

ACT 230H1F, Summer 2022 Mathematics of Finance for Non-Actuaries

Lecture Section	L0101 Mondays, Fridays	
Lecture times, location	Mon.Wed 1- 3pm, From May 9 – in person MS2173	
Instructor	Dr. Andrei Badescu, Andrei.badescu@utoronto.ca	
TA tutorials	Mauricio Coronado – Mon and Wed 3-4 pm STARTING May 11, MS2173	
Office Hours	Thursday 11-12 on zoom, link on Quercus	

Texts:

Required

ACT230 Revised book 2019, Samuel A Broverman, Navigate to the **Digital Course Materials** section on the University of Toronto Bookstore Website at https://uoftbookstore.com/textbooks/access_codes.asp

From here, scroll down the list and select your course, which appears as:

STG ACT 230 Coursebook.

The textbook may be found also in a printed form at the U of T bookstore.

-

Additional

- Mathematics of Investment and Credit, 6th. Ed., Samuel A Broverman, ACTEX Publications, 2016
- Kellison, S.G., The Theory of Interest (Third Edition), 2009, Irwin/McGraw-Hill

Course Objective:

The purpose of the course is to prepare students to do financial valuations and to create the necessary background that is useful for future university courses. You are expected to read and understand the descriptive portions of the text yourself. Questions and discussions are encouraged during the online tutorials and office hours.

Approximate Coverage:

- Interest Rate Measurement – Sections 1-3
- Valuation of Annuities – Sections 4 - 8
- Loan Repayment – Section 9
- Bond Valuation – Sections 10-11
- Measuring the Rate of Return in a Fund – Section 12

Teaching style:

All the lectures will be in person. 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.

I will be teaching without a mask due to a mask exemption petition that was approved by the university in my case. I was asked to follow the below guidelines:

- The instructor will have a plan to ensure safety measures are in place including:
 - In the case of the instructor's mask removal approval, they will be physically distanced from the first row of students (closing the first row, for example, if needed to adhere to physical distancing, at least 2m away).
 - In the case of students removing masks for pedagogical reasons, the instructor will instruct the student on when they can take off their mask (start of the activity) and when to put the mask back on (end of activity).

- They will remove masks, they will place it in a clean bag or container when not wearing it, they will be physically distanced until the activity is over and will put their mask back on, perform hand hygiene and return to their seat.
- The instructor will put their mask back on when leaving the lecture area (area that is physically distanced), even if for less than a minute.
- The instructor and students will have a spare mask available in case it is misplaced, dropped or soiled.
- The instructor and students will use hand sanitizer and disinfectant wipes where available inside the classroom and at the instructor's area, if needed.

Test:

Term tests

- Test 1 - 25th of May 2022, 1:10 – 2:10 pm in person in the normal class time, more details to be announced later – 25% of the final mark
- Test 2 – 13th of June 2022, 1:10 – 2:10 pm in person in the normal class time, more details to be announced later – 25% of the final mark
- **Final Exam 2 hours TBD – 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 test and 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 missed 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 is no deferred final exam for this class.**

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. It is necessary for ACT230 that your calculator be able to solve for the interest rate i in calculations such as $10(1+i)^4 + 20(1+i)^3 + 30(1+i) = 160$. ONLY the 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 the Quercus.

Updates:

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