Course Specifications

General Information

Course name	Stochastic Processes
Course number	STAT4314
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Understanding the different types of stochastic processes

Intended Learning Outcomes

Knowledge and Understanding	*	How to distinguish between the different types of stochastic processes and its applications

Course Contents

1 - Random variables
2 - Conditional expectation
3 - Conditional variance
4 - Poisson Process
5 - Renewal process
6 - Markov chains
7 - Markov process

Teaching and Learning Methods

1 - Lectures
2 - Homework
3 - Solving special problems

Teaching and Learning Methods for the Disabled Students

1 - Do not apply

Students Assessment

Assessment Method	TIME	MARKS
Midterm exam	Two hours	30
Homework & Solving some problems	Five hours	10
Final exam	Two hours	60

Books and References

Course note	Stochastic Processes	Ross

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Random variables					
Conditional expectation and variance					
Hierarchical models					
Homogeneous Poisson process					
Non-Homogeneous Poisson process					
Applications on Poisson process					
Renewal Theory					
Applications on Renewal Theory					
Markov Chains					
Markov process					
Stationary Probability Matrix					
Applications on Markov process					