

**ACT247 – Life Contingency Models I
Winter Term, 2014**

Prerequisite:

ACT240H1; MAT137Y1 (minimum grade 65%)/MAT157Y1; STA257H1

Vital Statistics:

Instructor: Vicki J. Zhang, FSA, MAAA, ACIA, MStat

Lectures: Thursdays, 10-12am

Lecture location: LM 159

Tutorials: Tuesdays, 10-11am (Tutorials start on the 2nd week of classes)

Tutorial Location: See Course Portal Announcement section for your assigned location

Office: 6th floor, SS Room 6015

Office Hour: TBA

Blackboard: <http://portal.utoronto.ca>

Email: vickijing.zhang@utoronto.ca

Evaluation:

10% In-class or in-tutorial quizzes

30% 1-hour mid-term exam

60% final exam

Texts and Reference:

The main textbook we will use for this course is Broverman's Study Guide for SOA EXAM MLC

Schedule of Topics:

Lecture 1 – January 9:

- Probability theory review (Sec 1)
- Survival function (Sec 2)

Lecture 2- January 16:

- Force of mortality (Sec 3)
- Life table (Sec 4)

January 19: Last day to add a course

Lecture 3- January 23:

- Life time model (Sec 5)
- Applying distributions to survival models (Sec 6)

Lecture 4- January 30:

- Applying distributions to survival models – Continued (Sec 6)
- Fractional age assumptions (Sec 7)

Lecture 5- February 6:

Lecture 6- February 13:

- Fractional age assumptions – Continued (Sec 7)
- Select and ultimate mortality (Sec 8)

February 20: Reading week, no class.

Feb 25 – Midterm (in tutorial hour)

- Cover materials from Section 1 to Section 10

Lecture 7- February 27:

- One-year term insurance (Sec 9)
- Term and whole life insurance (Sec 10)

Lecture 8- March 6:

- Endowment insurance, deferred insurance, varying insurances (Sec 11)
- Insurance payable at the moment of death (Sec 12)

March 9: last day to drop a course

Lecture 9- March 13:

- Insurance payable at the moment of death – Continued (Sec 12)
- Additional insurance relationships (Sec 13)

Lecture 10- March 20:

- Additional insurance relationships – Continued (Sec 13)
- Discrete whole life annuity-due (Sec 14)

Lecture 11- March 27:

- Discrete life annuities (Sec 15)
- Continuous life annuities (Sec 16)

Lecture 12- April 3:

- Continuous life annuities – Continued (Sec 16)
- Additional Annuity relationships (Sec 17)

Final Exam – Date TBA

- Covers all materials covered in the course

Missed Assignments or Exams

- If you miss exams due to medical, family or other reasons, you have to provide documentation to me. The acceptable types of medical documentations are: UofT Verification of Illness or Injury Form, Student Health or Disability Related Certificate, A College Registrar's Letter, or Accessibility Services Letter. The Faculty of Arts and Science require the student who misses an exam to come forward to the course instructor no later than one week of the exam.
- There is no make-up assignment

- There will be **one** make-up mid-term test (Date is TBA).
- There will be **one** make-up final test arranged by Faculty of Arts and Science directly.