

Angelina College
Science and Mathematics Division
BIOL 2402 Anatomy and Physiology II - Internet

I. BASIC COURSE INFORMATION

- A. Course Description** (as stated in the bulletin, including necessary pre-requisite courses, credit hours)
 BIOL 2402--Anatomy and Physiology II. Four hours credit. Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Three lecture and three lab hours each week. Prerequisite: TSIA Complete; Grade of C or better in BIOL 2401. Lab fee.
- B. Intended Audience**
 This course is the second semester of the two-semester human anatomy and physiology course sequence, a continuation of BIOL 2401. It is a laboratory-based course designed for those pursuing a degree in health related careers and/or pre-professional course work (i.e. nursing, pre-medical, pre-dental, etc.).
- C. Instructor**
Instructor's Name: Mrs. Johnson
Office Location: S103
Office Hours: MTWR: 1:00 – 2:15; OTHER TIMES AVAILBLE BY APPONTMENT
Phone: (936)633-5259
E-mail Address: ajohnson@angelina.edu

II. INTENDED STUDENT OUTCOMES:

- A. Core Objectives Required for this Course**
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. Course Learning Outcomes for all Sections** (ACGM Lower Division Academic Course Guide Manual; <http://www.theccb.state.tx.us/reports/pdf/6309.pdf?CFID=20849286&CFTOKEN=77757605>)
Upon successful completion of this course, students will:
1. **Lecture**
 - a. Use anatomical terminology to identify and describe locations of major organs of each system covered.
 - b. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
 - c. Describe the interdependency and interactions of the systems.
 - d. Explain contributions of organs and systems to the maintenance of homeostasis.
 - e. Identify causes and effects of homeostatic imbalances.
 - f. Describe modern technology and tools used to study anatomy and physiology.
 2. **Lab**
 - a. Apply appropriate safety and ethical standards.
 - b. Locate and identify anatomical structures.
 - c. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
 - d. Work collaboratively to perform experiments.
 - e. Demonstrate the steps involved in the scientific method.
 - f. Communicate results of scientific investigations, analyze data and formulate conclusions.

- g. Use critical thinking and scientific problem solving skills to make decisions, recommendations, and projections.

III. ASSESSMENT MEASURES:

A. Assessments for the Core Objectives

1. **Critical Thinking:** Students will identify, organize, and recall relevant information and demonstrate an in-depth understanding through completing an assignment/worksheet that is presented to them during a physiology topic. The Angelina College (AC) Critical Thinking Rubric will be used to assess each student's critical thinking skills and correctness.
2. **Communication:** Students will organize, analyze, and convey effective communication through a writing activity. The Angelina College (AC) Communication Rubric will be used to assess each student's communication skills and correctness.
3. **Empirical & Quantitative Skills:** Students will demonstrate their abilities to represent, calculate, interpret, and analyze empirical and quantitative data by completing an assignment/worksheet. 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 demonstrate their abilities to communicate effectively with team members by evaluating one another after working through activities together. The Angelina College (AC) Teamwork Rubric will be used to assess each student's teamwork skills and correctness.

B. Assessments for Course Learning Outcomes

1. Lecture

- a. Students will use anatomical terminology to identify and describe locations of major organs of each system covered by answering written questions during lecture activities, on lecture exams, and by orally answering questions during presentations and class activities.
- b. Students will explain interrelationships among molecular, cellular, tissue, and organ functions in each system by answering questions during lecture activities and on lecture exams.
- c. Students will describe the interdependency and interactions of the systems by answering written questions during lecture activities and on lecture exams.
- d. Students will explain contributions of organs and systems to the maintenance of homeostasis by answering written questions about case studies and on lecture exams.
- e. Students will identify causes and effects of homeostatic imbalances by answering embedded exam questions and by answering written questions about case studies and current advances in medicine.
- f. Students will describe modern technology and tools used to study anatomy and physiology by answering written questions about case studies or writing critical analyses of current medically related journal articles.

2. Lab

- a. Students will demonstrate and apply appropriate safety and ethical standards by answering written questions during lab activities and by orally answering questions during lab activities.
- b. Students locate and identify anatomical structures by answering written questions about simulated lab activities, dissections, and by identifying anatomical structures during lab exams.
- c. Students will demonstrate the appropriate utilization of laboratory equipment such as such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations by answering written questions during lab activities and by orally answering questions during lab activities.
- d. Students will work collaboratively to perform experiments and demonstrate teamwork ability by working together to answer questions during teamwork activities.
- e. Students will demonstrate the steps involved in the scientific method by collecting laboratory data and performing elementary comparisons of that data, as well as, answering embedded lab exam questions.
- f. Students will communicate results of scientific investigations, analyze data and formulate conclusions by orally answering questions and writing answers to questions during lab activities.
- g. Students will demonstrate critical thinking and scientific problem solving skills to make decisions, recommendations, and projections by answering written questions about case studies.

IV. INSTRUCTIONAL PROCEDURES: The online format of Anatomy and Physiology requires a student to

work independently to complete the information by required deadlines indicated in the course schedule below. Instructors will provide reading guides, terminology lists, and optional recorded lectures. STUDENTS ARE RESPONSIBLE FOR USING THE PROVIDED MATERIALS TO PREPARE FOR EXAMS. ***SEE EXAM DESCRIPTION BELOW***.

V. COURSE REQUIREMENTS AND POLICIES:

A. **Required Textbooks, Materials, and Equipment:**

1. Human Anatomy and Physiology by Elaine Marieb (Benjamin/Cummings), **11th Edition.**
2. Human Anatomy and Physiology Laboratory Manual by Elaine Marieb (Benjamin/Cummings), **12th Edition.**
3. **Students are required to have computer access (e.g. laptop or similar device) internet capabilities (e.g. wifi) for the following class requirements:**
 - a. Mastering A & P: homework, lab simulations, and other required assignments (SEE THE HOMEWORK DESCRIPTION BELOW)
 - b. Testing: Exams are located in Blackboard, and will require a proctor. (SEE THE EXAMS DESCRIPTION BELOW)
 - c. Access to Blackboard (<https://angelina.blackboard.com/>). Obtaining a copy of the course **Lab Study Guide** and **Images** is highly recommended by the instructor for success in the classroom.

B. **Course Policies – (This course conforms to the policies of Angelina College as stated in the Angelina College Handbook.)**

1. **Educational Accommodations:** 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 may fill out the Educational Accommodations application within your AC Portal, under the “Student Services” tab. A Student Success team member will contact you once the application is received. At a post-secondary institution, you must self-identify as a person with a disability in order to receive services; for questions regarding the application process you can visit the Office of Student Success and Inclusion in the Student Center (Room 200) or email access@angelina.edu. To report any complaints related to accommodations, you should contact Annie Allen, Director of Student Success & Inclusion, in Room 200 of the Student Center. You may also contact Ms. Allen by calling (936) 633-4509 or by emailing aallen@anglina.edu. To report discrimination of any type, contact Steve Hudman, Dean of Student Affairs, at (936) 633-5292 or shudman@angelina.edu.
2. **Attendance:** Attendance is required as per Angelina College Policy and will be recorded. Attendance in the online class is taken by students regularly logging into Blackboard and completing the Mastering homework and completing exams through ProctorU. Any student not logging into Blackboard weekly and not completing assignments based due dates on the schedule below, may be dropped from the class. Records will be turned in to the academic dean at the end of the semester. Do not assume that non-attendance in class will always result in an instructor drop. **You must officially drop a class or risk receiving an F;** this is official Angelina College Policy.

THE LAST DAY TO DROP WITH A “W” IS APRIL 1, 2019

3. **Additional Policies Established by the Individual Instructor:** **STUDENT CONDUCT**

A positive environment for learning will be maintained by students being courteous to each other and to the instructor.

- Cheating on tests is not tolerated as per Angelina College policy and may result in expulsion from the course. Plagiarism is not tolerated and will result in a zero for any assignment in which it is detected. **Failure to follow this rule may result in the student receiving a grade of zero on the quiz or test. If the student receives a test score of zero due to failure to follow this rule, the zero test score cannot be replaced by the final exam.**
- *If a student does not log into Blackboard or complete Mastering homework, it is the student’s responsibility to contact the instructor.* **Failure to follow this rule may result in the student receiving a grade of zero on the quiz or test. If the student receives a test score of zero**

due to failure to follow this rule, the zero test score cannot be replaced by the final exam.

VI. COURSE CONTENT:

*The schedule below provides the due dates for Mastering A & P homework, Blackboard discussions, and exams. Students are allowed and encouraged, to submit quizzes and test BEFORE the final due dates.

MODULE 1: JANUARY 14TH – FEBRUARY 10TH		
DATE	LECTURE CHAPTER	LAB EXERCISES
1/14 – 1/20	Log into Blackboard Create your Mastering A & P account. The Endocrine System (Ch. 16)	The Endocrine System (Ex. 27)
1/21 – 1/27	Blood (Ch. 17)	Blood (Ex. 28)
1/28 – 2/3	The Heart (Ch. 18)	Anatomy of the Heart (Ex. 29); Conduction System of the Heart and ECG
2/4 – 2/10	Group Activity 1: A. Complete the Blood Typing Worksheet with your assigned group members. B. Evaluated each group member using the Peer Evaluation Form. EXAM 1	
MODULE 2: FEBRUARY 11TH – MARCH 10TH		
DATE	LECTURE CHAPTER	LAB EXERCISES
2/11 – 2/17	Blood Vessels (Ch. 19)	Anatomy of Blood Vessels (Ex. 32)
2/18 – 2/24	The Lymphatic System and Lymphoid Organs & Tissues (Ch. 20)	Human Cardiovascular Physiology (Ex. 33)
2/25 – 3/3	The Immune System (Ch. 21)	The Lymphatic System and Immune Response (Ex. 35)
3/4 – 3/10	Group Activity 2: A. Complete the Immunity Worksheet with your assigned group members. B. Evaluated each group member using the Peer Evaluation Form. EXAM 2	
MODULE 3: MARCH 11TH – APRIL 7TH		
DATE	LECTURE CHAPTER	LAB EXERCISES
3/11 – 3/17	The Respiratory System (Ch. 22)	Anatomy of the Respiratory System (Ex. 36)
3/18 – 3/24	The Digestive System (Ch. 23)	Respiratory System Physiology (Ex. 37)
3/25 – 3/31	Nutrition, Metabolism, and Energy Balance (Ch 24)	Anatomy of the Digestive System (Ex. 38)
4/1 – 4/7	Group Activity 3: A. Complete the Respiratory Physiology Worksheet with your assigned group members. B. Evaluated each group member using the Peer Evaluation Form. EXAM 3	
MODULE 4: APRIL 8TH – MAY 5TH		
DATE	LECTURE CHAPTER	LAB EXERCISES
4/8 – 4/14	The Urinary System (Ch. 25)	Anatomy of the Urinary System (Ex. 40); Urinalysis (Ex. 41)
4/15 – 4/21	Fluid, Electrolyte, and Acid-Base Balance (Ch. 26)	Fluid, Electrolyte, Acid-Base Balance PhysioEx
4/22 – 4/28		Anatomy of the Reproductive System (Ex. 42); Physiology of the Reproduction (Ex. 43); Survey of Embryonic Development (Ex. 44); Principles of Heredity (Ex. 45)
4/29 – 5/5	Group Activity 4: A. Complete the Fluid, Acid-Base, Electrolyte Worksheet with your assigned group members. B. Evaluated each group member using the Peer Evaluation Form. EXAM 4	
MODULE 5: MAY 5TH – MAY 8TH		
DATE	LECTURE CHAPTER	LAB EXERCISES
	REFERENCE YOUR CHAPTER SUMMARIES AND THE LECTURE FINAL EXAM REVIEW IN BLACKBOARD TO PREPARE FOR THE FINAL EXAM	REFERENCE THE LAB TERMINOLOGY DOCUMENT IN BLACKBOARD TO PREPARE FOR THE FINAL EXAM
5/5 – 5/8	FINAL EXAM	

VII. EVALUATION AND GRADING:

A. Grading Criteria (*percents, extra credit, etc.*)

Failure complete homework or exams will result in a grade of zero

Lecture

4 Lecture Exams	= 100 points each
Homework/Core Assessments	= 100 points total (chapter homework average)
Lecture Comprehensive Final	= <u>100</u> points
	600 ÷ 6 = 100 points

Lab

4 Lab Exams	= 100 points each
Homework/Core Assessments	= 100 points total (exercise homework average)
Lab Comprehensive Final	= <u>100</u> points
	600 ÷ 6 = 100 points

Course average will be determined according to the following:

Lecture Average (60%)	100 x .60 = 60
Lab Average (40%)	100 x .40 = <u>40</u>
	100

B. Determination of Grade (*assignment of letter grades*)

Grades for the course will be based on the following guidelines:

A = 90 - 100 points

B = 80 - 89 points

C = 70 - 79 points

D = 60 - 69 points

F = 59 points

- C. Exams:** There will be four exams covering information from the lecture chapters and lab exercises. Each portion will be worth a total of 100 points each, and must be taken on or before the dates listed above in the class schedule. These four exams will possibly include multiple-choice, short-answer, fill-in-the-blank, and / or lecture chapter questions, and fill-in-the-blank lab questions. A proctor is required for ALL exams. Students can test at the Angelina College Testing Center for FREE, online through ProctorU for a fee per exam, or at a pre-approved testing center (i.e. local public library, college or university, high school). **Each proctoring procedure has detailed scheduling protocol and policies to schedule appointments.** Students are recommend to schedule testing appointments the week prior to testing, and scheduling is the student's responsibility. Please see appropriate links in Blackboard for more details on making these appointments. Exams will require a password that only the arranged proctors will have, and will enter for the student to allow testing. **Make-up exams are to the discretion of the instructor.**
- D. Final Exam:** The final exam is worth 100 points and will be 100% comprehensive. The grade on the comprehensive final exam can also replace the single lowest grade on the regular exams. All questions, lecture and lab, will be multiple-choice and matching. The final exam must be proctored like the other regular semester exams with ProctorU or at a pre-approved testing center.
- E. Homework:** All lecture and lab homework assignments are taken on Mastering A & P, and must be completed on or before the dates listed in the class schedule. (Please see the Pearson Student Registration Instruction document in Blackboard to setup your account.) All lecture chapters and lab exercises will have a corresponding Mastering A & P homework assignment. Lecture homework assignments will be averaged to calculate one lecture exam grade, and lab homework assignments will be averaged to calculate one lab exam grade. The homework assignments could possibly take up to two hours, and students should not procrastinate in completing them. Most assignments will include helpful instructional videos or simulations on the more challenging subjects of the course. Utilize the

books, chapter reading guide, and lab terminology list while completing the homework. ***THERE WILL BE NO MAKE-UPS FOR MISSED HOMEWORK.***

- F. **Assessments:** An assessment measuring communication, critical thinking, empirical and quantitative, and teamwork will be given. Each assignment is required, and will be counted as homework grades toward the correlating portions of the course.

VIII. 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.