ACT 455H1S, Advanced Topics in Actuarial Science, Winter 2021

Lecture Section	***L0101***
Lecture times, location	Tu 2:10 p.m. - 4:00 p.m. online on BBcollaborate Thur 2:10 p.m. - 3:00 p.m. online on BBcollaborate
Instructor	Dr. Andrei Badescu, Hydro Building, 918 badescu@utstat.toronto.edu
Teaching assistants:	TBA

Texts

Required

Exam LTAM Study Guide – 2019-2020,Vol 1B, Samuel A Broverman.
You can buy the books at:

https://www.campusebookstore.com/integration/AccessCodes/default.aspx?bookseller_id=96&Course=STG+ACT348%2f+ACT455+COURSEBOOK&frame=YES&t=permalink

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.*

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:

All the lectures will be recorded and uploaded on Quercus every Sunday before noon for the entire following week. Note that the length of audio/video material is not necessarily 3 times 50 mins, but varies from week to week. This will give students the chance to go over the notes and/or listen to the lecture ahead of the class time. There will be multiple files and recordings. Please keep saving the files on you computers, as at some point in time, when I will run out of space, I may need to delete some of the older notes. During the regular class time, for one hour, on both Tuesday and Thursdays, I will be online on BBcollaborate (on Quercus please check the BBcollaborate and you will see, at those times, a session organized and I will be waiting there for you to come ask questions, have discussion etc.). I will share my screen with you and answer all your questions online, have discussion with respect to the course materials, things you do not understand etc. We will decide if this style is appropriate and we will adjust (if necessary).

Test:

Term tests

- Test 1 – 9th of February 2021, online from 2:10 pm :3 00 pm – the test will be run online on Quiz from Quercus, further details will be provided – 25% of the final mark
- Test 2 – 16th of March 2021, online from 2:10 pm : 3 00 pm – the test will be run online on Quiz from Quercus, further details will be provided – 25% of the final mark

- **Final Assessment - written 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 individuals. The tests and the final exam will be in a combination of multiple choice questions and written answer questions.

Missed Term Test: YOU ARE NOT ALLOWED TO MISS MORE THAN ONE TEST. 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%. Students who will miss both term tests will lose automatically 25% of the final mark and the remaining 25% will be moved to the final that will only count for a maximum of 75%. **There are no make up tests or 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.

Prereq: The only mandatory prereq for this class is ACT348; I am willing to waive the ACT350/STA347.

Updates:

All the possible updates regarding to this course will be made in class and on Quercus.

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

ACT455 is an accredited course under the UAP program. The minimum grade needed to apply for an exemption is 70. For detailed information on UAP, please visit the following webpages:

- University Accreditation Program description
<http://www.cia-ica.ca/membership/uap>
- List of accredited courses offered by University of Toronto:
http://www.cia-ica.ca/membership/uap/accredited/toronto
<http://www.cia-ica.ca/membership/uap/accredited/toronto>
- How to apply for CIA exemptions:
<http://www.cia-ica.ca/membership/uap/information-for-students>

Note: The CIA will grant credits to students for SOA/CAS examinations based on the achievement of the minimum Grade towards Associateship (ACIA) and Felllowship (FCIA) in the CIA. At the time of this agreement, CIA credits are recognized by the following actuarial organizations towards their respective designations:

Casualty Actuarial Society (CAS): ACAS, FCAS

UK Institute and Faculty of Actuaries (IFoA): FIA, AIA

Institute of Actuaries of Australia (IAA): AIAA, FIAA

Actuarial Society of South Africa (ASSA): AMASSA, FASSA

American Academy of Actuaries (AAA): MAAA

The CIA does not guarantee that credits granted to students under the CIAUAP will be recognized by any other actuarial organizations towards their actuarial designations."