



Time Series Analysis & Forecasting

Duration- 2 Months

Econometric time series Different components

Illustration

Additive and multiplicative models

Determination of trend

Seasonal and cyclical fluctuations

Time-series as discrete parameter stochastic process, auto covariance and autocorrelation functions and their properties

Exploratory time Series analysis, tests for trend and seasonality, exponential and moving average smoothing. Detailed study of the stationary processes:

- Moving average (MA)
- Auto regressive (AR),
- ARMA and
- AR integrated MA (ARIMA) model

Box-Jenkins models, choice of AR and MA periods.

Discussion (without proof) of estimation of mean, auto covariance and autocorrelation functions under large sample theory, estimation of ARIMA model parameters.

Spectral analysis of weakly stationary process, periodogram and correlogram analyses, computations based on Fourier transform, non-stationary process, introduction to forecasting