MATH 447/547 Elementary Stochastic Processes

MATH 447/547 Elementary Stochastic Processes  (3 credits; Prerequisites: MATH 323 or 356). Conditional probability and conditional expectation, generating functions. Branching processes and random walk. Markov chains: transition matrices, classification of states, ergodic theorem, examples. Birth and death processes, queueing theory. For 547, one or more extra topics will be chosen from among Brownian motion, stochastic calculus, etc.

Textbook:  Ross, Sheldon. *Introduction to Probability Models, 10th or latest edition*. Academic Press, New York. There are also course notes which are available on mycourses.

Warning:  There is a substantial amount of theory involved in this course, some of which will be required for the midterm and final exams.

<table>
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<tr>
<th>Marking Scheme:</th>
<th>Formula I</th>
<th>Formula II</th>
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<tbody>
<tr>
<td>Assignments:</td>
<td>15%</td>
<td>15%</td>
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<td>Midterm (one hour):</td>
<td>15%</td>
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<td>Final Exam (three hours):</td>
<td>70%</td>
<td>85%</td>
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Your final mark for the course will be the greater of the marks computed from these two formulas. Those students who do not write the midterm will be marked according to formula II. If needed, there will be a supplemental examination. No special writings of the final examination can be arranged, other than those officially prescribed by the University. The final exam will be closed book with no crib sheet.

Midterm:  The 447 midterm will be during class on TBA. It will be closed book with no crib notes. Bring a calculator.
Assignments: Assignments must be submitted by 4:45 p.m. on the due date, after which they will not be accepted. They may be handed in at the end of class, or deposited in the slot by the Math Office on the tenth floor of Burnside Hall. In the latter case, make sure you write the course number MATH 447 or 547 and instructor’s name prominently on the front of your assignment (as well as your own name and student number, of course).

Office Hours: TBA. The professor cannot act as a tutor, nor will he help with solutions to assignment problems.

The last five minutes of each class will be devoted to questions.

W. J. Anderson
Burnside Hall 1245

Important: In the event of extraordinary circumstances beyond the University’s control, the content and/or evaluation scheme in this course is subject to change.

Right to submit in English or French written work that is to be graded [approved by Senate on 21 January 2009]: In accord with McGill University’s Charter of Students Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Statement on Academic Integrity: McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/) for more information).

L’université McGill attache une haute importance à l’honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l’on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l’étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site www.mcgill.ca/students/srr/honest/).