

UNIVERSITY OF TORONTO
Department of Statistical Sciences

ACT245 – Financial Principles for Actuarial Science I
(Winter 2025)

Instructor: Yu Wang

Lecture Location: BA 1130

Tutorial Location: BA 1130

Course Schedule

Date	Time	Activity	Coverage
January 7	3-5pm	Lec 1	Spot & Forward Rates, Yield Curve, Term Structure, Duration
January 14	3-5pm	Lec 2	Convexity, Immunization
January 16	2-3pm	Tut	
January 21	3-5pm	Lec 3	Introduction to Derivatives, Arbitrage, Prepaid Forward Contracts
January 23	2-3pm	Tut	
January 28	3-5pm	Lec 4	Forward Contracts
January 30	2-3pm	Tut	
February 4	3-5pm	Lec 5	Futures Contracts
February 6	2-3pm	Test 1	Lectures 1-4
February 11	3-5pm	Lec 6	Introduction to Options
February 13	2-3pm	Tut	
February 25	3-5pm	Lec 7	Put-Call Parity
February 27	2-3pm	Tut	
March 4	3-5pm	Lec 8	Option Spreads
March 6	2-3pm	Tut	
March 11	3-5pm	Lec 9	Option Strategies
March 13	2-3pm	Test 2	Lectures 1-8, with emphasis on Lectures 5-8
March 18	3-5pm	Lec 10	Non-directional Option Strategies
March 20	2-3pm	Tut	
March 25	3-5pm	Lec 11	General Swaps and Prepaid Swaps
March 27	2-3pm	Tut	
April 1	3-5pm	Lec 12	Interest Rate Swaps
April 3	2-3pm	Tut	
During Final Exam Period (April 9-30)		Final Exam	Lectures 1-12

Note:

- Date / time changes (if any), lecture notes and test instructions will be provided in Quercus.
- Lectures and tutorials typically start 10 minutes after the hour e.g. 3:10pm and 2:10pm.
- 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 both term tests.

Course Evaluation

Course Grade = $0.3 \times \max(\text{Test 1}, \text{Test 2}) + 0.2 \times \min(\text{Test 1}, \text{Test 2}) + 0.5 \times \text{Final Exam}$

Required Textbook

Actuarial Science Coursebook for ACT240H + ACT245H (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 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 all 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/