Consistently able to find and focus the specimen on the microscope slide without the instructor's help.

<p>8. Students will utilize online interactive evaluation tools to gauge their understanding of key anatomical and physiological concepts prior to lecture/examinations/quizzes where applicable. PSLO#3</p>	<p>Never uses online tools to prepare for class, never ready for classroom discussions and instructor's Q&A sessions. Never takes online quizzes by the due date and are always past due. Does not participate in class discussions.</p>	<p>Seldom uses online tools to prepare for class, often not ready for classroom discussions and instructor's Q&A sessions, completes some online quizzes by the due date and others are past due. Often not interactive with the class.</p>	<p>Occasionally uses online tools to prepare for class, sometimes ready for classroom discussions and instructor's Q&A sessions, completes some online quizzes by the due date.</p>	<p>In most instances uses online tools to prepare for class, often ready for classroom discussions and instructor's Q&A sessions, completes all online quizzes by the due date.</p>	<p>Consistently uses online tools to prepare for class, always ready for classroom discussions and instructor's Q&A sessions, completes all online quizzes prior to due date.</p>
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*PSLO =Program Student Learner Outcome