

Department of Industrial Engineering			
Simulation (65533)			
Total Credits	3		
major elective			
Prerequisites	P1 : Quantitative Methods (65211)		
Course Contents			
Introduction to simulation, System dynamics, Simulation basics, Discrete-event simulation, Data collection and analysis, Model building, , Simulation output analysis, Modeling manufacturing systems and Modeling service systems			
Intended Learning Outcomes (ILO's)		Student Outcomes (SO's)	Contribution
1	The ability to understand the broad applicability of discrete-event process simulation to industrial engineering problems.	A E	15 %
2	The ability to apply the steps required to undertake a successful simulation analysis.	C D	15 %
3	The ability to use analytical techniques for interpreting input data and output results pertinent to simulation models.	B E H	30 %
4	The ability to use the software tool PROMODEL to build simulation models.	G J K	40 %
Textbook and/ or References			
Harosh, C., B. K. Ghosh, and R. O. Dowden, Jr., Simulation Using Promodel McGraw-Hill, 2nd Edition, 2004			
Assessment Criteria		Percent (%)	
First Exam		20 %	
Second Exam		20 %	
Projects		15 %	
Final Exam		45 %	
Course Plan			
Week	Topic		
1	Introduction to simulation		
2	System dynamics		
3	Simulation basics		
4_5	Discrete-event simulation		
6_7	Data collection and analysis		
8_10	Model building		
11_12	Simulation output analysis		
13-14	Modeling manufacturing systems		
15-16	Modeling service systems		