ACT230 Mathematics of Finance for Non-Actuaries
Course Syllabus
Fall 2018

Pre-requisites:

First-year Calculus.

Note: If you do not have the pre-requisites and still wish to take this course, then according the FAS regulations you must submit a waiver form to me for approval. This form can be found at `http://www.utstat.toronto.edu/wordpress/wp-content/uploads/2011/09/request-for-prereq-or-coreq-waiver.pdf`
Please submit the waiver form to me by Monday Sept 17.

General Information:

- Lecture room: MB 128 (Lassonde Mining Building)

- Lecture time: Monday 10:00 am - 12:00 pm

- Instructor: Shuai (Alex) Yang

- Email: shuai.yang@mail.utoronto.ca
  Note: Regular inquires should be conducted during the office hours, email communication is only for emergency matters. Please include your name, student number and ACT230 in subject line. Only emails sent from your utoronto email account will be answered.

- TA: Blair Bilodeau, Shujing Gu, Fan Gao, Yaoxi He

- TA's office hours: Thursday 2:00 pm - 3:00 pm.

- Alex's office hours: Wednesday 2:00 pm - 3:00 pm or by appointment

- Office hour location: SS 623B (Sidney Smith Building, Ground Level)

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 Broverman's Coursebook for ACT230.

- Calculator: Texas Instruments BA II Plus. This is a financial calculator which contains several financial functions such as annuity calculations, Bond valuation and computing the 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, related materials, announcements, etc. will be posted on Quercus at
`http://toolboxrenewal.utoronto.ca/`

Tentative Schedule:

- Sept 10 - Introduction & Section 1.

- Sept 17 - Section 2.

- Sept 24 - Section 3.

- Spet 28 (tutorial) - **Quiz 1**.

- Oct 1 - Section 4.

- Oct 8 - **Thanksgiving Day; No Class**.

- Oct 15 - Section 5.

- Oct 19 (tutorial) - **Quiz 2**.

- Oct 22 - Section 6.

- Oct 29 - **10:00 am - 12:00 pm, Midterm 1**.

- Nov 5 [2] to Nov 9 - **Reading Break; No Class**.

- Nov 12 - Section 7, 8.

- Nov 16 (tutorial) - **Quiz 3**.

- Nov 19 - Section 9.

- Nov 26 - Section 10.

- Nov 30 (tutorial) - **Quiz 4**.

- Dec 3 - Section 11.

- Dec 6 - Make up Monday: Section 12.

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[1] Only those related to the material covered in this course.
[2] Last day to cancel F section code courses without academic penalty: Nov 5

Evaluation:

Evaluation is based on the following:

$$9\% \times \text{Quizzes} + 40\% \times \text{Midterm test} + 51\% \times \text{Final exam}$$

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 the midterm test for a valid reason (e.g. illness), then you must provide the appropriate documents (e.g. doctor notes) that attesting your situation on the exam day and **you will need to schedule a time with me for an individual make-up exam within a week.** The make-up test will contain both written and oral components and you will be given a mark based on your performance.

Each quiz is 20 minutes long and it contains three written-answer questions. There are four quizzes in total, only the best three will be counted towards your final mark and each of them worth 3%. **There is no make-up quiz.**

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://advice.writing.utoronto.ca/using-sources/how-not-to-plagiarize/`.

In addition, you are responsible for knowing the content of the University of Toronto's **Code of Behaviour on Academic Matters** at `http://www.governingcouncil.utoronto.ca/policies/behaveac.htm`. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me. The bottom line: copying is strictly prohibited.