

Des Moines Area Community College

COURSE INFORMATION

Acronym/Number BIOL 154

Title GENERAL ANATOMY AND PHYSIOLOGY

Credit breakout 5 3 4 0 0
(credit lecture lab practicum work experience)

PREREQUISITE(S): H.S. biology and H.S. chemistry

COURSE DESCRIPTION:

A classic integration of human anatomy and physiology at the cellular level and organ/system level. Includes cat dissection.

COURSE COMPETENCIES:

During this course, the student will be expected to:

1. Comply with safety and health rules.
 - 1.1 Explain appropriate safety procedures for the laboratory.
 - 1.2 Demonstrate appropriate safety procedures for the laboratory.
 - 1.3 Identify the locations of safety equipment in the laboratory room.
2. Demonstrate laboratory skills.
 - 2.1 Distinguish among laboratory supplies.
 - 2.2 Show competence in the use of laboratory equipment.
 - 2.3 Use the metric system.
 - 2.4 Demonstrate respect and care of laboratory equipment.
3. Use laboratory microscopes.
 - 3.1 Identify major parts of the microscope.
 - 3.2 Demonstrate proper technique in the use of a microscope.
 - 3.3 Demonstrate proper care of the microscope.
4. Demonstrate dissection techniques.
5. Identify anatomical topography.
 - 5.1 Demonstrate anatomical position.
 - 5.2 Identify planes used to study the body and its parts.
 - 5.3 Identify directional anatomical terminology.
 - 5.4 Identify regional anatomical terminology.
 - 5.5 Identify body cavities.

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6. Relate levels of organization in the human body.
 - 6.1 Explain the structural organization of the human body.
 - 6.2 Define and explain homeostasis.
 - 6.3 Distinguish between the feedback mechanisms.
 - 6.4 Summarize basic concepts of life chemistry.
 - 6.5 Relate cellular functions.
 - 6.6 Explain the functions of the primary tissues.
 - 6.7 Discriminate functional interactions among levels of organization.

7. Identify functions and components of body support and movement systems.
 - 7.1 Point out the structures of the integumentary system and their functions.
 - 7.2 Identify the structures of the skeleton.
 - 7.3 Outline the functions of the skeleton.
 - 7.4 Identify the structures of the joints and their functions.
 - 7.5 Analyze the functions of joints.
 - 7.6 Investigate the functions of muscles and muscle tissue.
 - 7.7 Identify muscles and muscle tissue and their functions.
 - 7.8 Discriminate functional interactions among levels of organization.

8. Identify the structures and functions of the body control systems.
 - 8.1 Identify the structures of the nervous system.
 - 8.2 Explain the fundamentals of the nervous system.
 - 8.3 Identify the structures of nervous tissue.
 - 8.4 Analyze the functions of nervous tissue.
 - 8.5 Outline the functions of the central nervous system.
 - 8.6 Identify the structures of the central nervous system.
 - 8.7 Identify the structures of the peripheral nervous system.
 - 8.8 Relate the functions of the peripheral nervous system.
 - 8.9 Identify the structures of reflex arcs.
 - 8.10 Compare reflex activities.
 - 8.11 Identify the structures of the autonomic nervous system.
 - 8.12 Identify the structures of the special senses and their functions.
 - 8.13 Identify the structures of the endocrine system.
 - 8.14 Examine the functions of the endocrine system.
 - 8.15 Discriminate function interactions among levels of organization.

9. Relate the function of body maintenance systems.
 - 9.1 Identify components of blood.
 - 9.2 Summarize the functions of blood.
 - 9.3 Identify the structures of the heart.
 - 9.4 Outline the functions of the heart.
 - 9.5 Identify blood vessels.
 - 9.6 Discuss the functions of the blood vessels.
 - 9.7 Identify the structures of the lymphatic system.
 - 9.8 Explain the functions of the lymphatic system.
 - 9.9 Identify the structures of the respiratory system.
 - 9.10 Illustrate the functions of the respiratory system.
 - 9.11 Identify the structures of the excretory system.
 - 9.12 Discuss the functions of the excretory system.

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- 9.13 Identify the structures of the digestive system.
 - 9.14 Summarize the functions of the digestive system.
 - 9.15 Discriminate functional interactions among levels of organization.
10. Identify the structures and principles involved in the continuity of human life.
- 10.1 Identify the structures of the female reproductive system.
 - 10.2 Discuss the functions of the female reproductive system.
 - 10.3 Identify the structures of the male reproductive system.
 - 10.4 Discuss the functions of the male reproductive system.
 - 10.5 Discriminate functional interactions among levels of organization.

INSTRUCTIONAL MATERIALS:

Textbook(s): For each text used in this course, identify the minimum chapters to be covered in this course. Principles of Anatomy and Physiology, 7th Ed., Tortora/Anagnostakos, 1992. Harper Collins Publishers.

Lab Manual: Laboratory Exercises in Anatomy and Physiology with Cat Dissections, 3rd Ed., Tortora/Tallitsch/Anagnostakos.

A Guide to Anatomy and Physiology lab (Thomas G. Rust)

Study guide Learning Guide (Prezbindowski/Tortora)

Transparencies supplied by publisher (Harper Collins); 140 acetates; 240 slides

Test banks

Supplied by publisher (Harper Collins)

Computer hardware/software

Biosource - 4 tutorial packages

Homeostasis

Body Language

Anatomist

Flash!

Sensory and Motor Brain

Other (example: Laboratory equipment for biology/chemistry class)

Instructor's manual to accompany text

Coloring books

Interactive videos

Cadaver Dissection videos

Lab equipment to complete 30 lab sessions.

Preparation

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last date of review or revision:

Competencies are reviewed annually.