

**OE028G: Introduction to Time Series Analysis Using IBM SPSS Modeler v18.1.1**

Course Code: OE028G

Duration: 1 day

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

**OVERVIEW**

This course gets you up and running with a set of procedures for analyzing time series data. Learn how to forecast using a variety of models, including regression, exponential smoothing, and ARIMA, which take into account different combinations of trend and seasonality. The Expert Modeler features will be covered, which is designed to automatically select the best fitting exponential smoothing or ARIMA model, but you will also learn how to specify your own custom models, and also how to identify ARIMA models yourself using a variety of diagnostic tools such as time plots and autocorrelation plots.

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**SKILLS COVERED**

- Please refer to course overview.

**WHO SHOULD ATTEND?**

- Roles: Business Analyst, Data Scientist
- Specifically, this is an introductory course for:

- Anyone who is interested in getting up to speed quickly and efficiently using the IBM SPSS Modeler forecasting capabilities

**PREREQUISITES**

- Familiarity with the IBM SPSS Modeler environment (creating, editing, opening, and saving streams).
- General knowledge of regression analysis is recommended but not required

**COURSE OUTLINE**

- Introduction to time series analysis
- Explain what a time series analysis is
- Describe how time series models work
- Demonstrate the main principles behind a time series forecasting
- Model2: Automatic forecasting with the Expert Modeler
- Examine fit and error
- Examine unexplained variation
- Examine how the Expert Modeler chooses the best fitting time series
- Model3: Measuring model performance
- Discuss various ways to evaluate model performance
- Evaluate model performance of an ARIMA model
- Test a model using a holdout
- Sample4: Time series regression
- Use regression to fit a model with trend, seasonality and predictors
- Handling predictors in time series analysis
- Detect and adjust the model for autocorrelation
- Use a regression model to forecast future
- Values5: Exponential smoothing models
- Types of exponential smoothing models
- Create a custom exponential smoothing model

- Forecast future values with exponential smoothing
- Validate an exponential smoothing model with future
- Data6: ARIMA modeling
- Explain what ARIMA is
- Learn how to identify ARIMA model types
- Use sequence charts and autocorrelation plots to manually identify an ARIMA model that fits the data
- Check your results with the Expert Modeler

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