STAT 351 - Probability I

Fall 2008

Instructor:	Tamas Linder - Jeffery Hall 401 Phone: 533-2417, Email: `linder@mast.queensu.ca`
Course Web Site:	`http://www.mast.queensu.ca/~stat351` All assignments and important announcements will be posted here.
Lectures:	Slot 1: Monday 8:30, Tuesday 10:30, Thursday 9:30, Jeffery 102
Tutorials:	Tuesday 2:30 pm, Jeffery 102 Recommended practice problems will be posted on the website. Some of these will be solved during the tutorial sessions. *Please print out the problem sheet before coming to the tutorial.*
Instructor's Office Hours:	Monday 9:45-11:00 am, or by appointment
TA Office Hours:	Thursday 4:30 – 5:30 pm, Jeffery 222
Text:	*Fundamentals of Probability with Stochastic Processes, 3rd ed.*, by S. Ghahramani, Prentice Hall, 2005.
Assignments:	There will be 10 homework assignments, due on Fridays *before* 12 noon in my mailbox (Jeff. 401). Late homeworks will NOT be accepted. Homework assignments and solutions will be posted on the class web site; *no paper copies* will be handed out.
Midterm Test	Will be held on Thursday, October 23. Time and place TBA.
Evaluation:	Each homework assignment will be worth 2%. The lowest homework mark will be dropped, meaning that only 9 homeworks, accounting for a total of 18%, will count towards your final course mark. The final course mark will be the larger of the following two scores: Score A: Homeworks 18%, midterm 25%, final exam 57% Score B: Homeworks 18%, final exam 82%
Pre/Corequisites:	MATH 221 or 280, or demonstrable familiarity with vector calculus.

Course Outline

- *Basic concepts of probability theory*: axioms of probability; counting; conditional probability; law of total probability and Bayes' rule; independence of events (Sections 1.1-1.4, 1.6, 1.7, 2.1-2.4, 3.1-3.5 of text).
- *Discrete Random Variables*: random variables; distribution functions; expectation, variance, and moments of a discrete random variable; uniform, Bernoulli, binomial, Poisson, and geometric distributions (Sections 4.1-4.6, 5.1-5.3 of text).
- *Continuous Random Variables*: probability density functions; functions of random variables; expectation, variance, and moments of a continuous random variable; uniform, normal, and exponential random variables (Sections 6.1-6.3, 7.1-7.3 of text).
- *Multiple Random Variables*: pairs of random variables; independent random variables; conditional distribution and expectation; multivariate distributions (Sections 8.1-8.4 of text).