

SYLLABUS

COURSE # AND TITLE: BIOL 112 HUMAN BODY STRUCTURES AND FUNCTIONS
OF CREDITS: 4 (3 + 2P)

CATALOG DESCRIPTION: The organization, metabolic processes and regulation of cells and tissues. Basic concepts of the physical and chemical operation of the organs and systems of the human body. System reviews to include integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary and reproductive systems.

Semester Offered: Fall, Spring, Summer

Prerequisites: None

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will....

<i>Learn</i>	<i>Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.</i>
<i>Think</i>	<i>Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.</i>
<i>Communicate</i>	<i>Students will exchange ideas and information with clarity and originality in multiple contexts.</i>
<i>Integrate</i>	<i>Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.</i>
<i>Act</i>	<i>Students will act purposefully, reflectively, and respectfully in diverse and complex environments.</i>

GENERAL LEARNING OBJECTIVES

Upon completion of the course, the student should understand the following content areas:

1. The major body systems.
2. The chemistry of cells.
3. The basic structures in tissues, organs and organ systems of the human body.
4. The major functions (physiology) of these structures in the human body.
5. The basic pathologies that impact these structures in the human body.

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to:

- 1.1 Define the terms for body regions, planes, cavities and membranes.
- 1.2 Identify the organs and basic structures of all systems listed under the course description.
- 1.3 Locate all basic organs and structures, listed under the course description, on drawings, models or CD-ROM discs on the computer.
- 2.1 Describe homeostasis and its impact on all body organs.
- 2.2 Describe the processes involved in cellular respiration and ATP formation.
- 2.3 Define what an electrolyte is, and how they function in the body.
- 2.4 Define acids and bases, and know what is meant by pH values.
- 2.5 Describe the role of water in the human body and cellular reactions.
- 2.6 Describe the structure, formation and functions of lipids and phospholipids.
- 2.7 Describe the structure, formation and functions of carbohydrates.
- 2.8 Describe the structure, formation and functions of proteins.
- 2.9 Locate all organelles of a representative cell on drawings or models.
- 2.10 Describe the function of the organelles of a cell, especially mitochondria, endoplasmic reticulum and the nucleus.
- 2.11 Describe the structure and function of cellular membranes.
- 2.12 Diagram and explain the stages of mitosis.
- 3.1 Identify the four basic tissue types and describe their structure.
- 3.2 Describe the structure of the skin, cartilage and bone.
- 3.3 Describe and classify the three types of joints.
- 3.4 Identify the structures of a basic nerve.
- 3.5 Identify the structures in the central, peripheral and autonomic nervous systems.
- 3.6 Describe the special senses.
- 3.7 Identify the elements in blood and their function.
- 4.1 Describe the basic function of all organ systems listed under the course description.
- 4.2 Describe the basic process that produces muscle contractions.
- 4.3 Describe hormones and their basic function on homeostasis and the human body.
- 4.4 Describe the process of gas exchange in the lungs and tissues and their transport in blood.
- 4.5 Describe the enzymes and their actions in digestion.
- 4.6 Describe the balances of water, electrolytes and acidity in body fluids, and their regulation.
- 4.7 Describe the events in human development.
- 4.8 Describe the sources of variation in human genetics.
- 5.1 Describe the disease process and how it alters normal body function.

Syllabus developed by _____ Date: _____

Syllabus reviewed by _____ Date: _____

A current syllabus must be on file in the dean's office for every course being taught during a given semester.