Introduction: This course is designed to help students as they prepare to take the C/4 exam under the 2014 learning syllabus established by the Society of Actuaries. This course covers topics in: Severity, frequency, and aggregate models. Construction of empirical models. Parametric statistical methods. Credibility analysis. Simulation methods.

Please click on the following links for more information on MLC exam requirements from the SOA:

- **Exam C: Construction and Evaluation of Actuarial Models - Main Page**
- **Exam C Sample Questions**
- **Exam C Sample Solutions**

**SUPPLEMENTARY NOTES FOR TOPICS IN CREDIBILITY**

1 Course Content

As stated in the introduction, this course will serve as an introduction to Loss Modeling for Actuaries. We will cover Chapters 3, 4, 5, 6, 8 of the text, and then cover portions of Chapters 9 – 16 and 20. There will be a take-home final to be submitted during the final exam period.
2 Conduct of the course

There will be three (3) quizzes, two (2) semester tests, and one (1) take-home final exam. Homework will be assigned, but not graded. Material for the quizzes and semester exams will be inspired from the homework.

The standards of academic honesty as stated in the Student Handbook will be strictly enforced. Please feel free to collaborate with others on homework; this is the best way to learn. However, write up solutions as your own - do not copy the work of others. You should be able to understand and replicate all that you have written as homework.

Some students qualify for special accommodations such as extra time on tests. Please present documentation supporting such a request as soon as possible, and certainly before the first test. I will try to assist with reasonable requests. The grading scheme below has been designed to allow both you and I the greatest flexibility in dealing with missed tests. No make-up tests or quizzes will be provided, but as you will see below, the grading scheme is designed to allow for a missed test or a "bad day at the office":

3 Religious Observance Guidelines

From the Office of the Provost:

It bears remembering that it has always been the policy of the University to permit students and faculty/academic staff to observe those holidays set aside by their chosen religious faith. Faculty and staff should be sensitive to the observance of these holidays so that students who absent themselves from class on these days are not disadvantaged. It is the responsibility of those students who wish to be absent to make arrangements in advance with their instructors. Without another simple and dignified way to determine the validity of individual claims, the claim of a religious conflict should be accepted at face value. Please consider the ways in which these planned absences can be fairly and respectfully accommodated. As an institution, we are committed to the value of inclusion, and so our practices must conform to our commitments. I am confident that working together we can continue to build an environment that supports and fosters diversity and inclusiveness.


4 Evaluation

Your course average will be calculated as follows: Each semester test will consist of questions to be answered during a 80 minute class. Each quiz will consist of questions to be answered during a 30 minute portion of class. All in-class exams and quizzes will be multiple choice. The take-home final exam will have written and computational
5 SUGGESTIONS TO THE STUDENT

components.

Highest TWO (2) quizzes: 30%
Highest Semester Exam: 40%
Lowest Semester Exam: 10%
Take Home Exam: 20%

The QPA cutoffs are

QPA of 4.0: 90 pts
QPA of 3.5: 85 pts
QPA of 3.0: 80 pts
QPA of 2.5: 75 pts
QPA of 2.0: 70 pts
QPA of 1.5: 65 pts
QPA of 1.0: 60 pts.

These cutoffs are guarantees. I may choose to lower some of these cutoffs slightly, but they will not be increased. Thus, it is theoretically possible for all students to earn a 4.0. Note that although problems from the text will be assigned, they will not be collected.

Finally, attendance on non-exam and non-quiz class days is not mandatory, but it is has been my experience that attendance is key to passing actuarial courses. Certainly, the material is quite dense at times, and it is my job to help you work through both ideas and details in class. Please note that Quizzes will be announced a week in advance. Again, there are no make-ups for quizzes, so please keep up with announcements.

5 Suggestions to the student

If you want extra help, I will be happy to talk with you. My office location, telephone extension, and e-mail address are listed above. I will be happy to schedule a time to talk outside of class.

You should also find each other to be valuable resources. Working together is encouraged. Much work in mathematics and science rewards a collaborative approach – indeed, evidence suggests that working together enhances learning. Just be certain that when a problem has been solved, every one understands and writes up his or her own solution. Explaining to others can help your own learning. In other words, I suggest that you are joining a community, and should care about your fellow students. Do not permit friends to neglect their work and do poorly. The educational model most likely to lead to success is a caring and supportive one, not a highly competitive one.

Use your time effectively. This is a class that will serve you the rest of your career, whether it is in Actuarial Science, Economics, or Finance. The concepts learned here will most certainly apply to your personal financial life as well, whether you buy a house via a mortgage or plan
your retirement via an annuity. It is also a labor-intensive class that will require your attention and time. Use of this time can be enhanced by:

**Effective notetaking.** Think in class, don’t just take notes. It helps to go over your notes after class to identify what is important. Leave room to add details later.

**Reading ahead.** Lectures are important, but certainly do not cover everything and can include only a sample of examples. You need to read the text. The schedule indicates sections to be covered, and you should read them before class. Try to work out suggested problems and fill in missing steps as you read. Formulate questions before coming to class.

**Consistent effort.** Do not put off review and study until test time! Distributing your effort is more effective than cramming just before a test.

**Doing problems.** Do more problems than are suggested. Write your solutions neatly so that they are useful for review later.

If this seems like a good bit of work, that’s because it is. In the words of Michael Jordan:

“If you do the work, you get rewarded. There are no shortcuts in life.”

# Important Dates

Dates for all tests will be indicated in class and posted below. The QPA requirements above are designed to suggest that one missed or poorly written exam is not the end of the world. Please find below important dates from the University and Registrar’s Office as well as in class exam dates:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td><strong>Monday 01/12/2015</strong></td>
<td>Classes Begin. Students should go to regularly scheduled Monday classes on the first day.</td>
</tr>
<tr>
<td><strong>Friday 01/16/2015</strong></td>
<td>Online open add period for Spring semester ends at 8pm.</td>
</tr>
<tr>
<td><strong>Monday 01/19/2015</strong></td>
<td>Martin Luther King, Jr. Day. No classes are held. The University is open.</td>
</tr>
<tr>
<td><strong>Monday 01/19/2015 to Friday 01/23/2015</strong></td>
<td>Students go to Undergraduate office, C413 Wells Hall for Statistics enrollment changes. (late adds, drop to lower course, section changes)</td>
</tr>
<tr>
<td><strong>Wednesday 01/28/2015</strong></td>
<td>Quiz 1.</td>
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<tr>
<td><strong>Friday 02/06/2015</strong></td>
<td>End of Tuition Refund.</td>
</tr>
<tr>
<td><strong>Wednesday 02/25/2015</strong></td>
<td>Exam 1.</td>
</tr>
<tr>
<td><strong>Wednesday 03/04/2015</strong></td>
<td>Middle of Semester.</td>
</tr>
<tr>
<td><strong>Monday 03/09/2014 to Friday 03/13/2014</strong></td>
<td>Spring Break (no classes.) The University is open.</td>
</tr>
<tr>
<td><strong>Wednesday 03/25/2015</strong></td>
<td>Quiz 2.</td>
</tr>
<tr>
<td><strong>Wednesday 04/01/2015</strong></td>
<td>Exam 2.</td>
</tr>
<tr>
<td><strong>Wednesday 04/22/2015</strong></td>
<td>Quiz 3.</td>
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<tr>
<td><strong>Friday 05/01/2015</strong></td>
<td>Last day of classes.</td>
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<tr>
<td><strong>Thursday 05/07/2015</strong></td>
<td>Final Exam Meeting Period: 3:00-5:00 p.m. (A324 Hall ).</td>
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