



MONASH
University

MONASH
BUSINESS
SCHOOL

ETC3550

Applied forecasting for business and economics

Outline

Contact details

Lecturer

Professor Rob Hyndman

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Tutor

Puwasala Gamakumara

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Brief bio

- Professor of Statistics, Monash University
- Editor-in-Chief, *International Journal of Forecasting*

How my forecasting methodology is used:

- Pharmaceutical Benefits Scheme
- Cancer incidence and mortality
- Electricity demand
- Ageing population
- Fertilizer sales

robjhyndman.com

Unit objectives

- 1 To obtain an understanding of common statistical methods used in business and economic forecasting.
- 2 To develop the computer skills required to forecast business and economic time series data;
- 3 To gain insights into the problems of implementing and operating large scale forecasting systems for use in business.

Teaching and learning approach

Two 50 minute classes and a one 80 minute computer lab session each week for 12 weeks.

R



RStudio



Key reference

Hyndman, R. J. & Athanasopoulos, G. (2018)
***Forecasting: principles and practice*, 2nd edition**

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Hyndman, R. J. & Athanasopoulos, G. (2018)
Forecasting: principles and practice, 2nd edition

[OTexts.org/fpp2/](https://otexts.org/fpp2/)

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Hyndman, R. J. & Athanasopoulos, G. (2018)
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OTexts.org/fpp2/

- Free and online
- Data sets in associated R package fpp2
- R code for examples

Install required packages

```
install.packages("fpp2", dependencies=TRUE)
```

Outline

Week	Topic	Chapter
1	Introduction to forecasting and R	1
2	Introduction to forecasting and R	2
3	Time series graphics & decomposition	3,6
4-5	Exponential smoothing	7
6-8	Forecasting with ARIMA models	8
9-10	Multiple regression and forecasting	5
11	Dynamic regression	9
12	Advanced methods	11

Assessment

- Nine short weekly assignments, worth 2% or 4% each.
- One project due at the end of the semester, worth 20%.
- Exam (2 hours): 60%.

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Assignments	Mon 11:59pm each week	2 or 4% each
Project	Fri 25 May	20%
Final exam	Official exam period	60%

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- Need at least 45% for exam, and 50% for total.

Moodle site

- Includes all lecture notes, handouts, assignments
- Forum for asking questions, etc.
- Assignment submissions



FREE COURSE

Introduction to R

Start Course For Free



🕒 4 hours | ▶️ 0 Videos | </> 62 Exercises | 👥 726,488 Participants | 📄 6,200 XP | DOWNLOAD THE APP: 🍏 ▶️

- All students must complete this course by Monday 5 March.



PAID COURSE

Forecasting Using R

Start Course For Free

▶ Play Intro Video



🕒 5 hours | ▶ 18 Videos | </> 55 Exercises | 👤 9,732 Participants | 📖 4,450 XP

- We will do one chapter at a time throughout the semester.