

University of Toronto
Department of Statistical Sciences

ACT247 – Introductory Life Contingencies

(Summer 2020)

Instructor: Spark Tseung (spark.tseung@mail.utoronto.ca)

Lectures: Tuesday & Thursday, delivered online

Teaching Assistant: Sebastián Calcetero (sebastian.calcetero@mail.utoronto.ca)

Office Hours: Tuesday & Thursday, 19:30-20:30

Course Description:

Welcome to ACT247, your first course in the life contingencies series. In this course we will study the future lifetime random variable, survival models for actuarial science, basic life insurance and annuity policies and the international actuarial notations.

Note: This course is for students working to enter actuarial science major or specialist program. In order to enrol in any 300- or 400-level ACT course, a minimum grade of 63% must be obtained in each of ACT240, ACT245 and ACT247.

Textbook:

The main textbook is Broverman course book for ACT247+ACT348. Additional learning topics will also be presented in lectures.

Calculator:

You need one of the following SOA-approved calculators: battery or solar-powered Texas Instruments BA-35 model calculator, the BA II Plus, the BA II Plus Professional, the TI-30Xa or TI-30X II (IIS solar or IIB battery), or TI-30X MultiView (XS Solar or XB Battery).

Course Evaluation:

	Weight	Details
Weekly Quiz	8%	1% for each quiz after Tuesday/Thursday lectures. The lowest score out of nine quizzes will be dropped.
Test 1	24%	July 23.
Test 2	24%	Aug 6.
Test 3	44%	TBA

Missed Quizzes or Tests:

The following rules will be strictly enforced, and no exception will be made.

- Quizzes: No marks will be given to missed quizzes, and there will be no make-up quizzes.
- Tests:
 - If you miss Test 1 OR Test 2 due to valid reasons, you must notify the instructor **via email by the day end immediately after the missed term test**. The test weight will be shifted to Test 3 (which becomes 68%).
 - If you miss Test 1 AND Test 2 (both with valid reasons), **an oral, live make-up test** (weighted 24%) will be offered during the week after Test 2, and Test 3 will be weighted 68%. **No make-up will be offered for the make-up test**, and a zero mark will be given for the missed make-up test.

Online Format:

In summer 2020, this course is offered fully online. Hence, the following special arrangements are made:

- Time Zone Issues: All course schedules are based on Toronto local time (GMT -5). If you live in a **significantly different time zone**, you should notify the instructor by email **on or before July 8 (Toronto Time)** for special arrangements of all quizzes and tests. In this course, a significantly different time zone is defined to be: starting west from Iceland (GMT +0), going east all the way to central Russia and parts of Southeast Asia (GMT +7).
- Technical Failures: If you encounter any technical failures (power outage, internet failure, etc.) during or right before any online assessments, you should notify the instructor by email at the earliest possible time with details of the incident.
- Make-Up Assessments: Knowingly abusing any of the mechanisms and rules mentioned above will be considered a breach of academic integrity and is subject to disciplinary actions. The instructor reserves the right to make a reasonably **more difficult make-up test** at his discretion.

Academic Integrity/Distribution of Course Material:

To learn about academic integrity, please visit: <https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity>. Distribution of course material (notes, recording, homework, tests, exam, etc.) in any form outside of this class is **strictly prohibited**.

Tentative Schedule (subject to modification):

Week	Date	Course Content/ Assessment
1	July 7 (Tue)	- Preliminaries; Future Lifetime; Actuarial Notations. - Practice Quiz (0%): During lecture.
	July 9 (Thu)	- Death/Survival Probabilities; Force of Mortality. - Quiz (1%): 20:40-21:00
2	July 14 (Tue)	- Moments of Future Lifetime; Parametric Survival Models. - Quiz (1%): 20:40-21:00
	July 16 (Thu)	- Life Table; Select and Ultimate Mortality. - Quiz (1%): 20:40-21:00
3	July 21 (Tue)	- Fractional Age Assumptions. - Quiz (1%): 20:40-21:00
	July 23 (Thu)	- Term Insurance; Whole Life Insurance. - Test 1 (24%): 19:30-21:00.
4	July 28 (Tue)	- More Life Insurance Policies. - Quiz (1%): 20:40-21:00
	July 30 (Thu)	- Continuous Life Insurance. - Quiz (1%): 20:40-21:00
5	Aug 4 (Tue)	- Additional Insurance Relationships. - Quiz (1%): 20:40-21:00
	Aug 6 (Thu)	- Life Annuities. - Test 2 (24%): 19:30-21:00.
6	Aug 11 (Tue)	- Continuous Life Annuities. - Quiz (1%): 20:40-21:00
	Aug 13 (Thu)	- Additional Annuity Relationships. - Quiz (1%): During lecture.
7	Aug 19-27	- Final Exam (44%): Time TBA. Covers everything.

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

ACT247 is an accredited course under the UAP program. You may apply for a credit for Exam LTAM if you achieve the minimum grades for the following three courses: ACT247, ACT348, ACT455. The minimum grade required for ACT247 is 70. For detailed information on UAP, please visit the following webpages:

- University Accreditation Program description (<http://www.cia-ica.ca/membership/uap>)
- List of accredited courses offered by University of Toronto: <http://www.cia-ica.ca/membership/uap/accredited/toronto>
- How to apply for CIA exemptions: <http://www.cia-ica.ca/membership/uap/information-for-students>

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.