

Western University
Faculty of Health Sciences
School of Kinesiology

**KIN 2241A - Biomechanics
Fall 2020**

<p>Instructor: Thomas Jenkyn, PhD, PEng Office: Thompson Engineering Bldg Rm 367 Email: tjenkyn@uwo.ca Phone: 519/661-2111 x883389 Office Hrs: scheduled appointment (preferable) TAs: TBD</p>	<p>Lectures: TBD Instruction Mode: Online Labs: Labs will be informal, in that you will utilize time outside of class to collect data in groups and conduct analyses as required.</p>
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NOTE: All course information including grades, assignment outlines, deadlines, etc. are available via OWL. Check the website regularly for course announcements.

Calendar Course Description (including prerequisites/anti-requisites):

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 workplace. An emphasis on the development of qualitative analytical skills using videotape technology.

Extra Information: 3 lecture hours per week, 2 tutorial hours per week

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.

Learning Outcomes/Schedule:

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.

Recommended Text (not required):

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

Required Course Material/Text:

All required readings will be posted on OWL.

Course Evaluation Summary:

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| 1. | Written Assignments (4 in total) | 10% |
| 2. | Laboratory Assignments (4 in total) | 20% |

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| 3. | Midterm Exam (week of October 26 th) | 20% |
| 8. | Final Exam | 50% |

Course Evaluation Details: *(below is an example)

1. Written Assignments (10%)

DUE: Assignment 1 Thursday, September 24th
Assignment 2 Thursday, October 15th
Assignment 3 Thursday, November 19th
Assignment 4 Thursday, December 3rd

Short written answers to at least three questions from the end of each chapter of the textbook. There will be about four (4) 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 online by 5:00PM EDT on the dates shown.

2. Laboratory Assignments (20%)

DUE: Lab 1 Thursday, October 1st
Lab 2 Thursday, October 22nd
Lab 3 Thursday, November 26th
Lab 4 Wednesday, December 9th

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 laboratory assignment takes the form of a multi-page report. The due dates are subject to change. All laboratory assignments are handed in online by 5:00PM EDT on the dates shown.

3. Mid-term Examination (20%) tentatively early the week of October 26th.

The midterm exam will be tentatively scheduled early in the week of October 26th. This is a 2- hour limited open book exam with written answers.

4. Final Examination (50%) scheduled by Registrar's Office

The final exam will be a 3-hour limited open book exam with written answers. 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. Statement on Use of Personal Response Systems ("Clickers")

If Personal Response Systems ("Clickers") are used in the course, a reference to the Guidelines for their use (Guidelines are shown below). Instructors are to communicate clearly to students information on how clickers are used including: how the student's privacy will be protected, how clickers may be used by the instructor for data gathering and for evaluating the students, and why they cannot be used by anyone but the student (since the students involved in misuse of a clicker may be charged with a scholastic offence).

2. **Academic 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: https://www.uwo.ca/univsec/pdf/academic_policies/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.

3. **Electronic Device Usage:**

During Exams - Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any of the following electronic devices during ANY of the tests, quizzes, midterms, examinations, or other in-class evaluations: cellphones, smart phones, smart watches, smart glasses, audio players or recorders of any sort, video cameras, video games, DVD players, televisions, laptop/notebook/netbook computers, flashlights or laser pointers.

During Lectures and Tutorials: Although you are welcome to use a computer during lecture and tutorial periods, you are expected to use the computer for scholastic purposes only, and refrain from engaging in any activities that may distract other students from learning. Please be respectful to your fellow students and turn the sound off. If the professor receives complaints from other students regarding noise or other disruptive behavior (e.g. watching videos on YouTube.com, updating your Facebook status, playing Solitaire), your classroom privileges will be revoked. From time to time, your professor may ask the class to turn off all computers, to facilitate learning or discussion of the material presented in a particular class. **Unless explicitly noted otherwise, you may not make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.**

4. **Health and Wellness:**

Information regarding health and wellness-related services available to students may be found at <http://www.health.uwo.ca/>.

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

5. **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 & Wellness* -- <http://www.health.uwo.ca/>
3. *Registrar's Office* -- <http://www.registrar.uwo.ca/>
4. *Ombudsperson Office* -- <http://www.uwo.ca/ombuds/>

6. **Documentation for Academic Accommodation (Illness, Medical/Non-Medical Absences):** http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12

Students who experience an extenuating circumstance (illness, injury, or other extenuating

circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

- (i) Submitting a Self-Reported Absence (see below for conditions)
- (ii) For medical absences exceeding 48 hours, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to their Academic Counselling in their Faculty of registration in order to be eligible for Academic Consideration; or
- (iii) For non-medical absences exceeding 48 hours, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to Academic Counselling in their Faculty of registration in order to be eligible for academic consideration. Students are encouraged to contact their Academic Counselling unit to clarify what documentation is appropriate.

Students seeking academic consideration **must communicate with their instructors no later than 24 hours** after the end of the period covered by either the self-reported absence or SMC, or immediately upon their return following a documented absence.

The following conditions are in place for self-reporting of medical or extenuating circumstances:

- a. a maximum of two self-reported absences between September and April and one self-reported absence between May and August;
- b. any absences in excess of the number designated in clause a above will require students to present a Student Medical Certificate (SMC) or appropriate documentation supporting extenuating circumstances to the Academic Counselling unit in their Faculty of registration no later than two business days after the date specified for resuming responsibilities.
- c. The duration of the excused absence will be for a maximum of 48 hours from the time the Self-Reported Absence form is completed through the online portal, or from 8:30 am the following morning if the form is submitted after 4:30 pm;
- d. The duration of the excused absence will terminate prior to the end of the 48 hour period should the student undertake significant academic responsibilities (write a test, submit a paper) during that time;
- e. The duration of an excused absence will terminate at 8:30 am on the day following the last day of classes each semester regardless of how many days of absence have elapsed;
- f. Self-reported absences will not be allowed for scheduled final examinations; for midterm examinations scheduled during the December examination period; or for final lab examinations scheduled during the final week of term;
- g. Self-reporting may not be used for assessments (e.g. midterm exams, tests, reports, presentations, or essays) worth more than 30% of any given course;

For medical and non-medical absences that are not eligible for self-reporting Kinesiology students must submit an Academic Consideration Request form found online https://www.uwo.ca/fhs/kin/undergrad/files/accommodation_request.pdf in addition to an SMC or appropriate documentation in the event of a non-medical absence. 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.

7. **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.

At least three days prior to the deadline for withdrawal from a 1000- or 2000-level course without academic penalty, students will receive assessment of work accounting for at least 15% of the final grade.

- November 12th, 2020 (for first term half-courses)
- November 30th, 2020 (for full-year courses)

- March 7th, 2021 (for second term half-or full year courses)

A+	90-100	<i>One could scarcely expect better from a student at this level</i>
A	80-89	<i>Superior work that is clearly above average</i>
B	70-79	<i>Good work, meeting all requirements and eminently</i>
C	60-69	<i>Competent work, meeting requirements</i>
D	50-59	<i>Fair work, minimally acceptable.</i>
F	below 50	<i>Fail</i>

Rounding of Grades (for example, bumping a 79 to 80%):

This is a practice some students request. **This practice will not occur here.** The edges of this course are clear and sharp. The mark attained is the mark you achieved and the mark assigned; there is no rounding to the next grade level, or 'giving away' of marks. Please don't ask me to do this for you; the response will be "please review the course outline where this is presented".

8. **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.

9. **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 <https://www.uwo.ca/univsec/pdf/board/code.pdf>