



King Saud University
College of Business Administration
Quantitative Analysis Department (QUA)

Business Forecasting

QUA 307

Instructor:

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Course Description

Forecasting is used to predict the future events or conditions. Therefore, it allows us to make better decisions with low uncertainty. This course is designed to give students a better understanding of the importance of forecasting in business. This course will cover a variety of statistical forecasting methods that are applicable in many functional areas of business, including simple and multiple regression, exponential smoothing, seasonal decomposition, and ARIMA models. The emphasis will be on learning to apply these methods to real data using Excel and SPSS.

Course Objectives

- To learn a variety of business forecasting techniques.
- To understand the basic concepts of business forecasting.
- Understand the importance of forecasting in making decisions in business environments.
- To be able to apply forecasting methods to business applications.
- Use the software packages for developing forecasting models.

Course Evaluation

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|--------------------------|-----|
| 1. Quizzes (10% each) | 30% |
| 2. Assignments (5% each) | 20% |
| 3. Midterm Exam | 25% |
| 4. Final Exam | 20% |
| 5. Class Attendance | 5% |

Text book

1. Business forecasting

Hanke and Wichern, , Pearson International, Ninth Edition.

2. Business Forecasting

John E. Hanke, Dean W. Wichern and Arthur G. Reitsch, Ninth Edition, Prentice Hall, 2009

Other Forecasting References

- [*Business Forecasting \(with ForecastX software\)*](#) by Wilson and Keating, 4th ed. (another very similar book, with a popular Excel add-in for forecasting)
- [*Forecasting Principles and Applications*](#) by DeLurgio, 1st ed. (a more comprehensive and more detailed book, with better coverage of more advanced methods like ARIMA)
- [*Elements of Forecasting*](#) by Diebold, 3rd ed. (more advanced text, somewhat math-intensive for an MBA audience, covers some fancier models than can be fitted with Statgraphics, but some of the examples of modeling are sloppy).
- <https://www.otexts.org/fpp> online textbook on forecasting.
- <http://people.duke.edu/~rnau/411home.htm> contains notes and materials on statistical forecasting.
- <http://www.statsoft.nl/textbook/stathome.html> is a very good, online reference.
- <http://www.ibf.org/> International Business Forecasting website

Quizzes

There will be 3 quizzes during the term. The quizzes will all be computer-based, involving the development of forecasting models for one or more data sets.

Homework Assignments

There will be 4 homework assignments during the term. The homework assignments will all be computer-based, involving the development of forecasting models for one or more data sets.

Course Contents and Plan

| LECTURE | TOPIC | DATE | READING |
|---------------------|---|-------------|---------|
| 1 | Introduction to Business Forecasting | Week 1 | Ch 1 |
| 2 | The forecast Process | Week2 | Ch 2 |
| 3 | Forecasting with Regression | Week 3 | Ch 4 |
| 4 | Forecasting with Regression | Week 4 | Ch 5 |
| Midterm exam | | 05/07/2020 | |
| 5 | Moving Averages and Exponential Smoothing | Week 4+5 | Ch 3 |
| 7 | ARIMA | Week 6 | Ch 7 |
| Final Exam | | 21/07/ 2020 | |