

SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
BIO 229S INTRODUCTION TO KINESIOLOGY
3 CREDIT HOURS

COURSE DESCRIPTION

This course investigates the fundamental physiological processes that operate during exercise. Emphasis will be placed on integrating systems and organs into a functional whole. Prerequisite: BIO 125S. Co-requisite: BIO 126S.

COURSE GOALS

The student will:

Bloom's Level		Gen Ed Outcomes
2	1. Describe the basic concepts of human motion related to control of the musculoskeletal system and neuromuscular communication.	1, 2
3	2. Demonstrate an understanding of biomechanics as it relates to nervous, muscular, and skeletal systems of the human body.	1, 6
3	3. Demonstrate an understanding of the kinesiology of fitness and exercise.	1, 2, 6
5	4. Assess and apply information and knowledge gained in this course to make informed, healthful, lifestyle changes.	1, 6
3	5. Apply the essential principles of health and fitness.	1, 2
2	6. Discuss the moving of objects in different planes and different motions.	1, 2
2	7. Explain the conditions of motion, the center of gravity, and impact on human motion.	1, 2, 5
4	8. Compare and contrast locomotion within different environments including solid surface, aquatics, in suspension, and free of support.	1, 6
3	9. Develop an awareness of impact on motion.	4, 5, 6
3	10. Discuss the instrumentation needed to develop motion analysis.	1, 2

CORE VALUES

The Core Values are a set of principles that guide in creating educational programs and environments at Edison State Community College. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goal, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

TOPIC OUTLINE

1. Anatomical and Physiological Fundamentals of Human Motion
 - a. The Musculoskeletal System: The Skeletal Framework and Its Movements
 - b. The Musculoskeletal System: The Musculature
 - c. The Neuromuscular Basis of Human Motion
 - d. The Upper Extremity: The Shoulder Region
 - e. The Upper Extremity: The Elbow, Forearm, Wrist and Hand
 - f. The Lower Extremity: The Hip Region
 - g. The Lower Extremity: The Knee, Ankle, and Foot

- h. The Spinal Column and Thorax
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- 2. Fundamentals of Biomechanics
 - a. Terminology and Measurement in Biomechanics
 - b. The Description of Human Motion
 - c. The Conditions of Linear Motion
 - d. The Conditions of Rotary Motion
 - e. The Center of Gravity and Stability
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- 3. Motor Skills: Principles and Applications
 - a. Kinesiology of Fitness and Exercise
 - b. Moving Objects: Pushing and Pulling
 - c. Moving Objects: Throwing, Striking, and Kicking
 - d. Locomotion: Solid Surface
 - e. Locomotion: The Aquatic Environment
 - f. Locomotion: When Suspended and Free Support
 - g. Impact
 - h. Instrumentation for Motion Analysis