BI 156 - 4 credits

Human Anatomy and Physiology I

Course Description

The first of a two-course sequence, this course provides a lecture and laboratory study of the structure and function of human cells, tissues, organs and body systems as they relate to human health and biology. The course stresses homeostatic control systems and coordinated body functions with an emphasis on the integumentary, skeletal, muscular, nervous, and endocrine systems.

Course Learning Outcomes

Upon completion of this course, the student will have:

1. Developed a vocabulary of appropriate terminology to effectively communicate information related to anatomy and physiology. (Program Outcome #1)
2. Discussed the correlation of tissue composition and structure to normal function. (Program Outcome #4)
3. Explained the principle of homeostasis and the use of feedback loops to control physiological systems in the human body. (Program Outcome #4)
4. Described the interrelationship among molecular, cellular, tissues, and organ functions in the integumentary, skeletal, muscular, nervous, and endocrine systems. (Program Outcome #3)
5. Evaluated the physiological functions of the integumentary, skeletal, muscular, nervous, and endocrine systems. (Program Outcome #3)
6. Demonstrated laboratory procedures to identify anatomical structures and landmarks pertaining to the integumentary, skeletal, muscular, nervous, and endocrine systems. (Program Outcome #2)

Assessment of Outcomes

Lecture and Lab Exams	55%

Quizzes	10%
Participation and Professionalism	10%
Activities - Lab and Theory	15%
Cumulative Final Exam	10%
Total	**100%**

Required Books & Resources

Required Textbook: Human Anatomy and Physiology 11th Edition by Elaine N. Marieb and Katja Hoehn

ISBN-13: 978-0-13-535443-8

ISBN-10: 0-13-535443-9

Recommended Books & Resources

Laboratory Guide for Bellin College BI156 and BI256 will be provided during the first lab.

Objectives & Content Outline

Unit 1: Body Organization and Cells	
Unit Objectives	**Content Outline**

Upon completion of the unit, the student will be prepared to: 1. Use anatomical terminology accurately to describe body position and relative location of structures. 2. Discuss the role of homeostasis and feedback in the body. 3. Describe the various mechanisms of biological transport. 4. Explain the properties of human cells including the membrane and organelles and their corresponding functions.	The Human Body: Organization and Anatomical Terminology ● Homeostasis ● Movement across the membrane ● Cells

Unit 2: Tissues, Membranes, and the Integumentary System	
Unit Objectives	**Content Outline**
Upon completion of the unit, the student will be prepared to: 1. Distinguish between epithelium, connective tissue, muscle, and neural tissue. 2. Describe the major structures and functions of the integumentary system. 3. Locate and describe 4 membrane types of membranes and their roles in the human body.	● Tissues (histology) ● Membranes ● Integumentary System

Unit 3: The Skeletal System

Unit Objectives	**Content Outline**
Upon completion of the unit, the student will be prepared to: 1. Explain the functions of the skeletal system. 2. Identify bones based on shape and composition. 3. Locate and name bones and corresponding markings for the axial skeleton. 4. Name bones and corresponding markings for the appendicular skeleton. 5. Identify and describe the various types of articulations and necessary structures.	Introduction to the Skeletal System ● Composition of the skeleton ● Axial skeleton ● Appendicular skeleton ● Articulations

Unit 4: The Muscular System	
Unit Objectives	**Content Outline**
Upon completion of the unit, the student will be prepared to: 1. Explain the functions of muscle. 2. Describe and identify the parts of a muscle at the microscopic level. 3. List and explain the steps of skeletal muscle contraction. 4. Compare aerobic and anaerobic muscle contraction. 5. Discuss muscle development and performance. 6. Compare and contrast different types of muscle tissue.	● Muscle Tissue ● Muscle Structure and Function ● Muscle Performance ● Muscle Development

Unit 5: Nervous System and the Special Senses, Endocrine System	
Unit Objectives	**Content Outline**
Upon completion of the unit, the student will be prepared to: 1. Describe the phases of an action potential in a neuron. 2. List and describe the various areas of the brain and their corresponding functions. 3. Know each cranial nerve and its function. 4. List and describe the special senses. 5. Explain the organization of the nervous system. 6. Describe the role of specific hormones within the body.	• Organization of the Nervous System • Action Potentials • Special Senses • Endocrine System

Final Exam	
Unit Objectives	**Content Outline**

Upon completion of the course, the student will be prepared to: 1. Discuss and use correct anatomical and clinical terminology related to anatomy and physiology. 2. Demonstrate knowledge of correct terminology in communications, on written course materials, and in the laboratory. 3. Demonstrate basic knowledge of common clinical terms and several diseases or pathological states related to each of the body systems studied in the course. 4. Demonstrate proficiency on all body systems discussed in the course and their interactions with one another.	Exam

Accommodations Request

Bellin College has a continuing commitment to providing reasonable accommodations for students with documented disabilities. Students with disabilities who may need some accommodation in order to fully participate in this class are urged to contact the Advisor and Accommodations Coordinator in Student Services One Stop, as soon as possible, to explore what arrangements need to be made to assure access.

Grading Policy

The following grading system is used to determine course achievement:

	Letter Grade	**Grade Points Per Credit**	**Numeric Grade Equivalent**

	A	4 points	93-100
	AB	3.5 points	88-92
	B	3 points	83-87
	BC	2.5 points	78-82
BELLIN COLLEGE MINIMUM PROGRESSION REQUIREMENT	C	2.0 points	70-77
	D	1 point	60-69
	F	0 point	below 60

Each course is graded in its entirety. A student must be successful in all course requirements to receive a passing grade. The course outcomes are represented in all course components.

Assessment of Student Academic Achievement Plan

Any testing and remediation required as part of the Assessment Plan must be completed prior to progression into subsequent courses.

Exam Proctoring

Bellin College students are responsible to pursue their studies with integrity and honesty. Exams in Canvas are proctored using Honorlock, an online proctoring service that promotes academic integrity. Students taking exams in Canvas are required to use this system as instructed by faculty. Honorlock is available 24/7 and all that is needed is a computer, a working webcam, and a stable Internet connection. Please see the Technical Requirements & Support link for more details.

Academic Policies

Please refer to the Bellin College Guide - Handbook & Catalog

(Links to an external site.)

. for the following policies:

- Attendance Policy (class, lab, clinical)
- Late Exam Policy
- Late Graded Assignment Policy
- Academic Misconduct Policy
- Information Technology – Acceptable Use Policy

Copyright Notice

Student Use of Electronic Devices during Courses

Electronic devices within the classroom, lab, and clinical courses may be utilized by students for appropriate learning purposes only. Cell phone ringtones shall be put on “vibrate/silent” during all course times and utilized for emergency purposes only. Repeated violations and/or course disruptions due to inappropriate use of electronic devices will be referred to the appropriate Program Director for disciplinary measures.

Bellin College Values

Excellence - *being the best*

Integrity - *honest and ethical behavior*

Community - *collaboration and inclusion*

Caring - *empowering relationships based on empathy and respect*

Supplementary Documents

- View the **Course Schedule** for weekly topic, preparation, and assignment details
- View the **Course Guide** for unit objectives, content outlines, and additional course-specific expectations and guidelines to help you be a successful student in this course.