INSTRUCTIONAL SYLLABUS

Angelina College Science and Mathematics Division
BIOL 2404 - General Anatomy and Physiology - Fall 2017 MW

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: Mr. Farmer
Office: S120F
Office Hours: T 3-4:00; R 11-1:00
Email 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 syn- thesis 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 ob- servable 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 Ms. Sellestine Hunt, Room 200 of the Student Center. At a post-secondary institution, you must self-identify as a person with a disability; Ms. Hunt 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, Student Center, Room 101 or 936-633-5292.

VII. **Attendance** – All students are expected to attend all scheduled classes and examinations and to be on time. Stu- dents 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
Quizzes, labs, homework & project	100 points
Total	600 points

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

4 lab exams	400 points

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.

Date, MW	Lecture Topic	Chapter
August 28	Introduction, The Human Body	1
30	Chemistry	2
Sept 4	Labor Day Off	
6	Chemistry	2
11	Cells	3
13	Skin & Body Membranes	4
18	Skin & Body Membranes	4
20	**Exam 1**	
25	Skeletal System	5
27	Muscle System	6
Oct 2	Muscle System	6
4	Nervous System	7
9	Nervous System	7
11	Special Senses	8
16	**Exam 2**	
18	Endocrine System	9
23	Endocrine System	9
25	Blood	10
30	Cardiovascular System	11
Nov 1	Lymphatic System	12
6	Lymphatic System	12
8	**Exam 3**	
13	Respiratory System	13
15	Digestive System	14
20	Digestive System	14
22	Thanksgiving Holiday	
27	Urinary System	15
29	Reproductive System	16
Dec 4	**Review**	

Date, MW	Lecture Topic	Chapter
6	**Exam 4**	

Week	Date, MW	Laboratory Manual Exercises	Exercise#	Activity	Mastering, Art Labeling Quiz, Chapters	PhysioEx
1	**August 28**	Lab Safety & Language of Anatomy	1	Microscope Introduction	1	Exercise 1 Cell Transport
	30	Organ Systems and Cells	2,3		3	Exercise 1 Cell Transport
2	**Sept 4**	Tissues	5	Microscope & Slides	4	
	6	Skin	6		5	
3	**11**	**Exam 1** on Exercises 1,2,3,5,6				
	13	Skeleton Overview	7		6	
4	**18**	Skeleton cont'd	8		7	
	20	Skeleton cont'd	9	Mastering, Art Labelling		
5	**25**	Joints	10		8	
	27	Muscles	12		9,10	Exercise 2 Muscle Physiology
6	**Oct 2**	Nervous System	13		11-12	Exercise 3 Neurophysiology of Nerve Impulses
	4	Nervous System	14,15	Brain Dissection	13-14	Exercise 3 Neurophysiology of Nerve Impulses
7	**9**	**Exam 2** on Exercises 7-10,12-15				
	11		17	Eye Dissection	15	
8	**16**	Endocrine	18		16	Exercise 4 Endocrine Physiology
	18	Blood	19	Blood Typing	17	Blood Typing
9	**23**	Cardiovascular System	20	Heart Dissection	18	Exercise 6 Cardiovascular Physiology
	25	Cardiovascular System	21,22	Blood Pressure	19	Exercise 6 Cardiovascular Physiology

Date, MW		Lecture Topic				Chapter
10	**30**	**Exam 3** on Exercises 17-22				
	Nov 1	Respiratory System	23		22	Exercise 7 Respiratory System Mechanics
11	**6**	Respiratory Physiology	24	Mastering, Art Labelling		Exercise 10 (1&2) Acid Base Balance
	8	Digestive System	25		23	Exercise 8 Chemical & Physical Processes of Digestion
12	**13**	Digestive System		Mastering, Art Labelling		Exercise 8 Chemical & Physical Processes of Digestion
	15	Urinary System	26		25	Exercise 9 Renal System Physiology
13	**20**	Urinary System		Urinalysis, Kidney Dissection		Exercise 9 Renal System Physiology
	22	Thanksgiving				
14	**27**	Reproductive System	27		27,28	
	29	Review		Fetal Pig Dissection		
15	**Dec 4**	**Exam 4** on Exercises 23-27				