SAN JUAN COLLEGE
Success Matters

PTAP-116 MUSCULOSKELETAL FOCUS FOR PTA'S 3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

Enrollment restricted to prospective PTA students only. Basic anatomy of the musculoskeletal system including identification of anatomical surface landmarks. Introduction to osteokinematics and arthrokinematics.

Prerequisites: BIOL 1130-Human Body Structures and Functions

Semester Offered: Spring and Fall for On-Campus and Online Hybrid Programs

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in…

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

COURSE LEARNING OUTCOMES

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

1. Understand advanced human anatomy of the musculoskeletal system.
2. Analyze osteokinematics and arthrokinematics related to the human body.
3. Identify anatomical surface landmarks.

SPECIFIC LEARNING OBJECTIVES

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

1. Understand advanced human anatomy of the musculoskeletal system.
   1a. Explain the function of the skeletal system.
   1b. Describe the gross anatomical components and relationships of the skeletal system.
   1c. Identify joint structures and components.
   1d. Define principles of joint motion.
   1e. Describe normal joint end-feel for all major joints.
   1f. Identify the normal curves of the vertebral column.
   1g. Identify the center of gravity in standing.
   1h. Explain the function of the muscular system.
   1i. Describe the gross anatomical components and relationships of the muscular system.
   1j. Compare and contrast the structure and function of the three major subtypes of skeletal muscles.
   1k. Describe the types of muscle contractions and give functional examples for each type.
   1l. Name the proximal/distal attachments and function of the major skeletal muscles.
   1m. Analyze how the skeletal system and the muscular system function together to allow normal movement.
2. Analyze osteokinematics and arthrokinematics related to the human body.
   2a. Define planes and axes.
   2b. Identify the relationship of axes to the cardinal planes of motion and the anatomical position for individual joints.
   2c. Define Newton's Laws applicable to physical therapy and provide examples.
   2d. Define the terminology applicable to forces and loading.
   2e. Differentiate between pressure and forces.
   2f. Describe the relationship between physical laws and biomechanical principles of the musculoskeletal system.
   2g. Examine the components of levers and their use in the human body.
   2h. Describe the mechanical property of tissues.
   2i. Describe how the length-tension relation of muscle affects force production.
   2j. Explain the forces involved when an object is in equilibrium.
3. Identify anatomical surface landmarks.
   3a. Describe the correlation between bony structures and surface anatomy.
   3b. Demonstrate the ability to palpate bony structures.
   3c. Describe the correlation between muscular structures and surface anatomy.
   3d. Demonstrate the ability to palpate muscular structures.
   3e. Describe the correlation between connective structures and surface anatomy.
   3f. Demonstrate the ability to palpate connective structures.