

COURSE SYLLABUS

YEAR COURSE OFFERED: 2015

SEMESTER COURSE OFFERED: FALL

DEPARTMENT: BIOLOGY

COURSE NUMBER: 2101

NAME OF COURSE: Anatomy and Physiology I Laboratory

NAME OF INSTRUCTOR: TBD

The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Learning Objectives

Upon successful completion of this course, students will be able to

1. Develop a vocabulary of terminology to effectively communicate and discuss information related to the anatomy and physiology of the integumentary, musculoskeletal, and neuroendocrine systems of the human body.
2. Recognize the anatomical structures of the human body and explain the physiological functions of these structures.
3. Recognize and describe the interrelationships within and between anatomical and physiological systems of the human body.
4. Perform hands-on laboratory experiences in applying basic physiological and anatomical concepts.
5. Synthesize ideas to make connections between knowledge of anatomy and physiology and real-world situations, including healthy lifestyle decisions and diseases.
6. Present anatomical and physiological data in graphs and figures
7. Work with peers to apply content knowledge in problem solving
8. Effectively communicate solutions and reasoning to classmates and course instructor through presentations and lab reports.

Core Objectives (CO)

Anatomy and Physiology I Laboratory addresses the following core objectives to ensure students develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in their lives.

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

COURSE SYLLABUS

- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Team Work - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Major Assignments/Exams

The course components below are designed to meet the course objectives.

- **Quizzes:** pre-laboratory quizzes will be given prior to each experiment during the semester; questions will be multiple choice, short answer or essay and will cover material important to understanding the laboratory exercises
- **Laboratory reports:** written summaries of each laboratory exercise, including the objectives, hypotheses, experimental design, methods, data collected, analysis of results, and discussion/conclusion

Required Reading

Laboratory manual TBD (e.g., Marieb E. N., Smith L.A. 2016. *Anatomy and Physiology Laboratory Manuel*, 11th ed., Pearson)

Learning Outcomes	CO	Assessment Methods	Criteria/Targets
1. Demonstrate mastery of the fundamental chemistry of biologically important molecules.	CT, EQS, COM, TW	Pre-lab quizzes and post-lab analysis and reports	≥70% of students will correctly answer >70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.
2. Relate cell structures to biological function and describe their role in metabolism.	CT, EQS, COM, TW	Pre-lab quizzes and post-lab analysis and reports	≥70% of students will correctly answer >70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.

COURSE SYLLABUS

3. Recognize the commonalities between organ systems of diverse animal species.	CT, EQS, COM, TW	Pre-lab quizzes and post-lab analysis and reports	≥70% of students will correctly answer >70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.
4. Work with peers to apply content knowledge in problem solving.	EQS, TW	Laboratory experiments are performed in assigned groups with each group member responsible for a key role	≥75% of students will participate and provide key components to each lab exercise of the group.
5. Effectively communicate solutions and reasoning to classmates and course instructor.	COM	Peer assessment of laboratory exercises and analyses	≥75% of students will complete and present lab reports on each experiment.

Recommended Reading

N/A

List of discussion/laboratory topics

- Lab orientation, primary tissue types and the microscope
- The components of the integumentary system
- Identification of the parts of the skeletal system, and bone features
- Identification of the skeletal muscles, points of attachment, and actions
- Record muscle contraction and force generation under different experimental circumstances.
- Muscle reflexes
- Identification of the parts of the nervous system
- Demonstration of the action potential and factors that affect action potential conduction
- Two-point touch perception, temperature sensation, how the environment changes sensory experiences.
- Vision and color perception, hearing and sound perception
- Hormones and their effects on tissue functions