SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: BIOL 143 Department: Biological Sciences

Course Title: Fund. Anatomy & Physiology Semester: Spring Year: 1997

Objectives/Competencies

Course Objective	Competencies
1. To understand the organization and plan of the body.	1. To introduce the study of anatomy. 2. To introduce the study of physiology. 3. To introduce the study of pathophysiology. 4. To describe the levels of organization. 5. To analyze the body's chemical makeup. 6. To analyze the tissue structure of an organ. 7. To explain homeostasis. 8. To define terms dealing with anatomical position. 9. To identify the body cavities. 10. To identify body cavity membranes.
2. To understand basic chemistry.	1. To analyze the elements of matter. 2. To analyze the elements that comprise the body. 3. To describe the structure of the atom. 4. To explain chemical bonding. 5. To explain how compounds are formed. 6. To explain synthesis and decomposition reactions. 7. To analyze water.

Course Objective	Competencies
	8. To identify inorganic compounds. 9. To identify organic compounds. 10. To analyze organic compounds.
3. To understand the structure and functioning of the cell.	1. To analyze the cell membrane. 2. To analyze the nucleus. 3. To identify cellular structures. 4. To survey organelles. 5. To analyze DNA. 6. To analyze transport mechanisms. 7. To define solution terminology. 8. To analyze hypertonic and hypotonic solutions. 9. To analyze diffusion. 10. To analyze osmosis.
4. To understand the structure and function of tissues and membranes.	1. To classify tissues. 2. To define the functions of epithelial tissue. 3. To analyze the structure of epithelial tissue. 4. To define the functions of connective tissue. 5. To analyze the structure of connective tissue. 6. To define the functions of muscle tissue. 7. To analyze the structure of muscle tissue. 8. To define the functions of nervous tissue. 9. To identify glands and glandular secretions. 10. To classify membranes and their secretion.

Course Objective	Competencies
5. To understand the integumentary system.	1. To classify skin layers. 2. To analyze the tissue makeup of skin. 3. To analyze the functions of skin. 4. To analyze control of body temperature by skin. 5. To analyze the effects of pigmentation. 6. To identify sensory receptors. 7. To label all structures of the skin. 8. To describe hair and its function. 9. To analyze glandular secretions. 10. To identify skin diseases.
6. To understand the structure and function of the skeletal system.	1. To analyze the microscopic structure of bone. 2. To analyze the functions of the skeleton. 3. To classify bone tissues. 4. To identify the major bones of the body. 5. To analyze bone growth and repair. 6. To classify bones. 7. To classify articulations. 8. To classify joints. 9. To analyze the effects of osteoporosis. 10. To identify bone diseases.
7. To understand the structure and function of the muscular system.	1. To analyze the functions of muscles. 2. To identify the major muscles of the body. 3. To analyze how muscles function. 4. To analyze microscopic anatomy of skeletal muscle. 5. To analyze the neuromuscular juncture.

Course Objective	Competencies
	6. To analyze the sliding filament theory. 7. To analyze energy consumption of muscle cells. 8. To analyze aerobic and anaerobic activity. 9. To define muscle terminology. 10. To identify diseases of the muscular system.
8. To understand the structure and function of the nervous system.	1. To analyze the functions of nerves. 2. To define the divisions of the nervous system. 3. To classify nerve tissues and cell types. 4. To classify types of neurons. 5. To analyze the nerve impulse. 6. To analyze reflexes. 7. To identify the major areas of the spinal cord. 8. To identify the major areas of the brain. 9. To identify the major nerves of the body. 10. To identify diseases of the nervous system.
9. To understand the structure and function of the sensory system.	1. To classify the major senses. 2. To define all terminology dealing with sensation. 3. To analyze sensory pathways. 4. To analyze taste and smell. 5. To identify receptors for taste and smell. 6. To label the major structures of the eye. 7. To analyze the physiology of the eye. 8. To label the major structure of the ear. 9. To analyze the physiology of the ear. 10. To identify the diseases of the sensory system.

Course Objective	Competencies
10. To understand the structure and function of the heart.	1. To analyze the functions of the heart. 2. To identify the major structures of the heart. 3. To identify the major blood vessels of the heart. 4. To follow blood flow through the heart. 5. To analyze heart sounds. 6. To analyze EKG. 7. To analyze the cardiac conduction pathway. 8. To analyze heart rate and its regulation. 9. To analyze cardiac output. 10. To identify the diseases of the heart.