# **KINE 3620: Biomechanics of Human Movement (3 cr.)**

## Christopher Wilburn, PhD

**Office**: 20 Kinesiology Building
**Office Hours**: MW 1-3PM, TR 3:30- 4:30 PM
**Phone**: TBA
**Email**: czw0043@auburn.ed u

## **Course Meetings:**

MWF 11:00 AM-11:50 AM STACT 257

**Recommended Text(s)**:Kinesiology: Scientific Basis of Human Motion (12 Ed). Nancy Hamilton, Wendi Weimar, & Kathryn Luttgens. ISBN-13: 978-0078022548

 Basic Biomechanics (7 Ed). Susan Hall. ISBN-13: 978-0073376448

### **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 performance in greater detail.

### **Course Obje ctive s**:

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

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

### **Course Re quire me nts**:

Three exams will be given during this course. “Pop” quizzes may also be given during the class. If a computer problem occurs with the canvas system, you must notify Dr. Wilburn immediately. Surprise quizzes will cover material that is already covered in class, thus it is vital to keep up with the information throughout the semester. There will be **NO** make-up quizzes for missed surprise quizzes unless a university excused absence in provided.

### **Grading and Evaluation Procedure**:

 Quizzes……..25% 90 - 100 --- A
 Exams………40% 80 - 89 --- B
 Project......20% 70 - 79 --- C
 Final Exam....15% 60 - 69 --- D
 Under 60 --- F

## **Class Policy Statements**

**Participation**: Students are expected to participate in all class discussions and participate in all homework and laboratory exercises. It is the student’s responsibility to contact the instructor if assignment deadlines are not met. Students are responsible for initiating arrangements for missed work.

**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. Arrangement to take the make-up exam must be made in advance. Students who miss an exam because of illness need a doctor’s statement for verification of sickness and should clear the absence with the instructor the day they return to class. Other unavoidable absences from campus must be documented and cleared with the instructor in advance.

**Accommodations:** 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).

**Honesty Code**: The University Academic Honesty Code and the Student Policy e-Handbook pertaining to cheating and plagiarism will apply to this class

**Email**: Tigermail is the official means of communication for Auburn University. The instructor will communicate with the class through Tigermail. 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 Canvas.

**Questions/ Help**: Students are encouraged to ask questions and seek extra help on a regular basis. Please do not wait until the day before a quiz or 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 handing in assignments nor will be provided additional time to any in-class assignments. 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, we 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

**COURSE MATERIALS WILL BE POSTED ON CANVAS**: It is expected that you check the course on CANVAS regularly as well as your email. Announcements will be sent via canvas to your email.

Tentative Schedule of Topics – exact timing may change

**August**

Monday 21 Introduction/Anatomical Principals
 Wednesday 23 Anatomical Principals
 Friday 25 Anatomical Principals

 Monday 28 Anatomical Principals
 Wednesday 30 Anatomical Principals

### **September**

 Friday 1 Anatomical Principals

 Wednesday 6 **Quiz 1**/Mechanics
 Friday 8 Mechanics

 Monday 11 Mechanics
 Wenesday 13 Mechanics
 Friday 15 Mechanics

 Monday 18 **Quiz 2/**Kinematics
 Wednesday 20 Kinematics
 Friday 22 Kinematics

 Monday 25 Kinetics
 Wednesday 27 Kinetics
 Friday 29 Kinetics

**October** Monday 2 **Exam 1**
 Wednesday 4 Lower Extremity Functional Anatomy (Foot & Ankle)
 Friday 6 Lower Extremity Functional Anatomy (Foot & Ankle)

 Monday 9 Lower Extremity Functional Anatomy (Foot & Ankle/Hip Region)
 Wednesday 11 Lower Extremity Functional Anatomy (Hip, Pelvis & Trunk)

 Monday 16 Lower Extremity Functional Anatomy (Hip, Pelvis & Trunk)
 Wednesday 18 Lower Extremity Functional Anatomy (Hip, Pelvis & Trunk Shoulder Region)
 Friday 20 Upper Extremity Functional Anatomy (Trunk & Shoulder) Monday 23 **Exam 2**
 Wednesday 25 Upper Extremity Functional Anatomy (Trunk & Shoulder/ Elbow, Wrist, Hand)
 Friday 27 Upper Extremity Functional Anatomy (Elbow, Wrist, Hand)

 Monday 30 Upper Extremity Functional Anatomy (Elbow, Wrist, Hand)

**November** Wednesday 1 Kinetic Chain
 Friday 3 Kinetic Chain

 Monday 6 Kinetic Chain
 Wednesday 8 Kinetic Chain
 Friday 10 Kinetic Chain /Analysis

 Monday 13 Gait Analysis
 Wednesday 15 Gait Analysis
 Friday 17 Gait Analysis

 Monday 20 **Exam 3**
 Wednesday 22 Applied Concepts
 Friday 24 Applied Concepts

 Monday 27 Applied Concepts
 Wednesday 29 Presentations

### **December**

 Friday 1 Presentations

 Monday 4 Presentations/Review
 Wednesday 6 Review
 Friday 8 Review

**FINAL EXAM Thursday December 14 12:00- 2:30 PM**