

**MATH 442/542**  
**ACTUARIAL MODEL CONSTRUCTION (4 units)**

**Course Outline**

<b>Chapter</b>	<b>Topics</b>	<b># of Weeks</b>
Chapter 3	Basic distributional quantities	1.0
Chapter 4-7	Review of actuarial models	2.0
Chapter 8	Frequency and severity with coverage modifications	1.5
Chapter 9	Aggregate loss models (9.1-9.7)	1.5
Chapter 10	Discrete-time ruin models	1.5
Chapter 13	Estimation for complete data	1.0
Chapter 14	Estimation for modified data	1.0
Chapter 15	Parameter estimation	1.5
Chapter 16	Model selection	1.0
Chapter 20	Introduction to Credibility Theory	1.0
Tests		1.0

**Textbook:** Loss Models: From Data to Decisions, 3<sup>rd</sup> Edition, 2008, by Klugman, S.A., Panjer, H.H. and Willmot, G.E.

**Requirements:** Students need to read the textbook and finish assignment. Graduate students need to complete an additional project on a selected topic.

**Note:** The course covers Construction and Evaluation of Actuarial Models in SOA exam C. The SOA syllabus may change over time. The instruction needs to follow any updates to the syllabus.

Adopted: Fall 2009