



Department: Life Sciences (Biology)

Anatomy and Physiology I Spring 2011 BIOL 2401 / Crn# 62170

Course location and times:	Stafford Campus / Scarcella Science and Technology Building Saturday 8:30 AM – 11:30 AM Lab. Room: S118 Saturday 12:00 PM – 03:00 PM Lecture Room: W125
Course semester credit hours:	4 Semester Credit hours
Course contact hours:	96 total hours; 48 hrs lecture, 48 hrs laboratory
Course length:	16 weeks
Instruction type:	In-person, Lecture – Lab.; Web-enhanced

Instructor:	Shakir Alattar, MD
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Course Description:

A course of study covering the structure and function of human cells, tissues and organ systems including the integumentary, skeletal, muscular and nervous systems. Core Curriculum 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.

Course Goals:

This course is intended for students majoring in one of the physical sciences or life sciences, engineering, or for students who are pursuing pre-professional programs in medicine, dentistry, pharmacy, veterinary medicine, or other health programs. The course is also beneficial to students who are preparing themselves for higher level science courses in their respective curricula.

Program Learning Outcome:

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

Learning Objectives:

1. Consistently able to demonstrate understanding and application of feedback loops on homeostasis without the instructor's help.
2. Consistently able to explain membrane transport and determine the outcome of scenarios concerning membrane transport
3. Always able to describe muscle structure and use that knowledge to explain muscle function
4. Always able to apply knowledge of the structure of the skeletal system to its functions.
5. Consistently able to demonstrate knowledge of interactions involving changes in membrane polarity without the instructor's help.
6. Consistently able to demonstrate all parts, functions, and steps involved in a reflex arc.
7. 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.
8. 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.

Course Calendar:

Week	Lecture	Lab.
1	Introduction to Anatomy and Physiology I by Dept. Chairman General Biology Proficiency Exam Ch. 1 Major themes of Anatomy and Physiology; Atlas A General Orientation to Human anatomy Ch. 2 The chemistry of life* Quizzes for Chapter 1, 2 Due: 1/29/2011	- Laboratory safety rules and regulations - The microscope - Anatomic terminology
2	Ch. 3 Cellular form and function* Ch. 4 Genetic and Cellular function* Ch. 5 Histology Quizzes for Chapters 3, 4 Due: 2/5/2011	- Tissues
3	Ch. 6 Integumentary System	- Integumentary system
4	Lecture Exam #1 Ch. 1-6 2/12/2011	- Skeletal system
5	Ch. 7 Bone Tissue Quiz for Chapter 5, 6, 7 Due: 2/26/2011	- Skeletal system
6	Ch. 8 The Skeletal System	- Skeletal system
7	Ch. 8 The Skeletal System Ch. 9 Joints Quizzes for Chapters 8 and 9 Due: 3/12/2011	- Articulations - Lab Exam #1 3/5/2011

8	Lecture Exam #2 Ch. 7-9 3/12/2011	- Muscular system
10	Ch. 11 Muscular Tissue Ch. 10 Muscular System Quizzes for Chapters 10 and 11 Due: 4/2/2011	- Muscular system
11	Ch. 10 Muscular System Continued.... Ch. 12 Nervous Tissue	- Muscular system
12	Ch. 12 Nervous Tissue Ch. 13 Spinal Cord and Spinal Nerves, and Somatic Reflexes Quiz for Chapter 12 – 13 Due: 4/16/2011	- Muscular system
13	Exam #3 Ch. 10-13 4/16/2011	- Brain and Spinal cord
14	Ch. 14 The Brain and Cranial Nerves	- Cranial Nerves - The Autonomic NS - Human Reflexes
15	Ch. 15 The Autonomic Nervous System and Visceral Reflexes Quiz for Chapter 14, 15 Due: 4/30/2011	- Sense Organs
16	Ch. 16 Sense Organs Quiz for Chapter 16 Due: 5/7/2011	Lab final (comprehensive) 5/7/2011
17	Final Lecture Examination (comprehensive) Exit Exam 5/14/2011	

* These chapters are a review of General Biology Information. Students attempting Biology 2401 should already be well versed in this information.

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

Instruction Methods:

Blackboard will be utilized for General Biology proficiency quiz at the beginning of the semester and for exit exam at the end of the semester. McGraw-Hill's course software (Connect) will be utilized for chapter quizzes, Learn smart review modules, Links, and for some students, Tegrity for recorded lecture review. If you purchase a used book, you will be required to purchase a McGraw Hill "Connect" account for about \$20.00.

The primary focus of the course will be on instructor lectures including illustrations, animations, group activities and assigned textbook readings. Lecture material will correspond to the topics covered in the required textbook, but your instructor may include more detail on certain topics. Topics and concepts covered during lecture or included in the assigned reading will be included in exams.

Laboratory sessions will include exercises from our department online lab manual website or required laboratory manual. Lecture may be included during lab sessions to clarify or detail concepts.

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 be assigned as specified by the instructor.
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Student Assessments: Students will be assessed via lecture and laboratory examinations, chapter quizzes, comprehensive final lecture and lab examinations. Additionally, there is a required General Biology proficiency examination at the beginning of the semester and a Final Exit 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%

Instructional Materials: Textbook:
Anatomy & Physiology: *The Unity of Form and Function*, Fifth Edition, Kenneth Saladin, McGraw Hill Companies, Inc.: New York, NY, 2008.
ISBN# 0078002834
Lab. book:
Anatomy and Physiology I by Keating and Wiersema.
Web resources:
Blackboard learning system
Connect (free with purchase of new required textbook; used books will require you to purchase a Connect account)

Instructor's 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).
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 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.

	<p>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.</p> <p>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.</p> <p>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.</p> <p>Deportment Students are expected to conduct themselves as adults. 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 allowed. 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.</p> <p>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, specimens/models and other material used during lab time (no, clean up is not covered by your lab fees).</p>
<p>Instructor's Grading Criteria :</p>	<p>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.</p> <p>Only one make-up exam per semester is allowed (with proper documentation) and must be arrange with instructor ASAP. There is no repeating of examinations or "dropping" of lowest grade/s.</p> <p>Examination format Lecture exams will include multiple choice questions and essay/short answer questions. Lab exams will include identification, labeling and short answers reviewing anatomical models and specimens.</p>

	Grade Calculation	
	Lecture Exam 1	100
	Lecture Exam 2	100
	Lecture Exam 3	100
	Lecture Final	100
	2401 Exit Exam	200
	Connect Chapter Quizzes	100
	Lab Exam 1	100
	Lab Final Exam	100
	labs	100
	Final Score	1000

HCC Policy Statement: ADA	<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:</p> <p>Dr. Becky Hauri 5407 Gulfton Houston, Texas 77081</p> <p>Phone: 713-718-7909 - Fax: 713-718-7781 - TTY: 713-718-7909</p>
HCC Policy Statement: Academic Honesty	<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>

HCC Policy Statement: Student attendance, 3-peaters, withdrawal deadline

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 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.

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

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 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 (**November 18th 2010**). 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).

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.

Class Calendar by Date:

Week 1-----1/22

Week 2-----1/29

Week 3-----2/5

Week 4-----2/12

Week 5-----2/19

Week 6-----2/26

Week 7-----3/5

Week 8-----3/12

Week 9-----3/15 -21 Spring Break

Week 10-----3/26

Week 11-----4/2

Week 12-----4/9

Week 13-----4/16

Week 14-----4/23

Week 15-----4/30

Week 16-----5/7

Week 17-----5/14 Final Test

ASSESSMENT RUBRICS

ANATOMY & PHYSIOLOGY I - BIOLOGY 2401

Performance Factors

Rating Scale

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

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. <i>PSLO#1</i>	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. <i>PSLO#1</i>	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. <i>PSLO#1</i>	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 <i>PSLO#s 1 and 2</i>	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. <i>PSLO#2</i>	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.
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. <i>PSLO#3</i>	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

Biology 2401
Acknowledgement Page

I acknowledge that I have read the syllabus for Biology 2401 and understand the effort and time commitment necessary to succeed in this Science Major, Medical Professional Class. (Approximately 300 hours, 20 hr. /week).

Name: _____

Email Address: _____

Current Phone #: _____