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)

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>CO</th>
<th>Assessment Methods</th>
<th>Criteria/Targets</th>
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<tbody>
<tr>
<td>1. Demonstrate mastery of the fundamental chemistry of biologically important molecules.</td>
<td>CT, EQS, COM, TW</td>
<td>Pre-lab quizzes and post-lab analysis and reports</td>
<td>≥70% of students will correctly answer &gt;70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.</td>
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<td>2. Relate cell structures to biological function and describe their role in metabolism.</td>
<td>CT, EQS, COM, TW</td>
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<td>≥70% of students will correctly answer &gt;70% of the questions on the pre-lab quizzes; ≥70% of students will correctly analyze and interpret results of lab experiments.</td>
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<td>3.</td>
<td>Recognize the commonalities between organ systems of diverse animal species.</td>
<td>CT, EQS, COM, TW</td>
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<td>4.</td>
<td>Work with peers to apply content knowledge in problem solving.</td>
<td>EQS, TW</td>
<td>Laboratory experiments are performed in assigned groups with each group member responsible for a key role.</td>
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<td>5.</td>
<td>Effectively communicate solutions and reasoning to classmates and course instructor.</td>
<td>COM</td>
<td>Peer assessment of laboratory exercises and analyses.</td>
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### 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