



**Department: Biology and Physical Sciences (Biology) 06 -30 -15**

**Anatomy and Physiology I  
Bio 2401 Summer I, 2015  
CRN# 59767**

Course location and times:	Central Campus  M-Th: 05:00 pm - 09:45 pm Rm CE 314 (LEC) & Rm CE 312 (LAB)
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:	Najwa Izzat, Ph.D
Phone:	NA
Email address:	<a href="mailto:najwa.izzat@hccs.edu">najwa.izzat@hccs.edu</a>
Office location and hours:	NA

Course Description:

The course is designed to provide the information and exercises necessary for student to obtain an understanding of the anatomical and physiological processes of the human organism. 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.

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.

## **Instruction Methods:**

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 **Laboratory Manual & online lab study pages/Central campus**. Lecture will be included during lab sessions to clarify or detail concepts.

## **Instructional Materials:**

**Textbook:** FUNDAMENTAL of Anatomy & Physiology – Tenth Edition – MARTINI/NATH/BARTHOLOMEW. Publisher: Pearson Benjamin Cummings. 1301 Sansome St. San Francisco, CA 94111

**Lab Manual:** Human Anatomy & Physiology I – BIOL 2401 – Lab Manual – 5<sup>th</sup> edition – Editors: Jane Johnson – Murray, Ph.D., Jyoti R. Wagle, Ph.D. **It is required**

**Web Resources:** lab study pages ([www.hccs.edu/biology\\_labs](http://www.hccs.edu/biology_labs)) & Lab handouts are posted on **EO**

## **Examination Format**

**Lecture exams** will include multiple choice questions

**Lab exams** will include identification & labeling (NO multiple choice)

**Student Assessments:** Students will be assessed via lecture and laboratory examinations

**Mastering A&P program (Chapter quizzes):** It is **Not** required for Summer students. The website is [pearsonmastering.com](http://pearsonmastering.com) – You can either obtain access from the HCC bookstore (packaged with textbook) or you can purchase access online during registration process (use credit card or paypal). The course ID to register is **central93246**. You can call the publisher at [888-433-8435](tel:888-433-8435) for help. There will be a deadline & time limit to answer the questions for each chapter. Always check the calendar of the program.

**Final exams:** At the end of the semester, there will be a comprehensive final lecture exam

## **Instructor's Requirements:**

**Before you come to the class,** please read the chapter, bring your textbook to the class, may be notebook & highlighter. Pay attention in the class, mark the topics the instructor explained. At home study the entire chapter, and focus on the material that the instructor covered in the class.

**In the Class Rm:** If the instructor is lecturing, and you have a question, let the instructor finish the point that she is making, then you may ask your question, the question should be related directly to the topic the instructor is discussing. Please feel free to ask the instructor any other questions (personal or comments) during the break or after the class.

**Be on time:** Coming to the class late or leaving early is not acceptable, unless if you have a legitimate reason. If you arrive late, DO NOT wait outside the class until the break. Without disturbing the class, walk in quietly and open your textbook gently. When the class or lab is in session, IN & OUT of the Rm is distracting and not acceptable, you may miss critical information. You will have short break every hour, you can take care of your personal matter.

Lab: Lab manual and lab study pages are required. Lab handouts are posted on EO. Textbook and web sites are helpful. Lab needs to be taken seriously; talking, cellular phones, studying other materials, or using the computers for other purposes are **NOT ALLOWED**.

Course Outline: outline is posted on Eagle Online. It lists all major topics and key materials that are covered in the class Rm. You can use it as a guideline when you study the chapters

Bonus points: During the lecture I will ask questions. If you know the answer, raise your hand, I will pick one student, if you give the correct answer, you will get one bonus point. The bonus points you collect added to your lecture exams at the end of the semester. Please **DO NOT** volunteer the answer. The reasons for the bonuses are; 1. encourage you to study the material on a daily bases 2. understand the material in more depth 3. support your grades 4. prepare you for oral discussion

Lec Quizzes: you will have a number of quizzes (multiple choice or short answers) during the semester for the lecture materials.

Office Hours: I am Adjunct Faculty, it means I will not be available 5 days a week. I will be in the school on M-Th from 4:30 pm - 9:45 pm. If you prefer talking to me in person, please send me email. I will meet with you before the class or during the break time. If you set up appointment, Please BE ON TIME

**Grade Calculation:**

Lecture Exams (n=4 or 5)	45%
Lab Exams (n=3)	35%
Quizzes	5%: includes Lecture quizzes, attendance, etc
Final Exams – Comprehensive	15%

**Please record your grades in the tables below then do the calculation:**

Lecture exams (45%):

test #	#1	#2	#3	#4
actual grade				
normalized or out of 100				

Add the normalized grades (#1–4) then divide by 4, then multiply by 0.45.

Lab exams (35%):

test #	#1	#2	#3
actual grade			
normalized or out of 100			

Add the normalized grades (#1-3) then divide by 3, then multiply by 0.35 to get 35%

**Total grade:** 45 (Lec) + 35 (Lab) + 5 (quizzes) + 15 (finals) = 100 points

**Students are responsible to provide SCANTRON Form # 882-E “Green” for lecture & final exams (6 scantrons).**

**Summer Calendar (5 wks):**

	Lecture Schedule	Lab Schedule
Week 1	Ch. 1 An Introduction to Anatomy and Physiology Ch. 2 The Chemical Level of Organization Ch. 3 The Cellular Level of Organization	Laboratory Safety Rules The microscope Tissues
Week 2	<b>Lecture Exam I</b>  Ch. 4 The Tissue level of Organization Ch. 5 The Integumentary System Ch. 6 Osseous Tissue and Bone Structure Ch. 7 Axial Skeleton	<b>Lab Exam I</b>  Human Skeletal system
Week 3	<b>Lecture Exam II</b>  Ch. 8 The Appendicular Skeleton Ch. 9 Articulation Ch. 10 Muscle Tissue Ch. 11 Muscular System	Human Skeletal system <b>Lab Exam II</b>
Week 4	<b>Lecture Exam III</b>  Ch. 12 Neural Tissue Ch. 13 The Spinal Cord, Spinal Nerves, and Spinal reflexes Ch. 14 The Brain and Cranial Nerves	Muscular system Brain and Spinal cord Human Eye Human ear
Week 5	Ch. 15 Neural Integration I: Sensory Pathways and the Somatic Nervous System Ch. 16 Neural Integration II: The Autonomic Nervous System and Higher – Order Functions Ch.17 The Special Senses  <b>Lecture Exam IV</b>  <b>Final Lecture Exam (COMPREHENSIVE)</b> <b>Will be on Thursday, July 9<sup>th</sup></b>	<b>Lab Exam III</b>

**THE INSTRUCTOR RESERVES THE RIGHT TO CHANGE THE CONTENT SCHEDULE BASED ON THE NEEDS WITH ADVANCED NOTICE TO THE CLASS.**

## HCC Grading Scale:

A = 90 – 100	4 points per semester hour
B = 80 – 89	3 points per semester hour
C = 70 – 79	2 points per semester hour
D = 60 – 69	1 point per semester hour
F = 00 - 59	0 points per semester hour
IP (In Progress)	0 points per semester hour
W (Withdrawn)	0 points per semester hour
I (Incomplete)	0 points per semester hour
AUD (Audit)	0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses. To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades “IP,” “COM” and “I” do not affect GPA.

## Instructor Grading Criteria:

Students must adhere to testing schedule. Failure to take a test (lab or lecture) will result in a zero 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 medical documentation) and must be arranged with instructor ASAP.

## 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.

## 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**

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 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 structure of 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.
8. Consistently able to find and focus the specimen on the microscope slide without the instructor's help.
9. Consistently uses online tools to prepare for class, always ready for classroom discussion and instructor's Q&A sessions, completes all online quizzes prior to due date.

**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.

**Department**

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 (cleanup is not covered by your lab fees).

### ***Tutoring -***

*Learning Emporium:*

*SJ 384*

*Phone: 46356*

*7 am -6 pm M--TH*

*8 am - 4 pm F*

The schedule above is temporary??

### **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*

*5407 Gulfton*

*Houston, Texas 77081*

*Phone: 713-718-7909*

*Fax: 713-718-7781*

*TTY: 713-718-7909*

### **HCC Policy Statement: Academic Honesty:**

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:**

#### **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 (**SEE HCCS CALENDAR**). The last day to withdraw from the class will be **June 29<sup>th</sup>, 2015**. 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.

### **Discrimination**

HCC is committed to provide a learning and working environment that is free from discrimination on the basis of sex which includes all forms of sexual misconduct. Title IX of the Education Amendments of 1972 requires that when a complaint is filed, a prompt and thorough investigation is initiated. Complaints may be filed with the HCC Title IX Coordinator available at 713 718-8271 or email at [oi@hccs.edu](mailto:oi@hccs.edu).

**Disclaimer:** 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".

**Scoring Rubrics:**

**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 use of feedback loops. <i>PSLO* #1</i>	Never able 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.	More often 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 create conclusions based on their knowledge of membrane transport. <i>PSLO#1</i>	Never able to demonstrate or apply knowledge of cell movement across membranes using various cell transports.	Seldom able to demonstrate and apply some knowledge of cell movement across membranes using various cell transports.	Occasionally able to demonstrate and apply some knowledge of cell movement across membranes using various cell transports.	More often able to demonstrate and apply most knowledge of cell movement across membranes using various cell transports.	Consistently able to demonstrate and apply all knowledge of cell movement across membranes using various cell transports.

Performance Factors

Rating Scale

	F	D	C	B	A
3) Students will be able to apply their knowledge of muscle function. <i>PSLO#1</i>	Never able to demonstrate any part to function relationship involving the muscle system without the instructor's help.	Seldom able to demonstrate some part to function relationship involving the muscle system without the instructor's help.	Occasionally able to demonstrate some part to function relationship involving the muscle system without the instructor's help.	More often able to demonstrate most part to function relationship involving the muscle system without the instructor's help.	Consistently able to demonstrate all part to function relationship involving the muscle system without the instructor's help.
4) Students will be able to apply their knowledge of skeletal system and its functions. <i>PSLO#1</i>	Never able to demonstrate any part to function relationship involving the skeletal system without the instructor's help.	Seldom able to demonstrate some part to function relationship involving the skeletal system without the instructor's help.	Occasionally able to demonstrate some part to function relationship involving the skeletal system without the instructor's help.	More often able to demonstrate most part to function relationship involving the skeletal system without the instructor's help.	Consistently able to demonstrate all part to function relationship involving the skeletal system without the instructor's help.
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.	More often 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.

	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.	More often 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 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.	More often prepared and able to demonstrate skills using the body system models and laboratory techniques at the classroom standards. More 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. Not interactive with the 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.	More often 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 Outcomes