

COURSE SYLLABUS

LAST REVIEW	Spring 2021
COURSE TITLE	Kinesiology
COURSE NUMBER	BIOL-0160
DIVISION	Math, Science, Business & Technology
DEPARTMENT	Biology
CIP CODE	24.0101
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 3
PREREQUISITES	Human Anatomy & Lab, BIOL-0141, Physiology, BIOL-0271, Physiology Lab, BIOL-0272 Composition I, ENGL-0101
COURSE PLACEMENT	Students must meet the correct placement measure for this course. Information may be found at: https://www.kckcc.edu/admissions/information/mandatory-evaluation-placement.html

COURSE DESCRIPTION

Kinesiology provides a link between muscular origin and insertion and the mechanics of muscular action. Knowledge of the body mechanics and the body as a lever system assists students in the ability to analyze movement. This course will help the student locate, palpate and analyze movement. When abnormal changes occur, the information presented explores other issues which may cause the dysfunction.

TEXTBOOKS

<http://kckccbookstore.com/>

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

- I. Terminology associated with kinesiology and medical terminology related to the structure and function of the human body
 - A. Terminology and basic concepts of kinesiology
 1. Definitions
 2. Reference positions of the body
 3. Planes and axes
 4. Joints and joint structures
 5. Lever system of the human body
 - B. Medical terminology related to the structure and function of the human body
 1. Neck and Trunk
 - a. Bones and landmarks of the vertebral column
 - b. Joints of the spine
 - c. Movements of the neck and trunk
 - d. Muscle groups of the neck and trunk
 - e. Origins, insertions, actions and innervations of primary movers
 2. Shoulder girdle and shoulder joint
 - a. Bones and landmarks of the shoulder
 - b. Joints of the shoulder
 - c. Movements of the shoulder
 - d. Muscle groups of the shoulder including the rotator cuff
 - e. Origins, insertions, actions and innervations of primary movers
 3. Elbow and radio ulnar joint
 - a. Bones and landmarks of the elbow
 - b. Movements of the elbow and radioulnar joints
 - c. Musculature
 - d. Origins, insertions, actions and innervations of primary movers
 4. Wrist and Hand
 - a. Bones and landmarks of wrist and hands
 - b. Joints of wrist and hands
 - c. Movements of wrist and hands
 - d. Muscle groups
 - e. Origins, insertions, actions and innervations of primary movers
 5. Hip
 - a. Bones and landmarks of the pelvis and hip
 - b. Joints of the pelvis and hip
 - c. Movements of the pelvis and hip
 - d. Muscle groups of the hip
 6. Knee
 - a. Bones and landmarks
 - b. Knee joint
 - c. Movements of the knee
 - d. Muscle groups of the knee
 7. Ankle and foot

- a. Bones and landmarks of the ankle and foot
 - b. Joints of the ankle and foot
 - c. Movements of the ankle and foot
 - d. Muscle groups of the ankle and foot
- 8. Respiration
 - a. Joints and articulation of the thoracic cavity
 - b. Movements of the thorax
 - c. Muscles of respiration
 - d. Phases of respiration
- II. Analyze joint motion and muscle strength
 - A. Functional analysis
 - 1. Work activity
 - 2. Play/recreational activity
 - B. Analysis of weight training positions
 - 1. Free weights
 - 2. Strength training for specific joints
- III. Analyze movement: normal/abnormal/substitute movements
 - A. Posture
 - 1. Relationship of center of gravity, base of support and outside forces on posture
 - 2. Optimal erect standing
 - 3. Deviations in posture
 - B. Gait
 - 1. Joint motion and primary muscle activity during gait
 - 2. Upper extremity and trunk motions
 - 3. Abnormal gait patterns
 - C. Analysis of movement
 - 1. Analyzing joint movement in an extremity
 - 2. Substitutions in relation to goniometry
 - 3. Substitutions during manual muscle testing
- IV. Clinical conditions: deficits in joint motion and muscle strength
 - A. Joint motion deficits and specific clinical conditions
 - B. Deficits in muscle strength and specific clinical conditions
- V. Purposeful activity and occupations for specific clinical conditions
 - A. Therapeutic interventions for muscle weakness and/or movement deficits
 - B. Adaptations for muscle weakness and/or movement deficits

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COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

- A. Be able to apply appropriate TERMINOLOGY ASSOCIATED WITH KINESIOLOGY AND MEDICAL TERMINOLOGY to the structure and function of the human body.
 - 1. The student will be able to state the definition of kinesiology, static and dynamic movement.

2. The student will be able to describe the difference between the two reference positions of the body.
3. The student will be able to list the planes and axes of movement of the human body.
4. The student will be able to describe the types of joints and joint structures found in the human body.
5. The student will be able to demonstrate knowledge of the lever system of the human body.
6. The student will be able to identify the bones and landmarks of the:
 - Vertebral column
 - Shoulder girdle and shoulder joint
 - Elbow and radio ulnar joint
 - Wrist and hand
 - Hip
 - Knee
 - Ankle and foot
7. The student will be able to identify the joints of the:
 - Vertebral column
 - Shoulder girdle and shoulder joint
 - Elbow and radio ulnar joint
 - Wrist and hand
 - Hip
 - Knee
 - Ankle and foot
 - Thoracic cavity
8. The student will be able to describe the movements of the:
 - Vertebral column
 - Shoulder girdle and shoulder joint
 - Elbow and radio ulnar joint
 - Wrist and hand
 - Hip
 - Knee
 - Ankle and foot
 - Thorax

9. The student will be able to identify the musculature of the:
- Vertebral column
 - Shoulder girdle and shoulder joint
 - Elbow and radio ulnar joint
 - Wrist and hand
 - Hip
 - Knee
 - Ankle and foot
 - Respiration process along with the phases of respiration
10. The student will be able to summarize the origins, insertions, actions and innervations of the primary movers of the:
- Vertebral column
 - Shoulder girdle and shoulder joint
 - Elbow and radioulnar joint
 - Wrist and hand
- B. Be able to ANALYZE JOINT MOTION AND MUSCLE STRENGTH of the upper and lower extremities following specific assessment procedures.
- 11. The student will be able to identify and palpate landmarks
 - 12. The student will be able to identify and palpate specific muscle groups
- C. Be able to ANALYZE MOVEMENT patterns and differentiate NORMAL from ABNORMAL or SUBSTITUTE MOVEMENT patterns.
- 13. The student will be able to describe the body's center of gravity, base of support and outside forces that influence posture
 - 14. The student will be able to describe the elements of optimal erect standing
 - 15. The student will be able to explain the elements of normal gait including position and patterns of movement in the head, upper extremities, lower extremities and trunk
 - 16. The student will be able to analyze specific joint movements of an extremity during a purposeful activity and occupation
 - 17. The student will be able to recognize abnormal posture and gait patterns
 - 18. The student will be able to recognize substitutions and preventing substitutions during the performance of an activity.
- D. Be able to discuss CLINICAL CONDITIONS as these conditions relate to DEFICITS IN JOINT MOTION AND MUSCLE STRENGTH.
- 19. The student will be able to relate deficits of joint motion to specific clinical conditions
 - 20. The student will be able to relate deficits of muscle strength to specific clinical conditions

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E. Be able to identify PURPOSEFUL ACTIVITIES AND OCCUPATIONS appropriate for therapeutic interventions FOR specific deficit areas and CLINICAL CONDITIONS.

21. The student will be able to discuss general therapeutic interventions for muscle weakness and movement deficits

22. The student will be able to explain general therapeutic adaptations for muscle weakness and/or movement deficits.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>