A. Course Description

Credits: 4

Prerequisites: STAT 311 Regression Analysis

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

MnTC Goals: None

A time series is a sequence of observations on a variable measured at successive points in time or over successive periods of time. This course provides an introduction to both standard and advanced time series analysis and forecasting methods. Graphical techniques and numerical summaries are used to identify data patterns such as seasonal and cyclical trends. Forecasting methods covered include: Moving averages, weighted moving averages, exponential smoothing, state-space models, simple linear regression, multiple regression, classification and regression trees, and neural networks. Measures of forecast accuracy are used to determine which method to use for obtaining forecasts for future time periods.

B. Course Effective Dates: 08/18/2019 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Formulate time series models mathematically.
2. Apply basic statistical tools to analyze time series data.
3. Identify and apply the most appropriate time series model for problem solution.
4. Solve time series models using software.
5. Assess how sensitive models are to various changes that might occur in model variables.
6. Interpret and understand the computer output for a time series model application.
7. Document and articulate the results and conclusions for time series analysis and modeling techniques applied to actual cases in a variety of disciplines.

E. Learning Outcomes (MN Transfer Curriculum)

This contains no goal areas.

G. Special Information

Note: First day attendance required except by instructor permission.