School of Engineering
University of Guelph
BIOMECHANICAL ENGINEERING DESIGN, ENGG*4400
FALL 2009

Instructor: Dr. John Runciman, Room 1344, THRN

Prerequisites: ENGG*2120, ENGG*2160

Objectives: Students who successfully complete this course will be able to:

(a) Identify common biomechanical device problems,
(b) specify suitable device materials,
(c) apply engineering principles to the development of novel biomechanical designs,
(d) specify manufacturing, and quality assurance strategies for biomechanical designs.

Scheduling:

Lectures:	10:00 - 11:20	T, TH	CRSC 403
Labs:	2:30 - 4:30	T	MACK 119 / THRN 1139
Final Exam,	8:30 - 10:30 am, Dec 9th,		Room TBA

Method of Evaluation: The final grade will be determined from the results of one final examination, 5 assignments, presentation of a mini seminar, submission from the mini seminar and 2 design reports. Late submissions will not be accepted for marking. The individual marks will be weighted as follows:

Final examination	25%
Assignments (5)	20%
Mini seminar presentation	10%
Mini seminar submission	10%
Design reports (2)	35%

Method of Presentation: Lectures and seminar format discussions.

Topics of Study:

1. General Design Requirements
2. Materials
3. Design Basics
4. Medical Tool Design
5. Manufacturability
6. Standards
7. Design of Medical Implants
8. Device Failure
9. Project Management