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:

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<tr>
<th>Course Objective</th>
<th>Institutional SLO</th>
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<tr>
<td>1. Describe kinesiological prinicples as they apply to each of the following:</td>
<td>#3 Prof Comp</td>
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<tr>
<td>a. Skeletal system</td>
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<td>b. Articular system</td>
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<tr>
<td>c. Arthrokinematics</td>
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<td>d. Muscular System</td>
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<td>e. Nervous System</td>
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<td>f. Biomechanics</td>
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<td>2. Identify the origins, insertions and innervations of extremity and trunk</td>
<td>#3 Prof Comp</td>
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<td>musculature</td>
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<td>3. Correlate gross anatomical muscle and bony structures to surface anatomy</td>
<td>#3 Prof Comp</td>
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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:

L. REFERENCES:

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