

**UNIVERSITY OF TORONTO**  
**Department of Statistical Sciences**

***ACT245 – Financial Principles for Actuarial Science I***  
***(Summer 2024)***

**Instructor:** Yu Wang

**Teaching Assistant:** Pak Hop Chan

**Lecture & Tutorial Location:** Online

**Course Schedule**

Date	6-7pm	7-8pm	8-9pm	Lecture Coverage
July 3		Lec 1		Spot & Forward Rates, Yield Curve, Term Structure, Duration, Convexity and Immunization
July 8	Tut		Lec 2	Introduction to Derivatives, Arbitrage, Prepaid Forward Contracts
July 10		Lec 3		Forward Contracts, Futures Contracts
July 15	Test 1		Lec 4	Introduction to Options
July 17	Tut		Lec 5	Put-Call Parity
July 22	Tut		Lec 6	Option Spreads
July 24	Test 2	Lec 7		Option Strategies
July 29	Tut		Lec 8	Non-directional Option Strategies
July 31	Tut		Lec 9	General Swaps and Prepaid Swaps
August 7	Tut		Lec 10	Interest Rate Swaps
August 12	Test 3			

Note:

- Date / time changes (if any), lecture notes and test information will be provided in Quercus.
- Lectures and tutorials typically start 10 minutes after the hour e.g. 6:10pm and 7:10pm.
- Should you be forced to miss a test due to legitimate reasons such as illness, you are required to inform the instructor within 2 days of the test date. A cumulative make-up test will be arranged, covering materials from the entire course.

**Course Evaluation**

Course Grade =  $0.4 \times \text{Max}(\text{Test 1}, \text{Test 2}) + 0.35 \times \text{Min}(\text{Test 1}, \text{Test 2}) + 0.25 \times \text{Test 3}$

**Required Textbook**

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

ACT245 will cover Sections 13 – 20

## **Academic Integrity**

Please visit: [www.academicintegrity.utoronto.ca](http://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 a test/exam – this includes working in groups on an online 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 reported and investigated following the procedures outlined in the *Code of Behaviour on Academic Matters*.

## **Minimum Grade C Requirement 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 ACT240, ACT245 and ACT247.

## **Copyright Notice**

All course materials, including lecture notes and test/exam questions, are the property of the instructor or the university (as relevant), and may not be distributed online or by any other means.

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

UAP has moved away from the course-by-course accreditation and is now based on a program accreditation method. Under the new credentialing pathway, to obtain ACIA (Associate of CIA) professional credential, students need to:

1. Complete a degree from an actuarial program (ACT Specialist or Major) at University of Toronto and pass a list of mandatory courses. No minimum course grade or GPA is required. The full list of U of T's 16 mandatory courses are: ACT240, ACT245, ACT247, ACT348, ACT349, ACT370, ACT451, ACT452, ACT466, STA237/STA257, STA238/STA261, STA302, STA314, ECO101, ECO102, MGT201/RSM219; and
2. Complete the ACIA Modules; and
3. Complete an open-book ACIA Capstone Exam.

For further information, please visit: [www.cia-ica.ca/becoming-a-member/qualification-pathways/](http://www.cia-ica.ca/becoming-a-member/qualification-pathways/)