# Auburn University

# College of Education

# School of Kinesiology

# Course Syllabus

## Syllabus for KINE 3620 (Fall 2018)

### Course Information:

Course Number: KINE 3620

Course Title: Biomechanics 0f Human Movement

Course Hours: 3 semester hours (Lecture 3)

Prerequisites: none

### Faculty Information:

Instructor: Dr. Wilburn

Office Location: Kinesiology Building 103

Office Hours: MW 10 AM- 12PM, TH 10 AM -11:30 AM

Email**:**czw0043@auburn.edu

Phone number: 334-844-1462

### Course Meetings:

MWF 8 AM – 8:50 AM STACT 257

Required Text:
Hamilton, N. P. (2011). *Kinesiology: scientific basis of human motion*. Brown & Benchmark.

### 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.

 Student Learning Outcomes:

The students will be able 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 anatomical and biomechanical analyses to the study and improvement of a broad spectrum of movement activities

### Course Overview (Tentative Schedule of Topic- exact timing may change)

Week 1. Introduction to Biomechanics and Terminology

Week 2. Biomechanical Terminology and Anatomical Principles (Fundamentals of Bones, Articulations, and Muscles

Week 3 Anatomical Principles and Introduction to the Fundamentals of Movement
Week 4. Functional Anatomy of the Lower Extremity (Knee, Ankle & Foot)

Week 5. Functional Anatomy of the Lower Extremity (Knee & Hip)

Week 6. Functional Anatomy of the Trunk and Upper Extremity (Shoulder Region)

Week 7. Functional Anatomy of the Upper Extremity (Shoulder Region & Elbow)

Week 8. Functional Anatomy of the Upper Extremity (Wrist & Hand)

Week 9. Introduction to Mechanics (Newton’s Laws of Motion, Vectors, Scalars, Levers)

Week 10. Linear & Angular Kinematics (Position, Displacement, Speed, Velocity, Acceleration, Projectile Motion, Motions of the Body and Segments)

Week 11. Angular Kinematics & Linear Kinetics (Contact & Noncontact Forces, Pressure)
Week 12. Linear & Angular Kinetics (Torque, Levers Center of Gravity)

Week 13. Applied Concepts

Week 14. Applied Concepts & Group Presentations

Week 15. Group Presentations & Review

**Final Exam: Wednesday December 12th 8 AM- 10:30 AM STACT 257**

### EVALUATION METHODS:

#### Course Requirements:

Quizzes, exams, a final project, and final exam will be given during this course.

#### Grading and Evaluation Procedure:

Quizzes......25%

Exams………40%

Final Project......20%

Final Exam....15%

90 - 100 --- A

80 - 89 --- B

70 - 79 --- C

60 - 69 --- D

Under 60 --- F

### Class Policy Statements:

Participation: Students are expected to participate in all class discussions. It is the student’s responsibility to contact the instructor if concepts and materials need further explanation.

Attendance/Absences: Attendance is required at each class meeting. If an exam or quiz is missed, a make-up exam will be given only for University-approved excuses as outlined in the Student Policy e-Handbook. Arrangement to take the make-up exam or quiz must be made in advance. Students who miss an exam or quiz 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**.

Unannounced quizzes: “Pop” quizzes may be given during the class period. “Pop” 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.

Email: Tigermail is the official means of communication for Auburn University. The instructor will communicate with the class through Tigermail regularly. You will be responsible to obtain this information and should check your Tigermail account frequently.

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).

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.

Honesty Code: The University Academic Honesty Code and the Student Policy e-Handbook Rules and Regulations pertaining to cheating will apply to this course.

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