

# Texas A&M University – Commerce

2600 S. Neal St, Commerce, TX 75429-3011

Biological and Environmental Sciences

Tel: 903-886-5378 Fax: 903-886-5997

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## Syllabus (Spring 2018)

Course Information:

Human Anatomy & Physiology I

**BIOL 2401.01E**

Class Time: 9:00 AM – 9:50 AM

Location: STC 123

MWF

**Face-to-Face Lecture Course & Laboratory meets 4 hours/week.**    **Lecture:** 3 hrs   &  
**Laboratory:** 1 hrs

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Instructor: John K. Hemphill, Ph.D.

Office: Rm 201 McFarland (STC) Building

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Office Hours: 10:00 AM – 12:00 (Noon) MWF

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## Course Description

**BIOL 2401. Human Anatomy and Physiology I.** Study of the structure and function of human anatomy, including biological processes and 4 basic systems as given: integumentary, muscles, skeleton (bones), neurons, and special senses. Content may be either integrated or specialized. Course content includes the molecular aspects pertaining to the principles of the structure and function of the human body with a detailed study of the integumentary, skeletal, muscular, and nervous systems in relation to the body as an integrated whole.

## Course Pre-requisites, Co-requisites, and/or Other Restrictions:

**Co-requisites: BSC 2401 Lab**

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## University Statements

**Academic integrity:** As members of Texas A&M University-Commerce academic community, we all are responsible to underpin the principles of academic integrity expressed by this community. We are expected to support these principles to be kept and appreciated by others.

- The first instance of cheating will result in an automatic Zero on the exam. A second instance will result in Zero course grade (automatic F).
- Plagiarism is a serious, academic dishonest act. "Academic dishonesty" includes, but is not limited to, plagiarism (the appropriation or stealing of the ideas or words of another and passing them off as one's own), cheating on exams or other course assignments, using electronic gadgets during a test, collusion (the unauthorized collaboration with others in preparing course assignments), and abuse (destruction, defacing, or removal) of resource

**material**. Individuals violating these rules will receive a **Zero** for that activity. In your **lecture & lab assignments**, you must cite all sources of information with properly accredited as a reference.

- Copying material, whether parts or whole, will result in **Zero** for your **Lecture Points Assignments** and can incur in further University disciplinary consequences. You must cite all sources of information with properly accredited.

**Accommodations:** The American with Disability Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other aspects, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have disability requiring accommodation, please contact:

Office of Student Disability Resources or Services  
Texas A&M University-Commerce  
Gee Library, Room 132  
Tel) 903-886-5150, 903-886-5835  
Fax) 903-468-8148  
Email) [StudentDisabilityService@tamu-commerce.edu](mailto:StudentDisabilityService@tamu-commerce.edu)  
or: [Rebecca.Tuerk@tamuc.edu](mailto:Rebecca.Tuerk@tamuc.edu)

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### **Student Learning Outcomes:**

**Note:** Student learning outcomes and competencies will be addressed by the lab course (**BSC 2401L**) and/or the co-requisite lecture, BIOL 2401.01E.

**Outcome #1**-Students will be able to locate and identify the various regions of the human body as well as the organs and their associated functions.

**Outcome #2**-Students will be able to demonstrate an understanding of the integumentary, skeletal, and muscular and nervous systems and their interrelatedness.

**Outcome #3**-Students will be able to identify the structures of the human cell and their related functions, including metabolism and cellular respiration.

**Outcome #4**-Students will be able to demonstrate working knowledge of the chemical process of the human body as well as the physical properties that govern them.

### **Course Competencies:**

A student completing this course can expect lectures covering the following topics in detail, and will be tested over each section as announced by the instructor. Within each section of **Anatomy and Physiology I**, content may or may not be covered in the sequence presented here. Content topics need not be taught in single blocks, yet may be integrated. Unifying themes, such as **homeostasis**, are emphasized throughout.

**Body Plan and Organization**-Students who have completed this section of the course should understand the scope of studies in anatomy and physiology and be able to use and understand descriptive anatomical and directive terminology.

**Homeostasis**-Upon completion of this section of the course, students should be able to explain the basic concept of homeostasis and how homeostatic mechanisms apply to the body systems.

**Chemistry and Cell Biology Overview**-Students who have completed this section of the course should be able to identify cellular structures and explain their respective functions.

**Histology**-Completion of this section of the course should enable the student to be able to describe the basic tissues of the body, indicate their location, and explain their functions.

**Integumentary System**-Students who have completed this section of the course should be able to identify and describe the major gross and microscopic anatomical components of the integumentary system and describe the functions of the system.

**Skeletal System**-Completion of this section of the course should enable a student to be able to identify and describe the major gross and microscopic anatomical components of the skeletal system and describe the functions of the system.

**Muscular System**-Students who have completed this section of the course should be able to identify and describe the major gross and microscopic anatomical components of the muscular system and explain their functional roles in body movement, maintenance of posture, and heat production.

**Nervous System**-Students who have completed this section of the course should be able to identify and describe the major gross and microscopic anatomical components of the nervous system and explain their functional roles in communication, control, and integration.

**Special Senses**-Completion of this section of the course should enable a student to be able to identify and describe the major gross and microscopic anatomical components of 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.

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**Text:** Hole's Human Anatomy & Physiology. Shier, Butler, & Lewis. 14<sup>th</sup> Edition.  
(ISBD 9780078024290) or another edition.

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**In case of inclement weather, emergency closings, or other unforeseen disruptions to scheduled classes, student must log onto their eCollege accounts for directions on where or how to continue their coursework.**

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**Important Dates:**

**Martin Luther King Day:**

First day of classes:

Last day to Drop with 100% refund and No Grade

(while remaining enrolled):

Spring Census date:

Spring Schedules Dropped for Non-payment:

**January 15, 2018**

January 16, 2018

January 16, 2018

February 5, 2018

February 5, 2018

**Spring Break:**  
**Final Exams:**

**March 12 – 16, 2018**  
**May 5, 2018 to May 11, 2018**

**Required Assignments (See: Text – Hole's Human Anatomy & Physiology)**

**Chapter 1. Introduction to Human Anatomy and Physiology**

- A. Anatomy and Physiology
- B. Levels of Organization
- C. Characteristics of Life
- D. Maintenance of Life (Homeostasis Mechanisms)
- E. Organization of the Human Body
- F. Life-Span Changes
- G. Anatomical Terminology
- H. Some Medical and Applied Sciences

**Chapter 2. Chemical Basis of Life**

- A. Structure of Matter
- B. Chemical Constituents of Cells
- C. Bonding of Atoms
- D. Acids, Bases, and Salts
- E. Chemical Constituents of Cells (Carbohydrates, Lipids, Proteins and Nucleic Acids)

**Chapter 3. Cells (Basic Units of the Body)**

- A. The General Concept of a Living Cell
- B. Movements Into and Out of Cells (Diffusion, Facilitated Diffusion, Osmosis, Filtration & Active Transport)
- C. The Cell Cycle (Interphase and Mitosis)
- D. Control of Cell Division
- E. Stem and Progenitor Cells
- F. Cell Death (Apoptosis)

**Test #1**

**Chapter 4. Cellular Metabolism.**

- A. Metabolic Process (Anabolism and Catabolism)
- B. Control of Metabolic Reactions (Enzymes)
- C. Energy for Metabolic Reactions (ATP)
- D. Cellular Respiration (Four Phases)
- E. Nucleic Acids and Protein Synthesis (Genetic Code)
- F. Changes in Genetic Information

**Chapter 5. Tissues (Cells Are Organized into Tissues)**

- A. Epithelial Tissues (General Characteristics)
- B. Connective Tissues (General Characteristics)
- C. Types of Membranes
- D. Muscle Tissues

E. Nervous Tissues

**Chapter 6. Integumentary System**

- A. Skin and Its Tissues
- B. Accessory Structures of the Skin
- C. Regulation of Body Temperature
- D. Healing of Wounds and Burns
- E. Life-Span Changes

**Test#2**

**Chapter 7. Skeletal System**

- A. Bone Shape and Structure (General Shape Characteristics)
- B. Bone Development and Growth
- C. Factors Affecting Bone Development, Growth, and Repair
- D. Bone Function
- E. Skeletal Organization
- F. Skull
- G. Vertebral Column
- H. Thoracic Cage
- I. Pectoral Girdle
- J. Upper Limb
- K. Pelvic Girdle
- L. Lower Limb

**Chapter 8. Joints of the Skeletal System**

- A. Classification of Joints
- B. General Structure of a Synovial Joint
- C. Types of Synovial Joints
- D. Types of Joint Movements
- E. Examples of Synovial Joints

**Chapter 9. Muscular System**

- A. Structure of a Skeletal Muscle
- B. Skeletal Muscle Contraction
- C. Muscular Responses
- D. Smooth Muscle
- E. Cardiac Muscle
- F. Skeletal Muscle Actions
- G. Major Skeletal Muscles

**Test #3**

**Chapter 10. Nervous System I: Basic Structure and Function**

- A. General Functions of the Nervous System
- B. Description of Cells of Nervous System

- C. Classification of the Nervous System Cells
- D. The Synapse
- E. Cell Membrane Potential
- F. Synaptic Transmission
- G. Impulse Processing

### **Chapter 11. Nervous System II-Divisions of the Nervous System**

- A. Meninges Parts
- B. Ventricles and Cerebrospinal Fluid
- C. Brain Regional Parts and Functions
- D. Spinal Cord
- E. Peripheral Nervous System
- F. Autonomic Nervous System

### **Chapter 12. Nervous System III: The Special Senses**

- A. Receptors, Sensations, and Perception
- B. General Senses
- C. Special Senses

#### **Test #4**

**Final Exams: May 5 to May 11, 2018**

**Comprehensive Final Exam5 (Optional)**

#### **SEQUENCE OF CLASS INSTRUCTION:**

<b>No class</b>	<b>Jan 15</b>	<b>Holiday (Martin Luther King Day)</b>
Week 1	Jan 16-19	Chapter 1. Introduction to Human Anatomy and Physiology
Week 2	Jan 22-26	Chapter 2. Chemical Basis of Life
Week 3	Jan 29-Feb 2	Chapter 3. Cells
Week 4	Feb 5-9	Catch-up & Review, <b>Exam I</b>
Week 5	Feb 12-16	Chapter 4. Cellular Metabolism
Week 6	Feb 19-23	Chapter 4. Tissues
Week 7	Feb 26-Mar 2	Chapter 5. Integumentary System
Week 8	Mar 5-9	Catch-up & Review, <b>Exam II</b>
<b>No class</b>	<b>Mar 12-16</b>	<b>SPRING BREAK</b>
Week 9	Mar 19-23	Chapters 6/7/8. Skeletal System and Joints of Skeletal System
Week 10	Mar 26-Mar30	Chapter 9. Joints and Muscular System
Week 11	Apr 2-6	Chapters 10/11. Muscular System. Catch-up & Review,
Week 12	Apr 9-13	<b>Exam III.</b> Chapter 12. Nervous System I
Week 13	Apr 16-20	Chapters 12 & 13/14/15. Nervous System I and Nervous System II
Week 14	Apr 23-27	Chapt. 13/14/15 & Chapt. 16/17. Nervous System II and Nervous
Sys III		
Week 15	Apr 2-6	Chapters 16/17. Nervous System III. <b>Exam IV</b>
Week 16	May 9-13	<b>Final Week: Comprehensive Final Exam V (Optional)</b>

**Note:** The sequence of instruction may be modified during the semester. Students will receive notification from the instructor of any changes.

**Methods of Evaluation:**

Anatomy and Physiology I (A&P1) consists of a Biology 2401 (lecture section) and a Biology 2401L (laboratory section). Students will receive a combined lecture grade and a laboratory course grade at the end of the semester. The lecture course grade will consist of **500 pts** for the student's Biology 2401 grade. The remaining Lab grade of **200 pts** will be the student's Biology 2401 laboratory grade. Student's final course grades will be **700 pts** and calculated by lecture instructor at the end of the semester.

**Lecture grade will be determined as follows:**

**Daily work**, which may consist of **Lecture Points** (take-home assignments, study questions, post tests, or unannounced quizzes), will be required of the students. **Daily work, as described, will constitute 50 pts toward the lecture grade.** **Four (4) major examinations** will be given at scheduled times throughout the semester. Dates of the examinations will be announced in class. There will **not** be alternative-time exams after an exam has been returned to the students. Students **not** taking an exam will receive a "**0**". Exams may be taken early as scheduled with the instructor due to special circumstances. Exams may consist of multiple choice, matching, short answer, fill-in-the-blank, true and false and/or discussion questions. Graded exams will be returned and reviewed with the students. After the student examines the test, it will be returned to the instructor. Exams not returned will represent a **Zero** for that student. **Each exam will constitute 100 pts toward the lecture grade.**

A student may have an opportunity to earn up to **10 extra credit points** during the semester. The extra credit points will be added to the total number of points before dividing by five to determine the lecture points total grade.

**An optional comprehensive final** will be given during final week at the time scheduled by the college. Students who have **not** taken all four exams must take the final. Students who have taken all four exams have the option of taking the final to replace the lowest exam grade or not take the **CompFinal ExamV**. **The CompFinal ExamV cannot be used to replace the daily work average or replace a Zero grade.**

**Grading Policy**

The final course evaluation will be comprised of the lecture grade portion (**500 pts total**) and the laboratory grade (**200 pts total**). Lecture grade portion consists as below:

LecturePoints, etc. (10 pts each):	5 = 50 pts
Lecture Exams (100 pts each):	4 = 400 pts
CompExams5 (100 pts):	1 = 100 pts*
Attendance/Tardy/Participation in class (50 pts):	<u>1 = 50 pts</u>
<b>Total Lecture points</b>	<b>500 pts</b>

\*If a student scores high grades on the regular four exams (4), the student does **not** have to take the **CompLect ExamsV**. If a student scores a low grade on one of the exams, the student can substitute the

**CompLect ExamV** for that low score.

**Grading Scale - Grades will be calculated in the following manner:**

Add the daily grade average, four highest test grades, and the Attendance/Tardy/Participation points in class points (extra credit pts) and the laboratory points, the total points will be divided by seven to get the final course average. Grades will be rounded up or down. **For example, an average of 89.5 will be rounded up to a 90 and 89.4 will be rounded down to an 89.**

**Letter grades will be assigned as follows:**

100 - 89.5	= A
89.4 - 79.5	= B
79.4 - 69.5	= C
69.4 - 59.5	= D
Below 59.4	= F

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**Methods of Instruction:**

Lectures by the instructor will be the main method of instruction. Group work, class discussions, Power Point presentations, overhead transparencies, models, etc., may also be incorporated to enhance the learning process.

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**Class Attendance**

Academic success is closely associated with regular classroom attendance and course participation. All successful students are expected to be highly self-motivated.

All students are required to participate in courses regularly and are obliged to participate in class activities and complete and submit assignments following their professors' instructions.

Students taking courses during compressed semester time frames such as mini-mester, summer sessions, and mid-semester should plan to spend significantly more time per week on the course. Responsibility for work missed because of illness or school business is placed upon the student. More than two (2) absences are considered to be excessive. When withdrawal occurs, any tuition refund would be made in accordance with state regulations.

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**Student Conduct & Discipline**

**Classroom Behavior**

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular on time attendance and a positive, academic attitude that seeks to take full advantage of the educational opportunity.

## **Defacing College Property**

Anyone caught **defacing property** in the lab will be responsible for cleaning, repairing or replacing the defaced property. The individual will also receive a **zero (0)** for the current lab assignment. Defacing property includes, but is **not** limited to, writing, marking or scratching on the tables, tabletops, chairs, cabinets, counter tops, shelving or walls.

## **Cell Phone Policy**

All cell phones and other electronic devices must be turned off before entering the classroom. **Text messaging is not permitted during class.** If you have an emergency and need to take a call during class, you must inform the instructor before the beginning of class. Turn your ringer to vibrate, and when your call comes in, pick up all of your belongings and leave the classroom. You may return to class the next time the class meets.

## **Academic Integrity**

The Texas A&M University-Commerce's faculty expects from its students a **high level of responsibility** and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is **imperative** that a student demonstrate a high standard of individual honor in his or her scholastic work.

Any student who commits an act of **scholastic dishonesty** is subject to discipline. **Scholastic dishonesty includes but is not limited to cheating, plagiarism, (the appropriation or taking of the ideas or words of another and passing them off as one's own), collusion (the unauthorized collaboration with others in preparing course assignments), the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.**

**Student conduct:** All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a **positive learning environment**. (See: Code of Student Conduct from Student Guide Handbook).

**Plagiarism, especially from the internet, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the college's policy on plagiarism.** **Texas A&M University - Commerce** subscribes to **turnitin.com**, which allows faculty to search the internet and identify plagiarized material.

**The policy of the Biological & Environmental Sciences Department:** Any instance of a) plagiarism, b) collusion, c) cheating, or d) falsifying records, will result in a "0" for the assignment. The "0" assigned for cheating cannot be dropped or replaced by another grade when calculating the lecture average.

**Texas A & M University - Commerce is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences. These descriptions and timelines are subject to change at the discretion of the Professor. Campus-wide student policies may be found in each eCollege course shell under the menu item "Student Services".**

Website: [Office of Student Disability Resources and Services](http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/)  
<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

## **COURSE OUTLINE / CALENDAR**

Current semester by specific dates

The syllabus/schedule are subject to change.