Instructor: Dr. Ionica Cojocaru, Office: LB 901.20 (SGW), Phone: 848-2424, Ext. 3248
Email: ionica.groparu-cojocaru@concordia.ca

Office Hours: Mondays-Wednesdays: 16:15–17:45 in LB 541-5 (SGW).

Schedule: Mondays -Wednesdays, 14:45-16:00 in H-603, SGW Campus.

Goal: The problem of fitting probability distributions to loss data is studied. In practice, heavy tailed distributions are used (i.e. skewed to the right) which require some special inferential methods. The problems of point and interval estimation, test of hypotheses and goodness of fit are studied in detail under a variety of inferential procedures (empirical, maximum likelihood and minimum distance) and of sampling designs (individual/grouped data, truncation and censoring). Loss data sets serve as illustration of the methods.

A reasonable understanding of undergraduate mathematical statistics is the only prerequisite for the course. The statistical package S-Plus or the (shareware) statistical software R or the spreadsheet EXCEL application will be used for data analysis.

The course prepares for the Loss Models part of the Society of Actuaries Exam C and the Casualty Actuarial Society Exam 4. It also covers more advanced material, as needed to use modern loss models with real insurance data. A grade of B or better is needed to apply to the Canadian Institute of Actuaries for exemption of Exam C.


Calculators: The only calculators allowed in exams for this course are the ones approved by the Math Department or the battery- or solar-powered Texas Instrument calculators, models BA-II Plus*, BA-II Plus, TI-30X, TI-30Xa (the official CAS calculator) or TI-30X II*.

Assignments: There will be no assignment, the evaluation is based on three tests and the modeling project (oral and report).

Tests and Project:

<table>
<thead>
<tr>
<th>Test</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1:</td>
<td>5</td>
</tr>
<tr>
<td>Test 2:</td>
<td>9</td>
</tr>
<tr>
<td>Test 3:</td>
<td>12</td>
</tr>
<tr>
<td>Project Orals and Reports:</td>
<td>13-15</td>
</tr>
</tbody>
</table>

Final Grade: The final grade will be determined as follows:

a) Tests: 80% (25-25-30)

b) Project Oral: 5%

c) Project Report: 15%