# **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  
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## **Course Meetings:**

TR 9:30 AM-10:45 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**

Tuesday 22 Introduction/Anatomical Principals  
 Thursday 24 Anatomical Principals  
  
 Tuesday 29 Anatomical Principals  
 Thursday 31 Anatomical Principals

### **September**

Tuesday 5 **Quiz 1**/Mechanics   
 Thursday 7 Mechanics

Tuesday 12 Mechanics  
 Thursday 14 Mechanics

Tuesday 19 **Quiz 2**/ Kinematics   
 Thursday 21 Kinematics

Tuesday 26 Kinetics   
 Thursday 28 Kinetics

**October** Tuesday 3 **Exam 1**  
 Thursday 6 Lower Extremity Functional Anatomy (Foot & Ankle/ Hip Region)

Tuesday 10 Lower Extremity Functional Anatomy (Hip, Pelvis & Trunk)   
 Tuesday 12 Lower Extremity Functional Anatomy (Hip, Pelvis & Trunk)

Tuesday 17 Lower Extremity Functional Anatomy (Hip, Pelvis & Trunk/ Shoulder Region)

Tuesday 24 **Exam 2**  
 Thursday 26 Upper Extremity Functional Anatomy (Trunk & Shoulder)

Tuesday 31 Upper Extremity Functional Anatomy (Elbow, Wrist, Hand)

### **November**

Thursday 2 Kinetic Chain

Tuesday 7 Kinetic Chain  
 Thursday 9 Kinetic Chain/Gait Analysis

Tuesday 14 Gait Analysis   
 Thursday 16 Gait Analysis

Tuesday 21 **Exam 3**  
 Thursday 23 Applied Concepts

Tuesday 28 Applied Concepts   
 Tuesday 30 Presentations

### **December**

Tuesday 5 Presentations/Review  
 Thursday 7 Review

**FINAL EXAM Monday December 11 8:00- 10:30 AM**