

KIN 3514 (1) BIOMECHANICS BASIS OF KINESIOLOGY

(3 hours credit)

Spring 2009

Louisiana State University

Prerequisites: Physics (2001), Mathematics (1022), Anatomy (KIN 2500), Human Physiology (BIOL 2160)

Day and Time: Lecture: Tuesday and Thursday 7:40 - 9:00.

Location: Room B9, Lockett Hall

TA Office Hours: xxx xxxx: 1:00 – 2:00 PM Monday – Friday, or by appointment (578-4395) in room B2 Gym Auditorium (old Gym Armory).

Important Dates:

First Day of Class	January 14
Mardi Gras Holiday	February 5
Midterm	March 7 (in class)
Spring Break	March 18 & 20
Last day of Class	May 1
Final exam	Friday, May 9, 7:30 – 9:30 AM

Instructor: Dr. Li Li, Office: 119 Long Field House. Please send questions and appointment requests for Dr. Li to (LLI3@LSU.EDU)

Course objectives: Students will demonstrate knowledge of the tools necessary for the analysis of human movement. Students will demonstrate understanding of how to apply these tools to real life situations.

SERVICE-LEARNING

This class has a optional service-learning component. Service-learning is a credit-bearing, educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility. More specifically, service learning opportunities in this class will be provided through the LSU Peripheral Neuropathy studies (PN.LSU.EDU).

ACADEMIC INTEGRITY:

All students are responsible for adhering to the highest standards of honesty and integrity in every aspect of their academic careers. The penalties for academic dishonesty can be severe and ignorance is not an acceptable defense at Louisiana State University. Information concerning Academic Integrity can be obtained in the Office of the Dean of Students in 122 Johnston Hall (578-4307).

COMPLETION OF ASSIGNMENTS, CLASS ABSENCES

- Students will not be given the opportunity to complete missed midterm and/or final examinations unless:
 - The student has made prior arrangements with the instructor in which the student will miss the examination; or
 - As per Policy Statement #22 regarding attendance:
 - “An absence due to illness or other causes beyond a student’s control will be excused when the instructor is convinced that the reason for absence is valid. The University’s Policy Statement 22 discusses approved trips, activities, and other instances or excused absences.”
- It is the responsibility of the student to contact the instructor within 2 weeks to determine dates/times of any make-up work and/or examinations in question.

COURSE POLICIES:

- Cellular phones, pagers/beepers must be turned OFF during all class activities.
- No eating, no drinking, and no sleeping during class activities. The student will be asked to leave the class if this occurs.

STUDENTS WITH SPECIAL NEEDS:

If a student has a disability that qualifies under the American with Disabilities Act and requires accommodations, he/she should immediately contact the LSU Office of Disability Services (phone: 225/578-5919, TDD: 225/578-2600, Fax: 225/578-4560, or email: disability@lsu.edu) for information on appropriate policies and procedures.

Textbook: Neuromechanics of human movement by Roger Enoka, 3th edition, Human Kinetics, 2002, ISBN: 0-7360-0251-0

Class website: Blackboard (blackboard.lsu.edu)

Course Content:

Introduction

Part I: The Force-Motion Relation

Chapter 1: Describing Motion

Chapter 2: Movement Forces

Chapter 3: Forces Within the Body

(Midterm)

Part II: The Motor System

Chapter 5: Single-Joint System Components

Chapter 6: Single-Joint System Function

Chapter 7: Multi-Joint Systems

Course Evaluation: Each student will be evaluated on the following criteria:

1. In class Quizzes

There will be in class quizzes on Jan 17, 22, 24, 29, 31, Feb 7, 12, 14, 19, 21, 26, 28, Mar 11, 13, 25, 27, Apr 1, 3, 8, 10, 15, 17, 22, and 24. Maximum marks for each quiz are 10 points for 10 multiple choice questions. The highest 14 quiz scores will be account for the final grade. There should be no make up quizzes if you should miss one. All quiz scores will be equally weighted.

2. Midterm exam 100 points

3. Final exam 100 points (Final exam is not accumulative)

Extra Credits:

There are three different ways that a student in this class can earn extra credits for each half of the semester. A student can choose one of the three, but not combined. Your choice for the first and second half of the semester can be different. Evaluation criteria of each choice will be discussed after you have selected your choice:

1. Service-learning: maximum 15 students can register for the service learning option before the midterm and another 15 can register for this option after the midterm exam. Posture and gait instability is a major impairment of the people with peripheral neuropathy. They are also an important part of the class content. The service-learning will provide the student an opportunity to further understand the biomechanics of postural and gait stability, stability impairment of people with peripheral neuropathy and what can be done to improve stability. Students who participate in this option need to: 1. Become familiar with the movement disorder. 2. Interview a research participant. 3. Discuss the contents of the literature and the interview with your classmates and instructor;. 4. Design and implement a short term balance restoration program. 5. Interview the research participant and discuss the results of the intervention; 6). Write and present the service learning project to your classmates and the instructor.

2. Read research papers: Five research papers will be put on the class BlackBoard site before the midterm exam and there will be a special quiz prior to the midterm to test specifically for these readings. There will be four multiple choice questions for each paper and potentially 20 extra credit points a student can earn toward one's final grade by reading these papers. The same process will be repeated prior to the final exam.
3. Participating in biomechanics related research projects: there are many research projects conducted in the biomechanics laboratory. Participant in these research projects as a researcher or subject can also earn extra credits for this class. Every hour of participation (proved by the researcher) before midterm will count 2 points toward the final grade with maximum at 10 hours, and the same applies with work done between the midterm and final exams. Please contact class TA for further assistance if you wish to participate research projects.

Total Possible scores:		Cumulative
1. quizzes:	140 points;	140
2. Midterm exam:	100 points;	240
3. Final exam:	100 points;	340
4. extra credits before midterm:	20 points;	360
5. extra credit after midterm:	20 points:	380

Grading Scale:	
A	=> 306
B	255 - < 306
C	204 - < 255
D	170 - < 204
F	<170