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

|  |  |
| --- | --- |
| Instructor | Gretchen D. Oliver PhD, FACSM, ATC, LAT |
| Meeting Times | MTWTF 11-12:30 |
| 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, laboratory assignments, quizzes and a thematic poster presentation. Much of the class material will be available on Canvas. If there are problems accessing class material, please notify the professor of record, 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 (such as a widespread H1N1 flu outbreak), 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 Blackboard.

**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. It is the student’s responsibility to contact Dr. Oliver **PRIOR** to class if an illness or emergency requires the student to miss class. Any missed work due to a University approved excuses MUST be made-up within 5 days.

Attendance/ Absences: Attendance is required at each class meeting. 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 the 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 the 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 off during classroom or laboratory periods, with the exception of laptops, which may be used for note taking only. NO phones or text messaging during class is allowed. All phones and electronic devices must be put away prior to the start of class. If these are found out – The student will be asked to leave the 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.

 F 05/16 Introduction

Week 01: M 05/19 Articular Cartilage

T 05/20 Tendon and Ligaments

W 05/21 Nerves and Review Questions

T 05/22 Muscles

F 05/23 Review

Week 02: M 05/26 Memorial Day

 T 05/27 **Exam 1**

 W 05/28 Ankle

 T 05/29 Ankle Worksheet

 F 05/30 Knee

Week 03: M 06/02 Knee Worksheet

 T 06/03 Hip

 W 06/04 Hip

 T 06/05 LPHC Interactions

 F 06/06 LPHC Worksheet

Week 04: M 06/09 **Exam 2**

 T 06/10 Shoulder

 W 06/11 Shoulder Worksheet

 T 06/12 Elbow

 F 06/13 Wrist

Week 05: M 06/16 Elbow/Writs Worksheet

 T 06/17 TBA

 W 06/18 TBA

 T 06/19 **Thematic Poster Presentations**

 F 06/20 Review

 M 06/23 **Exam 3**

**POSTER PRESENTATION**

You are being asked to prepare a poster presentation in a power point template that you would present at a national conference. [Slide dimensions: 33 width X 46 height]. A sample template will be uploaded on canvas.

**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 [Title should emphasize by using bold-face type or similar lettering. The text should be printed in the same kind of lettering, large enough to be read comfortable from a distance of 2-3 meters.]
	2. Aims/Background
	3. Methods/Differential Diagnosis
	4. Results/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 include figures of the injury?
4. Did you present the point clearly and did you make a case for why it is important and relevant information?
5. Did you just copy and paste your paper in a poster, or do you present the relevant material appropriate for a poster presentation?
6. Are the aesthetics pleasing?

The session will run with posters being presented in the upper extremity lab of the School of Kinesiology Building. Posters will be set up and time will be allotted for everyone to examine posters. A group representative will be responsible for summarizing the material on the poster [5 minutes]. Then other groups will be responsible for asking a question related to the topic for discussion.