

NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE

COURSE SYLLABUS

Course Title: Anatomy & Physiology I Lab

Course #: BIO* 211

Description: A laboratory course component to accompany Anatomy and Physiology I lecture.
3 hours

Prerequisite/Co-requisite: Corequisite - Anatomy & Physiology I Lecture

- Goals:**
1. To give students the opportunity to study body cavities, regions, histology, using dissection, models, slides, computer simulations, and diagnostic imaging.
 2. To encourage students to learn the anatomy and physiology of the skin, skeletal, muscular and nervous system in an active and interactive manner using surface anatomy, computer simulations, models, diagnostic imaging and case studies.
 3. To introduce principles and examples of specific pathologies of each system covered using diagnostic imaging, laboratory medicine and case studies.

Outcomes: At the end of this laboratory course students should be able to:

- Use anatomical and directional terms
- Identify body cavities and organs and body membranes found in each cavity
- Identify major histological tissue types including type of epithelial, connective, muscular, and nerve tissues
 - Identify microscopic features and components for each type of tissue
 - State tissue function
 - Identify specific locations for each tissue type
- Recognize and discuss specific terminology relating to cancer and oncology
- Discuss the role of the histotechnician, the pathologist and the steps necessary to prepare a biopsy specimen for examination
- Recognize histological features of skin and describe their function and relative location
- Discuss and recognize selected skin pathologies including burns, skin cancers, and decubitus ulcers
- Identify selected bones, bone markings, foramina, and processes using a skeleton, models, X-rays, and computer simulation
- Discuss selected bone and joint pathologies including fracture types, osteosarcoma, bone metastasis, osteoporosis, osteomalacia, and different forms of arthritis using diagnostic imaging such as x-rays, nuclear bone scans, bone densitometry, and laboratory tests
- Use X-rays, models, skeleton, and computer simulations to identify specific joints within the body using specific classification systems
- Identify selected muscles and other structures such as tendons and aponeuroses important for facial expression, movement and posture using models and computer simulations
- Identify origins, insertions, and actions for selected muscles
- Discuss muscle pathologies including, but not limited to muscle strain, cramp fasciculation, spasms, muscular dystrophy, rhabdomyolysis, and rhabdomyosarcoma
- Interpret diagnostic and laboratory tests associated with musculoskeletal disorders
- Demonstrate and explain basic principles of kinesiology and dynamics of muscle activity
- Analyze movements by identifying specific actions at joints involved with each movement
- Write a paper describing the action sequence at specific joints to complete a specific activity and the muscles that act as prime movers, antagonists, and synergists for each action
- Identify surface anatomy structures such as muscles, bones, and other landmarks

- Identify histological and anatomical components of the nervous system using prepared slides, preserved materials, diagnostic imaging and computer simulation
- Discuss selected pathologies of nerve tissue
- Explain and discuss muscles, joints, and bones involved in two movements