**AUBURN UNIVERSITY**

**SYLLABUS**

**KINE 3620 – Biomechanical Analysis of Human Movement**

* **4 credit hours; LEC 3, LAB 1.**

**Spring 2014**

 Lecture: Tuesday/Thursday- 11:00am – 12:15 pm. STACT 206.

Lab: Wednesday- 3:00pm - 4:50 pm. Kinesiology Building 014.

Course Master: Wei Liu, PhD.

Lab Instructor: John Fox M.S

Office: 301 Wire Road (New Kinesiology Building), Room 107

Office hours: Tue & Thurs: 9:00 AM to 11:00 AM

Email: wzl0022@auburn.edu

Phone: 334-844-1597

Office Hours:by appointment

**Texts or Major Resources:**

Hamilton, N., Weimar, W. & Luttgens, K. (2011) Kinesiology – Scientific Basis of Human Motion. Twelfth Edition, McGraw-Hill: New York, New York. (ISBN 978-0-07-297297-9).

Power point presentations and handouts will be provided through Canvas.

**Course Description:**

This course is designed to develop a fundamental understanding of the anatomical, neuromuscular, and biomechanical principles of human movement. Application of these concepts, as well as methods of motion analysis covered in this course, will enable the student to evaluate human locomotion in greater detail.

**Student Learning Outcomes:**

The student will demonstrate an understanding of and the ability to:

1. Learn a systematic approach to the analysis of human motion
2. Understand the anatomical, neuromuscular, and biomechanical fundamentals of human motion
3. Apply graphical and biomechanical analyses to the study and improvement of a broad spectrum of movement activities.

**COURSE REQUIREMENTS:**

Three midterm exams and one final exam will be given during this course. Quizzes may also be given during the class throughout the semester. In addition to exams and quizzes, laboratory assignments will be graded. If a computer problem occurs with the Canvas system you must notify the instructor immediately.

**GRADING SCALE:**

The grading scale for this course is as follows:

**A = 90 – 100% Labs:**  25%

**B = 80 – 89% Quizzes (2): [**2@7.5% each**]** 15%

**C = 70 – 79% Midterm Exams:** [3 @ 10% each] 30%

**D = 60 – 69% Final Exam:** 30%

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

Extra Credit opportunities will be provided during this semester. Every student will have an equal opportunity to earn the credit. A grade will be given based on the accumulation of the “exams, quizzes, lab assignments, and extra credits.”

**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>.

**E-MAIL** Outlook360 is the official means of communication for Auburn University. The instructor will communicate with the class through Outlook360. You are responsible for this information, so please check your account regularly.

**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 plans 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 the instructor **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 instructor prior to the missed class if possible. A doctor’s statement for verification of sickness is required and should clear the absence with the instructor the day the return to class. Other unavoidable absences from campus must be documented and cleared with the instructor in advance. No late assignments or quizzes will be accepted outside of extreme circumstances noted by the instructor. Please carefully adhere to established assignment deadlines. In such a case the instructor 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 and Laboratory 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.
* While the laboratory sessions are more relaxed, students are expected to conduct themselves in professional and safe manner. Students are not permitted to play with laboratory equipment.
* Lab attire consists of loose fitting gym shorts, t-shirts, and sneakers for easy movement. In order to participate in laboratory sessions, students must arrive to class in appropriate attire. Students not properly dressed will be asked to leave and will not be allowed to make up the assignments.

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

AU Evaluation Dates: AU eValuate Spring Semester

OPEN: TBA

CLOSE: TBA

**Tentative Class Schedule:** (Subject to change)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Week | Monday | Tuesday | Wednesday | Thursday | Friday |
|  |  |  **Lecture: 11:00am-12:15pm**  |  | **Lecture: 11:00am-12:15am** |  |
| 1 | Jan 6Mar | Jan 7 | Jan 8 | Jan 9Introduction/Ch1 | Jan 10 |
| 2 | Jan 13 | Jan 14Intro of Biomechanics/Ch1-2 | Jan 15 | Jan 16Musculoskeletal System:Ch2-3  | Jan 17 |
| 3 | Jan 20**MLK Day** | Jan 21Neuromuscular System: Ch3-4 | Jan 22 | Jan 23Vector Analysis, Math Review I Ch10 [Quantitative] | Jan 24 |
| 4 | Jan 27 | Jan 28Vector Analysis, Math Review II Ch10 [Quantitative] | Jan 29 | Jan 30**Quiz 1 (Vector Analysis)** | Jan 31 |
| 5 | Feb 3 | Feb 4Biomechanics Concept  Kinematics I Ch11 | Feb 5 | Feb 6Biomechanics Concept  Kinematics II Ch11 | Feb 7 |
| 6 | Feb 10 | Feb 11Biomechanics Concept Kinetics I Ch12 | Feb 12 | Feb 13Biomechanics Concept Kinetics II Ch12-13 | Feb 14 |
| 7 | Feb 17 | Feb 18Biomechanics Concept Kinetics III Ch13 | Feb 19  | Feb 20 Center of Gravity II (Graphic Approach: FBD) Ch14[Qualitative] | Feb 21 |
| 8 | Feb 24 | Feb 25 Center of Gravity II (Graphic Approach: FBD) Ch14 [Qualitative] | Feb 26 | Feb 27**Quiz 2 (Graphic Approach)**  | Feb 28 |
| 9 | Mar 3  | Mar 4**Review 1** | Mar 5 | Mar 6**Exam 1** | Mar 7 |
| 10 | Mar 10 | Mar 11**Spring** | Mar 12 | Mar 13**Break** | Mar 14  |
| 11 | Mar 17 | Mar 18Biomechanics Applied to **UE** Activity I | Mar 19 | Mar 20Biomechanics Applied to **UE** Activity II | Mar 21 |
| 12 | Mar 24 | Mar 25**Review 2** | Mar 26 | Mar 27**Exam 2** | Mar 28 |
| 13 | Mar 31 | Apr 1Biomechanics Applied to **LE** Activity I | Nov 2 | Apr 3Biomechanics Applied to **LE** Activity II  | Apr 4 |
| 14 | Apr 7 | Apr 8Biomechanics Applied to **LE** Activity III: | Apr 9 | Apr 10Biomechanics Applied to **LE** Activity IV (advance topic):  | Apr 11 |
| 15 | Apr 14 | Apr 15**Review 3** | Apr 16 | Apr 17**Exam 3** | Apr 18 |
| 16 | Apr 21 | Apr 22Final Review  | Apr 23 | Apr 24TBA | Apr 25 |