STAT 626 A Tentative Course Outline:

<u>Topic</u>

TS Data and Plot
TS Models
Autocorrelation Function (ACF) and R
Stationary TS, Linear Processes
Estimation of autocorrelation
Bivariate TS and cross-correlation
A Review of Regression: y = X_ + e:
Exploratory Data Analysis
TS Models II: AR(1), MA 3.2
TS Models II: ARMA, _(B)x_t = _(B)w_t. 3.2
ARMA : Invertibility& Causality (Roots jzj > 1,_ ;) weights)
Difference Equations
ARMA ACF and PACF
ARMA Forecasting
Estimation, Yule-Walker Eqs., MLE
Building ARIMA Models
SARIMA Models, Spectral Analysis
FARIMA, Long-memory
GARCH Models
Multivariate ARMAX Models
Multivariate ARMAX Models
Spurious Reg. and Cointegration