



Actuarial Science 537

Credibility Theory

(see Course Descriptions for the applicable academic year: <http://www.ucalgary.ca/pubs/calendar/>)

Reference Text: “Loss Models,” by Klugman, Panjer, and Willmot, fourth edition, 2012.
And Chapter 6 of Modern Actuarial Risk Theory using R by Kaas et al. (second edition) 2008.

Syllabus

Topics

Chapter 6 (second text): Bonus-malus systems

Chapter 17: Introduction and Limited Fluctuation Credibility

Chapter 18: Greatest accuracy credibility

Chapter 19: Empirical parameter estimation

It is intended that this course should cover a portion of the syllabus for that part of the professional actuarial examination concerned with the Construction and Evaluation of Actuarial Models. Currently, this corresponds to most of the material listed above from Chapters 17-19 is on the syllabus for the Society of Actuaries Exam C. This course syllabus should be updated as needed, with this objective in mind.

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16:08:10
JM

Course outcomes

By the end of this course, students will be able to:

1. Calculate present values of annuities and insurances on independent and dependent multiple lives.
2. Calculate present values and cash flows of Universal insurances and participating insurances.

3. Describe and compare defined benefits plans and defined contribution plans.
4. Identify and interpret the common states and decrements for pension plans, and the parametric and tabular models, including Markov chain models, associated with these decrements.
5. Calculate and interpret the actuarial accrued liability and the normal cost for defined benefit plans under projected unit credit (PUC) and traditional unit credit (TUC) funding.
6. Calculate the impact of changing mortality, expenses and investment assumptions for all the products that was discussed in the course.

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08:15:17 (course outcomes added)
RS