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Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities 778-782-3112 or [csdo@sfu.ca](mailto:csdo@sfu.ca)

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Instructor: [Dr. Yi Lu](#)

**Prerequisite:**

ACMA 335

**Recommended Text:**

- § *Loss Models*, 2<sup>nd</sup> Edition, 1990, by S.A. Klugman, H.H. Panjer and G.E. Willmot; Publisher: Wiley.
- § *An introduction to Mathematical Risk Theory*, 1979, by H.U. Gerber; Publisher: S.S. Huebner Foundation for Insurance, U. of Pennsylvania.
- § *Modern Actuarial Risk Theory*, 2001, by R. Kaas, M. Goovaerts, J. Dhaene and M. Denuit; Publisher: Kluwer Academic Publishers.
- § *A Course in Credibility Theory and its Application*, 2005, by Hans Bühlmann and Alois Gisler; Publisher: Springer.

**Calendar Description:**

Advanced non-life insurance mathematics. Individual risk models, collective risk models, ruin models. Actuarial reserve models: Bonus-malus system, IBNR

1. Some topics on individual risk models and collective risk models.
2. Classical risk process and ruin theory.
3. Some practical methods: Bonus-malus system, IBNR techniques.
4. Topics on generalized linear models (GLM) with applications in actuarial statistics.

**Grading Scheme:**

Assignments: 10%

Midterm Test: 40%

Presentation and Summary: 20% (Presentation: 15%, Summary: 5%)

Term-Project: 30%

***Grading is subject to change.***

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***Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Scholarly integrity is required of all members of the University. Please consult the General Guidelines of the calendar for more details.***

Revised June 2008