



Anatomy & Physiology I (BIOL 2301)

Credit: 3 semester credit hours (3 hours lecture)

Prerequisite/Co-requisite: Passed the Reading/Writing Sections of THEA or any other accepted test (i.e., Compass). Co-requisite is BIOL 2101.

Course Description

Study of the structure and function of human anatomy including cellular, neuroendocrine, integumentary, and musculoskeletal systems. Content may be either integrated or specialized.

Required Textbook and Materials

1. *The Anatomy Assignment* by S Lanoue, 1st edition, Kendall-Hunt Publishing, 2012
2. 4 scantrons and regular non-mechanical #2 pencils with sturdy erasers
3. Calendar for recording assignment due dates, tests, projects, etc.
4. Notebook with pocket (1.5" – 2.0" inch three-ring for binding class notes)
5. Personal 3-hole punch, small personal stapler
6. Pens, colored pencils and/or highlighters of various colors
7. Materials necessary to create a visual aid for a group project/ presentation such as a USB (Flash)drive
8. Computer internet access to class website: <http://lanoue.webstarts.com>
NOTE: You do not access the class website through Blackboard, just go directly to the Internet and type the url. No password needed.

Objectives

Course Objectives

Upon completion of this course, the student will be able to:

1. Define the terms related to anatomy and physiology.
2. Name the different systems of the body and identify their components.
3. Define the living units within the body.
4. List and describe different tissues within the body along with functions.
5. Describe the functions and parts of the skin.
6. List and describe the major bones of the body along with functions.
7. List and describe the joints and functions of each.
8. Describe the functions of the muscles.
9. List major types of muscles along with attachments.
10. Describe the functions of the nervous system.
11. List types of nervous tissues and the major parts of the nervous system.

Core Objectives

1. **Critical Thinking Skills:** To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. **Communication Skills:** To include effective development, interpretation and expression of ideas through written, oral, and visual communication
3. **Empirical & Quantitative Skills:** To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusion
4. **Teamwork:** To include the ability to connect choices, actions, and consequences to ethical decision-making
5. **Personal Responsibility:** To include ability to connect choices, actions and consequences to ethical decision-making

Course Outline

- I. Human Body Intro
 - A. Homeostasis
 1. Problem-solving scenario
 2. Body system and examples
 - B. Regional and Descriptive Terms that describe the human body
 1. Correct anatomical position
 2. Practice and diagramming
 - C. Planes of the Body
 1. Demonstration of planes using paper
 2. Interpretation of x-ray, CT scans and MRI images
- II. Cells
 - A. Structures
 1. Organelles within an animal cell
 2. Features of the plasma membrane
 3. Cytoskeleton components
 - B. Functions
 1. Physiology of the organelles
 2. Physiology of the plasma membrane
 3. Physiology of the cytoskeleton components
 - C. Mitosis
 1. Stages
 2. Special terminology
 3. Cancer – mitosis gone wrong

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- III. Tissues
 - A. Main types of epithelial tissue
 - 1. 3 basic types
 - 2. Characteristics of each
 - B. Other tissues of the body
 - 1. Pseudostratified
 - 2. Stratified tissues
- IV. Integumentary System
 - A. Skin
 - 1. Layers of the epidermis and specialized cells within those layers
 - 2. Dermis and its components
 - 3. Hypodermis
 - B. Appendages
 - 1. Hair
 - 2. Nails
- V. Bones and Skeletal System
 - A. Basic Shapes of Bones
 - 1. How to classify bones
 - 2. Practice activity
 - B. Bone Markings
 - 1. 18 different bone markings
 - 2. Practice activity
 - 3. Location on skeleton
- VI. The Skeleton
 - A. Bones of the axial skeleton
 - 1. Skull
 - 2. Ribs and vertebrae
 - 3. Pelvis
 - B. Bones of the appendicular skeleton
 - 1. Arms, wrists and hands
 - 2. Legs, ankles and feet
- VII. Joints
 - A. Synovial joints
 - 1. Characteristics
 - 2. Synovial fluid
 - B. Other joints
 - 1. Hinge
 - 2. Pivotal
 - 3. Saddle
 - 4. Ball-n-socket, etc.
 - C. Movements of Joints
 - 1. Class demonstration
 - 2. Practice activity

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- VIII. Muscles and Muscle Tissue
 - A. Introduction
 - 1. Physics behind muscle movement
 - 2. 3 basic types of muscle
 - B. Characteristics of Muscle Tissue
 - 1. striations of skeletal muscle
 - 2. specialized branching of cardiac muscle
 - C. Related muscle terms
- IX. Muscular System
 - 1. Major muscles (anterior)
 - 2. Major muscles (posterior)
- X. Fundamentals of the Nervous System
 - A. Neurons
 - 1. Anatomy of the neuron
 - 2. Physiology of the neuron
 - B. Neuroglia and supporting cells of the nervous system
 - 1. Einstein's brain versus most humans; latest research findings
 - 2. 6 types of neuroglia and their locations and characteristics
- XI. Central Nervous System
 - A. Structures of the Brain
 - 1. All the parts of the brain, their locations
 - B. Distinguishing characteristics
 - 1. Functions
 - C. Physiology
 - 1. Hormones related to certain structures
- XII. Peripheral Nervous System
 - A. Structures
 - 1. cranial nerves
 - 2. thoracic nerves
 - 3. lumbar nerves
 - B. Functions
 - 1. Physiology
 - 2. Reaction times/ reflex

Grading Scale (1000 point system)

- A 900 – 1000 points
- B 800 – 899 points
- C 700 – 799 points
- D 600 – 699 points
- F 599 points or less

Course Evaluation

Final grades will be calculated according to the following criteria:

NOTE: Grades will be posted on black board.

1. 4 major tests. All with 50 questions at 200 points each . Of these 4 tests, the best 3 tests are recorded (**and only 3**) for a total of 600 points possible. Test 4 is the Final Exam which is different from your regular semester tests. It is comprehensive (includes material from the entire course and is 100-questions. *everyone.*

If you miss any other major exams (Tests 1 – 3) regardless of the reason, that is your dropped test for the semester. Only one dropped test is allowed or you must repeat the course. And, everyone must take the Final Exam (Test4) – AGAIN, NO EXCEPTIONS!

Test 1 (Chapters 1,2, 3-4) = 200 points (20% of total grade)

Test 2 (Chapters 5-7) = 200 points (20% of total grade)

Test 3 (Chapters 8-10) = 200 points (20% of total grade)

Test 4 cumulative/ All chapters.

Summary: 4 tests given during semester - 1 test grade dropped = 3 tests total are totaled (600 points or 60% of your semester grade)

2. 1 major group research project with presentation = **200 points possible (20% of grade)**. **No dropped grades. No substitutions or alternative assignments will be given to any student to replace this project.** You must actively participate in helping your group develop everything and you must be present for the live delivery portion of project – no exceptions! If you are not present for the live delivery portion, you will be docked 50% of your group's earned project grade. If you do not help your group or participate (and your entire group logs a formal written complaint to me), you will receive a zero for this project. NOTE: This project is important and worth the equivalent of a major test grade.
3. 4-5 quizzes will be given. They will be averaged and given the grade at face value=100points / 10%
4. Your text/ workbook will be handed in and graded for completion of exercises= 100points/ 10 %

SEMESTER TOTAL: 1000 possible points

Course Requirements

Additional information:

1. One group research project with PowerPoint presentation (presented as a unified group) to the class. A group is defined as 3-4 people all working on this together equally. The presentation portion is to last five - seven minutes. The presentation should be very creative/interesting and should be presented as either a 'news-style' presentation (example, Channel 4 News), game show format or well-known tv show knock-off. The research and presentation is based on a '**current event**' (defined as a press release from the newspaper, Internet, scientific magazine or journal 5 years old or less). Groups and chapters will be assigned/posted at the discretion of the instructor. * *more information later*

Course Policies

1. **No cell phones for personal use. This means NO PERSONAL TEXT MESSAGING DURING CLASS.** First offense is a verbal warning. Second offense, you will be asked to leave the class and may not be allowed back in for the duration of the semester.
2. **Late work is unacceptable and carries a penalty.**
NOTE: If you are unable to be present the day of your group's presentation, the highest grade that you will earn will be 1/2 of the group's total grade. The physical presentation to the class is 50% of the project. Since this is a "live" presentation, there is no makeup.
3. **Final Grade at Semester's End.** Final grades are non-negotiable. The grade you earn equals the grade you receive. **No** extra credit will be awarded toward the end of the semester so please do not ask.
4. **Personal Disposition and Behavior in Class** – you are now in a higher education environment. This is NOT the thirteenth year of high school. Please conduct yourself as an adult college student.
5. **Discipline Policy.**
 - a. Instructor will issue a verbal warning on first offense.
 - b. If second offense occurs, instructor will ask student to leave the classroom. Student will have to meet with instructor outside of class time to complete a disciplinary action form. Student will have to comply without exception and make the necessary behavioral changes.
 - c. If third offense occurs, instructor reserves the right to permanently remove the student from class not permitting completion for course for academic credit.

Policy on Cheating

Not allowed or tolerated. First offense, zero on assignment (which may not be done over). Second offense, expulsion from class and/or entire college.

6. **No food or Drinks in Class.** Per LIT, no food or drinks in the Multi-Purpose Building classrooms.
7. **Attendance Policy.** Roll will be taken daily.

Students with perfect attendance (**no absences whatsoever whether excused or unexcused**) will be awarded 5 points added to your semester points total. This is five points added to your final semester grade average on a 1000 point scale. *NOTE: This does not mean you can miss your regularly schedule class and catch another one of my classes at a different time! It means PERFECT attendance!*

You are expected to be present at class times. (*NOTE: Absences place you at an academic disadvantage because it is difficult to learn from just class notes*). Absences should be reserved for severe illness, hospitalization, and funerals.

Class Arrival Time:

Please be prompt! You are expected to be in your seat, on time, when roll is taken. Do not make coming in late a habit or noticeable pattern. If you do find yourself in the position of arriving late due to unavoidable circumstances, enter the classroom with the **least** amount of disruption possible.

Summary of Class Arrival Time
4 tardies = 1 absence.

On test days, the instructor reserves the right not to administer a test to a student who arrives more than 15 minutes late.

Class Departure Time:

You are required to stay the entire length of each lecture class unless dismissed, as a class, by the instructor. **Do not ask to “leave class early” for doctor’s appointments, picking up children from day care/ school, etc. Pre-arrange for these things ahead of time. You are expected to be in class the entire time.**

Missing Class:

If you miss a general class day, I typically do not need to know why. However, it is **your responsibility** to obtain missed lecture notes and class handouts from a fellow student who is trustworthy. Do not ask me for missed notes or class hand-outs. Copy machines are available in this building for student use on the first floor.

Missed Test:

You are expected to be present to take all tests and exams as scheduled! If you are present for every test, you may drop your lowest test grade. If you are absent, you will not be allowed to drop a test grade - your missed test will be the dropped grade – no makeup exams are given (whether excused or unexcused). You are only allowed 1 missed exam per semester with no exceptions. All students are required to take the comprehensive Final Exam (you must be present!)

- 8. Drop/Add/Withdraw.** It is the student's responsibility to make sure you are officially enrolled or dropped from this course. If at any point, you decide to drop the class, it is your responsibility to officially drop (i.e., using proper administrative offices/ paperwork). Any student who stops attending class and does not officially drop the course will be given an "F" as the semester grade.

Fall 2013 Final drop date is **November 1, 2013** No exceptions to these dates.

Very important! If you are not passing at the time of the first drop date, I recommend that you drop the class and take it again at a later date.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit her office located in the Cecil Beeson Building, room 116B.

Course Schedule (Tentative)*

Week	Topic	Reference
1	Go over syllabus and Ch 1	Class website
2	continue Ch 1	Class website
3	Finish Ch 1; Start Ch 2	Class website
4	Finish Ch 2; Start Ch 3	Class website
5	Finish 3 TEST 1	Class website
6	Start Ch 5	Class website
	Ch 6	Class website
8	(Ch 7	Class website
9	Continue CH. 7	Class website
10	Test II Start 8	Class website
11	Ch 9	Class website
12	Ch 10	Class website
13	CH 10	Class website
14	Test 3	Class website

15	Work on Projects	Handout on website
16	Presentations begin	Handout on class website
17	Last Class Day will be the cumulative Final	Final Exam Review Guide on website; Final Exams begin May 10

Contact Information

Instructor's Name: Dr. Bryan Barron
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Email: bryan.barron@lit.edu
DO NOT EMAIL ME ON BLACKBOARD.
Office Phone: 409-839-2946

Office Hours: SEE DOOR SCHEDULE