



COURSE INFORMATION SHEET
KINESIOLOGY 385 – Biomechanics (3)

Tentative Course Outline and Schedule for Winter semester, 2013.

Time: Lectures –

Instructor : Dr. Carol Kroeker

Office : A2156

Phone: 410-2000, ext 5910

Email: ckroeker@ambrose.edu

Text : Fundamentals of Biomechanics, Duane Knudson, Springer-Verlag
(On-line version available for down-load)

Learning Objectives:

1. Students will gain a greater understanding of the principles of physics and mechanics and how they apply to body movement and function.
2. Students will learn the biomechanical properties of various body tissues and be able to discuss the effects of these properties on function and the mechanical design of various animals
3. Students will learn methods for the analysis of deformational mechanics as they apply to biological tissues including bone, muscle, and connective tissues.
4. Students will Analyze body movements at a biomechanical level.

Mark Distribution	:	1 Midterm Exams	25%
		Assignments	25%
		Presentation / Paper Critique	10%
		Final Exam	40%

This course will be presented in a seminar format – with independent learning, discussion periods, and student presentations, as well as lectures.

The midterm and final exam will be a combination of multiple choice questions, as well as short and long answer questions. While most questions will be based on lecture material, the textbook reading will absolutely help in the understanding of this material. Attendance at lectures will help ensure success on course exams and assignments.

<u>Dates</u>	<u>Topic</u>	<u>Text Chapters</u>
<u>Week of</u>		
Jan. 7	Fundamentals of Biomechanics	1., 2
Jan. 14	Forces and Motion	3
Jan. 21	Linear and Angular Kinematics	5
Jan. 28	Linear Kinetics / Sport applications	6
Feb. 4	Angular Kinetics / Exam I	7
Feb. 11	Fluid Mechanics	8
Feb. 18	Reading Break	
Feb. 25	Stress and Strain	4
Mar 4	Applications to Animal Systems	
Mar 11	Mechanical properties of Bone, Ligaments, and Tendons	4
Mar 18	Cardiovascular System	
Mar 25	Respiratory System	
Apr. 1	Mass, Stability / Sport Applications	11, 12
Apr. 8	Review	

Laboratory Schedule

Independent lab topics will include: Anatomy and Physiology of the skeletal and muscular system, flow dynamics of the cardiovascular system, Mechanical properties of animal systems, linear kinetics and kinematics, angular kinetics and kinematics.

Grading Scheme

A+	97-100%	C+	67-70%
A	90-96%	C	63-67%
A-	87-90%	C-	60-63%
B+	83-87%	D+	54-59%
B	77-83%	D	50-53%
B-	70-77%	F	Below 50%

Classroom Etiquette:

It is expected that students will take an active role in the learning process. This includes: (a) regular class attendance, (b) reading course material in advance of class, and (c) engaging in discussions during class.

In respect to the professor and to your fellow students, we ask that you:

- a) Turn your phone off during class and that you don't use it for texting during lecture or lab
- b) Not have conversations with the people beside your during lecture – it is very distracting to the people around you
- c) Use your laptops for lecture material and assignments only – that you are not using the internet or facebook during class time.
- d) Arrive to lecture and lab on time
- e) Don't come to class or lab with your ipod or equivalent.

These will help to maximize the learning experience for you and your fellow students (and will keep your professor in a good mood).

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Student Handbook and Academic Calendar. Personal information, that is information about an individual that may be used to identify that individual, may be collected as a requirement as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Academic dishonesty is taken seriously at Ambrose University College as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to give credit to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from Ambrose. Students are expected to be familiar with the policy statements in the current academic calendar and the student handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Plagiarism and cheating can result in a failing grade for an assignment, for the

course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar and the Student Handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean.