Week	Date	Methods	References	Computing
1	Sept 10	Review of Linear Regression	SM Ch.8.2.1, 8.3; FLM-2 Ch.2-4; FLM-1 Ch.2-3; CD Ch.1	RStudio and RMarkdown
2	Sept 17	~~Model Selection~~ Comparing models; factors; model checking; diagnostics; collinearity	SM Ch.8.5,6; FLM Ch.3; FLM-2 14,2.11,6; FLM-1 4,13; CD Ch.6	~~tidyverse~~
3→HW1	Sept 24	~~Random and Mixed Effects Models~~ Model selection; Types of studies	SM 8.7; FLM-2 Ch. 10; FLM-1 Ch.8; CD Ch.1,2	~~ggplot~~ HW 1 Qs
4←HW1	Oct 1	~~Designed Experiments~~ Factor variables; Random and Mixed Effects; Principles of Measurement	SM Ch. 9.1,9.2; FLM-2 Ch.14-17;FLM-1 Ch.13-16; CD Ch.4	
5	Oct 8	~~Binary Responses~~ Designed Experiments; Preliminary Analysis	SM Ch.9.1,2; FLM-2 Ch.14-17 FLM-1 Ch.13-16; Ch.2; CD Ch.5	
6	Oct 15	Logistic Regression	SM 10.6.1; FELM Ch.3	
7→HW2	Oct 22	Generalized Linear Models	FELM Ch.6,7; SM 10.3	
8←HW2	Oct 29	Generalized Linear Models	FELM Ch.6,7; SM 10.3	
9	Nov 5	Catch Up		
10	Nov 12	Break		
11→HW3	Nov 19	Nonparametric Regression	SM 10.7.1, 10.7.2; FELM 11; CD Ch.8	
12←HW3	Nov 26	Nonparametric Regression	SM 10.7.1, 10.7.2; FELM 11; CD Ch.8	

Week	Date	Methods	References	Computing
13→Take-home	Dec 3	Recap	T-H due Dec 10	

Comments

This shows the main topics we'd like to cover, but is subject to adjustment as the course evolves. Electronic copies of the books listed below are available through the U of T Library, and have been posted to Quercus.

The books by Faraway are somewhat easier to read, so if you find Davison daunting go to those first and then come back to Davison after the lecture. The book by Cox & Donnelly is quite different as it sets out very general principles that are well worth reviewing as we go along.

In most weeks I will spend approximately 1 hour on the methods in the table above, 1 hour on selected case studies, and 1 hour on computing, discussion, and questions about the course and assignments.

References

SM: Statistical Models by A.C. Davison (Cambridge University Press)

CD: Principles of Applied Statistics by D.R. Cox and C.A. Donnelly

FLM-2: Linear Models with R 2nd edition by J.J. Faraway (Chapman & Hall)

FLM-1: Linear Models with R 1st edition by J.J. Faraway (Chapman & Hall)

FELM: Extending the Linear Model with R by J.J. Faraway (Chapman & Hall)