

DATA SCIENCES AND OPERATIONS

FALL 2024 SEMESTER

DSO 522 – Applied Time Series Analysis for Forecasting

Section: 16249

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 analysis and modeling are used to analyze data that are collected over time to develop forecasting methods for revenues, earnings, inventories, schedules, budgets, and new product developments.
- Time series data arise in many different business areas, and time series forecasting methods apply to problems in finance, marketing, product development, supply chain, operations, real estate, accounting, and international business.
- This course provides knowledge, skills, and expertise for business forecasting using time series analysis and modeling and opens career opportunities for forecasting management positions in leading businesses.

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 hands-on 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.