

Syllabus

Advanced Forecasting for Business and Economics (ECON 6218)

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Belk College of Business, UNCC

January, 2018

Contact details

Lectures

- Time: Wednesday 5:30 - 8:15
- Room: Computer Lab 801, Center City Building

Ercan Karadas

- Email: ekaradas@uncc.edu
- Office Hours: W 15:30 - 17:00 or by appointment
- Room: 227C, Friday Building

Course 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 75 minute classes in the computer lab.



RStudio



Key Reference: “Forecasting: Principles and Practice”

Main Book

[HA]: Forecasting: Principles and Practice, Hyndman, R. J. & Athanasopoulos, G., 2nd ed, OTexts, 2018.

- Free and online: [OTexts.org/fpp2](https://otexts.org/fpp2)
- Data sets in associated R package `fpp2`
- R code for examples
- We will cover most of this book in the first 2/3 of the course

Install required packages

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

Other References

- **[SW]: Introduction to Econometrics**, Stock & Watson, 3rd Edition Updated, Pearson, 2015.
- **[JD]: Econometric Methods**, J. Johnston & DiNardo, 4th ed., McGraw-Hill, 1996.
- **[V]: A Guide to Modern Econometrics**, M. Verbeek, 5th ed., Wiley, 2017.
- **[P]: Time Series and Panel Data Econometrics** M. Hashem Pesaran, Oxford University Press, 2015.

You don't need to buy any of these books. I will post the lecture notes and required readings on Canvas.

Outline

Week	Topic	HA	Other Readings
1-2	Int. to forecasting and R	1	Notes, DataCamp
3	Time series (TS) graphics	2	SW 14.1-2
4	The Forecaster's Toolbox	3	-
5-6	TS Regression	5	-
7	TS Decomposition	6	P 16
8	Exponential smoothing	7	-
9-10	Forecasting with ARIMA	8	SW 14, JD 7
11	Dynamic regression	9	SW 15, JD 8
12	Volatility Models	-	V 8, P 18
13-15	Multivariate TS Models	-	SW 16, JD 9, V 9, P 21-2

Assessment

Task	Due Date	Weight
Weekly Assignments	W 5:30 PM	30%
Midterm	Feb 27	20%
Final	May 1	30%
Class Project	May 9	20%

- 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: 🍏 ▶️

Important!

All students must complete this course by January 16.