H-Form ISE 341

Course Information:	
Code and Title:	ISE 341 Operations Research (2)
Prerequisites:	ISE 240
Co requisite (if any)	-
Credit Hours: 3	Lecture Hrs. (45), Tutorial Hrs. (10), Lab (5), **Total Credits** (60)
College/ Department:	College of Engineering/Industrial and Systems Engineering

Course Description:
The course aims to provide the basic knowledge and skills to design suitable optimization tools for real-life engineering problems in various fields by using integer programming, dynamic programming and nonlinear programming. Approaches by Markov chain and queuing theory are considered to enhance students' capabilities to tackle different type of problems.

Course Objectives:
This course provides the basic knowledge and skills to design suitable optimization tools for real-life engineering problems in various fields. In the top of that, operation research enables the students to design of factories based on the learned knowledge through the course and carry a design project for factory system. Also, they can use optimization software and spreadsheet-based interface.

Course Learning Outcomes		
		PLO
Knowledge Understanding		
1.1	Identify the Principles of Total Quality Management.	K1
1.2	Differentiate between internal and external customers and the impact of perceptions on the organization	K2
Skills		
2.1	Solve a real-life industrial engineering problem using an optimization software and spreadsheet-based interface.	S2
2.2	Formulate industrial engineering problems to be solved using stochastics and deterministic models.	S3
2.3	Manage appropriate operations research programming models to judge possible solutions for complex problems (real-life case studies).	S4
2.4	Communicate effectively with a teamwork.	S5

Textbook:			
Title:	Operations Research: An introduction,		
Author(s):	H. A. Taha,		
Publisher:	Pearson	**Year and Edition:**	10th , 2017
Other Useful Resources:	Introduction to Operations Research, 10th Edition, Hiller and Lieberman, McGraw Hill, 2015.		