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| **PROFESSOR:** | **PHONE NUMBER:** |
| **OFFICE LOCATION:** | **E-MAIL:** |
| **OFFICE HOURS:** | **SEMESTER:** |

1. **COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

**BSC 1084C ANATOMY AND PHYSIOLOGY (4 CREDITS)**

This is a one semester combined lecture/lab course in human anatomy and physiology. It includes principles and concepts of chemistry and biochemistry. Concepts related to the cell and tissues are covered in conjunction with concepts related to the structure and function of the body systems. Each system is presented in sufficient depth to provide students with a comprehensive understanding of the human body. This course is an introduction to anatomy and physiology, chemistry, the cell, tissues, and the following systems: integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive. This course cannot be used as a substitute for any other anatomy and physiology course at this institution.

1. **PREREQUISITES FOR THIS COURSE:**

SB 1720 Testing Exemption or successful completion of all Developmental courses

**CO-REQUISITES FOR THIS COURSE:**

None

1. **GENERAL COURSE INFORMATION:** Topic Outline.

• Introduction to Anatomy and physiology

• Chemistry

• Cells

• Tissues

• Integumentary system

• Skeletal system

• Muscular system

• Nervous system

• Special senses

• Cardiovascular

• Lymphatic system

• Endocrine system

• Immune system

• Respiratory system

• Digestive system

• Urinary system

• Reproductive system

1. **All courses at Florida SouthWestern State College contribute to the general education program by meeting one or more of the following general education competencies:**

**C**ommunicate clearly in a variety of modes and media.

**R**esearch and examine academic and non-academic information, resources, and evidence.

**E**valuate and utilize mathematical principles, technology, scientific and quantitative data.

**A**nalyze and create individual and collaborative works of art, literature, and performance.

**T**hink critically about questions to yield meaning and value.

**I**nvestigate and engage in the transdisciplinary applications of research, learning, and knowledge.

**V**isualize and engage the world from different historical, social, religious, and cultural approaches.

**E**ngage meanings of active citizenship in one’s community, nation, and the world.

**A.**  **General Education Competencies and Course Outcomes**

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student’s general education along with the general education competency it supports.

General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

* Define homeostasis, explain homeostatic control mechanisms, and give examples of conditions that are maintained in the human body.
* Use anatomical terminology correctly.
* Analyze the functions of ions, water, acids, and bases in the human body.
* Compare and contrast the structure and function of carbohydrates, lipids, proteins, and nucleic acids.
* Analyze the role of enzymes in metabolism.
* Identify the major cellular organelles and explain their function.
* Explain how substances cross cellular membranes.
* Compare and contrast mitosis and meiosis.
* Compare and contrast the characteristics, classification, location, and function of the four primary tissues and correctly identify tissues.
* Describe the structure and summarize the functions of the different parts of the integumentary system.
* Discuss the types and significance of burns.
* Differentiate the two ossification processes and summarize the events involved in the remodeling and repair of bones.
* Identify the bones and major bone markings on the axial and appendicular skeleton.
* Describe the structure of various joints, demonstrate the types of movements these joints allow, and describe the factors that determine the stability of joints.
* Describe gross anatomy and the microscopic anatomy of skeletal muscle and describe the mechanism of contraction of a skeletal muscle cell.
* Describe skeletal muscle metabolism, sketch aerobic and anaerobic cellular respiration, and explain the effect of exercise on muscles.
* Identify the major muscles of the body on models and demonstrate their actions.
* Describe the characteristics, structure, and function of the nervous system cells (including neurons and glial cells), appraise their differences, and summarize how neurons transmit information to other neurons or skeletal muscles.
* Describe the structure and function of the central nervous system (CNS), analyze how information is processed and conducted throughout the CNS, identify how the CNS is protected, and identify and describe the function of the cranial nerves.
* Describe the components of the peripheral nervous system (PNS) and discuss how they convey sensory information to the CNS and motor output to effector organs; also, identify and describe the function of the spinal nerves.
* Construct the components of a reflex arc, discuss the function and importance of spinal reflexes, and demonstrate given reflexes.
* Compare and contrast the somatic and autonomic nervous systems (ANS) and compare and contrast the structure and function of the sympathetic and parasympathetic branches of the ANS.
* Describe the structure and function of the special sense organs, and analyze how they convert sensory information into nerve impulses and how the input is integrated.
* Identify the major endocrine organs, describe each of their hormones and the control of their release, and analyze the role of each hormone in homeostasis.
* Analyze the composition, physical characteristics and functions of blood, and explain the process of hemostasis and the associated disorders.
* Describe the gross and microscopic anatomy of the heart, diagram the pathway of blood through the heart, and describe the contraction of cardiac muscle cells.
* Explain how the cardiac conduction system controls cardiac contraction and correlate the events of the cardiac cycle.
* Calculate cardiac output and describe associated homeostatic imbalances.
* Describe the structure of blood vessels and outline the factors affecting blood flow, the control of blood flow through the body tissues, and the movement of fluids and nutrients across the capillary wall.
* Identify the major blood vessels and circulatory pathways on models.
* Describe the structure and function of lymphoid cells, tissues, vessels and organs and explain the formation of lymph.
* Summarize the first and second line of nonspecific defense mechanisms and compare and contrast antibody mediated and cell mediated immunity.
* Describe the structure and function of the respiratory system organs, the mechanics of breathing, the control of ventilation, and describe the respiratory volumes and capacities.
* Compare and contrast the structure, function, and control of the digestive system organs.
* Describe the structure and function of the urinary system organs, identify urinary system structures on models, and explain how dilute and concentrated urine are formed.
* Summarize water, electrolyte, and acid-base balance and their effect on homeostasis.
* Describe blood pressure homeostasis by correlating the neuronal and hormonal control mechanisms for cardiac output, peripheral resistance, and blood volumes.
* Describe the structure and function of the male and female reproductive organs and identify these organs on models.
* Diagram spermatogenesis, oogenesis, ovarian cycle, and the uterine cycle and explain the hormonal control of the male and female reproductive systems.
* Describe the events in fertilization, and the progression of fetal development events.
* Use the current Food Guide Pyramid to design a diet plan and analyze a diet, and explain the role of vitamins and minerals in the body

1. **DISTRICT-WIDE POLICIES:**

**Programs for Students with Disabilities**

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College’s guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

**REPORTING TITLE IX VIOLATIONS**

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct.  Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at [equity@fsw.edu](mailto:equity@fsw.edu).  Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online.  Additional information and resources can be found on the College’s website at <http://www.fsw.edu/sexualassault>.

1. **REQUIREMENTS FOR THE STUDENTS:**

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

1. **ATTENDANCE POLICY:**

The professor’s specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

1. **GRADING POLICY:**

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 - 100 = A

80 - 89 = B

70 - 79 = C

60 - 69 = D

Below 60 = F

(Note: The “incomplete” grade [“I”] should be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.)

1. **REQUIRED COURSE MATERIALS:**

(In correct bibliographic format.)

1. **RESERVED MATERIALS FOR THE COURSE:**

Other special learning resources.

1. **CLASS SCHEDULE:**

This section includes assignments for each class meeting or unit, along with scheduled Library activities and other scheduled support, including scheduled tests.

1. **ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**

(Which would be useful to the students in the class.)