**MATH 323: Probability**
**Course Information**

**Prerequisites:** MATH 141 or equivalent.
Restriction: Intended for students in Science, Engineering and related disciplines, who have had differential and integral calculus
Restriction: Not open to students who have taken or are taking MATH 356

**Course Outline:** Sample space, events, conditional probability, independence of events, Bayes' Theorem. Basic combinatorial probability, random variables, discrete and continuous univariate and multivariate distributions. Moment generating functions Independence of random variables. Inequalities, weak law of large numbers, central limit theorem.

**Required Text:** Mathematical Statistics with Applications by Wackerly, Mendenhall, and Schaeffer, 7th edition. Almost all assignment problems will be from the text book. The course will not slavishly follow the text book. If you have access to an earlier edition (which is fine) you will need to make sure that you identify the correct assignment problems as these will be numbered according to the 7th edition.

**Instructor:** David Wolfson, Department of Mathematics and Statistics. BURN1228. Office telephone number: 514 398-3840. Email: david.wolfson@mcgill.ca . Please do not expect an immediate response to your queries.
**Office Hours:** TBA

**MyCourses:** It is your responsibility to check myCourses regularly for assignment postings, assignment and midterm exam solutions, and other announcements.

**Teaching Assistant:** The TA for the course is Annabelle Redelmeier , who is a Master's student in statistics in the Department of Mathematics and Statistics.

**Marking scheme:** There will be at least one assignment every two weeks. Assignments must be submitted online through myCourses. Please note that only assignments in pdf format will be marked. There will be no exceptions. Assignments may be handwritten but must be legible. Please make sure that your name, student number and course number are clearly written on the first page of your assignment. In order to obtain part marks-either for assignment or exam questions-it is crucial that you show your reasoning. A bald numerical or algebraic stand-alone answer is rarely sufficient.
Assignments must be submitted by midnight on the due date. Assignments that are submitted after midnight will not be marked. There will be no grace period. So please make sure that you know how to upload your assignments well in advance of the deadline for the first assignment. You are strongly advised not to leave submission of your assignments until the last moment in case you have a problem with submission.

The final mark for the course will be allocated according to the following formula, which I will apply at the end of the course:
The maximum of Option 1: (15% for Assignments, 25% for the Midterm Examination, and 60% for the Final Exam), and Option 2: (15% for Assignments and 85% for the Final Exam).

**Important notes:** 1) If you miss the Midterm Exam for any reason, you will automatically be evaluated according to Option 2. There will be no make-up Midterm Examination, since it is impossible for me to judge which reasons for missing the Midterm are reasonable and/or legitimate, and it is almost impossible to schedule a make-up Midterm Exam. 2) Your final mark will be calculated according to the formula above unless circumstance arise beyond the control the course instructor. There will be no opportunity to improve your mark by doing extra work.
**Exception:** If you miss the Midterm exam for a medical reason (accompanied by a medical certificate) your final mark will be based on the formula:
25% Assignments and 75% Final Exam.

The Midterm Exam will be an in-class exam. Both the Midterm Exam and Final Exam will be closed book exams. The Final Exam will cover material from the entire course. Hand calculators are permitted as well as language dictionaries. 3) The course notes will not be posted on myCourses. Class attendance is strongly advised as subtleties are easily missed if reliance is made solely on notes.

**Academic Integrity:** You are reminded of the following:*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 http://www.mcgill.ca/integrity/ for more information).*
Be it further resolved that failure by an instructor to include a statement about academic integrity on a course outline shall not constitute an excuse by a student for violating the Code of Student Conduct and Disciplinary Procedures.
*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 http://www.mcgill.ca/integrity/).*