



COURSE SYLLABUS

SOUTHEAST MISSOURI STATE UNIVERSITY

Department of Health, Human Performance & Recreation Course No PE 464

Course Title: Kinesiology

Revision: Fall 2001



“The Teacher as Professional Educator”

COURSE SYLLABUS

Department Approved 11/13/2001

College Council Approved January 17, 2002

I. Catalog Description and Credit Hours of Course:

An analysis of the anatomical involvement and the biomechanical principles related to human movement. (3)

II. Prerequisite(s): BS 113 - Anatomy and Physiology I.

III. Objectives of the Course:

Upon conclusion of this course, the student will be able to:

- A. Demonstrate a comprehension of the basic underlying anatomy and physiology of the skeletal, articular and muscular system necessary for an understanding of how muscle effects movement and joint actions. (1.3) [1.2.1.1]
- B. Demonstrate competent motor skill performance in a variety of physical activities. (1.3) [1.2.1.1]
- C. Describe and apply disciplinary concepts and principles to skillful movement, physical activity, and fitness. (1.4) [Q 1.2.1.1]
- D. Provide learning experiences that allow learners to integrate knowledge and skills from multiple subject areas. (6.6) [Q1.2.1.5]
- E. Use effective demonstrations and explanations to link physical activity concepts to appropriate learning experiences. (6.8)
- F. Use a variety of appropriate authentic and traditional assessment techniques to assess student understanding and performance, provide feedback, and communicate student progress. (7.2) [Q 1.2.8.4]
- G. Interpret and use performance data to inform curricular and instructional decisions. (7.4) [Q 1.2.8.3]

IV. Course Outline/Learning Experiences:

Hours

- | | |
|--|---|
| A. Anatomical Kinesiology | |
| 1. Review of the skeletal and articular systems | 4 |
| 2. Neuromuscular considerations | 1 |
| 3. Muscle structure and function | 2 |
| 4. Increasing the effectiveness of muscle action | 2 |

5.	Specific muscle use	1
6.	Muscular action at the shoulder, elbow and wrist	4
7.	Muscular action at the hip, knee and ankle	4
8.	Muscular action of the neck and trunk	2
9.	Mid-term examination	<u>1</u>
	Total hours anatomical section	23
B.	Biomechanical Kinesiology	
1.	Definitions and units of measurement	1
2.	Scalar and vector quantities for movement description	1
3.	Motion – definitions and types	1
4.	Linear kinematics	1
5.	Projectiles	2
6.	Angular kinematics	1
7.	Relationship between linear and angular motion	1
8.	Aspects of force and resolution of forces	1
9.	Newtown’s laws of motion, inertia, acceleration and counterforce	2
10.	Forces that modify motion	1
11.	Fluid forces – performance – water	2
12.	Air forces	1
13.	Levers	2
14.	Torque	1
15.	Center of gravity and principle of balance	1
16.	Centrifugal and centripetal forces	1
17.	Skill analysis	<u>2</u>
	Total hours biomechanical section	22
	Total course hour	<u>45</u>

V. Textbook and Other Required Materials:

Required text:

Luttgens, K., Deutsch, H. and Hamilton, N. (1992). Kinesiology: Scientific Basis of Human Motion, Dubuque, IA: Wm. C. Brown.

Maud, P.J. (2001). Anatomical and Biomechanical Notes for PE 464, Kinesiology.

Other References:

Basmajian, J. V., and C. J. DeLuca (1985). Muscles Alive, 5th edition, Baltimore: Williams Wilkins

Carr, Gerry (1997). Mechanics of Sports, Champaign, IL: Human Kinetics

Enoka, R.M. (1994). Neuromechanical Basis of Kinesiology, 2nd edition, Champaign, IL: Human Kinetics

Frankel, V.H, and M. B. Nordin. (1989). Basic Biomechanics of the Skeletal System, 2nd edition, Philadelphia: Lea & Febiger

Guyton, A. C. (2000). Textbook of Medical Physiology, 10th edition, Philadelphia: Saunders

Hay, J. G. (1993). The Biomechanics of Sports Techniques, 4th edition, Englewood Cliffs, New Jersey: Prentice Hall

Netter, F. H. (1997). Atlas of Human Anatomy, Novartis Medical Education

Smith, E. L. W., L. D. Lehmkuhl, and L. K. Smith (1996). Brunnstrom's clinical Kinesiology, 5th edition, Philadelphia: F.A. Davis

Thompson, C., and R. T. Floyd (1998). Structural Kinesiology, 13th edition, WCB/McGraw-Hill

Toreren, A. (2000). Human Body Dynamics: Classical Mechanics and Human Movement, New York: Springer

Winter, D. A. (1990). Biomechanics of Human Movement, 2nd edition, New York: Wiley

Zatsiorsky, V. M. (1998). Kinematics of Human Motion, Champaign, IL: Human Kinetics

VI. Basis for Student Evaluation:

Quizzes	Six quizzes will be given, three during the 1 st half of the semester and three during the second half of the semester. Only five will be used to determine overall quiz grade.*	50%
Midterm Exam	This will cover the area of anatomical kinesiology	** 25%
Final Exam	This will only cover the biomechanics area**	<u>25%</u>
		<u>100%</u>

Grading	90 – 100	A
	80 – 89	B
	70 – 79	C
	60 – 69	D
	59 and below	F

* If for any reasons the student should be absent for one quiz, that quiz will be used as the lowest grade received and quiz grade will be based upon the three completed. If two quizzes are missed, then the remaining four will be used to represent the quiz grade.

** It should be noted that the lack of a departmental laboratory facility and insufficient academic course time preclude more than very basic laboratory experiences. For this reason the prime emphasis is of a theoretical nature.