

School of Mathematics and Statistics
Carleton University
Stat 2605 Probability Models
Fall 2020

Instructor: Professor B. Szyszkowicz
E-mail: bszyszk@math.carleton.ca
Text: A First Course in Probability by Sheldon Ross, 9th ed.
NOTE: **The whole course will be delivered online using cuLearn**

Lecture: Lectures will be posted regularly on cuLearn
Tutorial: Thursday, 5:35 – 6:25 (online)
Grade: Assignments (50%), Two Midterms (20%), Final (30%)
Dates for Midterms: October 22 & November 19
(online during Tutorial time).

Course Outline:

Week 1: Sample space and events. Axioms of Probability and main properties.
Week 2: Conditional Probability. Independence.
Week 3: Discrete random variable (r.v.). Functions of r.v.
Week 4: Bernoulli, Binomial, Poisson and other discrete distributions.
Week 5: Continuous r.v. Uniform & Exponential distributions.
Week 6: Normal distribution. Distribution of a function of r.v. Simulations.
Week 7: FALL BREAK
Week 8: Joint distribution of two random variables. Independence.
Week 9: Markov's and Chebyshev's Inequalities. Weak Law of Large Numbers.
Week 10: Central Limit Theorem. Normal Approximation to Binomial.
Week 11: Poisson Process.
Week 12: Markov's Chain.
Week 13: Review

NOTE: The above is a very approximate outline only. Students are responsible for checking **cuLearn** regularly, where all course material will be posted. Homeworks will be given on a regular basis which will include the description of the material from the textbook that should be studied in addition to lecture notes (posted on **cuLearn**). Short Assignments will be given on a regular basis which should be submitted electronically by a given deadline. All detailed information (and any changes) will be posted on **cuLearn**.

If there is any student in this course who, because of disability, may have need for special accommodations, please discuss it with me. Students must also contact Paul Menton Centre to obtain a Letter of Accommodation for such an arrangement.

