

ACT 466H1/STA2505H, Advanced Statistical Modeling in Property & Casualty Insurance, Fall 2025

Lecture Section	L0101
<i>Lecture times, location</i>	Mon 9:10 a.m. - 11:00 a.m in person AH 107 Wed 9:10 a.m. - 10:00 a.m. in person Room AH 107 A class or two may be taught on zoom, but I will update the info when the time comes.
<i>Instructor</i>	Dr. Andrei Badescu, Hydro building 918 andrei.badescu@utoronto.ca Office hours: Tu -10:00 – 11:00 pm on zoom, links will be posted soon on Quercus. The office hours will start the second week of classes.
<i>TA</i>	Hassan Abdelrahman - TBA

Texts:

Required

Study Manual for SOA Exam ASTAM, 4th Edition by Samuel Braverman and Wenjun Jiang. The study manual is available for purchase at ACTEX Learning (<https://www.actexlearning.com/exams/astam>).

Additional

- *Loss Models from Data to Decisions*, 5th Ed., by Klugman S., Panjer H., Willmot G.

Prereq

- ACT 351 Loss Models 1.

Coverage:

- Limited Fluctuation Credibility
- Bayesian Credibility – Discrete and Continuous Prior
- Bayesian Credibility for Parametric Distributions
- Buhlmann Credibility
- Empirical Bayes Credibility Methods
- Loss Reserving

Course Objective:

This course is designed to help you to prepare for the portion of Exam ASTAM of the Society of Actuaries (www.soa.org). Questions and in-class discussions are encouraged.

Teaching style:

Most of the lectures will be in person, if I teach 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 – 15th of October 2025, 9:10 -10:00 am, in person in the normal class time, more details to be announced later – 25% of the final mark
- Test 2 – 17th of November 2025, 9:10 - 10:00 am, in person in the normal class time, more details to be announced later – 25% of the final mark

- **Final Exam 2 hours (TBA) – 50% of the final mark**

Marking Scheme:

The final course mark will be determined via two term tests, each worth 25% and a final exam worth 50%. These weightings will not be changed, either for the whole class or for any individual. The test and final exam will be written answer questions form.

Missed Term Test: Both term tests are mandatory!!! If by valid reasons you miss one term test, the 25% weight of the mark associated to the test will be moved towards the final exam and the final exam will count for 75%. 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 25% the oral exam and 75% 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.