

ACT 455H1S, Advanced Topics in Actuarial Science, Winter 2024

Lecture Section	L0101
<i>Lecture times, location</i>	Tu 2:10 p.m. - 4:00 p.m. in person SU, B120 Thur 2:10 p.m. - 3:00 p.m. in person SU, B120 Some classes will be taught in zoom, but I will update the info when the time comes.
<i>Instructor</i>	Dr. Andrei Badescu, Hydro Building, 918 badescu@utoronto.ca Office hours: Wed 2-3 pm on zoom, links will be posted soon on Quercus. The office hours will start the second week of classes.
<i>Teaching assistants:</i>	Sophia Ian Chen

Texts

Required

Exam LTAM Study Guide – 2019-2020, ACT348+455, Samuel A Broverman.
You should have the guide from ACT348. If you do not have it, please let me know.

Additional

- *Actuarial Mathematics*, 2nd Ed., by Bowers et al, Society of Actuaries, available on the SOA website to be ordered.
- *Actuarial Mathematics for Life Contingent Risks*, Dickson D, Hardy M., Waters H, 2019, Third Edition.

Approximate Coverage:

- Multiple Decrement Models – Sections 32-34
- Discrete Time Markov Chains - Sections 36, 37
- Continuous Time Markov Chains - Sections 38, 39
- Profit Testing – Sections 27 and 40
- Pension Mathematics – Sections 34, 35

Teaching style:

Most of the lectures will be in person, if I will be teaching on ZOOM I will let you know in advance. I will post the pdf files for the lectures on Quercus. This will give the students the chance to go over the notes and be able to pay attention to the class explanations.

Test:

Term tests

- Test 1 – 1st of February 2024, 2:10 -3:00 pm, in person in the normal class time, more details to be announced later – 20% of the final mark
- Test 2 – 19th of March 2024, 2:10 - 3:00 pm, in person in the normal class time, more details to be announced later – 20% of the final mark

- **Final Exam 2 hours (TBA) – 40% of the final mark**

Marking Scheme:

The final course mark will be determined via two term tests, each worth 20%, a final exam worth 40% and attendance and class participation 20%. Attendance will be taken each class, sometimes during the class time. Students are encouraged to ask questions and participate in class and will receive a mark based on their level of involvement. These weightings will not be changed, either for the whole class or for any individuals. The test and final exam will be in written answer questions form.

Missed Term Test: Both term tests are mandatory!!! If by valid reasons you miss one term test, the 20% weight of the mark associated to the test will be moved towards the final exam and the final exam will count for 60%. In exceptional cases, students who miss both term tests will be asked to do an oral exam that will test the material taught in class up to the date of the oral exam. **The oral exam will have to be within a week after the second missed term test.** The final mark will consist of 20% the oral exam and 60% of the final exam.

Calculator:

A calculator is essential for working exercises, tests and final exam. The Texas Instruments BA II PLUS calculator is one of the calculators allowed on the Society of Actuaries examinations; it has the financial functions that would be needed for this course and is recommended. All non-programmable calculators are allowed.

E-mail policy:

E-mails will only be answered if they are from a U of T address. When there are many e-mail requests, not all can be answered, but an answer to a common question will be posted on Quercus.

Canadian Institute of Actuaries' University Accreditation Program (UAP):

UAP has moved away from the course-by-course accreditation and is now based on a program accreditation method. Under the new credentialing pathway, to obtain ACIA (Associate of CIA) professional credential, students need to:

1. Complete a degree from an actuarial program (ACT Specialist or Major) at University of Toronto and pass a list of mandatory courses. No minimum course grade or GPA is required. The full list of UofT's 16 mandatory courses are: ACT240, ACT245, ACT247, ACT348, ACT349, ACT370, ACT451, ACT452, ACT466, STA237/STA257, STA238/STA261, STA302, STA314, ECO101, ECO102, MGT201/RSM219;
2. Complete the ACIA Modules;
3. Complete an open-book ACIA Capstone Exam

For further information on ACIA modules and Capstone Exam, please email education@cia-ica.ca.

Details on the new pathway for students can be found here: <https://education.cia-ica.ca/acia/acia-for-accredited-university-students/>