**Biomechanics of Sport Injury [KINE 7660]**

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| Instructor | Gretchen D. Oliver PhD, FACSM, ATC, LAT, CES |
| Meeting Times | MTWTF 11:30-12:59 Student ACT 247 |
| Office | KINESIOLOGY Building 105 |
| E-mail Address | goliver@auburn.edu |
| Office Hours | By Appointment |
| Credit Hours | 3 semester hours |

**REQUIRED/Recommended TEXTBOOKs**

Nordin, M. & Frankel, V.H. (2012). Basic Biomechanics of the Musculoskeletal System. Philadelphia, PA: Lea & Febiger. ISBN-13:978-1-60913-335-1

**COURSE DESCRIPTION & INSTRUCTIONAL OBJECTIVES**

Study of biomechanical properties of human body, and force-motion relationships within the musculoskeletal system; pathomechanics and tissue properties that define the tolerance of the human body to the forces and torque developed in sport and daily activities; techniques for prevention of injuries in sport and daily activities.

**COURSE REQUIREMENTS**

Students will be assessed through exams, assignments, quizzes and a poster presentation. All of the class material will be available via canvas. It is the student’s responsibility to make sure they are either in class or viewing all lectures. As it will be difficult to be successful in this class if you do not view all class lectures and follow up on recommended readings. If there are problems accessing class material, please notify the professor of record, [goliver@auburn.edu](mailto:goliver@auburn.edu).

**GRADING SCALE**

The grading scale for this course is as follows:

**A = 90 – 100% Poster Presentation:** 15%

**B = 80 – 89% Assignments:** 5%

**C = 70 – 79% Quizzes** 5%

**D = 60 – 69% Exams:** 75%

**F = Under 59% Total: 100%**

**STATEMENT of STUDENT ACCOMMODATION**

Students who need accommodations are asked to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternative time can be arranged. To set up this meeting, please contact me by e-mail. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an Accommodation Memo but need accommodations, make an appointment with the Program for Students with Disabilities at 1244 Haley Center, 844-2096 (V/TT). <https://fp.auburn.edu/disability/faculty/syllabus.asp>.

**CONTINGENCY PLAN**

If normal classes are disrupted due to a high number of students experiencing illness or an emergency or crisis situation, the syllabus and other course plan and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials. Additionally, course content and assignments may be made available to you via Canvas.

**HONESTY CODE**

The University Academic Honesty Code and the **Student Policy eHandbook** [www.auburn.edu/studentpolicies] pertaining to cheating and plagiarism will apply to this class.

**CLASS POLICY STATEMENTS**

Participation: Students are expected to participate in all class discussions. As some of the lectures will be on-line, there will still be ability to have discussion. It is the student’s responsibility to contact Dr. Oliver **PRIOR** to missing any assignment. Any missed work due to a University approved excuses MUST be made-up within 3 working days.

Attendance/ Absences: This is a hybrid class meaning all information will be available on Canvas. We will have days where we meet in class and days where all information is available via a recorded lecture. If an exam is missed, a make-up exam will be given only for University-approved excuses as outlined in the **Student Policy eHandbook**. Arrangements to take the make-up exam **must be made in advance** and the exam taken within 5 days of the missed exam. Students who miss an exam because of illness should inform Dr. Oliver prior to the missed class if possible. A doctor’s statement for verification of sickness is required and should clear the absence with Dr. Oliver the day the return to class. Other unavoidable absences from campus must be documented and cleared with Dr. Oliver in advance. **No late assignments or quizzes will be accepted outside of extreme circumstances noted by Dr. Oliver.** Please carefully adhere to established assignment deadlines. In such a case Dr. Oliver will have the discretion of lowering the assignmenta percentage of the overall grade for each day that it is late.

Questions/ Help: Students are encouraged to ask questions and seek extra help on a regular basis. Please do not wait until the day before an exam.

Classroom Policies:

* All electronic devices must be turned to silent in the classroom. NO phones or text messaging during class is allowed. All phones and electronic devices must be put away prior to the start of class.
* Students are expected to arrive to class on time. Those arriving late will not be permitted to hand in homework. Likewise, classes will end promptly at the scheduled time.
* Students are expected to come to class having completed the reading and prepared to discuss them.

Professionalism: As faculty, staff, and students interact in professional settings, they are expected to demonstrate professional behaviors as defined in the College’s conceptual framework. These professional commitments or dispositions are listed below:

* Engage in responsible and ethical professional practices
* Contribute to collaborative learning communities
* Demonstrate a commitment to diversity
* Model and nurture intellectual vitality

**TENTATIVE SCHEDULE**

ALL COURSE MATERIALS WILL BE POSTED ON CANVAS: It is expected that students check the course on CANVAS regularly as well as email. Announcements will be sent via canvas to individual student’s email.

Week 01: T 05/19 Introduction

F 05/20 Articular Cartilage

Week 02: M 05/23 Tendons & Ligaments

T 05/24 Nerves

W 05/25 Muscles

T 05/26 TBA

F 05/27 **Exam 1**

Week 03: M 05/30 Memorial Day

T 05/31 Ankle

W 06/01 Ankle

T 06/02 Knee

F 06/03 Knee

Week 04: M 06/06 Hip

T 06/7 LPHC Interactions

W 06/8 LPHC Worksheet

T 06/9 TBA

F 06/10 **Exam 3**

Week 05: M 06/13 Poster Preparation

T 06/14 Shoulder

W 06/15 Shoulder

T 06/16 Elbow

F 06/17 Wrist

Week 06: M 06/20 TBA

T 06/21 TBA

W 06/22 **Poster DUE**

T 06/23 **Exam 3**

**POSTER PRESENTATION**

You are being asked to prepare a poster presentation in a power point template. Once in power point click on *Themes* then *page setup select the drop down of page setup* enter 18 inches Width and 30 inches Height. Save the power point slide and take to the library to print it off.

**PURPOSE:**

1) To provide the student the opportunity to synthesize and apply the information presented

in this course.

2) To provide the student the opportunity to interact with the information in greater detail.

3) To develop critical thinking skills and critical analysis of research relevant to the course.

4) To develop and practice presentation skills.

**SCORING:**

1. Design your poster layout with the following sections:
   1. Title, Authors, Institution
   2. Background of the Injury
   3. Kinetic Chain Rational for Injury
   4. Treatment
   5. Conclusion
2. The text should be kept to a minimum and should be broken up by the inclusion of figures, drawing and/or photos.
3. Did you present the point clearly and did you make a case for why it is important and relevant information?
4. Are the aesthetics pleasing?

The poster should be informative. After viewing the poster the one should have an idea of the injury; understand the role of the kinetic chain with the injury; how to address the injury based on the kinetic chain influence; and how to prevent the injury based on the kinetic chain influence.