

Anatomy & Physiology Lab I (BIOL 2101)



Credit: 1 semester credit hour (2 hours lab)

Prerequisite: Passed the Reading/Writing Sections of COMPASS or any other accepted test.

Co-requisite: BIOL 2301

Course Description

Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized.

Required Textbook and Materials

1. *Human Anatomy and Physiology Laboratory Exercises Level 1: Using Crime Scene Investigative Approaches*, Stephanie. A. Lanoue, 1st edition. Kendall-Hunt Publishing, 2009.
 - a. **ISBN-13:** 978-0757566257. *NOTE: This book is mandatory to pass the lab class; you will complete your labs (write) in it and turn it in for a grade.
2. Regular (non-mechanical) #2 pencils.
3. Calendar for recording assignment due dates, tests, projects, etc.
4. Small 0.5' - 1" spine notebook with pocket (three ring for binding lab quizzes, extra notes)
5. 3-hole punch
6. Pens, colored pencils and/or highlighters of various colors

Course Objectives

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

1. Know and identify the parts of the microscope. Identify different cells using a microscope. Identify different tissues using a microscope. (SCANS: F1.3, F2.3, F4.3, F6.3, F7.3, F8.3, F9.3, F11.3)
2. Know and identify the names of the body plans.(SCANS: F1.3, F2.3, F4.3, F6.3, F7.3, F8.3, F9.3, F11.3)
3. Identify tissues related to the integumentary system.(SCANS: F1.3, F2.3, F4.3, F6.3, F7.3, F8.3, F9.3, F11.3)
4. Identify parts of the skeletal system. Identify the major bones within the human body.(SCANS: F1.3, F2.3, F4.3, F6.3, F7.3, F8.3, F9.3, F11.3)
5. Identify the types and different joints within the human body. Identify the muscles, types and attachments. (SCANS: F1.3, F2.3, F4.3, F6.3, F7.3, F8.3, F9.3, F11.3)

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6. Identify the major parts of the nervous tissue. (SCANS: F1.3, F2.3, F4.3, F6.3, F7.3, F8.3, F9.3, F11.3)

SCANS Skills and Competencies

Beginning in the late 1980's, the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work settings to determine what knowledge workers needed in order to perform well on a job. In 1991 the Commission announced its findings in *What Work Requires in Schools*. In its research, the Commission determined that "workplace know-how" consists of two elements: foundation skills and workplace competencies.

Course Outline

- A. Human Body Intro
 1. Regional and Descriptive Terms that describe the human body
 2. Planes of the Body
- B. Cells
 1. Structures
 2. Functions
 3. Mitosis
- C. Tissues
 1. Main types of epithelial tissue
 2. Other tissues of the body
- D. Integumentary System
 1. Skin
 2. Appendages
- E. Bones and Skeletal System
 1. Basic Shapes of Bones
 2. Bone Markings
- F. The Skeleton
 1. Bones of the axial skeleton
 2. Bones of the appendicular skeleton
- G. Joints
 1. Synovial joints
 2. Other joints
 3. Movements of Joints
- H. Muscles and Muscle Tissue
 1. Intro
 2. Characteristics of Muscle Tissue
 3. Related muscle terms
 - I. Muscular System
 1. Major muscles (anterior)
 2. Major muscles (posterior)
 - J. Fundamentals of the Nervous System
 1. Neurons
 2. Neuroglia and supporting cells of the nervous system

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- K. Central Nervous System
 - 1. Structures of the Brain
 - 2. Functions
- L. Peripheral Nervous System
 - 1. Structures of Eye and Ear
 - 2. Functions

Grading Scale

- 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:

1. Five quizzes are given. (100 points each)
2. The Lowest quiz grade is dropped.
3. Mid-Term Practicum (200 points)
4. Completed Laboratory Manual (200 points)
5. Final Exam Practicum (200 points)

Course Requirements

1. Quizzes
2. Mid-Term Exam
3. Completed Laboratory Manual
4. All students must take the Final Practicum

Course Policies

1. **No Cell Phones.** Students that use their cell phones for any purpose during class time will have their phone confiscated. First offense is a verbal warning. The second offense is dismissal from class for the duration of the semester.
2. **Late assignments will not be accepted.** Students will receive a zero for assignments not completed.
3. **No makeup exams.**
4. **Discipline Policy.** In the case of disruptive behavior, the instructor reserves the right to ask you to leave the classroom. Examples include side conversations, excessive talking in class, passing written notes to another classmate, chatting on cell phones or text messaging, loud yawning, gum popping, etc.

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- a. The instructor may not allow you to return to class if disruptive behavior continues.
5. **Food and/or Drinks are not allowed in the classroom.** LIT Policy prohibits food and drinks in the Multi Purpose Building classrooms.
6. **Attendance Policy.** Roll will be taken daily. Your attendance is documented by signing your initial on the class roll every day. Do not initial/sign the roll for another student.
7. **Class Arrival Times**
 - a. **Tardy.** Please be prompt! Students are expected to be in your seat, on time, when roll is taken. On test days, the instructor reserves the right not to administer a test to a student who arrives more than 15 minutes late.
 - b. 4 tardies = 1 absence
 - c. **Class Departure Time.** Students 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. Students are expected to be in class the entire class period.
 - d. **Class Absence.** It is the student’s responsibility to obtain missed lecture notes and class handouts. The instructor will not supply notes or handout to students that are absent. Xerox machines are available at the Mary and John Gray Library.
 - e. **Absence on a Test Day.** One test may be excused and/or dropped per semester (NO EXCEPTIONS!) **NO TEST MAKE-UPS!** Documentation in support of your absence is required.

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 the office located in the Cecil Beeson Building, room 116B.

Course Schedule

Week of	Topic	Reference
Jan 11 - 15	Go over syllabus and Complete Lab 1 - “Crime-Scene Investigation & Orientation to the Human Body”	Lab manual, pg 2
Jan 18 - 22	Quiz 1 (Regional and Direction Body Terms) Lab 2 - “The Microscope as a Forensics Tool”	Lab manual, pg 10
Jan 25 - 29	Lab 3 - “The Case of the Missing Computer at L.I.T.”	Lab manual, pg 17

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Week of	Topic	Reference
Feb 1 - 5	Quiz 2 (Microscope) Lab 4-“DNA Extraction”	Lab manual, pg 25
Feb 8 - 12	Lab 5 -“The Case of the Missing Histology Slides”	Lab manual, pg 31
Feb 15 - 19	Lab 6- “A Closer Look at Skin”	Lab manual, pg 41
Feb 22 - 26	Lab 7 – “Whose Hair Is This? Using Forensics To Determine Species and Other Quirky Facts”	Lab manual, pg 49
March 1 - 5	Begin Lab 8- “Bone Anatomy: Gaining Familiarity with Bone Markings and the General” Skeleton (Part 1 Bone Markings)	Lab manual, pg 59 - 65
March 8 - 12	Spring Break (No Classes)	Lab manual
March 15 - 19	Finish Lab 8- “Bone Anatomy: Gaining Familiarity with Bone Markings and the General” Skeleton (Part 2 Bones)	Lab manual, pg 66 - end
March 22 - 26	Lab 9 – “Bone Forensics: What Are The Bones Telling Us?”	Lab manual, pg 71
March 29 – April 2	Quiz 3 (Bone Markings or Bones) Mon-Weds Classes Review for Mid-Term 4/1 (Faculty All College Day/ Students No Classes); 4/2 (Holiday)	n/a
April 5 - 9	Mid-Term Practicum (Comprehensive)	n/a
April 12 - 16	Lab 10 – “Anatomy & Characteristics of Muscle Tissue in the Human Body”	Lab manual, pg 79
April 19 - 23	Lab 11 – “The Nervous System Versus The Case of the Distracted Driver”	Lab manual, pg 95
April 26 - 30	Lab 12 – “Sensory Perception: The Eyes and Ears”	Lab manual, pg 105
May 3 – 5 (Last Class Day) May 6 (Finals Begin)	Completed Lab Manuals Due; Final Practicum	n/a

Contact Information

Varies by Instructor.