

1. College: **Science and Mathematics**
2. Department: **Biology**
3. Course status: **existing; does not require modification**
4. Course prefix and number: **BIO 238**
5. Course title: **Human Anatomy and Physiology I**
6. Course catalog description: **Human Anatomy and Physiology I (BIOL 2401) - Four semester hours, three hours lecture, three hours lab per week. Structure and function of the skeletal, muscular and nervous systems, including sense organs. Not open to students who have received credit for BIO 327. Not open for credit for biology majors or minors. Required lab fee.**
7. Number of semester credit hours: **4**
8. Estimated total course enrollment per year: **600**
9. Course prerequisites and/or required qualifications for enrolling in the class: **None**
10. Course **is not/will not be** available online.
11. Foundational Component Area: **Life and Physical Sciences**
12. Explain why this course fits into this foundation component area: **Human anatomy is the study of the form, structure, and the relationships among the various parts of human body. Human physiology is the study of how human organs and body systems function under the normal and abnormal circumstances. In this course students will be expected to: a. understand and explain the basic structures and processes involved in the functioning of the skeletal, muscular, and nervous systems using the appropriate terminology; b. compare and contrast various human body structures and processes; c. apply their knowledge to the real life situations: demonstrate their ability to analyze and evaluate given scenarios, and provide either a scientific explanation to the events taking place or make a prediction about the possible outcomes; d. gather and analyze various data during the lab.**
13. Core Objectives
  - Critical Thinking - Instruction: Students will be provided with a critical reading on the scientific method and hypothesis testing that will relay instructions on evaluating hypotheses based on collected data. Students will be provided with a reading describing proper compare/contrast techniques. In addition, students will be instructed on the approaches how to analyze various scenarios (involving scientific texts, tables, diagrams) through a number of instructor-directed discussions during lecture and lab. Targeted processes/assignments: • Identify/Interpret – Human Anatomy and Physiology requires students to be able to correctly identify structures of the body and interpret those features in terms of function. Students practice identifying various structures of the body including molecules, cellular components, cells, tissues, organs, and organ systems. • Compare/Contrast – Students will use proper compare/contrast techniques to compare/contrast various molecules, cellular components, cells, tissues, organs, and organ systems. • Application - Students will be provided with the variety of lecture and lab assignments that will require the application of their knowledge and will promote the development of critical thinking skills: analysis of various real-life scenarios in order to provide scientific explanation of the events or make a scientifically sound prediction of the possible outcomes.

- Communication Skills - Instruction: Students will be provided with examples of proper video presentations, short essays, lab reports accompanied by instructor-directed discussions describing the importance of using the correct scientific vocabulary and format, correct spelling, accurate graphic representation in describing the anatomical structures and physiological processes of human body, maintaining scientific tone, and incorporating visual tools (diagrams, tables, and graphs). Targeted processes/assignments: • Oral and Visual Communication - Students will prepare a one-minute video recording presenting the body location, structure, and function of an assigned bone. The presentation will include proper scientific vocabulary and will target students learning the components of the skeletal system. • Written Communication – In lecture, students will be complete a number of short essays demonstrating student’s comprehension of various physiological processes, their ability to compare/contrast and apply obtained information. In lab, students will provide written interpretations of the obtained data, and draw sound scientific conclusions.
- Empirical and Quantitative Skills - Instruction: One of the major objectives of Anatomy and Physiology is to be able to identify and describe various structures in a human body. In order to be able to identify microscopic structures, students will be instructed on proper microscopy techniques. Students will be participating in an instructor-led discussion on the proper data collection, data organization, processing, and presentation resulting in informed conclusions and inferences. Targeted processes/assignments: • Microscopic Observation – Students will use proper microscopic techniques in order to collect observations about cells undergoing different phases of cell cycle, variations in the organization of different tissue types, tissue arrangement in various organs. • Data Analysis – Students will collect qualitative/quantitative data and organize them into data tables. In the case of the bone lab they will be required to make calculations, graph the data, and interpret the results. During the special senses lab students will collect personal data, and determine whether their parameters are normal or atypical. Students will also be presented with data (in the text, table, and graph form) during lecture allowing them to improve upon data analysis, recognition of patterns, conclusion drawing skills, and ability to predict possible outcomes.
- Teamwork - Instruction: An instructor-led discussion will emphasize the strategies of effective teamwork, like determining roles at the beginning of the project, accountability, setting goals, time management, attitude, and conflict resolution. Targeted processes/assignments: Students will have numerous opportunities to improve their teamwork skills because many A&P lab assignments are set up as small group exercises promoting the ability to consider different points of view and to work effectively with others in order to achieve common goals. In lecture, students will perform “pair/share” activity on the structure of DNA, physiology of skeletal and smooth muscle contraction. In addition, students will work in formally assigned teams to complete organ dissections (a sheep brain and a sheep eye) and special senses clinical tests. Each individual student will be asked to evaluate their teamwork experience.

Contact person for questions about this submission:

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