JEFFERSON COLLEGE

COURSE SYLLABUS

PTA112

KINESIOLOGY

2 Credit Hours

Prepared by:
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PTA112 Kinesiology

I. CATALOGUE DESCRIPTION

A. Pre-requisite: Admission to the Physical Therapist Assistant Program and Reading Proficiency

B. Credit hour award: 2

C. Description: This lecture course presents fundamental information on the biomechanical basis of human movement, with in-depth study of the structure and function of each joint within the musculoskeletal system and how each works together to allow for postural control and stability as well as for dynamic movements seen in gait. (S)

II. EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES (Numbers in parentheses refer to CAPTE performance expectations)

Expected Learning Outcomes	Assessment Measures
Students will demonstrate a clinically relevant and in depth working knowledge of the skeletal, muscular, and nervous systems, integrating content learned in anatomy and physiology. (3.3.2.8.10)	Summative Written Examinations Quizzes Written Assignments
Students will apply knowledge and principles of anatomy, physiology, biomechanics, and kinesiology to functional tasks, static, and dynamic posture, and gait. (3.3.2.8.9)	Summative Written Examinations Written Assignments
Students will identify the origin, insertion, action, and innervation for the muscles associated with the cervical, thoracic, lumbosacral spine, shoulder, elbow, wrist, hand, pelvis, hip, knee, and ankle joints.	Quizzes Written Assignments
Students will demonstrate a clinically relevant and in-depth working knowledge of joint structures and components, and principles of joint motion.	Quizzes Written Assignments Formative Assessment
Students will demonstrate a working knowledge of the concepts of forces, and the relationship of physical laws and biomechanical principles.	Quizzes Written Assignments Formative Assessment
Students will demonstrate the ability to describe functional movement patterns in terms of joint motion and muscle activity.	Quizzes Written Assignments Group Project

III. OUTLINE OF TOPICS

A. Skeletal and Articular Systems
   1. Body Segments
   2. Types of Motion
   3. Types of Joints
   4. Planes and Axes
   5. Degrees of Freedom
   6. Osteokinematic Motions

B. Arthrokinematics
   1. Joint Congruency
   2. End Feel
   3. Accessory Motions and Forces
   4. Convex-Concave Rule

C. Muscular System
   1. Attachments
   2. Fiber Arrangement
   3. Length-Tension Relationship
   4. Types of Contraction
   5. Angle of Pull

D. Biomechanics
   1. Laws of Motion
   2. Forces
   3. Torque
   4. Stability
   5. Levers
   6. Pulleys

E. Joints and Motions, Bones and Landmarks, Ligaments, Associated Muscles, Function, and Range of Motion for each of the following:
   1. Shoulder Girdle
   2. Shoulder Joint
   3. Elbow Joint
   4. Wrist Joint
   5. Hand
   6. Temporomandibular Joint
   7. Neck and Trunk
   8. Thoracic Cage
   9. Pelvic Girdle
   10. Hip Joint
   11. Knee Joint
   12. Ankle and Foot Joints

F. Posture
   1. Vertebral Alignment
   2. Standing Posture
   3. Sitting Posture

G. Gait
   1. Stance Phase
   2. Swing Phase
   3. Determinants of Gait

IV. METHODS OF INSTRUCTION

A. Lecture

B. Textbook Readings

C. Active Learning in the classroom setting

D. Case Studies

V. REQUIRED TEXTBOOKS

Mansfield, P., Neumann, D. *Essentials of Kinesiology for the Physical Therapist Assistant* (current edition). St. Louis, MO: Elsevier Mosby.

RECOMMENDED TEXTBOOK:

Biel, A. *Trail Guide to the Body: Muscles of the Human Body Flashcards Volume 2* (current edition). Boulder, CO: Books of Discovery

VI. REQUIRED MATERIALS

A. A computer with internet access and basic software to include Word and Power Point (available through Jefferson College labs)

B. Course home page available through Blackboard

VII. SUPPLEMENTAL REFERENCES

A. Library Resources
   1. Databases: “Nursing and Allied Health Collection”, “Sports Medicine and Physical Therapy Collection”, and “Medline”
   2. Periodicals

B. Internet Resources
   1. Textbook companion website
   2. American Physical Therapy Association website

VIII. METHODS OF EVALUATION

A. Examinations

B. Quizzes

C. Written Assignments

D. Attendance/Participation

IX. ADA AA STATEMENT

Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Library; phone 636-481-3169).

X. ACADEMIC HONESTY STATEMENT

All students are responsible for complying with campus policies as stated in the Student Handbook. (See College website http:/www.jeffco.edu).

XI. ATTENDANCE STATEMENT

Regular and punctual attendance is expected of all students. Any one of these four options may result in the student being removed from the class and an administrative withdrawal being processed: (1) Student fails to begin class; (2) Student ceases participation for at least two consecutive weeks; (3) Student misses 15 percent or more of the coursework; and/or (4) Student misses 15 percent or more of the course as defined by the instructor. Students earn their financial aid by regularly attending and actively participating in their coursework. If a student does not actively participate, he/she may have to return financial aid funds. Consult the College Catalog or a Student Financial Services representative for more details.

XII. OUTSIDE OF CLASS ACADEMICALLY RELATED ACTIVITIES

The U.S. Department of Education mandates that students be made aware of expectations regarding coursework to be completed outside the classroom. Students are expected to spend substantial time outside of class meetings engaging in academically related activities such as reading, studying, and completing assignments. Specifically, time spent on academically related activities outside of class combined with time spent in class meetings is expected to be a minimum of 37.5 hours over the duration of the term for each credit hour.