

ACT230H1 Mathematics of Finance for Non-Actuaries
Course Syllabus
Summer 2018

General Information:

- Lecture room: SS (Sidney Smith Hall) 1072.
- Instructor: Alex Yang
- Email: shuai.yang@mail.utoronto.ca
- TA: Noble Zhai
- Alex's office hours: Wednesday 3 - 5 pm or by appointment.
- Alex's office hour location: SS1091

Course Description:

Introduction to financial mathematics, interest measurement, present value calculation, annuity valuation, loan amortization, consumer financing arrangements, bond valuation. The course is aimed at a general audience who will **not** be continuing in the actuarial science program.

Course Material:

Required:

- Prof. Sam Borverman's Coursebook for ACT230.
- Calculator: It is **highly recommended** to use a financial calculator (e.g. Texas Instruments BA II Plus) for this course as we will be doing calculation involving annuities, Bond valuation and internal rate of returns, etc.

Other useful references:

- *Mathematics of investment and credit* by Prof. Sam Broverman .
- Society of Actuaries (SOA) Exam FM sample questions ¹ which can be found at <https://www.soa.org/files/pdf/FM-09-05ques.pdf>

Course Website:

All of the lecture notes ², practise questions, announcement will be posted on portal at <https://portal.utoronto.ca>

¹Only those related to the material covered in this course.

²Some of the material from the lecture notes are supported by Prof. Sheldon Lin

Tentative Schedule:

- May 8 (7 - 9 pm) - Introduction, Section 1.
- May 10 (7 - 9 pm) - Section 2.
- May 15 (**6 - 9 pm**) - Section 3, 4.
- May 17
 - (6 - 7 pm) - Tutorial, quiz 1.
 - (7 - 9 pm) - Section 5.
- May 22 (**6 - 9 pm**) - Section 6, 7.
- May 24 (7 - 9 pm) - Section 8.
- May 29 (**7 - 9 pm**) - **Midterm 1 (Section 1 - 6)**
- May 31 (7 - 9 pm) - Section 9.
- June 5 - No class.
- June 7 (7 - 9 pm) - Section 10.
- June 12 (7 - 9 pm) - Section 11.
- June 14
 - (6 - 7 pm) - Tutorial, quiz 2.
 - (7 - 9 pm) - Section 12 and/or Review.

Evaluation:

There will be two in tutorial quizzes, one midterm test and one final exam.

$$10\% \times \text{Quizzes} + 40\% \times \text{Midterm test} + 50\% \times \text{Final}$$

The final exam is cumulative. Both the midterm test and final exam are **multiple choice exams, closed book and closed notes**, an SOA-approved financial calculator (e.g. mentioned above in the course material section) or a non-programming calculator is allowed. You can bring multiple calculators to the exam if you wish.

If you miss any of the quizzes or midterm test for a valid reason, for example, illness. You must provide the appropriate document in order to shift the corresponding weight to the final exam. For example, you miss the first quiz and the midterm and you provide doctor notes for both then your final grade will be $5\% \times \text{Quiz 2} + 95\% \times \text{Final}$.

Academic Integrity

You should always keep the academic integrity in mind. The latest version of the student handout 'How not to Plagiarize' is available at <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>.

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