Regular Session __X___

Summer Session _____

**General Information**

- Department of Warren Centre for Actuarial Studies and Research
- Course Title Actuarial Modeling Methods 1
- Course Number ACT 4140
- Class time and location 11:30am – 12:45pm MW, Drake Centre 108
- Instructor Xuemiao (Samuel) Hao
- Office Location 680 Drake Centre
- Office Telephone 474-8710
- E-mail xuemiao.hao@ad.umanitoba.ca
- Office Hours 10:30-11:30am MW or by appointment

**Course Information**

- **Objectives and Content**

  This course is on construction and evaluation of actuarial models. In this course, students will be introduced to useful frequency and severity models, understand the steps involved in the modeling process, and carry out these steps in solving business problems. This course, together with the subsequent course ACT 4340, covers all the learning objectives of actuarial Exam C/4 by the Society of Actuaries (SoA) and Casualty Actuarial Society (CAS).

- **Required Textbook**

- **Course Materials**
  - Copies of the textbook are available in the management library on a reserve basis. Updated study manuals are also available in the library and you are strongly encouraged to take advantage of them.
  - Past Exam C questions and solutions can be found at SoA’s website: [http://www.soa.org/education/exam-req/syllabus-study-materials/edu-multiple-choice-exam.aspx](http://www.soa.org/education/exam-req/syllabus-study-materials/edu-multiple-choice-exam.aspx)

- **Tentative Outline of Topics to be Covered**
  - *Loss Models* Chapter 3: Basic distributional quantities
  - *Loss Models* Chapter 4: Characteristics of actuarial models
  - *Loss Models* Chapter 5 [excluding 5.3.4]: Continuous models
  - *Loss Models* Chapter 6: Discrete distributions
  - *Loss Models* Chapter 8: Frequency and severity with coverage modifications
  - *Loss Models* Chapter 9 [excluding 9.6.1 and 9.8.3]: Aggregate loss models
  - *Loss Models* Chapter 10: Review of mathematical statistics
  - *Loss Models* Chapter 11: Estimation for complete data
  - *Loss Models* Chapter 12 [excluding 12.4]: Estimation for modified data
  - Section 14.4 from *Loss Models* (3rd edition)

### Method(s) of Evaluation

- **Evaluation**
  - Homework assignments: 15%
  - Mid-term exam: 35%
  - Final exam: 40%
  - Class participation: 10%

- **Some Policies**
  - If you have to miss a class with a legitimate reason and let me know before the class begins, I will not include that class in calculation of your participation mark. Otherwise, I will give you a zero participation mark for the missed class.
  - You are supposed to hand in your homework assignments on due dates. If you hand in your assignment one day late, you will receive 10% off as penalty, two days late 20% off, and so on.
  - Please inform me in advance if you have to miss the mid-term. I have to see the document showing the reason why you have to miss the mid-term. Then I would arrange a makeup exam for you within the following week. You will receive 10% off as penalty to take the mid-term late. No makeup exam is available after one week from the original mid-term date.
• There is no makeup for the final exam.

• If there is any error or unfairness on marking your exams or assignments, bring your papers to me within 3 working days for possible re-grading.

• The tentative Grading Scale for this course is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90%-100%</td>
</tr>
<tr>
<td>A</td>
<td>85%-89.9%</td>
</tr>
<tr>
<td>B+</td>
<td>75%-84.9%</td>
</tr>
<tr>
<td>B</td>
<td>70%-74.9%</td>
</tr>
<tr>
<td>C+</td>
<td>65%-69.9%</td>
</tr>
<tr>
<td>C</td>
<td>60%-64.9%</td>
</tr>
<tr>
<td>D</td>
<td>50%-59.9%</td>
</tr>
<tr>
<td>F</td>
<td>0%-49.9%</td>
</tr>
</tbody>
</table>

Academic Integrity

It is critical to the reputation of the I. H. Asper School of Business and of our degrees that everyone associated with our faculty behaves with the highest academic integrity. As the faculty that helps create business and government leaders, we have a special obligation to ensure that our ethical standards are beyond reproach. Any dishonesty in our academic transactions violates this trust. Page 28 of the University of Manitoba General Calendar addresses the issue of academic dishonesty under the heading "Plagiarism and Cheating". Specifically, acts of academic dishonesty include, but are not limited to:

• using the exact words of a published or unpublished author without quotation marks and without referencing the source of these words
• duplicating a table, graph or diagram, in whole or in part, without referencing the source
• paraphrasing the conceptual framework, research design, interpretation, or any other ideas of another person, whether written or verbal (e.g., personal communications, ideas from a verbal presentation) without referencing the source
• copying the answers of another student in any test, examination, or take-home assignment
• providing answers to another student in any test, examination, or take-home assignment
• taking any unauthorized materials into an examination or term test (e.g., crib notes)
• using any unauthorized materials in an examination or term test (e.g., crib notes)
• impersonating another student or allowing another person to impersonate oneself for the purpose of submitting academic work or writing any test or examination
• stealing or mutilating library materials
• accessing tests prior to the time and date of the sitting
• changing name or answer(s) on a test after that test has been graded and returned
• submitting the same paper or portions thereof for more than one assignment, without discussions with the instructors involved.

Group Projects and Group Work

Many courses in the I. H. Asper School of Business require group projects. Students should be aware that group projects are subject to the same rules regarding academic dishonesty. Should a violation occur, group members are jointly accountable unless the violation can be attributed to a specific individual(s).

Some courses, while not requiring group projects, encourage students to work together in groups (or at least do not prohibit it) before submitting individual assignments. Students are encouraged to discuss this issue as it relates to academic integrity with their instructor to avoid violating this policy.
In the I. H. Asper School of Business all suspected cases of academic dishonesty are passed to the Dean's office in order to ensure consistency of treatment.