Introduction to R & GLM

ACT471-H1F – Topics in Casualty Actuarial Science
Fall 2019 University of Toronto

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Syllabi

- Course will be split into two parts (5 lectures each)
  1. Big (…er) idea in modelling will be introduced (50%)
     1. Current happening in the world of insurance
     2. How to use the workhorse that a GLM is for predictive analysis
     3. What type of mistake can happen that we should be worried about.
     4. Evaluation will be a two part project, 15% due in 3 weeks, 35% due end of October.

Syllabi (2)

- Course will be split into two parts (5 lectures each)

2. Introduction to economic capital modeling (50%)
   2. Assignment ECM#1 (financial risks and reserving risk) due Nov 13 = 20 points
   3. Assignment ECM#2 (Underwriting risk, Cat risk, Op risks aggregation) due Dec 10 = 20 points
   4. Presentation #3 ECM on Dec 4 = 10 points

3. <u>This course has no final exam. Projects are to be completed individually.</u>

Outline

Date	Topics
1 – Sep 11	Course outline, models and complexity, basic of GLM
2 – Sep 18	Modeling basic frequency, severity, various statistical tests
3 – Sep 25	Model validation
4 – Oct 2	Presentation assignment 1 + The Basic of models errors
5 – Oct 9	Trees and ensemble (or buffer if we don’t get there on time)
6 – Oct 16	Presentation assignment 2
7 – Oct 23	Financial Risks
8 – Oct 30	Reserving Risk and Dependency
Nov 6	Reading Week
9 – Nov 13	Underwriting Risk
10 – Nov 20	Catastrophes and Reinsurance
11 – Nov 27	Operational Risks, Aggregation and Regulatory Formula
12 – Dec 4	Presentation Assignment #3