

DATA SCIENCES AND OPERATIONS

SPRING 2025

DSO 522 – Applied Time Series Analysis for Forecasting

Section: 16208

Professor

Richard W. Selby

Email

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When

Tuesday 6:30pm-9:30pm

Office

TBD

Units

3.0



WHY TAKE THIS COURSE?

- In business forecasting, time series models are used to analyze data that are collected over time to develop forecasting models for revenues, earnings, inventories, budgets, and new product developments.
- Time series data arise in many different business areas, so forecasting methods apply to problems in finance, marketing, product development, supply chain, operations, real estate, accounting, and international business.
- Knowledge of forecasting methods is among the most demanded qualifications for business leaders. This course provides knowledge, skills, and expertise for business forecasting and opens career opportunities.

COURSE OBJECTIVES

The overall course goal is to develop sophisticated business professionals who are able to analyze business data deeply and create accurate business forecasts. Students learn foundational and advanced forecasting methods and acquire forecasting skills and experience by completing several projects. The course projects provide practical experience developing forecasting models using datasets for businesses.

KEY CONCEPTS

- Business Forecasting
- Forecasting Methods
- Time Series Models
- Regression and Box-Jenkins Models
- Statistical Process Control
- Neural Networks

COURSE DESCRIPTION

Course topics include concepts and techniques for business forecasting, forecasting methods, time series models, regression and Box-Jenkins models, statistical process control, and neural networks. Students apply forecasting methods to develop forecasting models using datasets for businesses. Students acquire knowledge, skills, and expertise for business forecasting and gain hands-on experience in several projects. This course is open to all USC graduate students from all schools and all disciplines.