

INSTRUCTIONAL SYLLABUS

Angelina College Science and Mathematics Division
BIOL 2404 - General Anatomy and Physiology - SPRING 2018 TR

I. BASIC COURSE INFORMATION

- A. **Course Description.** Biology 2404. General Anatomy and Physiology. Four hours credit, Single-semester course, lecture & lab. A study of the basic anatomical and physiological principles of the skeletal, integumentary, muscular, respiratory, cardiovascular, lymphatic, digestive, urinary, reproductive, nervous, and endocrine systems. Prerequisite TSIA complete. (Lab fee required).
- B. **Intended Audience:** The intended audiences are students majoring in a health career field such as respiratory care or radiography and others needing a sophomore level course in the natural sciences that emphasizes laboratory-based coursework.
- D. **Instructor:**
Instructor Name: Todd Farmer
Office: S120F
Office Hours: TR 2:30-3:30; W 2:10-5:00
Office Phone: (936) 633-5365
E-mail Address: tfarmer@angelina.edu

II. INTENDED STUDENT OUTCOMES

A. Core Competencies (Basic Intellectual Competencies)

1. Critical Thinking: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. Communication: To include effective development, interpretation and expression of ideas through written, oral and visual communication.
3. Empirical and Quantitative Skills: To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
4. Teamwork: To include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

B. Learning Outcomes Upon successful completion of this course (lecture), students will:

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

C. Learning Outcomes Upon successful completion of this course (lab), students will:

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations, and predictions.

III. Assessment of Student Learning Outcomes

A. Assessments for the Core Intellectual Competencies

1. **Critical Thinking:** Students will evaluate and analyze a subject related worksheet that is presented to them during a physiology topic. They will then answer essay questions on the worksheet, and the Angelina College (AC) Critical Thinking Rubric will be used to assess each student's critical thinking skills and correctness.

2. **Communication:** Students will work in groups will write a report to communicate information about a disease/disorder related to physiology. The Angelina College (AC) Communication Rubric will be used to assess each student's communication skills and correctness.

3. **Empirical & Quantitative Skills:** Students will work in groups to analyze an assigned physiology subject. They will then answer questions through elementary calculations, and the Angelina College (AC) Empirical & Quantitative Skills Rubric will be used to assess each student's empirical and quantitative skills and correctness.

4. **Teamwork:** Students will work in groups will write a report to communicate information about a disease/disorder related to physiology. The Angelina College (AC) Teamwork Rubric will be used to assess each student's teamwork skills and correctness.

B. Assessments for the Learning Outcomes

Upon successful completion of this course (lecture), students will:

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

Upon successful completion of this course (lab), students will:

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations, and predictions.

IV. INSTRUCTIONAL PROCEDURES

This course will be taught using a combination of lectures and laboratory exercises that complement and supplement lecture material. Audio-visual materials, models, and laboratory experiments will be employed to enhance lecture and laboratory presentations.

V. COURSE REQUIREMENTS AND POLICIES

Required Textbooks, Materials, and Equipment

1. Essentials of Human Anatomy and Physiology, (Pearson). 12th Edition, Marieb.
2. Laboratory Manual to Accompany Essentials of Human Anatomy and Physiology, (Pearson). 7th Edition. Marieb.
3. Access to Blackboard (www.angelina.blackboard.com)
4. Scantrons for exams

MAKE-UP EXAMS Make-up exams are at the discretion of the instructor. In addition, the score on the comprehensive final exam may replace your lowest test grade.

SYLLABUS MODIFICATION: *The instructor may modify the provisions of the syllabus to meet individual class needs by informing the class in advance as to the changes being made.*

VI. Academic Assistance – If you have a disability (as cited in Section 504 of the Rehabilitation Act of 1973 or Title II of the Americans with Disabilities Act of 1990) that may affect your participation in this class, you should see Maria Lopez or Steve Hudman in room 200 of the Student Center. At a post-secondary institution, you must self-identify as a person with a disability; Ms. Lopez and Mr. Hudman will assist you with the necessary information to do so. To report any complaints of discrimination related to disability, you should contact Mr. Steve Hudman, Dean of Student Affairs, in Room 101 of the Student Center. You may also contact Dean Hudman by phone at [\(936\) 633-5292](tel:9366335292) or by email shudman@angelina.edu.

VII. Attendance – All students are expected to attend all scheduled classes and examinations and to be on time. Students who know they will be absent in advance should contact the instructor as soon as possible by e-mail or telephone. The instructor will determine whether or not an absence is excused. **IT IS THE STUDENT'S RESPONSIBILITY TO DROP THE COURSE** to avoid a potentially failing grade, however any student with 3 consecutive, or 4 cumulative absences may be dropped by the instructor regardless of the potential end of semester grade. The last day to drop the course with a "W" is (insert drop date).

VIII. Course Conduct

1. Absolutely no cell phone use is allowed during labs or class.
2. No Food, drinks, or tobacco in class.
3. Courteous and respectful behavior will be expected in class at all times.

IX. EVALUATION AND GRADING

The lecture portion of the course is worth 60% of the total course grade. The lab portion of the course is worth 40% of the total course grade.

The lecture grade will be calculated based on the points shown below.

4 regular exams	400 points
Final exam	100 points
<u>Homework & Project</u>	<u>100 points</u>
Total	600 points

The lab grade will be calculated based on the points shown below.

4 lab exams	400 points
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To calculate your course grade, use the following:

Percentage of points from lecture x 0.6 = _____

Percentage of points from lab x 0.4 = _____

Sum of above = _____ = course grade

Lecture Exams: There will be four regular lecture exams that will be given as shown on the class schedule. The final exam is comprehensive and will be given during the scheduled final examination period. Each exam is worth 100 points. The score of the final exam may replace the lowest regular test grade. Students will be required to complete homework and a research paper worth a total of 100 points.

Lab Grades: There will be four lab exams that will be given as shown on the class schedule. Each exam is worth 100 points.

Testing Procedures - Lecture exams will be multiple choice and matching questions. Missed exams may be arranged at the instructor's discretion.

*** STUDENTS ARE REQUIRED TO PROVIDE THEIR OWN SCANTRONS (FORM 882-E) FOR EACH EXAM!**

****** The instructor may modify the provisions of this syllabus to meet individual class need by informing the class in advance as to the changes being made.

TR	Lecture Topic	Chapter
1/16	Introduction, The Human Body	1
1/18	Chemistry	2
1/23	Chemistry	2
1/25	Cells	3
1/30	Skin & Body Membranes	4
2/1	Skin & Body Membranes	4
2/6	Exam 1	
2/8	Skeletal System	5
2/13	Muscle System	6
2/15	Muscle System	6
2/20	Nervous System	7
2/22	Nervous System	7
2/27	Special Senses	8
3/1	Special Senses	8
3/6	Exam 2	
3/8	Endocrine System	9
	SPRING BREAK	
	SPRING BREAK	
3/20	Endocrine System	9
3/22	Blood	10
3/27	Cardiovascular System	11
3/29	Lymphatic System	12
4/3	Lymphatic System	12
4/5	Exam 3	
4/10	Respiratory System	13
4/12	Digestive System	14
4/17	Digestive System	14
4/19	Urinary System	15
4/24	Reproductive System	16
4/26	Reproductive System	16
5/1	Exam 4	

TR	Lecture Topic				Chapter
5/3	FINAL REVIEW				
TR	Laboratory Manual Exercises	Exercise#	Activity	Mastering, Art Labeling Quiz, Chapters	PhysioEx
1/16	Lab Safety & Language of Anatomy	1	Microscope Introduction	1	Exercise 1 Cell Transport
1/18	Organ Systems and Cells	2,3		3	Exercise 1 Cell Transport
1/23	Tissues	5	Microscope & Slides	4	
1/25	Skin	6		5	
1/30	Exam 1 on Exercises 1,2,3,5,6				
2/1	Skeleton Overview	7		6	
2/6	Skeleton cont'd	8		7	
2/8	Skeleton cont'd	9	Mastering, Art Labelling		
2/13	Joints	10		8	
2/15	Muscles	12		9,10	Exercise 2 Muscle Physiology
2/20	Nervous System	13		11-12	Exercise 3 Neurophysiology of Nerve Impulses
2/22	Nervous System	14	Brain Dissection	13-14	Exercise 3 Neurophysiology of Nerve Impulses
2/27	Nervous System	15,16	Reflex Hammer		
3/1	Exam 2 on Exercises 7-10,12-15				
3/6	Special Senses	17	Eye Dissection	15	
3/8	Endocrine	18		16	Exercise 4 Endocrine Physiology
	SPRING BREAK				
	SPRING BREAK				
3/20	Blood	19	Blood Typing	17	Blood Typing
3/22	Cardiovascular System	20	Heart Dissection	18	Exercise 6 Cardiovascular Physiology
3/27	Cardiovascular System	21,22	Blood Pressure	19	Exercise 6 Cardiovascular Physiology

TR	Lecture Topic				Chapter
3/29	Exam 3 on Exercises 17-22				
4/3	Respiratory System	23		22	Exercise 7 Respiratory System Mechanics
4/5	Respiratory Physiology	24	Mastering, Art Labelling		Exercise 10 (1&2) Acid Base Balance
4/10	Digestive System	25		23	Exercise 8 Chemical & Physical Processes of Digestion
4/12	Digestive System		Mastering, Art Labelling		Exercise 8 Chemical & Physical Processes of Digestion
4/17	Urinary System	26		25	Exercise 9 Renal System Physiology
4/19	Urinary System		Urinalysis, Kidney Dissection		Exercise 9 Renal System Physiology
4/24	Reproductive System	27		27,28	
4/26	All systems		Fetal Pig Dissection		
5/1	Review				
5/3	Exam 4 on Exercises 23-27				