

ANATOMY/PHYSIOLOGY

LENGTH OF TIME: 90 minutes daily for one semester

GRADE LEVEL: 11-12

COURSE STANDARDS:

Students will:

1. Correctly identify parts of the anatomy of the human body using anatomical terms. (PA Std 3.3.12.a, b)
2. Compare and contrast functions and parts of various body systems. (PA Std 3.3.12.a, b)
3. Demonstrate knowledge of interactions among body systems. (PA Std 3.3.12.a, b)
4. Explain the process of acquiring common diseases associated with each body system. (PA Std 3.3.12.c; 4.3.12.a,c)
5. Demonstrate knowledge of personal body health. (PA Std 3.3.12c; 4.3.12.a,c)

RELATED PA ACADEMIC STANDARDS FOR SCIENCE AND TECHNOLOGY

- 3.3 Biological Sciences
- A. Living Forms
 - B. Structure and Function
 - C. Inheritance

RELATED PA ACADEMIC STANDARDS FOR ENVIRONMENT AND ECOLOGY

- 4.3 Environmental Health
- A. Environmental Health Issues
 - C. Biological Diversity

PERFORMANCE ASSESSMENTS:

Students will demonstrate achievement of the standards by:

1. Building models related to curriculum. (Course Standard 2)
2. Preparing written/oral reports on various anatomical terms (Course Standard 1)
3. Designing a project, demonstration or presentation that shows the anatomy and physiology of a body system (Course Standard 1)
4. Using acceptable microscopic techniques and preparing various tissue/cell samples for observation, identification and comparison. (Course Standard 2, 3)
5. Organizing information into essay form for self or group evaluation. (Course Standard 1-5)
6. Completing lab activities and preparing written reports summarizing findings. (Course Standard 1-5)

DESCRIPTION OF COURSE:

In Anatomy/Physiology, students will investigate the components of each body system. They will describe the functions of the systems so they may analyze diseases and their

effects on the human body. Body systems will be studied on a cellular as well as macroscopic level. Laboratory investigations, dissections, microscope work, cooperative group projects and individual research assignments will be done in combination with text readings and the use of technology to further develop the understanding of the human body and how it works. Students will produce laboratory investigations, illustrations, oral reports and other various projects in addition to traditional methods of assessment.

TITLES OF UNITS:

1. Anatomical and Directional Terminology	1 week
2. Skeletal System	2 week
3. Articulations and Muscular Systems	2 weeks
4. Circulatory, Respiratory & Purification Systems	3 weeks
5. Lymphatic Systems and Immunity	1.5 weeks
6. Integument System	1.5 weeks
7. Nervous System	2 weeks
8. Digestive and Excretory Systems	2 weeks
9. Reproductive System	2 weeks
10. Endocrine System	1 weeks
11. Mechanisms and Terminology of Disease	ongoing

SAMPLE INSTRUCTIONAL STRATEGIES:

1. Cooperative group projects
2. Model building
3. Oral reports
4. Small group activities
5. Role playing
6. Individual and group research activities
7. Dissection and identification
8. Computer simulations
9. Lecture and discussion
10. Laboratory activities
11. Essay writing
12. Interviewing professionals

MATERIALS:

1. Essentials of Anatomy and Physiology, 6th edition; Seeley, Stephens, Tate; McGraw-Hill, 2007
2. Computers and appropriate software
3. Laboratory specimens and related dissection materials
4. Microscopes and appropriate materials
5. AV equipment and resources

METHODS OF ASSISTANCE AND ENRICHMENT:

1. Opportunities for re-testing
2. Tutorials

3. Extra credit projects
4. Cooperative lessons and projects
5. Alternative modes of assessment

PORTFOLIO DEVELOPMENT:

1. Lab reports
2. Research projects
3. Tests/quizzes
4. Drawings/models

METHODS OF EVALUATION:

1. Tests/quizzes
2. Essays
3. Research projects
4. Homework
5. Laboratory reports
6. Collaborative tests/quizzes

INTEGRATED ACTIVITIES:

1. Concepts
 - analyze the effects of disease on each body system
 - correctly identify anatomical terms
 - understand and describe the components of each body system and their functions
2. Communication
 - read and interpret a variety of text
 - orally present findings of current medical trends
 - write for a variety of purposes
3. Thinking/Problem Solving
 - use effective research & information management skills
 - evaluate, estimate and apply knowledge to solve theoretical & practical problems
 - construct & evaluate models of scientific systems
4. Application of Knowledge
 - use laboratory instruments
 - dissect specimens & identify anatomical landmarks
 - demonstrate knowledge of basic concepts & principles of anatomical & physiological science
5. Interpersonal Skills
 - demonstrate skills of communication, negotiation, and cooperation with others
 - demonstrate effective work skills with peers
 - interview professionals in medical field