

# Actuarial Science 9005a

Advanced Risk Theory  
Fall 2008

Department of Statistical and Actuarial Sciences  
University of Western Ontario

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**Office Hours:** Monday 3:00–4:00pm, Wednesday 2:00 - 3:00 pm, Friday 11:00am –12:00pm

**Lectures:** Monday 1:30 - 3:00 pm and Wednesday 3:00–4:30pm in WSC 263

## **Description:**

In this course, we will first provide students with an understanding of distributions and methods for modelling insurance losses, then we will introduce basic utility theory and discuss some principles of insurance premium calculation. After that, we will study compound poisson risk process and insurance ruin theory in great detail.

## **References:**

*Loss Models: From Data to Decisions*, S. A. Klugman, et al., (John Wiley Sons);

*Actuarial Mathematics*, Bowers, et al., 2nd Edition, 1997, (The Society of Actuaries)

*An Introduction to mathematical Risk Theory*, H. Gerber, Huebner Foundation Monograph, University of Pennsylvania

**Evaluation:** Students will be evaluated on the basis of one midterm test, one project and one final examination. The final mark will be based on a weight of 20 % for the project, 20 % for the midterm test, and 60% for the final exam.

In order to get full credit or maximize partial credit on questions, you must clearly outline your approach in either verbal or mathematical form, showing calculations when necessary.

**Project:** Each student is asked to study a related topic in detail and give a 25 minute presentation in class.

**Tests:** One 50-minute tests will be given on October 10th.

**Missed Tests:** The recommended departmental standard for this course is that there will be no make-up test. For those that legitimately miss a test and provide the required supporting documentation, the standard practice will be that the weight of the test will be reassigned to the final exam.