

WAYNE STATE
UNIVERSITY
COLLEGE OF EDUCATION

Division: Kinesiology, Health, and Sport Studies
Program Area: Exercise and Sport Science
Course Ref. #: 13925
Course Title: **KIN 3580** - Biomechanics
Section #: 001
Term/Year: Fall 2016
Course Location: 0145 Old Main
Day: Thursday **Time:** 11:45am – 2:30 pm
Instructor: Mario Vassallo
Office Address: 006.2 OLD MAIN
Office Hours: M 10:30-11:30am, Tuesday 8-9am, Wed 8-9am, 12:00-130pm,
 Thurs 10:30-11:30am (or by apt)
Office Phone #: 313-577-1583
E-mail: ft4462@wayne.edu **Website:** <http://coe.wayne.edu/kinesiology/index.php>

Course Description: Prereq: BIO 2870 with grade of C or above. Application of knowledge of human physical structure and function in the analysis and appreciation of human movement; theory and practice of human movement analytic techniques.

Course Outcomes:

Upon completion of this course, students will be able to:

- Demonstrate an understanding of human physical structure and function related to movements.
- Apply kinematic and kinetic concepts to human motion analysis
- Demonstrate an understanding of human bone growth and development biomechanics.
- Demonstrate an understanding of human skeletal muscles and joints.
- Understand the appropriate biomechanical principles and methods to analyze human movement.

Required Text:

Hall, S.J. (2014). Basic Biomechanics (7th ed.). New York: McGraw-Hill.

Course Assignments:

Two lab assignments and 12 Weekly assignments are required for grading in addition to examinations. The lab grades will be determined by lab participation. Course assignments will be discussed in class.

Course Examinations:

Three exams will be scheduled during the semester. Each exam will cover 4-5 chapters. All the questions for exams are based on lectures and textbook. Each exam is worth 100 points.

Class Policies:

- (1) Every home assignment should be submitted on time. Late submission will be accepted on a case by case basis due to illness or family emergency within one week after the deadline but with 75% maximum possible points. **Nothing will be accepted after one week, no exceptions.**
- (2) You must bring a **calculator** to class each day.
- (3) A make-up can be provided for exams and labs only for medical (or family) emergency or car accident on road to school. It is the student's responsibility to contact the instructor immediately to schedule a make-up. Documentation may be required.
- (4) **No text messaging or cell phone usage allowed during the class at all.** Netbooks, tablets, iPads, and laptop computers are allowed for note taking and PPT viewing purposes only. Students that are found using electronic devices for non-class purposes will be restricted from using devices from that point forward.
- (5) **All communication from me will be sent to your WSU email account. Be sure that your WSU email is your primary email or change your settings so that your WSU emails are forwarded your most utilized email address. It is strongly recommend that you regularly check your WSU email and verify its capacity limit and settings.**
- (6) In addition, be sure to set the WSU Broadcast Messaging Service so that you receive text messages for campus emergencies and the course. When you are logged into WSU Pipeline, just click the 'Broadcast Messaging' link on the My Pipeline tab, under 'WSU Resources'. First, register your cell phone number and carrier then click 'Submit Changes'. Under 'Manage Your Preferences', select all three options: 'WSU E-mail', 'Text Message', 'WSU Instant Message'. Click 'Update Preferences' to finish.

Academic Dishonesty/Plagiarism:

The College of Education has a "zero tolerance" approach to plagiarism and other forms of academic dishonesty. (See Student Code of Conduct <http://doso.wayne.edu/assets/student-code-of-conduct-brochure.pdf>). Plagiarism includes copying material (any more than 5 consecutive words) from outside texts or presenting outside information as if it were your own by not crediting authors through citations. It can be deliberate or unintended. Specific examples of academic dishonesty, including what constitutes plagiarism, can be found in the University's Undergraduate Bulletin (<http://bulletins.wayne.edu/ubk-output/index.html>) and Graduate Catalog (<http://www.bulletins.wayne.edu/gbk-output/index.html>) under the heading "Student Ethics." These university policies are also included as a link on Blackboard within each course in which students are enrolled. It is every student's responsibility to read these documents to be aware which actions are defined as plagiarism and academic dishonesty. Sanctions could include failure in the course involved, probation and expulsion, so students are advised to think carefully and thoroughly, ask for help from instructors if it is needed, and make smart decisions about their academic work.

Class Schedule (subject to change):

Date	Content
9/01	Class Orientation Chapter 1 Introduction/What Is Biomechanics
9/08	Chapter 2 Kinematic Concepts Chapter 3 Kinetic Concepts
9/15	Chapter 4 Biomechanics of Human Bone Growth and Development
9/22	Chapter 6 Biomechanics of Skeletal Muscle and review Review for Exam #1
9/29	Exam 1 (Chapters 1-4 and 6)
10/06	Chapter 5 Biomechanics of Human Skeletal Articulations Chapter 7 Biomechanics of the Human Upper Extremity
10/13	Chapter 8 Biomechanics of the Human Lower Extremity In-class Practical (50 Points)
10/20	Chapter 9 Biomechanics of the Human Spine Review for Exam #2
10/27	Exam #2 (Chapters 5, 7-9)
11/03	Chapter 10 Linear Kinematics of Human Movement Lab 2
11/10	Chapter 11 Angular Kinematics of Human Movement Chapter 12 Linear Kinetics of Human Movement
11/17	Chapter 13 Equilibrium and Human Movement In class assignment 4
12/01	Chapter 14 Angular Kinetics of Human Movement Review for Exam #3
12/08	Exam 3 (Chapters 10-14)

Grading System:

The following will be used to determine grades in this course.

There will be no extra credit assignments for this course:

Exams	300 points (3 x 100 points)
Homework Assignments	180 points (12 x 15 points)
Practical	50 points (2 x 25pts)
TOTAL	530 total points

Grades will be determined on a straight scale:

A = 93 – 100% (4.00)	A- = 90 – 92.9% (3.67)
B+ = 87 – 89.9% (3.33)	B = 83 – 86.9% (3.00)
B- = 80 – 82.9% (2.67)	C+ = 77 – 79.9% (2.33)
C = 73 – 76.9% (2.00)	C- = 70 – 72.9% (1.67)
D+ = 67 – 69.9% (1.33)	D = 63 – 66.9% (1.00)
D- = 60 – 62.9% (0.67)	F < 60% (0.00)

Enrollment/ Withdrawal Policy:

Beginning in Fall 2011, students must add classes no later than the end of the first week of classes. This includes online classes. Students may continue to drop classes (with full tuition cancellation) through the first two weeks of the term.

Students who withdraw from a course after the end of the 4th week of class will receive a grade of WP, WF, or WN.

- WP will be awarded if the student is passing the course (based on work due to date) at the time the withdrawal is requested
- WF will be awarded if the student is failing the course (based on work due to date) at the time the withdrawal is requested
- WN will be awarded if no materials have been submitted, and so there is no basis for a grade

Students must submit their withdrawal request on-line through Pipeline. The faculty member must approve the withdrawal request before it becomes final, and students should continue to attend class until they receive notification via email that the withdrawal has been approved.

Beginning in Fall 2011, the last day to withdraw will be at the end of the 10th full week of classes. The withdrawal date for courses longer or shorter than the full 15-week terms will be adjusted proportionately. **THE LAST DAY TO WITHDRAWAL FROM THIS CLASS IS SUNDAY, NOVEMBER 13TH**

Attention Students with Disabilities:

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services (SDS) for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-202-4216 (video phone). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational

experience at Wayne State University.

Please be aware that a delay in getting SDS accommodation letters for the current semester may hinder the availability or facilitation of those accommodations in a timely manner. Therefore, it is in your best interest to get your accommodation letters as early in the semester as possible.

Religious Observance Policy:

Because of the extraordinary variety of religious affiliations represented in the University student body and staff, the Wayne State University calendar makes no provision for religious holidays. It is University policy, however, to respect the faith and religious obligations of the individual. Students who find that their classes or examinations involve conflicts with their religious observances are expected to notify their instructors well in advance so that alternative arrangements as suitable as possible may be worked out.

Student Services:

The Academic Success Center (1600 Undergraduate Library) assists students with content in select courses and in strengthening study skills. Visit www.success.wayne.edu for schedules and information on study skills, workshops, tutoring and supplemental instruction (primarily in 1000 and 2000 level courses).

Mathematics Resource Center - The Mathematics Resource Center is a free tutoring service provided by the Department of Mathematics for all Wayne State University students. Location: 1198 Faculty/Administration Building. Please send any questions or comments to the Mathematics Resource Center Coordinator, Tiana Fluker - tiana@math.wayne.edu.