

SAMPLE COURSE OUTLINE

Course Code, Number, and Title:

KINS 2215: Biomechanics I

Course Format:

[Course format may vary by instructor. The typical course format would be:]

Lecture 2 h + Seminar 0 h + Lab 2 h

Credits: 3

Transfer credit: For information, visit bctransferguide.ca

Course Description, Prerequisites, Corequisites:

In this course, students investigate the elementary principles of physics and mathematics and their application to quantitative analysis of human movement. Through experiential laboratory activities, students explore the basics of data collection, processing, and analysis using innovative technology.

Prerequisites: There are no prerequisites; however, this course requires a basic knowledge of high school math principles (basic algebra, trigonometry). Students without a "B" in Pre-calculus 11 or a "C+" in Pre-calculus 12, or a score of 70 on the Langara Math Diagnostic Test, are strongly advised to take MATH 1150 prior to this course.

Corequisites: None

Learning Outcomes:

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

- Describe and quantify linear and angular human movement using kinematic and kinetic principles;
- Explain using qualitative and quantitative methods the relationship between forces and motion;
- Collect, process, and analyze human movement data using relevant laboratory equipment and techniques;
- Apply mathematical formulas and principles to perform biomechanical analysis of human movement;
- Given biomechanical data, use critical thinking skills to make observations and draw conclusions about human movement.

Instructor(s): TBA

Office: TBA **Phone:** 604 323 XXXX **Email:** TBA

Office Hours: TBA

snəwəyət̚ leləm Langara College acknowledges that we are located on the unceded territory of the Musqueam people.

Textbook and Course Materials:

[Textbook selection may vary by instructor. An example of texts and course materials for this course might be:]

For textbook information, visit https://mycampusstore.langara.bc.ca/buy_courselisting.asp?selTerm=3|8

Note: *This course may use an electronic (online) instructional resource that is located outside of Canada for mandatory graded class work. You may be required to enter personal information, such as your name and email address, to log in to this resource. This means that your personal information could be stored on servers located outside of Canada and may be accessed by U.S. authorities, subject to federal laws. Where possible, you may log in with an email pseudonym as long as you provide the pseudonym to me so I can identify you when reviewing your class work.*

Assessments and Weighting:

Final Exam 30%

Other Assessments %

(An example of other assessments might be:) %

Midterm Exam: 20%

Quizzes/Tests: 20%

Assignments: 10%

Lab work: 20%

Proportion of individual and group work:

Individual: 100%

Grading System: Letter grade

Specific grading schemes will be detailed in each course section outline.

Passing grade: D

Topics Covered:

[Topics covered may vary by instructor. An example of topics covered might be:]

Coordinate Geometry & Trigonometry

Vectors, Vector Addition in Two and Three Dimensions

Linear Kinematics

Numerical Differentiation and Integration

Projectile Motion

Angular Kinematics

Dot- and Cross-Products

Force, Mechanical Energy, Momentum

Work and Power

This generic outline is for planning purposes only.

Moments of Force in Two and Three Dimensions
Angular Momentum and Moment of Inertia

Collecting, processing, and analyzing biomechanical data using motion capture technology, force platforms, and other common sensors, software, and equipment.

As a student at Langara, you are responsible for familiarizing yourself and complying with the following policies:

College Policies:

[E1003 - Student Code of Conduct](#)

[F1004 - Code of Academic Conduct](#)

[E2008 - Academic Standing - Academic Probation and Academic Suspension](#)

[E2006 - Appeal of Final Grade](#)

[F1002 - Concerns about Instruction](#)

[E2011 - Withdrawal from Courses](#)

Departmental/Course Policies:

This generic outline is for planning purposes only.