BAKER COLLEGE
STUDENT LEARNING OUTCOMES

BIO2710 Clinical Kinesiology

4 Semester Hours

Student Learning Outcomes and Enabling Objectives

At the completion of this course, the student will be able to perform the following outcomes with a minimum competency of 80% (B-) or better on all coursework:

1. Examine physics concepts of kinetics and kinematics as they relate to human motion.
    a. Analyze the physical properties of motion as they apply to torque, biomechanical levers, line of pull, and vectors.
    b. Investigate basic kinematic terminology including the arthrokinematics and osteokinematics of each region of the human body.
2. Differentiate the structure and function of the human body as it relates to movement by region.
    a. Identify the interrelationship of the major muscles, tendons, ligaments, bones, and supporting structures within the human body.
    b. Identify the anatomical structure and category for each of the major joints of the body.
    c. Compare and contrast the different types of skeletal muscles including symmetry and shape.
    d. Describe various types of muscular activation and the length-tension relationship of muscles.
    e. Describe the primary motor and sensory components of the central and peripheral nervous system.
    f. Locate tracts, cranial nerves, plexuses, and major peripheral nerves.
    g. Differentiate between upper and lower motor neurons.
3. Analyze the functional anatomy of the human body by region.
    a. Compare the planes of movement and the primary components of motions of each joint.
    b. Describe the primary and secondary movers (musculature) of each major joint by region.
    c. Identify the synergistic and antagonistic forces with respect to each joint.
    d. Demonstrate active and passive insufficiency of major multi-joint muscles.
    e. Describe the biomechanics of respiration.
    f. Explore the kinesiology and phases of normal human gait.
    g. Differentiate between open and closed kinetic chain movements of the upper and lower extremities.
4. Demonstrate accurate identification of surface anatomy landmarks and appropriate palpation of anatomical structures.
    a. Demonstrate appropriate patient handling and preparation for palpation.
    b. Identify the primary bony landmarks for each region of the body.

c. Palpate the major skeletal muscles involved in joint movements.
d. Distinguish normal and abnormal structures with observation and manual palpation.

Big Ideas

Big Ideas

- Principles of kinesiology
- Structure and Function of Joints and Skeletal Muscle
- Functional Anatomy by region
- Palpation by region
- Gait

These SLOs are not approved for experiential credit.

Effective: Fall 2018