Math 417B Loss Models II   Winter 2010

MWF 12:00 – 12:50   Bouillon 210

Instructor: Cen-Tsong Lin

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Office Hours: 10:00 – 11:00 AM Monday – Friday or by appointment

Prerequisite: Math417A

Course description:

The students will be introduced to useful frequency and severity models. They will understand the steps involved in the modeling process and how to carry out these steps in solving business problems. The students should be able to:

(i) analyze data from an application in a business context;
(ii) determine a suitable model including parameter values; and
(iii) provide measures of confidence for decisions based upon the model.

The students will be introduced to a variety of tools for the calibration and evaluation of the models.

Learning outcomes:

After taking this sequence, the students are expected to be familiar with survival, severity, frequency and aggregate probability models, and use statistical methods to estimate parameters of such models given sample data. The students are further expected to identify steps in the modeling process, understand the underlying assumptions implicit in each family of models, recognize which assumptions are applicable in a given business application, and appropriately adjust the models for impact of insurance coverage modifications.

Required Text: Klugman, Panjer and Willmot, *Loss Models: From Data to Decisions*, 3rd Edition, Wiley 2008

Course outlines:

- Aggregate loss models (chapter 9)
- Review of mathematical statistics (chapter 12)
- Estimation for complete data (chapter 13)
- Estimation for modified data (chapter 14)
- Parameter estimation (chapter 15)

Grading Policy

Three tests: (Fridays) 1/22, 2/13 and 3/5	60%
Homework assignments	15%
Final exam (Friday) 3/19/2010, 12:00 – 2:00PM	25%
Total	100%

Note: Homework assignments will be assigned daily throughout the quarter; these assignments are due one week after they are assigned.