Warren County Community College

BIO 262 Anatomy and Physiology I

Course Master Syllabus

Course Information

Catalog Description: With an emphasis on biochemistry, cytology, histology, and the integumentary, skeletal, muscular, and nervous systems, this course provides a systems approach to the study of the normal structure and function of the human body. Laboratory exercises are designed to reinforce content. This course is a requirement for nursing intent majors and recommended for science majors.

Prerequisite(s): CHE 110 – Introductory Chemistry

Corequisite(s): ENG 140 – English Composition I

Credits: 4

Hours: 3 lecture and 3 lab

Required Text(s): MindTap Basic Health Science for Rizzo's *Fundamentals of Anatomy and Physiology*, 4th edition

Supplemental Materials:

Instructor Information

Instructor's Name:

Contact Information:

Office Hours:

Program Goals

1. Apply the scientific method in experimentation and data analysis.
2. Analyze complex scientific problems, perform calculations, and evaluate solutions.
3. Communicate scientific information clearly through both oral and written communication.
4. Critically analyze problems through gathering data from multiple sources and apply findings to new scenarios.

5. Describe fundamental biological, chemical, and physical principles, including, but not limited to, molecular and cellular functions, anatomy and physiological function, inheritance, and both organic and inorganic chemical reactions.
6. Interpret results from experimentation that utilizes modern laboratory techniques and instrumentation.

Class Core Competencies

The following core competencies are embedded in this curriculum:

- Communicate effectively in both speech and writing
- Use scientific method of inquiry, through the acquisition of scientific knowledge
- Understand ethical issues and situations
- Address an information need by locating, evaluating, and effectively using information.

Class Learning Assessment

Student Learning Outcomes	Suggested Means of Assessment
Utilize the proper anatomical and directional terms addressing body structures, body systems and their locations	Tests, quizzes, assessment tasks, pre and post-tests
Identify structures of (applicable body systems).	Tests, quizzes, assessment tasks, practical exams
Correlate structure and function relationships within a particular system. Integrate knowledge of anatomical and physiological functions of the entire body.	Tests, quizzes, assessment tasks, exams
Explain the function of the organs within a particular system and their importance to that system's function and to maintaining homeostasis.	Tests, quizzes, class discussions, critical thinking rubrics, pre and post-tests
Differentiate among various histological body tissue samples.	Tests, quizzes, lab reports

Student Learning Outcomes	Suggested Means of Assessment
Recognize the importance of lab safety and apply the scientific method when conducting lab experiments	Hands-on tasks, practical exams, performance assessment activities, lab reports
Demonstrate effective oral/written communication skills to analyze lab results	Participation in class discussions, essay questions, exams, lab reports
Exhibit professional behaviors and follow high ethical standards	Team group lab work for scientific reporting

Grading System

Letter Grade	Percentage Range
A	90 to 100 percent
B Plus (B+)	87 to 89.9 percent
B	80 to 86.9 percent
C Plus (C+)	77 to 79.9 percent
C	70 to 76.9 percent
D	60 to 69.9 percent
F	Below 60 percent

College Information

Disability Services
Disability Services Webpage

Statement and Policy on Cheating, Plagiarism, and Academic Conduct
Academic Conduct Policy (Policy 304) [PDF]

Students are required to perform all the work specified by the instructor and are responsible for the content and integrity of all academic work submitted. A violation of academic integrity will occur if a student: (1) knowingly represents work of others as one's own, (2) uses or obtains unauthorized assistance in any academic work, (3) gives fraudulent assistance to another student, or (4) furnishes false information or other misuse of college documents.

Unauthorized use of Artificial Intelligence (AI) is prohibited unless the instructor explicitly permits it in the syllabus or assignments. If tools such as ChatGPT are permitted by an instructor to be used for an assignment, they should be used with caution and with

proper citation. In all such cases, you may only use the specific tools identified as acceptable and you must adhere to the College's standards for attribution, validation, and transparency.

In cases of suspected violation of academic integrity, the incident is to be reported to the Office of Academics. A student found guilty of violating the rule of academic integrity by the Vice President of Academics will be considered to have failed in personal obligation to the College; such failure will be subject to disciplinary action by the College. Unless otherwise notified, the instructor will allow students who are pending disciplinary action to attend class.

Tutoring and Testing at the Instructional Support Center (ISC)

- Instructional Support Center (ISC) Webpage

WCCC Library Services

- WCCC Library Website

Citation Styles and Formatting

Work submitted for any Warren County Community College course must conform to the required formatting and citation style that are specified by the instructor. The Library and Instructional Support Center can assist students with formatting and citations for assignments and papers.

WCCC Attendance Expectations

The College expects students to attend and participate in all classes. This involves sharing discussions and lectures in class, as well as interacting with other students. Grades are based on the quality of work students complete in meeting the requirements for a particular course, as stated in the course syllabus and catalog description. Attendance, among other factors, may be an additional criterion for assigning grades. Students should realize that they are responsible for all class meetings and that work missed because of absences may affect their grades. Attendance in online classes is determined by the completion of assignments/ tests. Students who have not completed any assignments or tests will be considered non-attending and receive an NF grade in online classes.

Class Attendance Expectations

Topical Outline

1. The human organism
    a. Anatomy and physiology defined
    b. Levels of structural organization
    c. Anatomical position and names
    d. Directional terms
    e. Homeostasis
2. Chemical basis of life
    a. Atoms, molecules, elements, compounds
    b. Ionic, covalent, hydrogen bonding
    c. Chemical reactions
    d. Acids, bases, pH, buffers
3. Cell biology and genetics
    a. Plasma membrane, cytoplasm, organelles
    b. Protein synthesis, transcription, translation
    c. Cell division
4. Histology: The study of tissues
    a. Epithelial
    b. Connective
    c. Muscle
    d. Nervous
    e. Membranes
    f. Tissue repair
5. Integumentary system
    a. Skin structure, function
    b. Wound healing
6. Skeletal system: Bones and bone tissue
    a. Functions
    b. Histology compact, spongy bone
    c. Bone formation and growth
    d. Aging
7. Skeletal system: Gross anatomy
    a. Axial skeleton
    b. Appendicular skeleton
8. Joins and movements
    a. Functional and structural classification
    b. Fibrous joints
    c. Cartilaginous joints
    d. Synovial joints
9. Muscular system: Histology and Physiology

    a. Structure
    b. Function
    c. Types – skeletal, cardiac, smooth
    d. Contraction
10. Muscular system: Gross Anatomy
    a. Muscle movement
    b. Principal skeletal muscles
11. Functional organization of nervous tissue
    a. Overview
    b. Neurons, neuroglia
    c. Organization: CNS, PNS
    d. Synapses
    e. Reflexes
12. Spinal cord and spinal nerves
    a. Spinal cord
    b. Reflexes
    c. Pathways
    d. Peripheral nerves
13. Brain and cranial nerves
    a. Parts of the brain
    b. Meninges
    c. CSF
    d. Cranial nerves

Grading Methods

Assignment	Points/Percentage

Class Itinerary

Week / Unit	Topic	Readings/Assignments