

KINE 60213 Biomechanics

Instructor: Dan Southard Office 172 L Lab 256

Email d.southard@tcu.edu

Course Description

The purposes of this course are to: (1) provide the opportunity to learn concepts required to mechanically analyze human movement and sport activity; and (2) provide the opportunity to apply such concepts in both laboratory and field settings. The nature of the class is a blend of lecture and laboratory.

Specific Competencies

At the completion of this course students should be able to:

- (1) discuss the relationship of kinematics to the analysis of human movement.
- (2) identify and discuss kinetic variables important to the performance of any movement.
- (3) Discuss the influence of fluid mechanics on human performance
- (4) Collect kinematic and kinetic data and apply such data in the analysis of motor activity.

Topical Course Outline

- I. Linear Kinematics
- II. Angular Kinematics
- III. Kinematics Lab
- IV. Linear Kinetics
- V. Linear Kinetics Lab
- VI. Angular Kinetics
- VII. Angular Kinetics Lab
- VIII Fluid Mechanics
Exam
- IX. Analysis of Human Movement
- X. Analysis Lab
- XI. Final Exam

Evaluation

Your grade will be determined by the total points accumulated relative to the total possible. Laboratory points will range from 50-75 points each. Exams will be approximately 100 pts each. There may be unannounced

quizzes over lecture material for approximately 10 pts per quiz.

Your final grade will be based on the following percentages:

A= 85%-100%

B= 75%-84%

C= 65%-74%

Academic Conduct Policy

Students should familiarize themselves with the Academic Conduct Policy located in the Student Handbook.

Disability Policy

TCU complies with American Disabilities Act and with Section 504 of the Rehabilitation Act of 1973 regarding students with disabilities. The policy is available in the University Student Handbook.