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Website: www.utstat.utoronto.ca/sheldon/teaching.html
Office hours: Wednesdays 10am-noon, 2pm-4pm or by appointment.
Lecture times and locations: Tuesdays 11:10am-noon, SS2105; Thursdays 10:10am-noon, GB221.

Prerequisite: STA261  Co-requisites: ACT348, and STA347.
According to the FAS regulations, if you are missing the prerequisite you must submit a waiver form to me for approval. The form can be downloaded from http://www.utstat.utoronto.ca/wordpress/wp-content/uploads/2011/09/request-for-prereq-or-coreq-waiver.pdf
Please submit a filled waiver form by Thursday Sept 24, or you will be removed from the course on Friday Sept 25. ACT348 and STA347 are co-requisites so as long as you are taking them this semester, you do not need my permission to enroll in this course.

Required Textbook

The study manual has two volumes and is available at ACTEX Publications (http://www.actexmadrise.com/). Volume One will also be used for ACT452 in the Winter semester. Part of the second volume is for ACT466. I have posted the first 6 sections of the study manual on my website for you to download. Please purchase a copy of the study manual as soon as possible.

Calculators
Only one of the following calculators is allowed in the midterm test and the final exam: BA-35, BAII Plus, BA II Plus Professional Edition, TI-30Xa, TI-30XIIS, TI-30XIIB, TI-30XS MultiView, and TI-30XB MultiView. They are also the calculators allowed in the SOA exams.

This course will cover Sections 5-21 of the study manual. I will very briefly review the materials in Sections 1-4 during the first week. As the title of the study manual indicated, this course covers part of the SOA Exam C syllabus. The rest is covered in ACT452 and ACT466. I will also teach some topics that are not covered by the SOA Exam C but useful in insurance modelling.

Topics and Tentative Schedule
Week of Sept 14: review of key concepts and formulas in probability theory.
Week of Sept 21: parametric distributions; transformations; linear exponential family.
Week of Sept 28: hazard rate function, risk measures, VaR and TVaR (Section 21) right tail
behaviour.
Week of Oct 5: mean residual lifetime, equilibrium distributions, applications to risk management.
Week of Oct 12: finite and continuous mixtures, insurance interpretation, distributional properties.
Week of Oct 26: policy limit, LER. A midterm test will be given on Thursday Oct. 29 from 10:30am to 12:00pm. (90 minutes) in GB221.
Week of Nov 2: other policy modifications, deductibles, stop-loss premium, co-pay, inflation adjustment.
Week of Nov 9: Nov 9 and 10 are the fall break. The class resumes on Thursday Nov 12. claim severity, claim frequency, zero-modified frequency distributions.
Week of Nov 16: the $(a, b, 0)$ and $(a, b, 1)$ classes.
Week of Nov 23: aggregate claims and compound distributions, recursive calculation; application to operational risk management.
Week of Dec 1: Impact of individual policy modifications on the aggregate payments,
Week of Dec 7: stop-loss insurance on aggregate claims, information on the final exam.

Quizzes, Test and Exam
Five 10-minutes in-class pop quizzes will be given during the semester. There will be no make-up quizzes. The best four quizzes will be counted, 1.5% each, towards the final mark. There will be no homework but I will assign practice problems from the study manual every Thursday or Friday and they will be posted on my teaching website. A midterm test will take place on Thursday October 29 and it accounts for 37% of the final mark. Should you be forced to miss the test, you are required by faculty regulations to submit, within one week, appropriate documentation from the U of T Health Services to me or to the Departmental Office SS6018 (Print: on it your NAME, STUDENT NUMBER, course number, and date.).
And you must contact me to arrange a time within one week for an individual oral makeup test. A written-answer final exam (2 hours) will be given during the faculty exam period. The final exam accounts for 57% of the final mark.

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