ACMA 315-3E
CREDIBILITY THEORY & LOSS DISTRIBUTIONS

Spring 2003
EVENING COURSE

Instructor: KEN COLLINS (SSC K 10543)

Prerequisites:

STAT 280 must precede or be taken concurrently.

Textbook:

Loss Models: From Data to Decisions by S.A. Klugman, H.H. Panjerand G.E. Willmot; publisher: Wiley

References:

ACTEX Manual for Course 4, 2000 see website: www.actexmadriver.com/SMdesc.htm#4

Calendar Description:

Statistical distributions useful in general insurance. Inferences from general insurance data. Experience rating. Credibility theory: full credibility, partial credibility, Bayesian credibility. Estimation of loss distributions. Modelling loss distributions: ungrouped data, truncated and shifted data, clustering. Applications: inflation. This course covers part of the syllabus of the Society of Actuaries Course 3 and 4 examinations.

Outline:

This course studies reasonable and usable approximations to the distribution of incurred losses for insured events. It also introduces the subject of Credibility Theory. The topics covered include:

Loss Distributions:
    Statistical Inference
    Modeling Loss Distributions
    Applications: Inflation, Percentile Estimation

Credibility Theory:
    Full Credibility
    Partial Credibility
    Bayesian Credibility: parametric, non-parametric
    Buhlmann-Straub Model

Grading:

      Assignments - 10%
      Midterm I - 20%
      Midterm II - 20%
      Final - 50%

Weekly assignments are to be handed in at the beginning of class every Thursday.
NOTE: In order to pass this course, you must pass the **FINALEXAM**

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.

Revised October 2002