

**University of Arkansas, College of Education and Health Promotions
Department of Health Science, Kinesiology, Recreation, and Dance**

I. Program Affiliation: Kinesiology

Course Number and Title: KINS 3353 – Mechanics of Human Movement

Catalog Description: An introduction to basic analysis of motor skills.

Prerequisites: ZOOL 2413 – Anatomy

Professor: Dr. Inza Fort **Office:** HPER 308-M **Phone:** 575-2910

Office Hours: M-F 10-11 other times by appointment

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II. Relationship to Knowledge Base: Basic

This Basic level course is primarily related to the Scholar-Practitioner model as a substantive studies course. The kinesiology student should demonstrate knowledge about human movement from the anatomical and biomechanical perspective so that they can analyze movement and motor skills.

III. Goals:

This course is designed to provide basic information on the roles of skeletal muscle as it relates to movement, considering force arms and force vectors.

IV. Competencies:

Upon completion of the course, the student should be able to

1. Define and explain basic terminology as it applies to the skeletal muscle system
2. Name and define planes of the body and axes of motion by fundamental movements in each plane.
3. Describe the function and purpose of the skeletal system
4. Classify joints according to structure and explain the relationship between a joint's structure and its capacity for movement
5. Describe the structure and function of muscles with regard to contraction
6. Identify the relationship between muscle fiber arrangement and its function
7. Define the roles muscles play
8. Identify the movement possible in the various joints of the body
9. Analyze human movements with regards to muscles, vectors, and forces
10. Describe the origin, insertions, and actions of skeletal muscles
11. Understand musculature involved in specific movement skills

V. Content:

A. Anatomical Bases of Movement

1. The role of the Skeleton in Movement
2. The role of the Nervous System in Movement
3. The role of the Muscular system in Movement

B. Terminology and Basic Concepts

1. Planes and Axes
2. Joint Mechanics
3. Levers of the Human Body

C. Motion

1. Linear
2. Angular
3. Momentum

D. Musculature

1. Shoulder
2. Elbow
3. Wrist And Hand
4. Hip Joint
5. Knee Joint
6. Ankle and Foot

VI. Evaluation

1. There will be four to five exams with will equate to 80% of your total grade. Although each exam will cover material within a certain time period, some of the material builds on and applies concepts covered previously.
2. Group project of skill analysis (20% of total grade)
3. Anatomy assignments (extra-credit applied to the pertinent exam)

Attendance Policy:

As a student enrolled in this class you have technically paid the University Of Arkansas to gain knowledge. Therefore, since you have paid to be enrolled in this class it is your responsibility to attend and gain the knowledge. As the instructor of record for this class it is not my responsibility to monitor your presence in this classroom or assign a portion of your grade on attendance in this class. However, if you know that you are going to miss class for an illness, death, or university sponsored trip I will assist you in acquiring the information that you missed. My assistance in this matter is defined as providing the necessary handouts and lecture notes to you when you return.

VII. Grading Scale

- A = 100% to 90%
B = 89% to 80%
C = 79% to 70%
D = 69% to 60%
F = Below 60%

VIII. Academic Dishonesty:

The application of the University of Arkansas Academic Honesty Policy, as stated in the **University of Arkansas 2000-2001 Catalog of Studies**, will be fully adhered to in this course. Grades and degrees earned by dishonest means devalue those earned by all students; therefore, it is important that students are aware of the University of Arkansas Academic Honesty Policy. Academic dishonesty involves acts that may subvert or compromise the integrity of the educational process.

IX. Inclement Weather Policy:

If, due to inclement weather (snow and/or ice) and the University of Arkansas is officially closed this class will be cancelled.

X. Course Resources:

- A. University libraries
- B. Professional Journal
- C. Media

XI. Research Base

Required Text

Gench, B & Hinson, M. Study Cards for Kinesiology and Anatomy. Dubuque, IA: Eddie Bowers Publishing Company.