

ACTS: 6480 & 6580

Instructor:

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-  Office Hrs: MWF 1:30 - 2:30pm
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Department:

-  Statistics & Actuarial Science
-  SH 241
-  335-0712
-  Chair: Prof. Kung-Sik Chan
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Class Info:

-  MWF 8:30-10:20
-  LIB-3083; LIB-1022

Exams:

-  Mid-Term I: Friday, 28nd of Feb.
-  Mid-Term II: Friday, 10th of April
-  Final: Finals Week, date TBD

TA Info:

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Overview

The goal of this two course sequence is to gain a conceptual understanding and practical facility with the statistical/probabilistic techniques that form the syllabus for the SOA exam, Short Term Actuarial Mathematics (STAM). The learning outcome of this exam states: *The syllabus for Exam STAM provides an introduction to modeling and covers important actuarial methods that are useful in modeling. The candidate will be introduced to useful frequency and severity models, required to understand the steps involved in the modeling process including determining a suitable model, estimating parameters, and providing measures of confidence. Candidates will also be able to work with aggregate models, credibility models, and understand basic methods of pricing and reserving for short-term insurance coverages.*

This course sequence expects significant facility with self-learning new computational tools with some help from an online discussion platform. We will predominantly work within the R Software Environment.

Recommended Texts / Study Material

- Loss Models: From Data to Decisions, (Fourth Edition), 2012, by Klugman, S.A., Panjer, H.H. and Willmot, G.E., Wiley, ISBN: 978-1-118-31532-3
- Introduction to Ratemaking and Loss Reserving for Property and Casualty Insurance (Fourth Edition), 2015, by Brown and Lennox, ACTEX, ISBN: 978-1625424747
- SOA Study Notes: STAM 21-18, 23-18 and 24-18; 22-18 and 25-18 will not be covered in this course.

Grading Scheme

- 20% Homework: Assignments will be given to you by Friday of every week there is an assignment. They have to be returned by the beginning of Friday's class of the following week.
- 20% Groupwork: There will be groupwork that would be needed to be done in a timely manner. These will be an important part of this format.
- 60% Two Midterm Exams and a Final: 20% each

Undergraduate and graduate students will be treated as two separate groups when it comes to assigning final grades.

Learning Objectives

- Loss Models: Chapters 3, 4, 5, 8 and 15; Chapter 6 Sections 6.5, 6.6; Chapter 9, Sections 9.1 - 9.7 (excluding 9.6.1), Sections 9.8.1, 9.8.2; Chapter 13, Sections 13.2, 13.3, 13.4; Chapter 14, Sections 14.1, 14.2, 14.3, 14.4, 14.6; Chapter 16 (excluding 16.4.2 and 16.5.3) & STAM 21-18
- Intro. to Rate Making and Loss Reserving: Chapters 2 through 5; STAM 24-18
- Credibility: STAM 23-18
- Significant amount of time will be spent on learning to do Stochastic Simulation

College of Liberal Arts and Sciences Information and Policies for Undergraduates

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).

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/>.