Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities 604-291-3112 or csdo@sfu.ca

Instructor: Dr. Yi Lu

Prerequisite:

ACMA 335

Recommended Text:

- *Loss Models,* 2nd 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 techniques. Generalized linear models in Actuarial Science.

Outline:

The main objective of this course is to review advanced actuarial models in non-life insurance and to introduce some methods which are relevant for actuarial practice. The topics covered by this course are the following:

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%

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.