Module code	SM-4338			
Module Title	Stochastic Process			
Degree/Diploma	Bachelor of Science (Mathematics)			
Type of Module	Major Option			
Modular Credits	4	**Total student Workload**	10	hours/week
		Contact hours	4	hours/week
Prerequisite	SM-2205 Intermediate Statistics			
Anti-requisite	None			

Aims

This module broadens probabilistic concepts and techniques. On completing this module, the student should be able to build stochastic models using Markov Chains, Renewal theory, reliability theory and stationary processes.

Learning Outcomes

On successful completion of this module, a student will be expected to be able to:

Lower order :	40%	- understand the basic principles of Stochastic Processes.
Middle order :	40%	- analyse various problems
Higher order:	20%	- interpret the results of analyses - work independently and in a team

Module Contents

- Markov Chains. The Exponential Distribution and Poisson Process. Continuous Time Markov Chains.
- Renewal Theory.
- Queueing Theory.
- Reliability Theory.
- Brownian Motion and Stationary Processes.

Assessment	Formative assessment	Tutorial and feedback.
	Summative assessment	Examination: 60%
		Coursework: 40% - 2 class tests (40%)