

College of San Mateo
Official Course Outline

1. **COURSE ID:** KINE 300 **TITLE:** Anatomy of Motion
Units: 3.0 units **Hours/Semester:** 48.0-54.0 Lecture hours; 96.0-108.0 Homework hours; 144.0-162.0 Total Student Learning hours
Method of Grading: Grade Option (Letter Grade or Pass/No Pass)

2. **COURSE DESIGNATION:**
Degree Credit
Transfer credit: CSU; UC
AA/AS Degree Requirements:
 CSM - GENERAL EDUCATION REQUIREMENTS: E5d. Career Exploration and Self-Development
CSU GE:
 CSU GE Area E: LIFELONG LEARNING AND SELF-DEVELOPMENT: E1

3. **COURSE DESCRIPTIONS:**
Catalog Description:
 This course covers musculoskeletal anatomy, kinesiology, injury prevention and performance enhancement through lectures and hands-on activities like clay modeling and movement analyses. Students learn about the bones, muscles, joint types, ligaments, movements, and common pathologies in the human body. Additionally, students learn basic anatomical language and explore the profound elegance of the holistic design of the human body.

4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**
 Upon successful completion of this course, a student will meet the following outcomes:
 1. Identify key anatomical structures as they relate to human movement: bones, joints, muscles.
 2. Analyze human motion by identifying the planes of movement involved and muscle groups being activated.
 3. Design a fitness program for an athlete that includes injury prevention and performance enhancement exercises.

5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**
 Upon successful completion of this course, a student will be able to:
 1. Identify the main components of the musculoskeletal system and describe their functions.
 2. Identify common pathologies of the musculoskeletal system including individual joints.
 3. Identify and locate the axial and appendicular skeletal bones.
 4. Describe the planes of motion and axes of rotation.
 5. Describe and identify the different types of joints, including the six major types of synovial joints.
 6. Explain how ligaments reinforce joints and contribute to movement.
 7. Know and identify all the major muscles of the body and their actions on joints.
 8. Know how to strengthen and stretch all the major muscles of the body.
 9. Identify the muscles and functions of the inner unit (core) and outer unit (sling) systems.

6. **COURSE CONTENT:**
Lecture Content:
 1. Anatomy of the skeletal system
 - A. Terminology used to describe body parts
 - B. Planes of motion and their respective axes of rotation
 - C. Bones and joints in the human body and their characteristics
 - D. Optimal postural alignment
 2. Neuromuscular Fundamentals
 - A. Basic anatomy and function of the muscular and nervous system
 - B. Terminology used to describe muscular locations
 - C. Different types of muscle contraction
 - D. Basic neuromuscular concepts in relation to how muscles function in joint movement
 3. Muscular Anatomy, Identification, and Analysis
 - A. Structure of a muscle
 - B. Theory of Muscle Contraction
 - C. Muscular strength and flexibility

- D. Locate muscles and attachment points
 - E. Movement analysis: Identify planes of motion and axes of rotation for individual muscles and muscle groups
 - F. Basic biomechanics for optimal movement patterning
 - G. Common injuries & injury prevention
4. Application
- A. Postural and movement analysis
 - B. Open and closed kinetic chain exercises
 - C. Analyze joint movements and muscles used in movements, exercises, and sport specific activities

7. REPRESENTATIVE METHODS OF INSTRUCTION:

Typical methods of instruction may include:

- A. Lecture
- B. Activity
- C. Discussion
- D. Observation and Demonstration

8. REPRESENTATIVE ASSIGNMENTS

Representative assignments in this course may include, but are not limited to the following:

Writing Assignments:

Writing assignments may include online or take-home quizzes and postural/movement analyses. Students may be assigned an individual or group research paper and/or in-class presentation analyzing a given sport.

Reading Assignments:

Examples of out-of-class assignments include reading sections from anatomy and kinesiology articles or books such as the *Trail Guide to the Body*, *Manual of Structural Kinesiology*, and *Anatomy of Movement*.

Other Outside Assignments:

Outside assignments may include watching videos online and/or DVDs such as the *Trail Guide to the Body* DVD. Students may also be given assignments such as practicing muscle-palpation techniques and observing and human movement in a public or sport specific setting.

9. REPRESENTATIVE METHODS OF EVALUATION

Representative methods of evaluation may include:

- A. Class Participation
- B. Class Work
- C. Exams/Tests
- D. Group Projects
- E. Homework
- F. Oral Presentation
- G. Papers
- H. Projects
- I. Quizzes
- J. Research Projects
- K. Written examination

10. REPRESENTATIVE TEXT(S):

Possible textbooks include:

- A. Floyd, R.T. *Manual of Structural Kinesiology*, 21 ed. New York: McGraw Hill, 2021
- B. Biel, Andrew. *Trail Guide to the Body*, 6 ed. Boulder: Books of Discovery, 2019

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