



MONASH
University

MONASH
BUSINESS
SCHOOL

ETC3580: Advanced Statistical Modelling

Subject information

Contact details

Lecturer

Professor Rob Hyndman

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Tutor

Mitchell O'Hara-Wild

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Unit objectives

- 1 provide an understanding of statistical models for handling common data analysis problems
- 2 develop skills for fitting, interpreting and assessing statistical models
- 3 develop computer skills for exploring and modelling different kinds of data.

Teaching and learning approach

- Two 50 min lectures
(Mon 1.00pm; Tues 12.00pm)
- One 80 min tutorial
(Mon 2.00pm or Mon 3.30pm)



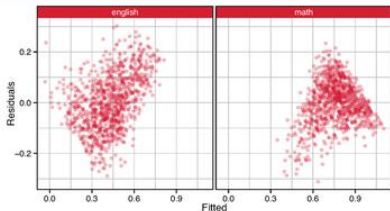
rstudio.com

Texts in Statistical Science

Extending the Linear Model with R

Generalized Linear, Mixed Effects and
Nonparametric Regression Models

SECOND EDITION



Julian J. Faraway



CRC Press
Taylor & Francis Group

A CHAPMAN & HALL BOOK



Outline

Week Topic

1	LM	Graphics for linear models and interpreting interactions
2	LM	Leverage, influence, residual diagnostics
3	GLM	Regression with binary responses
4	GLM	Regression with binomial and proportional responses
5	GLM	Regression with count responses
6	GLM	Generalized linear model theory
7	GLMM	Random effects
8	GLMM	Panel data and hierarchical linear models
9	GLMM	Mixed effects models for non-Gaussian responses
10	GAM	Regression splines, additive models
11	GAM	B-splines and penalized regression splines
12	GAM	GAMMs

Approximate weeks only

Assessment

Task	Due Date	Value
Assignment 1	12 August	10%
Assignment 2	2 September	10%
Assignment 3	30 September	10%
Assignment 4	21 October	10%
Final exam	Official exam period	60%

Assessment

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Assignment 1	12 August	10%
Assignment 2	2 September	10%
Assignment 3	30 September	10%
Assignment 4	21 October	10%
Final exam	Official exam period	60%

- Need at least 50% for exam.
- Need at least 50% for total.

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