

EXSS 3850 Introduction to Biomechanics, Fall 2007

Dr. Paul DeVita

Office: 332 b Ward Sports Medicine Building (inside room 332, the Biomechanics Laboratory)

Office Hours: MW 9:00 - 11:30

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Time/Place: T,Th, 8:00-9:50, 236 Ward Sports Medicine Bldg.

Prerequisites: PHYS 1250,1251, BIOL 2130, BIOL 2131 or EXSS 2850

Required Texts: Lecture-slide notes from UBE

Biomechanical Basis of Human Movement, 2th edition, Joseph Hamill and Kathleen Knutzen, Lippincott Williams & Wilkins Publishing

Objective: The objective of this course is to learn the fundamentals of biomechanics which include the main topics of neuromuscular-skeletal physiology, functional anatomy, and biomechanical analysis of human movement. These topics will be taught to provide a basic understanding of the physical basis of human movement in healthy and clinical populations. The course will emphasize gait and other movements of daily living, exercise and athletic movements, and movements related to injury and illness. The course will have mostly lecture and several laboratory sessions.

Evaluation: There will be four exams, 11 short answer quizzes on the book chapters, several Lab reports, and a few short, optional assignments. The exams will count for 65%, the chapter assignments will count for 20% and the Lab reports will count for 15% of your course grade. The optional assignments, if submitted, can increase your final grade as described below.

Your grade will be based on your final average as shown here:

A = 90 or higher

B = 80 to <90

C = 70 to <80

D = 60 to <70

F < 60

Content (chapters refer to Hamill's and Knutzen's book):

1) Skeletal, Muscle, and Nervous Systems:

Introduction, basic terminology (chapter 1)

Skeletal biomechanics (chapter 2)

EXAM 1

Muscle mechanics (chapter 3)

Nervous control of movement (chapter 4)

EXAM 2

2) Functional Anatomy:

Upper extremity (chapter 5)

Lower extremity (chapter 6)

Trunk and spine (chapter 7)

EXAM 3

3) Biomechanics:

Linear kinematics (chapter 8)

Angular kinematics (chapter 9)

Linear kinetics (chapter 10)

Angular Kinetics (chapter 11)

EXAM 4

Notes:

1. Dr. DeVita will communicate with the students through email and BlackBoard throughout the course. Please be sure that your ECU email account is running properly at all times. You are responsible for checking your email each week to keep up with the course. All chapter quizzes and assignments will be distributed through BlackBoard and the due dates for all quizzes and assignments will be listed on BlackBoard.
2. Exams will be short answer. Although an exam might be standardized to a normal distribution (namely, curved upward), a minimum of 50% correct responses on the exam is required to receive a passing grade.
3. Any missed exams cannot be made up. Rare exceptions may be considered for:
 - a. Illness: you must contact my office before the quiz or exam to inform me.
 - b. Death in the family: you must contact my office before the quiz or exam and you must have a published obituary or other acceptable material prior to taking the exam.

You must discuss any missed exams with me on or near the date of the exam. Dr. DeVita will define the phrase, "near the date." Do not wait until the end of the semester to discuss an exam missed weeks or months before. **Dr. DeVita will do everything he can to help the students if a problem arises. However, please speak to Dr. DeVita about the problem when it arises. Do not wait until weeks later or until the end of the semester to discuss the problem.**

4. Short answer quizzes will be given for each book chapter throughout the semester. They will be completed during non-lecture hours and submitted on or before the dates listed on BlackBoard for full credit. These quizzes will not be difficult if you read the text. The purpose of these assignments is to encourage you to read the text. Please read the text.
Quizzes must be submitted on or before the due date for full credit. If you cannot submit a quiz by the deadline, **please submit it late for partial credit.** You can submit the quiz until the answers are emailed to the students. If you do not submit a quiz, you receive a grade of, "0" whereas a quiz submitted late may receive a higher grade. See specific grading information on BlackBoard.
5. There may be one or more optional assignments throughout the semester. The goal of these assignments is to: 1) increase your understanding of the field of biomechanics, 2) improve your writing skills, and 3) improve your math skills. You may do none, several or all of them. For each optional assignment submitted and corrected, you will receive an extra quiz grade of 100.
6. Understanding the lecture material is critical for good performance in this course.
7. Grammar, spelling, and proper English are important and will count on all assignments.
8. Some students consider this course as one of the more difficult courses in the curriculum. I recommend that you establish a study group with one, two, or three people and you meet with this group to discuss the material. Perhaps one meeting a week will be suitable. I also recommend that you come to class with pertinent questions related to the material. If you do not want to ask questions in class, email them to me and I will respond.
9. The last exam will be given on the official final exam date which is Thursday, May 3, 2007. No one will be allowed to take the exam before this date. Please do not purchase and airline ticket for a previous date and expect to take the exam early.

East Carolina University seeks to fully comply with the Americans with Disabilities Act (ADA). Students requesting accommodations based on a covered disability must go to the Department for Disability Services, located in Brewster A-114, to verify the disability before any accommodations can occur. The telephone number is 252-328-6799.