



DEPARTMENT OF PHYSICAL EDUCATION AND KINESIOLOGY

COURSE OUTLINE – WINTER 2014

PE2060 - BIOMECHANICS

INSTRUCTOR: Chris Nicol B.Ed, M.Sc **PHONE:** 780-539-2838

OFFICE: K220 **E-MAIL:** cnicol@gprc.ab.ca

OFFICE HOURS: Tuesdays 10:30 – 11:30 or by appointment

PREREQUISITE(S)/COREQUISITE: none

REQUIRED TEXT/RESOURCE MATERIALS: McGinnis, P. 2005. Biomechanics of sport and exercise, 3rd edition (or 2nd ed) Windsor: Human Kinetics.

CALENDAR DESCRIPTION: This course presents a method of qualitative analysis of human movement based on knowledge of biomechanical principles.

CREDIT/CONTACT HOURS: 3 (3-0-1). 3 hours lecture and 1 hour lab.

DELIVERY MODE(S): Classroom lectures, seminars, lab activities.

OBJECTIVES:

1. Identify and understand mechanical principles governing human motion.
2. Identify critical features of selected sport skills.
3. Design and carry out an observation plan.
4. Determine faults in observed performance.

TRANSFERABILITY:

PEDS 206(3) – U of Alberta, Jr. KNES (3) – U of Calgary, KNES 3650 (3) – U of Lethbridge

**** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

GRADING CRITERIA:

GRANDE PRAIRIE REGIONAL COLLEGE			
GRADING CONVERSION CHART			
Alpha Grade	4pt Equivalent	% Guidelines	Designation
A ⁺	4	90 – 100	EXCELLENT
A	4	85 – 89	
A ⁻	3.7	80 – 84	FIRST CLASS STANDING
B ⁺	3.3	77 – 79	
B	3	73 – 76	GOOD
B ⁻	2.7	70 – 72	
C ⁺	2.3	67 – 69	SATISFACTORY
C	2	63 – 66	
C ⁻	1.7	60 – 62	
D ⁺	1.3	55 – 59	MINIMAL PASS
D	1	50 – 54	
F	0	0 – 49	FAIL
WF	0	0	FAIL, withdrawal after the deadline

***There might be slight deviations from this system in the conversion of percentage grades to alpha grades depending on the grouping of marks within the class.

EVALUATIONS:

Skill Analysis Project	20%	
Coursework, Lab Assignments	20%	
Unit Tests 3x 10%	30%	
Final Exam	30%	100%

COURSE SCHEDULE/TENTATIVE TIMELINE:

Chapter 1 – Forces: Maintaining Equilibrium or Changing Motion

Chapter 2 – Linear Kinematics – Describing Objects in Linear Motion

Chapter 3 – Linear Kinetics – Explaining the Causes of Linear Motion

Chapter 4 – Work, Power & Energy: Explaining the causes of Motion without Newton

Chapter 5 – Torques & Moments of Force: Maintaining Equilibrium or Changing Angular Motion

Chapter 6 – Angular Kinematics: Describing Objects in Angular Motion

Chapter 7 – Angular Kinetics: Explaining the Causes of Angular Motion

Chapter 8 – Fluid Mechanics: The Effects of Water and Air

Chapter 13 – Qualitative Biomechanical Analysis to Improve Technique

Chapter 14 – Qualitative Biomechanical Analysis to Improve Training

STUDENT RESPONSIBILITIES: All assignments must be submitted on time. Late assignments will not be accepted. If a student has to miss a class for any reason, it is the responsibility of the student to contact the instructor.

STATEMENT ON PLAGIARISM AND CHEATING:

Refer to the Student Conduct section of the College Admission Guide at

<http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at www.gprc.ab.ca/about/administration/policies/**

**Note: all Academic and Administrative policies are available on the same page.

STATEMENT ON CELL PHONE AND OTHER PERSONAL ELECTRONIC DEVICES:

- Users of cell phones and other personal electronic devices must be attentive to the needs, sensibilities and rights of other members of the College community. **The use of these devices must not disrupt the functions of the College overall and its classrooms and labs.** Instructors have the right to have strict individual policies related to cell phones in order to provide and maintain a classroom environment that is conducive to learning and the respect of others.
- **Cell phones, PDAs and pagers must be turned off and placed out of sight in classrooms and computer labs during instructional time. Devices can be turned on and set to silent mode only with the expressed consent of individual instructors.** Sending or receiving text messages or gaming on a cell phone during class is not acceptable. In addition, cell phones and other personal electronic devices incorporating cameras must be turned off and out of sight in any area in which individuals have reasonable expectations of privacy. This includes classrooms and computer labs.
- If cell phones, pagers, calculators, recorders, digital cameras, PDAs, MP3 players or other personal electronic devices are used inappropriately for the purposes of cheating or academic dishonesty, then students who do so will be penalized appropriately under the Academic Honesty policy of Grande Prairie Regional College.