Module Code	MA4033	Title	Time Series and Stochastic Processes			
Credits	03	Hours/ Week	Lectures	03	Pre-requisites	MA1023/3013
			Lab/Tutorials	-		

Learning Outcomes

At the end of this module the student should be able to

- Choose the appropriate time series modeling technique for a given data.
- Use Minitab and Eviews software to analyze time series data.
- Apply Markov chain techniques in modeling uncertain physical systems.
- Apply Stochastic modeling techniques in engineering applications.

Outline Syllabus

Time Series

- Trend analysis, smoothing techniques, decomposition techniques.
- Properties of various statistical time series processes.
- Basic theory of stationary processes: AR, MA, and ARMA models;
- Seasonal adjustment.
- Use of Minitab and Eviews Software in time series data.

Stochastic Process

- An introduction to stochastic processes.
- Stationary distributions.
- Markov chains.
- Homogeneous Poisson process, Birth-death process, queuing theory.