Stat 486 Life contingencies II
Fall 2016
TTh 3:30pm - 4:45pm
Room: DuSable 140
Credit hours: 3

Instructor: Lei (Larry) Hua
Office: DuSable 361C
Office Hours: TTh 2:00pm - 3:00pm, or by appt.
Email: Lhua@niu.edu

GA: Tatiana Dmitrieva
Email: tdmitrieva1@niu.edu
Office Hour: to be announced by GA

1. Required textbook
   • Models for Quantifying Risk (5 or 6th Edition), RJ Cunningham, TN Herzog, and RL London, ACTEX

2. Reference book

3. Course description and other resources
   • The Blackboard (https://webcourses.niu.edu/) will be used to make announcements and post supplementary materials.
   • This course (and Stat 485) aims to prepare students for the SOA MLC exam. Syllabus, study materials, and other important information of the MLC exam can be found in the following website: http://www.soa.org/education/exam-req/edu-exam-m-detail.aspx
   • The topics covered in this course (and Stat 485) are also relevant to CAS Exam LC. From the current syllabus of CAS Exam LC, “The CAS will grant credit for CAS Exam LC to those who successfully complete SOA Exam MLC (Models for Life Contingencies) in the current education structure.” For details about CAS Exam LC, please see the following website: http://www.casact.org/admissions/syllabus/index.cfm?fa=LCsyllabi&parentID=332

4. Approved calculators
   • The following calculators are the approved ones for SOA exams: BA-35; BA II Plus; BA II Plus Professional; TI-30Xa; TI-30X II (IIS solar or IIB battery); TI-30XS MultiView (or XB battery).
   • You are expected to use one of these calculators for assignments, quizzes and exams; no any other calculators are allowed in the midterm and final exams.

5. Exams / quizzes / assignments
   • The following is the schedule for the exams. The schedule cannot be changed, and alternate exam times will not be offered, so please resolve any conflicts now! Make-up exams will not be given. If there is a serious health problem that prevents you from taking an exam or if there is a death in the immediate family, contact the instructor as soon as possible. The topics to be covered in the midterms will be announced in advance. The final exam will cover the topics of the whole course.

<table>
<thead>
<tr>
<th>Item</th>
<th>Date</th>
<th>Room</th>
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</thead>
<tbody>
<tr>
<td>Midterm #1</td>
<td>Oct 4 (in class)</td>
<td>DU 140</td>
</tr>
<tr>
<td>Midterm #2</td>
<td>Nov 8 (in class)</td>
<td>DU 140</td>
</tr>
<tr>
<td>Final</td>
<td>Dec 6 (4:00pm - 5:50pm)</td>
<td>DU 140</td>
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There could be a pop quiz during each lecture, and all quizzes will be graded and the marks of the quizzes will also contribute to the final grade.

There will be assignments. You are encouraged to study in groups for the assignments, but each student should submit his or her own homework and cannot copy others’.

All exams will be closed book tests. You are expected to do self-evaluation through solving problems in assignments and quizzes. Some questions for assignments and quizzes will also appear in the exams with slight modifications.

6. Course philosophy
   - The lectures aim at motivating and explaining key concepts of the second half part of the learning objectives that are listed in the syllabus of recent professional actuarial exams: SOA MLC. However, only understanding the concepts and being able to solve problems without a time frame is not sufficient for achieving success in this course. You are expected to do lots of practice problems after class, and to be able to solve problems accurately and quickly, which is also critical for your future success in professional actuarial exams.

7. Intended learning outcomes
   - Essential skills for solving problems of professional actuarial exams (second half part of the learning objectives of SOA MLC; see Bullet 2 for information about CAS Exam LC)
   - Preparedness for further learning in actuarial science (eg, Pension mathematics)

8. Student assessment
   - There are 1000 possible points distributed as follows:

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<table>
<thead>
<tr>
<th>Item</th>
<th>% of final grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Midterm #1</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>Midterm #2</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>Final</td>
<td>30</td>
<td>300</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>1000</td>
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- The following scale gives the lowest grade you can earn:

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<tbody>
<tr>
<td>[850, 900]</td>
<td>A-</td>
<td>[650, 700]</td>
<td>C+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[800, 850]</td>
<td>B+</td>
<td>[600, 650]</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[750, 800]</td>
<td>B</td>
<td>[550, 600]</td>
<td>D</td>
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9. Proposed Course Schedule

<table>
<thead>
<tr>
<th>Number of lectures (75 mins each)</th>
<th>Chapters</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Review Stat 485, Life Contingencies I</td>
</tr>
<tr>
<td>8</td>
<td>Reserves – Ch 10/11</td>
</tr>
<tr>
<td>7</td>
<td>Multiple lives models – Ch 12</td>
</tr>
<tr>
<td>6</td>
<td>Multiple decrement models – Ch 13/14</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to universal life insurance – Ch 11/16</td>
</tr>
<tr>
<td></td>
<td>25 Total</td>
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</tbody>
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10. Course Regulation
   - Please read carefully the Academic Integrity, Attendance Policies and Accessibility Statements at http://www.niu.edu/stat/courses/pdfs/Accessibility_Statement.pdf
   - Your full compliance with the updated policies in this document is required in this class.
   - The instructor reserves the right to amend the syllabus at any time. Changes, if any, will be announced in the class or in the Blackboard.