ACMA 425-3
ACTUARIAL MATHEMATICS II

FALL 2001
DAY COURSE

Instructor: Ken Collins

Prerequisite:

ACMA 320

Required Text:

Actuarial Mathematics (2nd ed 1997) by Bowers, Gerber, et al.; Publishers: Mad River Books (Division of ACTEX Publishing)

References:

- *Life Insurance Mathematics* by Gerber, publishers: Springer-Verlag
- *The Mathematics of Life Insurance* by Menge and Fisher; publishers: Ulrich's
- *Life Contingencies* by C.W. Jordan; publishers: Society of Actuaries

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Course Description:

This course, a continuation of ACMA 320, covers the fundamentals of Actuarial Mathematics.

Outline:

The topics covered correspond to those of the syllabus of exam 150 of the Society of Actuaries and they include:

- **Reserves:**
  Continuous, Discrete, Recursive formulas, Fractional durations, Allocation of Loss to Policy Years (Revision).

- **Multiple Life Functions:**
  Joint Life, Last Survivor.

- **Multiple Decrement Models:**
  Random and Deterministic Survivorship groups, Associated single decrement.

- **Introduction to Valuation Theory for Pension Plans:**
  Contributions, Benefits.

- **Models including Expenses:**
  Types of Expenses, Per Policy Expenses, Accounting, Modified Reserves (FPT, Canadian Standard)

- **Nonforfeiture Benefits and Dividends:**
  Cash Value, Insurance Options, Asset Shares, Dividends.

Tentative Grading:

Assignments: 10%
Midterm: 20%
Project: 10%
Final: 60%

The grading will be announced at the beginning of the semester as there has been no instructor assigned at this time.

Students should be aware that they have certain rights to confidentiality concerning the returns 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 July 2001