DEPARTMENT
Risk Management, Insurance & Actuarial Science

COURSE NAME
Life Contingencies (II)

COURSE NUMBER
ACT 4346

COURSE DESCRIPTION
This is the second and final course in Life Contingencies. After a review of Life Contingencies I, the concept of benefit reserve is analyzed. This followed by a detailed analysis of fundamental actuarial concepts broadened to include Multiple Life Function and Multiple Decrement.

PREREQUISITE
ACT 3335

CREDIT
3 credit hours

OBJECTIVES OF THIS COURSE
Upon completion of this course, students are expected to understand the mathematics behind a number of important actuarial tools in life insurance, including premiums, reserving and policy evaluation. This course together with ACT 3335 prepares students towards the MLC examination.

TOPICAL MODULES
I. Review of premium calculation (1 week)

II. Policy value (3 weeks)
   i. Policy value
   ii. Reserve

III. Multiple State Models (2-3 weeks)
   i. Multiple decrement models
IV. Pension mathematics (3 weeks)
   i. Pension mathematics
   ii. Interest rate risk

V. Emerging Costs for Traditional Life Insurance (2 weeks)

METHODS OF INSTRUCTION

Lectures, discussions, and exercises.

SUGGESTED STUDENT PERFORMANCE EVALUATION

ASSESSMENT

Student performance will be assessed on homework, quizzes, midterm exams and final cumulative exam.

All examinations and quizzes are closed book and closed notes. SOA-approved electronic calculators may be used in all exams and quizzes.

TEXT BOOK

<table>
<thead>
<tr>
<th>Title</th>
<th>Actuarial Mathematics for Life Contingent Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors</td>
<td>Dickson, David C.M., M.R. Hardy and H.R. Waters</td>
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<tr>
<td>Publisher</td>
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<td>2012, 2nd edition</td>
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