

H-Form ISE 412

Course Information:	
Code and Title:	ISE 412 Operations of Manufacturing Systems
Prerequisites:	ISE 322
Co requisite (if any)	-
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:
The ISE 412 Operations of Manufacturing Systems course introduces the production management systems in both manufacturing and service industry, such as Japanese manufacturing techniques, hybrid manufacturing management system, supply chain management, total quality management, design for manufacturing and assembly, bottleneck management. Optimized production technology, and theory of constraints.

Course Objectives:
After completing the course, the student will:
Teach how manufacturing and service industry operate. Provide the student an opportunity to gain in-depth knowledge of how to manage production systems. Introduces the students to the ERP, just in time, Push – Pull and hybrid production systems, total quality manufacturing, and management. In fact, it leads one towards lean manufacturing that meets high throughput or service demands with little inventory. Introduces the students to the Mechanics of Kanban, CONWIP systems and bottleneck scheduling. Optimized Production Technology (OPT) and Theory of Constraints (TOC). Recent issues in production and operations planning.

Course Learning Outcomes		
		PLO
Knowledge Understanding		
1.1	Define the impact of the operations of manufacturing systems in a manufacturing and service industry.	K1
1.2	Categorize the benefits and implications of using ERP system	K1
Skills		
2.1	Evaluate bottlenecks and implement the suitable related production management systems to optimize them.	S1
2.2	Apply efficiently how to manage the raw materials in the supply chain	S2
2.3	Design how to improve quality by effectively controlling the operations and adjust the WIP with improving the throughput by incorporation of Kanban cards system	S3
Values		
3.1	Work effectively on a team	V1

Textbook:			
Title:	Factory Physics		
Author(s):	Wallace J. Hopp and Mark L. Spearman		
Publisher:	McGraw-Hill,	Year and Edition:	2001
Other Useful Resources:	Production Management Systems: An Integrated Perspective, J. Browne, J. Harhen, and J. Shivnan, Addison-Wesley, 1997		