

UNIVERSITY OF TORONTO
Department of Statistical Sciences

ACT245 – Financial Principles for Actuarial Science I
(Summer 2020)

Instructor: Yu Wang

Teaching Assistant: Zhiliang Zhang

Course Evaluation

Course Grade = $0.4 \times \max(\text{Tests}) + 0.3 \times \text{median}(\text{Tests}) + 0.3 \times \min(\text{Tests})$

- Test 1: July 20, 8-9pm
- Test 2: August 5, 8-9pm
- Test 3: During final assessment period August 19-27
- Make-up Test: During final assessment period August 19-27

Should you be forced to miss a test due to legitimate reasons such as illness or emergency, you are required to inform the instructor within 2 days of the test date. A comprehensive make-up test will be arranged in August, covering materials from the entire course.

Course Schedule

Date	6-7pm	7-8pm	8-9pm	Lecture Coverage
July 6	Lec 1			Spot & Forward Rates, Yield Curve, Term Structure, Duration
July 8	Tut	Lec 2		Convexity, Immunization
July 13	Tut	Lec 3		Introduction to Derivatives, Arbitrage, Prepaid Forward Contracts
July 15	Tut	Lec 4		Forward Contracts
July 20	Lec 5	Tut	Test 1	Futures Contracts
July 22	Tut	Lec 6		Introduction to Options
July 27	Tut	Lec 7		Put-Call Parity
July 29	Tut	Lec 8		Option Spreads
August 5	Lec 9	Tut	Test 2	Option Strategies
August 10	Tut	Lec 10		Non-directional Option Strategies
August 12	Tut	Lec 11		General Swaps and Prepaid Swaps
August 17	Tut	Lec 12		Interest Rate Swaps

Lectures and tutorials will be conducted using “BB Collaborate” function within Quercus
 Tests will be assigned using “Quizzes” function within Quercus

Required Textbook

Actuarial Science Coursebook for ACT240H + ACT245H, 2019 Edition (S. Broverman)

ACT245 will cover Sections 13 – 20

Academic Integrity

Please visit: www.academicintegrity.utoronto.ca

Academic integrity is a fundamental value of learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that your university degree is valued and respected as a true signifier of your individual academic achievement.

The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic misconduct, the processes for addressing academic offences, and the penalties that may be imposed. Potential offences include, but are not limited to:

- Obtaining or providing unauthorized assistance on an online test/exam – this includes working in groups on a test/exam that is supposed to be individual work.
- Using or possessing any unauthorized aid, including a cell phone, or searching for answers online.
- Looking at someone else's answers, or working together to answer questions.
- Letting someone else look at your answers.
- Misrepresenting your identity or having someone else complete your test/exam.

All suspected cases of academic dishonesty will be investigated following the procedures outlined in the Code of Behaviour on Academic Matters.

Minimum Grade C Rule for Actuarial Science Courses

In order to enroll in any 300- or 400-level ACT course, the minimum grade of 63% must be obtained in each of ACT240H1, ACT245H1 and ACT247H1.

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

ACT245 is an accredited course under the UAP program. The minimum ACT245 grade needed to apply for a credit is 70%. For detailed information on UAP, please visit:

- University Accreditation Program description (<https://www.cia-ica.ca/membership/university-accreditation-program-home>)
- List of accredited courses offered by University of Toronto (https://www.cia-ica.ca/membership/university-accreditation-program-home/accredited-universities/accredited-university-detail?pav_universityid=06f6b138-61e5-e511-80b9-00155d111030)
- How to apply for CIA exemptions (<http://www.cia-ica.ca/membership/university-accreditation-program---home/information-for-candidates/obtaining-uap-credits>)

Note: The CIA will grant credits to students for SOA/CAS examinations based on the achievement of the minimum Grade towards Associateship (ACIA) and Fellowship (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 CIA UAP will be recognized by any other actuarial organizations towards their actuarial designations.