

# Actuarial Mathematics II

## STAT 4660

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<b>Lectures:</b>	8:35 AM - 9:55 AM Mon, Wed Southam Hall 502
<b>Instructor:</b>	Dr. Yunran Wei, <a href="mailto:yunran.wei@carleton.ca">yunran.wei@carleton.ca</a>
<b>Office hours:</b>	TBA

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Prerequisite: STAT 2655

Suggested prerequisites/corequisites: STAT 3660

### 1 Course Website

Brightspace: [brightspace.carleton.ca](https://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](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 18th, 8:35 AM - 9:55 AM

Exam 2: November 24th, 8:35 AM - 9:55 AM

Two exams will be delivered inclass.

## 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

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

## 8 Academic Integrity

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## 9 Copyright Statement

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