

CCS3003 System Modeling and Simulation**COURSE INFORMATION**

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
CCS2303 & EBA2203	3	6	2	2	0	3

COURSE AIM

- Understand the basic principles of the field of Modeling and Simulation.
- Apply standard statistical techniques in analyzing input data for a simulation experiment.
- Use Markov chains theory for modeling of queuing systems.
- Plan for and design a simulation experiment for some problems.
- Evaluate performance of queuing systems.

COURSE WEEKLY CONTENTS

- 1 Introduction to Simulation
- 2 Steps in Simulation Study
- 3 Monte Carlo Simulation
- 4 Discrete Event Simulation
- 5 Statistical Models in Simulation
- 6 Random-Number Generation
- 7 Random-Variant Generation
- 8 Input Modeling
- 9 Output Analysis part 1
- 10 Output Analysis part 2
- 11 Markov Chain part 1
- 12 Markov Chain part 2
- 13 Queuing Models part 1
- 14 Simulation of Distributed and Parallel Algorithms
- 15 Revision

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	←		30	MARKS		→	30
8 to 12	←		20	MARKS		→	20
1 to 15	←		10	MARKS		→	10
16 or 17	40	Final					40

REFERENCES

Textbook Jerry Banks, John Carson ,Barry Nelson And David Nicol , Discrete-Event System Simulation , Pearson.