# Auburn University

# College of Education

# School of Kinesiology

# Course Syllabus

## Syllabus for KINE 7420 (Fall 2017)

### Course Information:

Course Number: KINE 7420

Course Title: Dartfish I: Biomechanics of Sport Technique

Course Hours: 3 semester hours (Lecture 3)

### Faculty Information:

Instructor: Dr Weimar

Office Location: KINE Building 020

Office Hours: MW 10-11:30, TH 2-3:30

Email**:**weimawh@auburn.edu

Phone number: 334-844-1468

### Course Description:

The purpose of this course is to introduce the techniques and develop the skills needed to perform a biomechanical analysis of a specific sport technique.

### Student Learning Outcomes:

Upon completion of this course, students will:

1. Be able to break a skill into its component parts;

2. Be able to isolate the waypoints of skills;

3. Be able to analyze a videotaped performance;

4. Be able to videotape a performance to observe the critical components of a skill;

5. Be able to provide appropriate feedback to the performer regarding their skill performance

### Course Overview

Week 1. Introduction to Biomechanics and Kinesiology & Terms used in Biomechanics - prepared by instructor

Week 2. Review Planes, Axis & Jt Actions, Vectors

Week 3 Graphical Relationships

Week 4. Angular Kinematics: Angular motion vector, θ, Ώ, α

Week 5. Angular Kinematics: Moving on a curve path, relationship

Week 6. Linear Kinetics: Newton’s three laws and law of gravity

Week 7. Linear Kinetics: Impulse, friction, work, power & energy

Week 8. Angular Kinetics: Couple, moment, lever, & center of gravity

Week 9. Angular Kinetics: Analogues of Newton’s laws of motion

Week 10. Static model: One and two segments

Week 11. Dynamic model: One and two segments

Week 12. Analysis of Daily Activity: Standing & walking

Week 13. Analysis of Sport Techniques: Running, & jumping

Week 14. Analysis of Sport Techniques: Throwing, & kicking

Week 15. Motor Components

### EVALUATION METHODS:

#### Course Requirements:

(1) You are required to come to class and participate and completely weekly assignments

(2) You are required to successfully complete: quizzes, midterm and final

(3) You are required to successfully complete the semester long project

#### Grading and Evaluation Procedure:

Homework......25%

Project………25%

Mid Exam......20%

Final Exam....30%

90 - 100 --- A

80 - 89 --- B

70 - 79 --- C

60 - 69 --- D

Under 60 --- F

### Class Policy Statements:

Attendance. It is expected that students taking a graduate class will attend every class meeting, will

arrive on time, and will actively participate in each class. Absences and late arrivals will not be tolerated.

If you must miss class because of illness or other emergency, please try to notify the instructor in

advance. You are still responsible for any work missed during an absence.

Plagiarism. There are no group assignments or projects in this course. All exams, homework, projects

and any other written work must reflect the individual efforts of each student. Please refer to the *Tiger Cub* for information regarding academic honesty.

Cell Phones. As a courtesy to everyone, please turn off your cell phone during class. If you have a

compelling reason for leaving your phone on, please let me know at the beginning of class. Also, please

do not text–message during class.

**Best Work**. Please take pride in your work and be motivated to do your best work in this class; if you are, you will gain the maximum benefit from the course.

**Disability 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 alternate 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**, 1228 Haley Center, 844–2096.