

ACT350 H1F - APPLIED PROBABILITY FOR ACTUARIAL SCIENCE

Lecture: Tuesday 13:00 — 16:00, Sidney Smith (SS) 2102

Instructor: Silvana Pesenti, SS 6027B
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Office hours: Tuesday 16:00 - 18:00, SS6027B
or by appointment.

Teaching assistants: TBC

Course description: The course offers an introduction to probability theory and stochastic processes. The main goal of the course is to help actuarial students understand the concept of stochastic processes with particular emphasis on Markov chains which are of great importance in Life Contingencies and Property and Casualty insurance.

Specifically, the course will cover:

- conditional probabilities and expectations
- Poisson processes
- discrete time Markov chains
- continuous time Markov chains
- renewal theory (if time allows)

Prerequisite: ACT240H1 (minimum grade 63%); ACT245H1 (minimum grade 63%); ACT247H1 (minimum grade 63%); STA257H1; MAT223H1/MAT240H1, MAT237Y1/MAT257Y1

Course materials: The course is based on the book *Stochastic processes* by Sheldon M. Ross, 2nd ed., ISBN: 978-0-471-12062-9, which is available in the bookstore.

Grading scheme:

	Due date	Grade count
Quiz 1	Sunday 29. Sept. 9pm	3%
Quiz 2	Sunday 13. Oct. 9pm	3%
Mid term	Tuesday 22. Oct. 13.10- 15.00	33%
Quiz 3	Sunday 24. Nov. 9pm	3%
Final exam	TBC	58%
		100%

Quizzes: The quizzes are done directly through Quercus. They will be available on weeks 3, 5, and 11 on Friday and are due on Sunday 9pm of the weeks 3, 5, and 11, respectively. Week 1 is the first week of lectures of the course.

Course outline: The lecture takes place every Tuesday from 13.00-16.00. However, in the weeks indicated below there will be either tutorials or computer lab.

week 2	tutorials	SS2102	15.10-16.00
week 4	tutorials	SS2102	15.10-16.00
week 6	tutorials	SS2102	15.10-16.00
week 8	computer lab	TBA	13.10-16.00
week 10	tutorials	SS2102	15.10-16.00
week 12	tutorials	SS2102	15.10-16.00

Missed tests and quizzes: There will be no make-up test. Any missed mid term test due to illness requires a [University of Toronto Student Medical Certificate](#), completed by a doctor, and handed in to the course instructor within one week of the test date. A missed mid term test, with a under U of T guidelines *accepted* reason, will have their grading weights shifted to the final exam. Missed quizzes will have their grading weights shifted to the final exam.

Communication: Announcements will be given during lectures or through Quercus, however messages through the Inbox of Quercus will not be responded.

For any questions about the course content, please come to my office hours. Emails, from a U of T address, to the instructor should only be of private matters (for example, missed tests, ...).

Academic integrity: We adhere to the Academic Integrity policy of the University of Toronto, accessible on the course homepage of Quercus and the U of T homepage.