

**The University of Iowa**  
**College of Liberal Arts and Sciences**  
**Department of Statistics and Actuarial Science**  
**ACTS:4280 (22S:182) Life Contingencies II Fall Semester 2019**  
**MW (4:30 to 5:20 pm 14 SH) TTh (5 to 6:20 pm E205 AJB)**

Instructor: Dr. E.S.W. Shiu Office: 362 SH Phone: 335 2580 E-mail: elias-shiu@uiowa.edu

Office Hours: 3:30 to 4:30 Monday; 2:30 to 3:30 Tuesday and Thursday; or by appointment

Department: Statistics & Actuarial Science, 241 SH Phone: 335 2082

D.E.O.: Dr. Kung-Sik Chan Phone: 335 0712 E-mail: kung-sik-chan@uiowa.edu

Prerequisites: Multivariate calculus and linear algebra, STAT:4101 or STAT:5101, **and** a grade of C+ or better in ACTS:4180. Some knowledge of differential equations will be helpful.

This is an off-cycle course. The drop date is October 7.

This course, based on the syllabus for the Society of Actuaries (SOA) examination Long-Term Actuarial Mathematics (LTAM), is a continuation of ACTS:4180. It is expected that students will write LTAM on October 25 (registration deadline is Monday, September 23). The LTAM textbook is *Actuarial Mathematics for Life Contingent Risks*, 2<sup>nd</sup> ed (2013), by D.C.M. Dickson, M.R. Hardy, and H.R. Waters, Cambridge University Press. The course will cover its Chapters 8, 9, 10 and 12, and the LTAM study notes.

Below are some useful references.

- *Actuarial Mathematics*, 2<sup>nd</sup> edition, by N. L. Bowers, Jr., H. U. Gerber, J. C. Hickman (U Iowa MS 1952, PhD 1961), D. A. Jones (U Iowa MS 1956, PhD 1959), and C. J. Nesbitt, published by the Society of Actuaries in 1997.
- *Solutions Manual for Actuarial Mathematics for Life Contingent Risks*, 2<sup>nd</sup> edition, by D. C. M. Dickson, M. R. Hardy, and H. R. Waters, Cambridge University Press.
- *Life Insurance Mathematics*, 3<sup>rd</sup> edition, by H. U. Gerber (a book published by Springer for the Swiss Association of Actuaries). <http://link.springer.com/book/10.1007/978-3-662-03460-6>
- *Models for Quantifying Risk*, 6<sup>th</sup> edition, by S.J. Camilli, I. Duncan, and R. L. London, ACTEX Publications, and its *Solutions Manual*.
- *Life Contingencies*, 2<sup>nd</sup> edition, by C. W. Jordan, Jr., Society of Actuaries.
- *Fundamental of Actuarial Mathematics*, 3<sup>rd</sup> edition, by S. D. Promislow, Wiley.
- *Stochastic Models in Life Insurance* by Michael Koller (a book published by Springer for the European Actuarial Academy). Using a campus connection, you can download the entire book for free <http://link.springer.com/book/10.1007/978-3-642-28439-7>
- *Introduction to Insurance Mathematics: Technical and Financial Features of Risk Transfers* by Annamaria Olivieri and Ermanno Pitacco . You can download it for free from <https://link.springer.com/book/10.1007/978-3-642-16029-5>

There will be three two-hour evening exams, 6:30 to 8:30 PM, August 30 (Friday), September 27 (Friday), and October 23 (Wednesday), all in C107 PBB. **You are to use an official SOA calculator.**

Tentatively, the final grade (HW 10%; Exams 15% + 35% + 40%) will be assigned as follows:

Undergrads F[0, 40); D-[40, 45); D[45, 50); D+[50, 55); C-[55, 60); C[60, 65);

C+[65, 70); B-[70, 75); B[75, 80); B+[80, 85); A-[85, 90); A[90, 95); A+[95, 100]

Graduate students F[0, 46); D-[46, 50.5); D[50.5, 55); D+[55, 59.5); C-[59.5, 64); C[64, 68.5); C+[68.5, 73); B-[73, 77.5); B[77.5, 82); B+[82, 86.5); A-[86.5, 91); A[91, 95.5); A+[95.5, 100]

**Absences and Attendance** Students are responsible for attending class and for contributing to the learning environment of a course. Students are also responsible for knowing the absence policies for their courses, which will vary by instructor. All absence policies, however, must uphold the UI policy related to student illness, mandatory religious obligations, unavoidable circumstances, or University authorized activities (<https://clas.uiowa.edu/students/handbook/attendance-absences>). Students may use this absence form to communicate with instructors:

<https://clas.uiowa.edu/sites/default/files/ABSENCE%20EXPLANATION%20FORM2019.pdf>

**Academic Integrity** All undergraduates enrolled in courses offered by CLAS have, in essence, agreed to the College's Code of Academic Honesty. Misconduct is reported to the College, resulting in suspension or other sanctions, with sanctions communicated with the student through the UI email address (<https://clas.uiowa.edu/students/handbook/academic-fraud-honor-code>).

**Accommodations for Disabilities** UI is committed to an educational experience that is accessible to all students. A student may request academic accommodations for a disability (such as mental health, attention, learning, vision, and physical or health-related condition) by registering with Student Disability Services (SDS). The student is then responsible for discussing specific accommodations with the instructor. More information is at <https://sds.studentlife.uiowa.edu/>

**Administrative Home of the Course** The College of Liberal Arts and Sciences (CLAS) is the administrative home of this course and governs its add/drop deadlines, the second-grade-only option, and related policies. Other colleges may have different policies. CLAS policies may be found here: <https://clas.uiowa.edu/students/handbook>

**Communication and the Required Use of UI Email** Students are responsible for official correspondences sent to the UI email address (uiowa.edu) and must use this address for all communication within UI (Operations Manual, III.15.2).

**Complaints** Students with a complaint about a course should first visit with the instructor or course supervisor and then with the Chair of the department or program offering the course; students may next bring the issue to CLAS in 120 Schaeffer Hall. For more information, see <https://clas.uiowa.edu/students/handbook/student-rights-responsibilities>.

**Final Examination Policies** The final exam schedule is announced around the fifth week of classes; students are responsible for knowing the date, time, and place of a final exam. Students should not make travel plans until knowing this information. No exams of any kind are allowed the week before finals. Visit <https://registrar.uiowa.edu/final-examination-scheduling-policies>.

**Nondiscrimination in the Classroom** UI is committed to making the classroom a respectful and inclusive space for all people irrespective of their gender, sexual, racial, religious or other identities. Toward this goal, students are invited to optionally share their preferred names and pronouns with their instructors and classmates. The University of Iowa prohibits discrimination and harassment against individuals on the basis of race, class, gender, sexual orientation, national origin, and other identity categories set forth in the University's Human Rights policy. For more information, contact the Office of Equal Opportunity and Diversity ([diversity.uiowa.edu](http://diversity.uiowa.edu)).

**Sexual Harassment** Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community must uphold the UI mission and contribute to a safe environment that enhances learning. Incidents of sexual harassment must be reported immediately. For assistance, please see <https://osmrc.uiowa.edu/>