

Biomechanics

Kinesiology 201

Section: D100

Term: 2001 Fall

Instructor: Dr. Stephen Robinovitch

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Lecture: MWF 2:30-3:20 PM, AQ3003

Discussion Topics: The goal of this course is to provide students with: (a) the ability to use the tools of Newtonian mechanics to understand how forces produce movements and tissue deformations; (b) knowledge of biomechanical techniques for measuring and describing human movement; and (c) an understanding of the role of biomechanics in the prevention and treatment of musculoskeletal injury and disease.

LECTURE TOPICS:

Forces and moments; anthropometry and centre of mass; static and dynamic equilibrium; free body diagrams; conservation of energy and momentum; impulse-momentum; mechanics of balance and locomotion; mechanical behavior of biological tissues (muscle, bone, cartilage, ligament and tendon); injury biomechanics.

Grading: Homework Assignments -- 20%

Midterm Examinations (2) -- 40%

Final Examination -- 40%

Required Texts: Hamill, J. & Knutzen, K.M.: Biomechanical Basis of Human Movement. Williams and Wilkins, Philadelphia, 1995. In addition, a problem set booklet and copies of power point slides used in the lectures will be available from the course instructor at a cost of

Recommended Texts:

Materials/Supplies:

Prerequisite/Corequisite: PREREQUISITES:

KIN 142, PHYS 101 or 120, MATH 152 or 155

NOTE: Students with credit for KIN 401 may not take KIN 201 for further credit.

Biomechanics

Notes: FAILURE TO ATTEND AN EXAMINATION:

Students who miss examinations due to exceptional circumstances (such as serious illness or compassionate reasons) are required to obtain a doctor's certificate, whereby the physician states that you were unable to write your midterm or final on the set date due to a medical condition beyond your control, or other supporting documents in order to obtain consideration in the course. Such documents must be filed with the School Director (via the Kinesiology office) or Registrar within four calendar days of the date on which the examination was to have been written. Exceptional circumstances must be approved by the Undergraduate Program Committee in order for a student to receive consideration.

Students must check the exam schedule when making course selections. Students are reminded that final examinations may be scheduled at any time during the examination period and that students should avoid making travel or employment arrangements for this period.

ACADEMIC HONESTY AND STUDENT CONDUCT:

Academic honesty is a condition of continued membership in the University community. Academic dishonesty, including plagiarism or any other form of cheating is subject to serious academic penalty, i.e. failure on an assignment, failure in a course, suspension or expulsion from the University.

The University codes of student conduct and academic honesty are contained in policies T10.01 and T10.02 which are available in the Course Timetable and on the Web via <http://www.reg.sfu.ca>.

NOTE: Lectures will begin on Wed, Sept. 5. Tutorials will begin on Monday, Sept. 10. Final exam is Friday, Dec. 7, 3:30-6:30 PM.

This outline is derived from a course outline repository database that was maintained by SFU Student Services and the University's IT Services Department. The database was retired in 2014 and the data migrated to SFU Archives in 2015.