

Introduction to R & GLM

ACT471-H1F – Topics in Casualty Actuarial Science
Fall 2020 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, i.e. what are the bias we need to pay attention too.
 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. This course has no final exam. Projects are to be completed individually.

Outline

Date	Topics
1 – Sep 16	Course outline, models and complexity, basic of GLM
2 – Sep 23	Modeling basic frequency, severity, various statistical tests
3 – Sep 30	Model validation
4 – Oct 7	Presentation assignment 1 + The Basic of models errors
5 – Oct 14	Trees and ensemble (or buffer if we don't get there on time)
6 – Oct 21	Presentation assignment 2 + start of financial Risks (if time permits)
7 – Oct 28	Financial Risks
8 – Nov 4	Reserving Risk and Dependency
Nov 11	Reading Week
9 – Nov 18	Underwriting Risk
10 – Nov 25	Catastrophes and Reinsurance
11 – Dec 2	Operational Risks, Aggregation and Regulatory Formula
11 – Dec 9	Presentation Assignment #3