

**STATE UNIVERSITY OF NEW YORK  
COLLEGE OF TECHNOLOGY  
CANTON, NEW YORK**

**COURSE OUTLINE**

**PHTA 102 - Kinesiology**

**PREPARED BY: Jennifer McDonald, PT, DPT, MS**

**SCHOOL OF SCIENCE, HEALTH, AND PROFESSIONAL STUDIES  
Physical Therapist Assistant Program  
May 2015**

## PHTA 102 - KINESIOLOGY

- A. TITLE: Kinesiology
- B. COURSE NUMBER: PHTA 102
- C. CREDIT HOURS: 3
- D. WRITING INTENSIVE COURSE: No
- E. COURSE LENGTH: 15 weeks
- F. SEMESTER(S) OFFERED: Spring
- G. HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:  
2 lecture, 2 lab per week
- H. CATALOG DESCRIPTION:  
Spring - 3 credit hours  
Study and application of human motion is covered beginning with general anatomic terminology and concepts, types and laws of motion, bone, joint, and muscle structure and function. Origins, insertions, actions and innervations of extremity and trunk musculature and palpable surfaces of same are discussed. Kinesiological concepts related to the gait cycle and functional movement are addressed. Two hours of lecture and two laboratory hours per week.
- I. PRE-REQUISITES/CO-REQUISITES:  
Pre-requisites: BIOL 217, Anatomy & Physiology I
- J. GOALS (STUDENT LEARNING OUTCOMES):  
By the end of this course, the student will:

<i>Course Objective</i>	<i>Institutional SLO</i>
1. Describe kinesiological principles as they apply to each of the following: <ol style="list-style-type: none"> <li>a. Skeletal system</li> <li>b. Articular system</li> <li>c. Arthrokinematics</li> <li>d. Muscular System</li> <li>e. Nervous System</li> <li>f. Biomechanics</li> </ol>	#3 Prof Comp
2. Identify the origins, insertions and innervations of extremity and trunk musculature	#3 Prof Comp
3. Correlate gross anatomical muscle and bony structures to surface anatomy	#3 Prof Comp

4. Describe functional movement patterns throughout the body in terms of joint motion and muscle activity.	#3 Prof Comp
5. Describe components of the gait cycle including joint motions and muscle actions.	#3 Prof Comp

K. TEXTS:

- a. L. Lippert, (2011) *Clinical Kinesiology for Physical Therapist Assistants*, Philadelphia: F.A. Davis.

L. REFERENCES:

- a. Biel, A (2010) *Trail Guide to the Body*, Books of Discovery.
- b. *Trail Guide to the Body Student Workbook*, 4th ed. Biel, A. Books of Discovery, 2010

M. EQUIPMENT:

Treatment and mat tables, linen supplies, skeletal, muscle and nervous system models.

N. GRADING METHOD: A-F

O. MEASUREMENT CRITERIA/METHODS:

Assignments, quizzes, written exams, comprehensive final.

P. DETAILED COURSE OUTLINE:

- I. Introduction to Kinesiology
  - A. Basic Information
  - B. Skeletal System
  - C. Articular System
  - D. Basic Biomechanics
  - E. Arthrokinematics
  - F. Muscular System
  - G. Nervous System
  
- II. Lower Extremity Functional Anatomy and Movement
  - A. Pelvic and Hip Complex
  - B. Knee
  - C. Ankle/Foot
  
- III. Upper Extremity Functional Anatomy and Movement
  - A. Shoulder Girdle
  - B. Shoulder Joint
  - C. Elbow/Forearm
  - D. Wrist/Hand
  
- IV. Neck and Trunk Functional Anatomy and Movement, Respiration, TMJ, Gait
  - A. Neck and Trunk
  - B. Respiration
  - C. TMJ
  - D. Gait

## Q. LABORATORY OUTLINE:

### I. Basic Kinesiological Concepts

- a. Linear, translatory, angular motion
- b. Open/closed kinematic chains
- c. Bone/joint anatomy
- d. Types of motion allowed at different joints
- e. Planes of motion
- f. Introduction to palpation/visual observation of the human body

### II. Muscular System

- a. Muscle shapes/fiber direction
- b. Terminology associated with muscles and muscle contractions
- c. Active/Passive insufficiency
- d. Levers

### III. Nervous System

- a. Divisions of CNS/PNS

### IV. Hip and Pelvis

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers
- d. Open/Closed Chain movements

### V. Knee

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers
- d. Open/Closed Chain movements

### VI. Ankle/Foot

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers
- d. Open/Closed Chain movements

### VII. Shoulder Girdle

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers
- d. Open/Closed Chain movements

## VIII. Shoulder Joint

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers
- d. Open/Closed Chain movements

## IX. Elbow/Forearm

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers
- d. Open/Closed Chain movements

## X. Wrist/Hand

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers
- d. Open/Closed Chain movements

## XI. Neck/Trunk

- a. Observe and palpate bony landmarks
- b. Palpate muscular origins and insertions
- c. Functional movements, active/passive insufficiency, forces/levers

## XII. Gait Cycle

- a. Parts of the gait cycle utilizing traditional and Rancho Los Amigos terminology