



MONASH  
University

MONASH  
BUSINESS  
SCHOOL

# ETC3550: Applied forecasting for business and economics

# Contact details

## Lecturer

**Professor Rob Hyndman**

- Room E762, Menzies Building
- Email: [Rob.Hyndman@monash.edu](mailto:Rob.Hyndman@monash.edu)

## Tutor

**Puwasala Gamakumara**

- Email: [Puwasala.Gamakumara@monash.edu](mailto:Puwasala.Gamakumara@monash.edu)

# 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](http://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**

## Key reference

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

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

## Key reference

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

**[OTexts.org/fpp2/](https://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%.

# 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%.

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

# 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%.

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

- 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.