

MATHEMATICS DEPARTMENT
MATH 3820 – Introduction to Mathematical Modelling

Winter Term 2009

Instructor: Dr. J. Arino,

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Office: 437 Machray Hall

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Lectures: Tuesday and Thursday: 11:30 – 12:45 @ 415 Machray Hall.

Office Hours: Tuesday 17:15 – 18:30

Thursday 13:30 - 15:00

Other times by appointment only.

Text: There is no textbook for this course. I will hand out and post on the web material related to the course.

Objective: The objective of the course is to introduce mathematical modelling, that is, the construction and analysis of mathematical models inspired by real life problems. The course will present several modelling techniques and the means to analyze the resulting systems.

Topics: Types of models (static, discrete time, continuous time, stochastic) with case studies chosen from population dynamics and other fields yet to be determined.

Evaluation:	Assignments : 20%
	1 midterm (1 hour): 15%
	Modelling project: 25%
	<u>Final: 40%</u>
	Total: 100%

Final exam: 3 hours, to be scheduled by the Registrar's Office in the final exam period. More details will be given about the modelling project throughout the term. The choice of project will be made on an individual basis through discussions between the students and the instructor. All students must have decided on a project before the end of February.

Notes:

1. The midterm and final examinations will be open book.

2. Late assignments will not be accepted.

3. Academic Dishonesty Policy

The Department of Mathematics, the Faculty of Science and the University of Manitoba regard acts of academic dishonesty in quizzes, tests, examinations or assignments as serious offenses and may assess a variety of penalties depending on the nature of the offense.

Acts of academic dishonesty include bringing unauthorized materials into a test or exam,

copying from another student, plagiarism and examination personation. Students are advised to read section 7 (Academic Integrity) and section 4.2.8 (Examinations: Personations) in the "General Academic Regulations and Requirements" of the current Undergraduate Calendar. ***Note, in particular that cell phones and pagers are explicitly listed as unauthorized materials, and hence may not be present during tests or examinations.***

Penalties for violation include being assigned a grade of zero on a test or assignment, being assigned a grade of "F" in a course, compulsory withdrawal from a course or program, suspension from a course/program/faculty or even expulsion from the University. For specific details about the nature of penalties that may be assessed upon conviction of an act of academic dishonesty, students are referred to University Policy 1202 (*Student Discipline Bylaw*) and to the Department of Mathematics policy concerning minimum penalties for acts of academic dishonesty.

The *Student Discipline Bylaw* is printed in its entirety in the Student Guide, and is also available on-line or through the Office of the University Secretary. Minimum penalties assessed by the Department of Mathematics for acts of academic dishonesty are available on the Department of Mathematics web-page.

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report incidents of academic dishonesty to the Head of the Department.