

The University of Texas at Tyler
Department of Health and Kinesiology
Course Information
Fall 2023

Course Title: Biomechanics and Anatomical Kinesiology Laboratory

Course Number: KINE 3135

Credits: 1.00

Co-requisite: KINE 3334

Days/Hours of Lab:

KINE 3135.001 Thursday 9:00am – 10:50am

Dates: 8/21/2023 – 12/9/2023

Lab Room: HPC 2165

Instructor Information

Name and Title: X. Neil Dong, Ph.D., Professor of Health and Kinesiology

Office location: HPC2166 (within Biomechanics Lab)

Phone number: 903-565-5615

Email address: xdong@uttyler.edu

Office hours: Thursday 11:00 am – 2:00 pm

Or by appointment

Textbook:

R.T. Floyd. (2021) Manual of Structural Kinesiology (21st Edition). McGraw Hill Publishing.
ISBN-13: 9781260237757.

Catalog description:

Laboratory and field analyses related to mechanics and musculoskeletal involvement in movement.

Methods of Instruction

Student learning experiences include but are not limited to: a) problem solving situations and laboratory experiences, b) observations and analysis of movement performances, c) reading designated textbooks and supplementary materials upon assignment.

Student Learning Outcomes: After the full completion of this course the student will be:

1. Able to decide what biomechanical questions should be asked and studied related to activities of daily living, sports, basic movements and work related tasks.
2. Able to develop research to answer the biomechanical questions asked related to activities of daily living, sports, basic movements and work related tasks.
3. Able to distinguish kinematic from kinetic research related to the mechanics of human motion.
4. Able to list and explain the differences between qualitative and quantitative analysis.
5. Able to develop and implement kinematic, kinetic, and electromyography (EMG) research

Evaluation:

The students will be evaluated on the basis of completing of laboratory experiences, and participation in analysis projects. A percentage of total points possible will determine the course grade.

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|----------|---|
| 90 – 100 | A |
| 80 – 89 | B |
| 70 – 79 | C |
| 60 – 69 | D |
| 0 – 59 | F |

Course Structure:

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|------------|--|
| 75 points | Attendances (5 points for each lab, 15 points for attendance of oral presentation) |
| 75 points | Peer Evaluation within Group Members |
| 100 points | Project Report |
| 100 points | Oral Presentation |
| 100 points | Project Proposal |
| 50 points | Signed Group Contract |

Total Possible Points: 500 points

Biomechanics Project:

The purpose of the project is to allow the students the opportunity to utilize the biomechanics equipment to help answer interesting questions relating to movement. The students will be able to use Electromyography, Kinematic Analysis Equipment and a Force Plate to investigate movement. These projects, together with the principles acquired throughout class projects, will provide students a unique prospective to human movement. These projects will be written as well as presented orally via PowerPoint and poster presentation style.

EMG Project: Each laboratory group will be responsible for collecting EMG data on a selected topic (e.g., different abdominal exercises) and subsequent presentation of the findings in both written and oral form. Although both class lectures and laboratory times will be set aside for this project, significant out of class time will be required for the successful completion of this project. I feel that this project will not only be fun, but will give you, as students, a distinct advantage when applying for graduate schools, or jobs requiring movement analysis. Additional information will be forthcoming regarding EXACTLY what this project entails.

Kinematics Project: Each laboratory group will be responsible for collecting kinematic data on a selected topic (e.g., running, jumping, diving, etc) and subsequent presentation of the findings in both written and oral form. Although both class lectures and laboratory times will be set aside for this project, significant out of class time will be required for the successful completion of this project. I feel that this project will not only be fun, but will give you, as students, a distinct advantage when applying for graduate schools, or jobs requiring movement analysis. Additional information will be forthcoming regarding EXACTLY what this project entails.

Kinetic Force Plate Project: Each laboratory group will be responsible for collecting kinetic force plate data on a selected topic (e.g., ground reaction forces) and subsequent presentation of the findings in both written and oral form. Although both class lectures and laboratory times will be

set aside for this project, significant out of class time will be required for the successful completion of this project. I feel that this project will not only be fun, but will give you, as students, a distinct advantage when applying for graduate schools, or jobs requiring movement analysis. Additional information will be forthcoming regarding EXACTLY what this project entails.

Course Outline

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|----------------------|---|
| Week 1 (8/24/2023) | Introduction to Biomechanics Lab |
| Week 2 (8/31/2023) | EMG Lab |
| Week 3 (9/7/2023) | Motion Capture Lab |
| Week 4 (9/14/2023) | Force Plate Lab |
| Week 5 (9/21/2023) | Biomechanics Project: Forming Hypothesis |
| Week 6 (9/28/2023) | Biomechanics Project: Setting up a pilot test |
| Week 7 (10/5/2023) | Biomechanics Project: Collecting data |
| Week 8 (10/12/2023) | Biomechanics Project: Collecting data |
| Week 9 (10/19/2023) | Biomechanics Project: Collecting data |
| Week 10 (10/26/2023) | Biomechanics Project: Data Analysis |
| Week 11 (11/2/2023) | Biomechanics Project: Working on the project report |
| Week 12 (11/9/2023) | Biomechanics Project: Working on the project report |

Week 13 (11/16/2023) Final Presentation

Week 14 (11/23/2023) Thanksgiving Holiday; No Class

Week 15 (11/30/2023) No Class

Communication Policy:

If you email me, expect a response within one business day at UT Tyler (M-F).

University Policies

STUDENTS RIGHTS AND RESPONSIBILITIES

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please go to the following site:

<http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html>

GRADE REPLACEMENT

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to file an intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler (2006-2008 Catalog, P. 35).

STATE-MANDATED COURSE DROP POLICY

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during his/her entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

DISABILITY SERVICES

In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Service counselor. If you have a disability, including a learning disability, for which you request an accommodation, please contact the Disability Support Services office in UC 3150 or call (903) 566-7079.

CLASS ATTENDANCE

Responsibility for class attendance rests with the student. When a student has a legitimate reason for being absent, the instructor has the option of permitting make-up work.

The university reserves the right to consider individual cases of nonattendance. In general, students are graded on the basis of intellectual effort and performance. In many cases, class participation is a significant measure of performance, and nonattendance can adversely affect a student's grade. When, in the judgment of the instructor, a student has been absent to such a degree as to jeopardize success in the course, the instructor informs the Office of Student Records that the student is to be dropped from the course.

APPROVED STUDENT ABSENCES

On those occasions when it may be necessary for students to miss a regularly scheduled class in order to participate in an official university event or activity, faculty sponsors and program directors are requested to observe the following procedures:

- 1 . Faculty sponsors or program directors should draft a memorandum to the vice president for academic affairs. This memorandum should include information concerning the nature of the event, the date(s) on which students would be absent from class, and the names of the students involved.
2. Copies of the memorandum addressed to the vice president should be given to each of the students listed on the memorandum.
3. Students should be directed to communicate with their instructor(s) prior to the date of the planned absence.

It is expected that students will not abuse the privilege of being absent from class for authorized university activities, and that make-up assignments will be made at the discretion and convenience of the instructor.

ACADEMIC DISHONESTY POLICY

At The University of Texas at Tyler students and faculty are responsible for maintaining an environment that encourages academic integrity. Students and faculty members are required to report an observed or a suspected case of academic dishonesty immediately to the faculty member in charge of an examination, classroom or laboratory research project, or other academic exercise.

Since the value of an academic degree depends on the absolute integrity of the work done by the student for the degree, it is imperative that a student maintain a high standard of individual honor in scholastic work. Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, and collusion:

"Cheating" includes:

- 1 . Copying from the paper of another student, engaging in written, oral or any other means of communication with another student, or giving aid to or seeking aid from another student when not permitted by the instructor;
2. Using material during an examination or when completing an assignment that is not authorized by the person giving the examination or making the work assignment;
3. Taking or attempting to take an examination for another student, or allowing another student to take an examination for oneself;
4. Using, obtaining, or attempting to obtain by any means, the whole or any part of an unadministered examination or work assignment.

"Plagiarism" includes the unacknowledged incorporation of the work of another person in work that a student offers for credit.

"Collusion" includes the unauthorized collaboration with another person in preparing written work that a student offers for credit.

GRADE APPEAL PROCEDURE

A student who wishes to contest a grade given by an instructor must initiate the procedure by contacting the instructor who assigned the grade. The instructor and the student should informally review the criteria for assignment of grades and the student's performance. The instructor may affirm the grade or revise the grade.

If the student is not satisfied after the informal discussion with the instructor, then the student may initiate a formal grade appeal by completing a Grade Appeal Form that may be obtained from the Office of Student Records. Normal grade appeals should be filed at the earliest date possible, but no later than six months from the final date of assignment. The instructor and the student should complete the appropriate parts of the form clearly indicating the instructor's rationale for the grade given and the student's basis for the grade appeal.

At each administrative level of the appeal process, an attempt will be made to resolve the issue. If the instructor holds one of the administrative positions used in the appeal process, then that level is omitted. If no resolution is reached at a particular level, then the appeal is forwarded with the recommendation of the administrator at that level with all documentation.

If the appeal is to be considered by the vice president for academic affairs, then a copy of the Grade Appeal Form shall be forwarded by the academic dean of the students. The Office of the President is the final step in the appeal process at The University of Texas at Tyler.

FOOD AND DRINK IN CLASSROOMS

Consumption of food and drink in university classrooms is prohibited.

INDOOR SMOKE-FREE CAMPUS

The University of Texas at Tyler is an indoor smoke-free campus. No smoking will be permitted in any building, office, hallway, classroom, laboratory, restroom, lounge, or any other indoor location.

IMPORTANT COVID-19 INFORMATION FOR CLASSROOMS AND LABORATORIES

Students are encouraged to wear face masks covering their nose and mouth, and follow social distancing guidelines, at all times in public settings (including classrooms and laboratories), as specified by [Procedures for Fall 2021 Return to Normal Operations](#). The UT Tyler community of Patriots views adoption of these practices consistent with its [Honor Code](#) and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher than normal temperature will be excused from class and should stay at home and may join the class remotely. Students who have difficulty adhering to the Covid-19 safety policies for health reasons are also encouraged to join the class remotely. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

RECORDING OF CLASS SESSIONS

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

Note: This syllabus is subject to change based on the needs of the class.