



H-Form ISE 444

Course Information:	
Code and Title:	ISE 444 Simulation Modeling and Analysis
Prerequisites:	ISE 341 + ISE 321 + MATH 265-2
Co requisite (if any)	
Credit Hours: 3	Lecture Hrs. (30), Tutorial Hrs. (15), Lab (30) Total Credits (75)
College/ Department:	College of Engineering/Industrial and Systems Engineering

Course Description:
This course Introduces the students to the concept of simulation, including system analysis, simulation modeling, simulation languages, appropriate inputs, appropriate output, and validation of the simulation model, and random number generation, Comparing alternative systems, variance reduction techniques. In addition, introduce the students to ARENA simulation language.

Course Objectives:
The purpose of this course is to provide students with an opportunity to develop skills in modeling and simulating by Introduces them to ARENA simulation language. After learning the simulation techniques, the students are expected to be able to utilize the program to solve a variety of industrial-related and real world problems.

Course Learning Outcomes		
		PLO
Knowledge Understanding		
1.1	Define concepts of simulation modeling	K1
1.2	Discuss modeling techniques related to simulation analysis	K2
Skills		
2.1	Model manufacturing and service systems (simple or complex)	S1
2.2	Develop simulation experiments using ARENA software	S2
2.3	Design simulation models to perform solutions for engineering problems	S3
Values		
3.1	Participate effectively in a team to simulate real case studies	V1

Textbook:			
Title:	Simulation Modeling and Analysis		
Author(s):	Averill M Law,		
Publisher:	McGraw-Hill	Year and Edition:	2015
Other Useful Resources:	simulation with arena, w. davidkelton, randall p. sadowski, and nancy b. zupick, mcgraw-hill, 2015		