



H-Form ISE 322

Course Information:	
Code and Title:	ISE 322 Scheduling of Industrial Operations
Prerequisites:	ISE341 + ISE 321
Co requisite (if any)	ISE 311
Credit Hours: 3	Lecture Hrs. (45), Tutorial Hrs. (0), Lab (15), Total Credits (60)
College/ Department:	College of Engineering/Industrial and Systems Engineering

Course Description:
This course deals with various problems in the area of scheduling. It includes single machine, Parallel machine, Flow shop, Open shop, and Job shop and Project scheduling. Also, it introduces Project Scheduling which includes Activity-On-Arrow and Precedence Diagramming, Resource Levelling & Allocation, and Time Cost Trade-Off.

Course Objectives:
After completing the course, the student will be:
Able to describe the mathematical structure of production scheduling & sequencing problems and project scheduling problems. Also, the student will be able to design heuristics and constructive algorithms of fundamental problems. In addition, the student will be able to independently learn algorithms, implement these algorithms in computer code and conduct computational experiments.

Course Learning Outcomes		
		PLO
Knowledge Understanding		
1.1	Describe the mathematical structure of production scheduling & sequencing problems and project scheduling problems.	K2
1.2	Define heuristics and constructive algorithms of fundamental problems	K2
Skills		
2.1	Use heuristics and constructive algorithms of fundamental problems.	S1
2.2	Solve large scale scheduling problem using scheduling software.	S2
2.3	Perform various problems in the area of scheduling, such as single machine, Parallel machine, Flow shop, Open shop, and Job shop and Project scheduling.	S3
Values		
3.1	Participate effectively in a team to establish goals to meet and planning tasks	V1

Textbook:			
Title:	Scheduling Theory, Algorithms and Systems, Michael Pinedo,		
Author(s):	Michael Pinedo		
Publisher:	Springer	Year and Edition:	2016
Other Useful Resources:	Planning and Scheduling in Manufacturing and Services, Michael Pinedo, 2005		