

Department: Life Sciences (Biology)

Anatomy and Physiology 2 Summer I Biol. 2402 Crn# 76800 (MTWTHF)

Course location and times:	Stafford Campus At Cash Road. MWF 8:00am-12:00am; Room S118 TTH 8:00am-12:00am. Room W125
Course semester credit hours:	4 Semester Credit hours
Course contact hours:	96 total hours; 48 hrs lecture, 48 hrs laboratory
Course length:	5 weeks
Instruction type:	In-person, Lecture –lab; Web-enhanced

Instructor:	Shadi Kilani, MD.
Phone:	713-718-7771
Email address:	Shadi.kilani@hccs.edu
Office location and hours:	Office hours can be arranged after class time with prior email notice. Meeting will be in biology office or in the lab /lecture room. 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 2402 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 also do lab practical sessions that enhance and complement the lecture part of the course. The course will cover the structure and function of the endocrine, cardiovascular, circulatory, lymphatic, respiratory, urinary, digestive and reproductive-male and female.

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)!**

Course Prerequisites:

College Level Reading as determined by SAT, ACT, TASP or successfully passing ENGL0305 with "C" or better. Biology 1406 (General Biology) and 2401 is strongly recommended.

Course Goals:

This course is a continuation of Biol.2401 and 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 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.

The following Student Learning Outcomes with their associated assessment criteria are not meant to be all-inclusive, and are meant to be used along with all other course learning outcomes and assessment devices, listed under Course Objectives, in the determination of the student's final course grade. Completion of the specific Student Learning Outcomes listed below, at any assessment grading level, does NOT and will NOT guarantee the student that final course grade at the end of the semester.

Course Student Learning Outcomes:

This course is intended to provide students with a strong foundation in Anatomy and Physiology and is the continuation of Anatomy and Physiology I. In this course, we will study the endocrine system, the cardiovascular system, including heart, blood vessels, the respiratory system, the digestive system, the urinary system including electrolyte and fluid balance, the reproductive system and finally the immune system. The course is vigorous and many will find it very challenging.

1. Students will be able to analyze the circulatory system)including the lymphatic and immune systems0 and their components. PSLO#1 and 2

2. Students will be able to understand hormonal control of body systems and homeostasis. PSLO#1

3. Students will be able to analyze the histology, gross anatomy and the physiology

of the respiratory and urinary systems applying the structural and physiological

linkage of these systems with the cardiovascular system. PSLO#1

4. Students will be able to analyze, understand and explain the structure and function

of the digestive system correlating it with metabolism. PSLO#1

5. Students will be able to analyze and evaluate the structure, function and regulation

of the reproductive system. PSLO#1

6. Students will be able to apply the knowledge gained in lab utilizing anatomical models and physiology experiments. PSLO#2

7. 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 part to function relationship and the interaction of the circulatory, lymphatic and immune systems without the instructor's help.

2) Consistently able to demonstrate understanding and application of hormonal control on homeostasis without the instructor's help.

3) Consistently able to demonstrate part to function relationship and the interaction of the respiratory/urinary systems with the cardiovascular system without the instructor's help.

4) Consistently able to demonstrate part to function relationship involving the digestive system and its correlation with metabolism without the instructor's help.

5) Consistently able to demonstrate interactions of parts to functions involving the reproductive system without the instructor's help.

6) Consistently prepared and always able to demonstrate skills using the body system models and laboratory techniques at the classroom standard.
7) 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 dates.

Course Calendar:

Week	Lecture Schedule	Lab Schedule
1	Chapter 17 The Endocrine System Chapter 18 Blood Chapter 19 The Heart	Microscopic study of slides.(Pituitary, adrenal, Hypothalamus, thymus, thyroid, Parathyroid, gonads) And identification on the models. Blood cells identification and Blood typing. Heart anatomy (Human heart models)
	Chapter 20 Blood Vessels and Circulation	Microscope images of the cardiac muscle and the blood vessels
2	Test 1 on Monday (17,18,19) Chapter 20 Blood Vessels and Circulation Chapter 21 The Lymphatic and Immune System Chapter 22 The Respiratory System	Ex. 5 Microscope images of the lymph nodes and organs. (Spleen, thymus gland, tonsils, Peyer's Patches.) Identify and label anatomical structures of the Respiratory System on models and slides Lab Practical I Friday
3	Test 2 Monday cumulative chapter (17-22) Chapter 23: The Urinary System Chapter 24: Water, Electrolytes and Acid base balance Chapter 25: The Digestive System	Urinary System, Kidney dissection and Urinalysis Functional anatomy of the digestive system, gross and microscopic anatomy of the digestive system organs. Mechanical and chemical digestion of food
4	Test 3 Monday Cumulative chapters 17-25	Male and female anatomical structures on plastic models and relevant slides.

	Chapter 26: Nutrition and Metabolism	Lab Exam 2 (Not comprehensive) Only the material covered after Lab I
	Chapter 27: The Male Reproductive System	
	Chapter 28: The Female Reproductive System	
	Chapter 29: selected topics	
5	Test 4 Cumulative Monday Chapters17-29	
	Final Lecture Examination (comprehensive) chapters (17-29) Wednesday 07/6 8:00 AM	

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

Instruction Methods:

Student Assignments:	Assignments have been developed that will enhance your learning experience and help you succeed. To better understand a topic, you will be given assignments on key information that you will need to remember for your success in this course and in qualifying exams and professional practice. Almost all of the assignments will require computer and Internet access. Assignments will be posted to either connect website or to blackboard. Successful students usually enjoyed doing these assignments and they mention how much they helped them in their learning process.
	You will have to register for McGraw Hill connect website access within 3 days of first day of class. It is included with the purchase of a new books and if needed can be purchased separately from the publisher's website for used books. Access to the eBook is recommended but not required (connect plus) as it allows you to access your book from anywhere and is linked and integrated to practice material within the website.
	You will have to make sure you thoroughly familiarize yourself with the website and the way it works. You will have to abide with all the set deadlines. You will have sufficient to complete all assigned tasks if you start early and dedicate the required time for completion of

	 those tasks. There will be no extensions on any of the deadlines so make sure you check for assignments early and that you complete them on time to avoid unnecessary deductions from your grades. You are required to complete your online assignments outside of class. You are not allowed to use the computers in the lab/class except for taking notes. Browsing the internet, social networking, checking email, or viewing videos listening to music etc is not permitted. You should utilize your time in lab/class to learn about slides structures, taking notes and asking questions. Connect assignment types: Learn smart modules: Highly beneficial and complement your learning and enhance it greatly. It will help you focus on key concepts and also hone you skills. They are in no way a substitute to reading the text. They can be accesses at the connect website. You should complete them in a timely fashion to get the full grade. You will notice that since this program is really smart it will keep reviewing questions especially the ones you miss. That repetition and review is quite helpful but it should not interfere with performance of other assignments and online practical assignments: they have a due date but no time limit. May contain Animation assignments and labeling of pictures as well as other types of questions. You can take these, as many times as you want only the highest grade will be counted. Online quizzes those are monitored by the department. They have time limits and can only be taken once so be prepared before you start the quiz.
Student Assessments:	Students will be assessed via lecture and laboratory examinations, chapter quizzes, and comprehensive final lecture and lab examinations. Additionally, there is a required Faculty/Departmental Final/Exit examination at the end of the semester. Lecture exams are four in total including the final. Each test will have 60-130 multiple-choice questions. Each test will be cumulative with regard to the covered material to date. Each test will cover the previous material from all previous chapters (comprehensive). With more emphasis on the newer untested chapters.

	 The final exam will be comprehensive as well. You will have to bring your own 100 q scantron with you. Make sure that you have the right form and that you maintain the scantron in good scanable shape. Your instructor will decline to accept the wrong form or an unscannable scantron form. Lab practical exams: A total of two lab practical exams will be held. They are organized in stations. It will require you
	to identify slides and structures, it can also have an associated short question that may but is not limited to function of that particular structure. If you pay attention in lab you will know what will be on the practical exam.
Instructional Materials:	Textbook: Anatomy & Physiology: <i>The Unity of Form and Function</i> , Fifth Edition, Kenneth Saladin, McGraw Hill Companies, Inc.: New York, NY, 2008. ISBN# 0078002834
	Lab book: Online lab Manual or 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)

HCC Policy Statement: ADA	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

HCC Policy Statement: Academic Honesty	 5407 Gulfton Houston, Texas 77081 Phone: 713-718-7909 Fax: 713-718-7781 TTY: 713-718-7909 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.
HCC Policy Statement: Student attendance, 3-peaters, withdrawal deadline	AttendanceStudents 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. 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).REMEMBER: IT IS

YOUR RESPONSIBILITY TO DROP THE CLASS IF YOU HAVE TO. IF NOT THE INSTRUCTOR WILL GIVE YOU AN "F" AT THE END OF THE SEMESTER BECAUSE HE/SHE DOES NOT HAVE TO DROP YOU FROM THE CLASS.
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

Instructor Requirements:

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.

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. I take this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist your instructor achieve this critical goal. Please refrain *from eating or drinking in the lab or lecture room except for water*. If you want to eat or drink or take a break especially during lab you may do so and come back.

You must adhere to the testing schedule. It's your choice to miss a quiz or test however failure to take a test (lab or lecture) will result in a "0" for the missed exam. Exceptions are only given to documented emergency situations. Usually only one makeup exam per semester is allowed. There is no repeating of Examinations or "dropping" of lowest grades. Make-up exams must be arranged with the instructor prior to the scheduled exam. There will be no retakes of any exam and approved make-up exams might be subject to a 20% deduction of the total grade for the missed exam/ quiz.

It is important to properly handle microscopes. Always clean up and tidy after you are done in the lab. We should strive to leave the lab better than we found it. Please make sure to wipe clean the lens especially when using oil immersion and always store on 4x power.

The schedule of lectures, laboratory exercises and exams is approximate and may be changed at the instructor's discretion. If changes occur, students will be notified in a timely manner. Other Assignments / readings can be assigned as seen necessary by the instructor.

Phones/electronic devices

As a student active in the learning community of this course, it is your responsibility to be respectful of the learning atmosphere in your classroom. To show respect of your fellow students and instructor, you will turn off your phone and other electronic devices, and will not use these devices in the classroom unless you receive permission from the instructor.

Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a

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.

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.

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).

Program/Discipline	Proficiency Exam
Requirements	2402 Exit Exam
HCC Grading Scale:	A = 90-100% B = 80-89% C = 70-79% D = 60-69%

F = less than 60%
Grades may be curved at my discretion if needed. It depends on general class performance and class participation.

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 instructor ASAP. Instructor must be informed of intended absence prior to the day by email. There is no repeating of examinations or "dropping" of lowest grade/s.

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.

GRADE DETERMINATION:

Online quizzes, assignments, graded tasks and Participation

(200 p) Those include:

- 1. learnsmart modules (connect) completion grade. Make sure you finish 100% of questions to get full credit.
- 2. Homework (connect) graded
- 3. Online quizzes (connect) timed and graded.
- 4. Online Practical tests (connect) graded and based on ap revealed material.
- 5. Class participation and discussions.
- 6. Any other assignments given by instructor. You will be notified in advance and given enough time to complete.

Lecture Exam #1 (100 p) Lecture Exam #2 (100 p) Lecture Exam #3 (100 p) Lecture Exam #4 (100 p) Comprehensive Final exam with departmental exit exam (200 p) Practical Lab I (100 p) Practical Lab II (100 p) Total Points 1000 p

ADDENDUM TO STUDENT LEARNING OUTCOMES AND RUBRICS.

"The following Student Learning Outcomes with their associated assessment criteria are not meant to be all inclusive, and are meant to be used along with all other course learning outcomes and assessment devices, listed under Course Objectives, in the determination of the student's final course grade. Completion of the specific Student Learning Outcomes listed below, at any assessment grading level, does NOT and will NOT guarantee the student that final course grade at the end of the semester!"

ASSESSMENT RUBRICS

ANATOMY & PHYSIOLOGY II - BIOLOGY 2402

Performance Factors	Rating Scale					
	F	D	С	В	А	
1) Students will be able to	Never able to demonstrate	Seldom able to demonstrate	Occasionally able to	In most instances able to	Consistently able to	
analyze the circulatory	the relationship between	the relationship between	demonstrate the	demonstrate the	demonstrate the	
systems (including	structure and function as	structure and function as	relationship between	relationship between	relationship between	
lymphatic and immune	well as the interactions of	well as the interactions of	structure and function as	structure and function as	structure and function as	
systems) and their	the circulatory, lymphatic	the circulatory, lymphatic	well as the interactions of	well as the interactions of	well as the interactions of	
components.	and immune systems	and immune systems	the circulatory, lymphatic	the circulatory, lymphatic	the circulatory, lymphatic	
PSLO*#1 and 2	without the instructor's	without the instructor's	and immune systems	and immune systems	and immune systems	
	help.	help.	without the instructor's	without the instructor's	without the instructor's	
			help.	help.	help.	

2] Students will be able to understand hormonal control of body systems and homeostasis. <i>PSLO#1</i>	Never able to demonstrate understanding and application of hormonal control of homeostasis without the instructor's help.	Seldom able to demonstrate understanding and application of hormonal control of homeostasis without the instructor's help.	Occasionally able to demonstrate understanding and application of hormonal control of homeostasis without the instructor's help.	In most instances able to demonstrate understanding and application of hormonal control of homeostasis without the instructor's help.	Consistently able to demonstrate understanding and application of hormonal control of homeostasis without the instructor's help.

Performance Factors

Rating Scale

	F	D	С	В	А
3] Students will be able to analyze the histology; gross anatomy and the physiology of the respiratory and urinary systems applying the structural and physiological	F Never able to demonstrate the relationship between structure and function and the interaction of the respiratory/urinary systems with the cardiovascular system without the	Seldom able to demonstrate the relationship between structure and function and the interaction of the respiratory/urinary systems with the cardiovascular system without the	Occasionally able to demonstrate the relationship between structure and function and the interaction of the respiratory/urinary systems with the cardiovascular	B In most instances able to demonstrate the relationship between structure and function and the interaction of the respiratory/urinary systems with the cardiovascular	A Consistently able to demonstrate the relationship between structure and function and the interaction of the respiratory/urinary systems with the cardiovascular
linkage of these systems with the cardiovascular system. PSLO#1	instructor's help.	instructor's help.	system without the instructor's help.	system without the instructor's help.	system without the instructor's help.
4) Students will be able to	Never able to demonstrate	Seldom able to demonstrate	Occasionally able to	In most instances able to	Consistently able to

analyze, understand and	the relationship between	the relationship between	demonstrate the	demonstrate the	demonstrate the
explain the structure and	structure and function of	structure and function of	relationship between	relationship between	relationship between
function of the digestive	the digestive system and its	the digestive system and its	structure and function of	structure and function of	structure and function of
system correlating it with	correlation with	correlation with	the digestive system and its	the digestive system and its	the digestive system and its
metabolism.	metabolism without the	metabolism without the	correlation with	correlation with	correlation with
<i>PSLO#1</i> .	instructor's help.	instructor's help.	metabolism without the	metabolism without the	metabolism without the
			instructor's help.	instructor's help.	instructor's help.

Performance Factors

Rating Scale

	F	D	С	В	А
5] Students will be able to	Never able to demonstrate	Seldom able to demonstrate	Occasionally able to	In most instances able to	Consistently able to
analyze and evaluate the	the relationship between	the relationship between	demonstrate the	demonstrate the	demonstrate the
structure, function and	structure and function of	structure and function of	relationship between	relationship between	relationship between
regulation of the	the reproductive system	the reproductive system	structure and function of	structure and function of	structure and function of
reproductive system.	without the instructor's	without the instructor's	the reproductive system	the reproductive system	the reproductive system
PSLO#1	help.	help.	without the instructor's	without the instructor's	without the instructor's
			help	help.	help.
6] Students will be able to	Never prepared and never	Seldom prepared and often	Occasionally prepared and	In most instances prepared	Consistently prepared and
apply the knowledge	able to demonstrate skills	not able to demonstrate	sometimes able to	and often able to	always able to demonstrate
gained in lab utilizing	using the anatomical	skills using the anatomical	demonstrate skills using the	demonstrate skills using the	skills using the anatomical
anatomical models and	models; unable to	models and seldom able to	anatomical models;	anatomical models; usually	models; able to understand
physiology experiments.	understand or analyze	understand or analyze	occasionally able to	able to understand and	and analyze physiology
PSLO#2	physiology experiments.	physiology experiments.	understand or analyze	analyze physiology	experiments.
			physiology experiments.	experiments	
7] Students will utilize	Never uses online tools to	Seldom uses online tools to	Occasionally uses online	In most instances uses	Consistently uses online
online interactive	prepare for class, never	prepare for class, often not	tools to prepare for class,	online tools to prepare for	tools to prepare for class,
evaluation tools to gauge	ready for classroom	ready for classroom	sometimes ready for	class, often ready for	always ready for classroom
their understanding of key	discussions and instructor's	discussions and instructor's	classroom discussions and	classroom discussions and	discussions and instructor's
anatomical and	Q&A sessions. Never takes	Q&A sessions, completes	instructor's Q&A sessions,	instructor's Q&A sessions,	Q&A sessions, completes
physiological concepts	online quizzes by the due	some online quizzes by the	completes some online	completes all online	all online quizzes prior to
prior to	date and are always past	due date and others are past	quizzes by the due date.	quizzes by the due date.	due date.
lecture/examinations/	due. Does not participate in	due. Often not interactive			
quizzes where applicable.	class discussions.	with the class.			
PSLO# 3					

PSLO =Program Student Learner Outcomes

Success Guide: This course is both time and labor intensive in nature. You will do much better if you are mentally and

scholastically prepared for this course. You will need a strong science foundation and preferably at least one college level biology course. You will need to devote enough every week for reading and doing assignments. The order presented is a blueprint or plan that will help you do well in this class and classes in general, which you can modify or completely ignore and use you own order. A study plan that works for you it is the best study plan.

To succeed in this class you need to:

- 1. Read the lecture power points. Some students prefer to print it out and take notes during class.
- 2. Read the book. Some students prefer to read once or twice then add the extra points to the lecture PowerPoint. This way you will have you own "complete" source that is easy to read and review.
- 3. Do the homework.
- 4. Do learn smart modules
- 5. Take online quiz
- 6. Read material as needed. You can do that after any step to consolidate and improve you grasp of the information presented.

7. Always be cognizant of your performance in class. Make sure you are on top of things. If you are trailing behind its your responsibility to catch up and abide to set deadlines.