

PE 4630
BIOMECHANICS
Course Outline

Instructor: Dr. Nick Stergiou
Office: HPER 207Q
Office Hours: After or/and before class or/and just drop-in or/and by appointment
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Course Description

This course involves the study of the anatomical and the mechanical principles which provide the basis for understanding and analyzing the various forms of human movement

Texts

- 1) REQUIRED: Hall, S. J. (2003). Basic Biomechanics, 4th Ed. McGraw-Hill Publishers
- 2) Laboratory manual (available at UNO Bookstore)
- 3) Class Handouts (available at UNO Bookstore)
- 4) OPTIONAL: Martin, B.R., Burr, D.B., & Sharkey, N.A. (1998). Skeletal tissue mechanics, Springer-Verlag.

Course Objectives

At the conclusion of this course each student should be able to:

1. Describe and apply selected mechanical and anatomical principles involved in the execution of basic movement patterns and sport skills.
2. Analyze specific movement patterns from both an anatomical and a mechanical point of view.
3. Apply the basic anatomical and mechanical principles in the teaching and coaching of motor skills.

Evaluation

The final grade will be weighed 70% for the lecture and 30% for the lab.

The 70% lecture portion will be consist of exams plus a comprehensive final covering assigned reading, lecture, and lab material - 75 to 150. A comprehensive Final exam will be on Dec. 12th.

NOTE: Except for very unusual circumstances with arrangements made in advance, make-up examinations will not be given. Examinations not made-up count as 0 points.

The 30% lab portion will be consist of Written Lab reports.

NOTE: No late Lab reports will be accepted. Late Lab reports will be assigned a grade of 0.

The final letter grade will be determined on the basis of total points for the semester. The grade scale will not be higher than the following percentages of the total points possible for the semester.

A+ = 97.5% - 100%

A	= 92.5% - 97.4%
A-	= 90.0% - 92.4%
B+	= 87.5% - 89.9%
B	= 82.5% - 87.4%
B-	= 80.0% - 82.4%
C+	= 77.5% - 79.9%
C	= 70.0% - 77.4%
C-	= 69.8% - 69.9%
D+	= 67.5% - 69.7%
D	= 62.5% - 67.4%
D-	= 60.0% - 62.4%
F	= 0.0% - 59.9%

Student Initiative

Biomechanics requires a serious dedicated effort because of the amount of outside-the-classroom work that is required of the student. There is not adequate classtime to present and discuss all the material which is considered important. Therefore, the student is expected to read and understand the text material, assigned readings, the readings related to projects, in addition to comprehending the lecture material. In cases where reading and lecture materials conflict, the lecture material will be considered the most accurate or correct, then the text material and finally material from other sources. The student is therefore encouraged to seek assistance from the instructor when he/she has difficulty in understanding the lecture, text, or outside reading material. **DO THIS BEFORE YOU FAIL A TEST!** Any confusion in assignments should be cleared up with the instructor prior to the due date. Any suggestions for improving the teaching or learning are also encouraged.

Statement of Risk

Inherent risks are associated with participation in any form of physical activity. These risks include but are not limited to: heart attack, heat illness, head injuries, bone fractures, dislocations, sprains, strains, superficial cuts, and bruises. These injuries may be caused by poor physical condition, accidental falls, misuse of equipment, unexpected contact, upset balance, or being hit by a projectile (e.g., ball, frisbee, hoop). If you sustain an injury in class, regardless of the severity, report it to your instructor immediately. If you are aware of any condition that will increase your chance of illness or injury by participation in vigorous physical activity please talk to your instructor.

In accordance with the provisions of the Americans With Disabilities Act (ADA), if you require any special assistance or adaptations to participate in this course, please contact your instructor immediately.