

UNIVERSITY OF TORONTO
Department of Statistical Sciences

ACT245 – Financial Principles for Actuarial Science I
(January – April 2019)

Instructor: Yu Wang

Lecture: Tuesday 3-5pm at SS2118

Office Hour: Tuesday 5-6pm (starting January 15)

Tutorial: Thursday 2-3pm at SS2118 (starting January 17)

Course Evaluation

- Term Test 1: 25% (February 7, 2-3pm)
- Term Test 2: 25% (March 14, 2-3pm)
- Final Exam: 50% (During exam period April 6-30)

Lecture Schedule

- January 8: Lecture 1 (Spot & Forward Rates, Yield Curve, Term Structure, Duration)
- January 15: Lecture 2 (Convexity, Immunization)
- January 22: Lecture 3 (Derivatives, Arbitrage, Prepaid Forward Contracts)
- January 29: Lecture 4 (Forward Contracts)
- February 5: Lecture 5 (Futures Contracts)
- February 12: Lecture 6 (Options)
- February 26: Lecture 7 (Put-Call Parity)
- March 5: Lecture 8 (Option Spreads)
- March 12: Lecture 9 (Option Strategies)
- March 19: Lecture 10 (Non-directional Option Strategies)
- March 26: Lecture 11 (General Swaps and Prepaid Swaps)
- April 2: Lecture 12 (Interest Rate Swaps)

Required Textbook

Actuarial Science Coursebook for ACT240H + ACT245H, 2018 Edition (S. Broverman)

Available at U of T Actuarial Science Club

ACT245 will cover Sections 13 – 20

Calculator

A *non-programmable* calculator is required for this course. There is no restriction on models but students are strongly encouraged to use the models allowed for actuarial professional exams.

Missed Test

Should you be forced to miss a test due to illness, you are required by faculty regulations to submit, within one week, the “*University of Toronto Verification of Student Illness or Injury*” form to the instructor. The form must be completed by an Ontario-registered Physician, Surgeon, Nurse Practitioner, Registered Psychologist or Dentist with registration number and phone number, and indicate the degree of incapacitation on academic functioning and date of illness. If proper documentation is not provided, a grade of zero will be given for the missed test.

For students who miss a test due to acceptable reason, the weight of the missed test will be shifted to the final exam.

Academic Integrity

Please visit: www.artsci.utoronto.ca/osai/students

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 (<http://www.cia-ica.ca/membership/university-accreditation-program---home>)
- List of accredited courses offered by University of Toronto (<http://www.cia-ica.ca/membership/university-accreditation-program---home/accredited/toronto>)
- 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.