

Actuarial Mathematics II

STAT 4660

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| Lectures: | 2:35 PM - 3:55 PM Wed, Fri Southam Hall 404 |
| Instructor: | Dr. Yunran Wei, yunran.wei@carleton.ca |
| Office hours: | TBA |

Prerequisite: STAT 2655

Suggested prerequisites/corequisites: STAT 3660

1 Course Website

Brightspace: brightspace.carleton.ca. I will upload notes for each class to Brightspace. You are expected to regularly read your Carleton email and visit the course website on Brightspace for announcements and updated materials.

2 Objectives

We study topics on actuarial methods: credibility theory, empirical models, bayesian analysis, inference for loss models, and model selection. The detailed schedule is listed in the course outline. We partially cover the learning outcomes regarding exam STAM of the Society of Actuaries.

3 Optional Textbook

The primary reference will be the in-class lecture notes.

- *Loss Models*, fifth edition, by Klugman, S.A., Panjer, H.H., and Willmot, G.E. (An electronic copy is available online: https://ocul-crl.primo.exlibrisgroup.com/permalink/010CUL_CRL/1gorbd6/alma991022767182005153)

4 Course Evaluation Breakdown

- Two midterms 50% (60% highest + 40% lowest);
- Final exam 50%.

Practice problems and their solutions will be posted. Exam questions will be very similar to the practice problems.

5 Exams

Exam 1: October 19th, 2:35 PM - 3:55 PM

Exam 2: November 23rd, 2:35 PM - 3:55 PM

Final exam will be held in the last class.

Final: TBA

All exams will be delivered in-class.

6 Tentative Schedule

This schedule is subject to change.

| Lectures | Topics | Textbook coverage |
|--------------|--------------------------------------|-------------------|
| Week 1 - 2 | Statistical concepts | Chapters 5, 10 |
| Week 3 - 6 | Credibility theory | Chapter 16, 17 |
| Week 7 - 9 | Empirical Bayes parameter estimation | Chapters 13, 18 |
| Week 8 | Fall break | |
| Week 10 - 12 | Parameter estimation for loss models | Chapter 11, 12 |
| Week 13 - 14 | Model selection | Chapter 15 |

7 Statement of Accessibility for Course Outline

“The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). Requests made within two weeks will be reviewed on a case-by-case basis. After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website (www.carleton.ca/pmc) for the deadline to request accommodations for the formally-scheduled exam (if applicable). ”

Please contact me privately as soon as possible so we can discuss your accommodations.

8 Academic Integrity

Please see: <https://carleton.ca/registrar/academic-integrity/> for policies on academic integrity.

9 Copyright Statement

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