

School of Kinesiology  
Faculty of Health Sciences  
Western University

**KIN 2241A – Biomechanics  
Fall 2017**

<b>Instructor:</b> Prof Thomas Jenkyn, PhD.PEng	<b>Office:</b> SEB 2051
<b>Location:</b> Spencer Engineering Bldg Rm 1059	<b>Office Hours:</b> TBD
<b>Lectures:</b> MoWeFr 10:30AM-11:30AM	<b>Phone:</b> 519-661-2111 x88339
	<b>Email:</b> tjenkyn@uwo.ca

**TA:** TBD  
**Email:** TBD

**NOTE:** All course information including grades, assignment outlines, deadlines, etc. are available via OWL. Check the website regularly for course announcements. The topics below and the outline are subject to adjustments and changes as needed. Students who have failed a previous course (ie.<50%) must repeat all components of the course. No special permissions will be granted enabling a student to retain laboratory, assignment or test marks from previous years. Previously completed assignments and laboratories cannot be resubmitted for grading by the student in subsequent years.

**Calendar Course Description:**

An introduction in a qualitative as opposed to a quantitative manner to the mechanical aspects important to human movement in sport, exercise, dance, and the work place. An emphasis on the development of qualitative analytical skills using videotape technology.

**My Course Description:**

An introduction to qualitative and quantitatively analyzing the mechanics of human movement in sport, exercise, dance, the workplace, activities of daily life and adaptations made due to injury or disability. An emphasis is placed on understanding and identifying the physical principles that influence movement patterns and performance.

**Anti-requisite(s)!Pre-requisite(s)!Co-requisite(s)**

*You are responsible for ensuring that you have successfully completed all course pre-requisites, and that you have not taken an anti-requisite course.*

*Unless you have either the requisites for this course or written special permission from the course department to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.*

**Course Format:**

Lectures: 3 one-hour lectures per week; Monday, Wednesday, Friday 10:30 am – 11:30 am  
Location: Spencer Engineering Building Room 1059

**Recommended Text:**

Biomechanics: A qualitative approach for studying human movement, ISBN 0-205-18651-3, Kreighbaum E, Barthels KM. 4th Edition in SI Units, Allyn and Bacon, Boston 1996

**Learning Outcomes:**

Upon successful completion of this course, the student will have an understanding of the physical principles that influence the biomechanics of human movement in sport, exercise, dance, the workplace and activities of daily life. Specifically they will understand how to analyze the kinematics of the segments of the body and the kinetics that result from that motion. Students will be able to analyze the forces, moments of force, work, power and energy of various common activities. Students will also be introduced to how these physical principles affect the internal loading of the tissues of the body. Emphasis will be placed on coaching to improve sporting performance and interventions to improve injury recovery and functional optimization with disability.

**Examinations and Quizzes:** (10 written assignments)

- Four take-home laboratory assignments
- One 2-hour midterm closed book exam
- One 3-hour final closed book exam

**Course Evaluation Details:** (The overall course grade is computed as follows)**Written assignments****10%**

Short written answers to at least three questions from the end of each chapter of the textbook. There will be about ten (10) assignments in total, although this is subject to change based on course schedule. The due dates are also subject to change. All assignments are handed in at the beginning of lecture.

Assignment 1: Due Friday, September 15<sup>th</sup> at 10:30am  
Assignment 2: Due Friday, September 22<sup>nd</sup> at 10:30am  
Assignment 3: Due Friday, September 29<sup>th</sup> at 10:30am  
Assignment 4: Due Friday, October 6<sup>th</sup> at 10:30am  
Assignment 5: Due Friday, October 13<sup>th</sup> at 10:30am  
Assignment 6: Due Monday, October 23<sup>rd</sup> at 10:30am  
Assignment 7: Due Friday, November 10<sup>th</sup> at 10:30am  
Assignment 8: Due Friday, November 17<sup>th</sup> at 10:30am  
Assignment 9: Due Friday, November 24<sup>th</sup> at 10:30am  
Assignment 10: Due Monday, December 4<sup>th</sup> at 10:30am

**Laboratory assignments****20%**

Lab assignments are done by the student alone or with an informal group. The lab involves a prescribed physical activity that is performed by the student. The student then analyzes the biomechanics of the activity on the basis of their experience and their understanding of the course material. The assignment takes the form of a multi-page report. The due dates are subject to change. All labs are handed in at the beginning of lecture.

Lab 1: Due Wednesday, September 27<sup>th</sup> at 10:30am  
Lab 2: Due Wednesday, October 25<sup>th</sup> at 10:30am  
Lab 3: Due Wednesday, November 15<sup>th</sup> at 10:30am  
Lab 4: Due Wednesday, December 6<sup>th</sup> at 10:30am

**Mid-term Test****20%**

The midterm exam will be scheduled in the last week of October or the first week of November and is worth 30% of the course mark. (I need a date for this)

## Final Examination

50%

The final exam will be scheduled during the final exam period

If a minimum mark of 50% is not obtained on the final examination, the student cannot receive a final mark greater than 48%.

## Course/University Policies

1. **Lateness/Absences:** Assignments are due as per the instructor and will not be accepted late, except under medical or other compassionate circumstances. Electronic submission of assignments will not be accepted (unless otherwise specified) under any circumstances. Submitting a late assignment without appropriate documentation will result in a zero (0) grade. Appropriate documentation for assignments worth less than 10% should be submitted to the instructor. A missed mid-term examination, if applicable without appropriate documentation will result in a zero (0) grade. Any student, who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course, will be reported to the Dean (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean, the student will be debarred from taking the regular examination in the course.

2. **Written documentation:** Students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. stating specific reasons and dates. Students must follow up with the professor and Academic Counselling office in a timely manner. Documentation for any request for accommodation shall be submitted directly, as soon as possible, to the appropriate Academic Counselling office of the student's Faculty/School of registration (ex. KIN students ~ KIN Undergraduate Office), not to the instructor, with a request for relief specifying the nature of the accommodation being requested. In the event of a medical request, the documentation should be obtained at the time of the initial consultation with the physician or walk-in clinic. An "Accommodation Consideration Request Form" found online or in the Kinesiology Undergraduate Office" for ALL such accommodation requests must be submitted into the appropriate Academic Counselling office of the student's Faculty/School of registration. These documents will be retained in the student's file, and will be held in confidence in accordance with the University's Official Student Record Information Privacy Policy.

See <https://studentservices.uwo.ca/secure/index.cfm> for specific policy and forms relating to accommodation.

3. **Grades:** Where possible assignment objectives and rubrics will be posted on OWL. Should you have a concern regarding the grade you received for an assignment or feel that it is unfair in any way, you must wait 24 hours from the receipt of the assignment to approach the instructor or TA. In doing so, please make an appointment and prepare in writing, with evidence, why you feel your grade is inappropriate. Please be aware that in requesting a grade reassessment, your grade could go up/down/or stay the same. Note that calculations errors (which do occur!) should be brought to my attention immediately.

15% of course grades will be posted by the last day to drop a course.

4. **Scholastic offences:** They are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

[http://www.uwo.ca/univsec/handbook/appeals/scholastic\\_discipline\\_undergrad.pdf](http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf).

A) Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar). All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western University and Turnitin.com (<http://www.turnitin.com>)

B) Computer marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

5. **Formatting** (as recommended by the course instructor): example- APA style is the approved style of writing for all assignments produced for this course. Please refer to Western University Library webpage for information on citation style and format or consult the APA publication manual: Publication manual of the American Psychological Association (6th ed.). (2009). Washington, DC: American Psychological Association.

6. According to the **Examination Conflict policy**, Please see the Office of the Registrar policy on Exam Conflict and Multiple Exam Situations  
[www.registrar.uwo.ca/examinations/exam\\_schedule.html](http://www.registrar.uwo.ca/examinations/exam_schedule.html)

7. **Classroom Behaviour:** Class will begin promptly at the time specified at the top of page one of this syllabus. In the event that you must arrive late, please enter the classroom with a minimal disturbance to the class. Please keep all electronic devices on silent and avoid distracting classmates. .

8. **Laptops** for the purpose of typing lecture **notes are permitted in class**, but please be respectful to your fellow students and turn the sound off. If I receive complaints from other students regarding noise or other disruptive behavior laptop privileges will be revoked.

9. Audio and/or videotaping of lectures is not permitted unless approval has been sought from the instructor in advance.

### **STUDENT CODE OF CONDUCT**

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at Western University, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed, and set out the disciplinary procedures that the University will follow. For more information, visit

<http://www.uwo.ca/univsec/board/code.pdf>

### **ENGLISH PROFICIENCY FOR THE ASSIGNMENT OF GRADES**

Visit the website <http://www.uwo.ca/univsec/handbook/exam/english.pdf>

## **SUPPORT SERVICES**

There are various support services around campus and these include, but are not limited to:

1. Student Development Centre -- <http://www.sdc.uwo.ca/ssd/>
2. Student Health -- <http://www.shs.uwo.ca/student/studenthealthservices.html>
3. Registrar's Office -- <http://www.registrar.uwo.ca/>

Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.