

Stat 3910/4910: Statistical Software Design/"Advanced" Statistical Software Design

Instructor: Prof. Eric A. Suess

This course will meet one day a week on Thursday from 6 to 10pm.

During the first hour of each class we will cover topics related to the basics Statistical methods and the use of statistical software to perform these analyses on data. Topics will include Descriptive Statistics, Hypothesis Testing, Confidence Intervals, AOVA, Linear Regression, Logistic Regression, and Chi-Square Tests. Students in 3910 will have a choice of using SPSS or SAS. Statistics 4910 students will be required to do all of the course work in SAS.

The second hour will be held in the Statistics Computer Lab where time will be given to demonstration of the software and working on assigned computer problems.

The third hour will be devoted to lecture on topics related to the analysis of Time Series Data, i.e., the analysis of correlated data collected over time. We will cover such Time Domain methods as autocorrelation, trends, seasonality, Classical Decomposition Model, auto-regression, ARIMA modeling and Seasonal ARIMA modeling. Statistics 3910 students will perform the analyses using SPSS or SAS and 4910 students will be introduced to the SAS Time Series Forecasting System (TSFS) (a new point-and-click Solutions/Assist module) and will write SAS code to perform analyses.

The final hour of class will be devoted to demonstration of time series analysis using SPSS and SAS.

Books:

Statistics 3910

- Using SPSS for Windows, Analyzing and Understanding Data, 2nd Edition, Green, Salkind and Akey, Prentice Hall, 2000.
- Introduction to Time Series Analysis and Forecasting, With Applications of SAS and SPSS, Robert Yaffee, with Monnie McGee, Academic Press, 2000.

Statistics 4910

- Applied Statistics and the SAS Programming Language, 4th Edition, Cody and Smith, Prentice Hall, 1997.
- Introduction to Time Series Analysis and Forecasting, With Applications of SAS and SPSS, Robert Yaffee, with Monnie McGee, Academic Press, 2000.