The University of Jordan
Faculty of Engineering
Industrial Engineering Department 2nd
Semester 2020/2021

Course name:	Facilities Planning and materials handling			
Course code:	0906425			
Credits hours	3			
Contact hours/room:	3			
Course instructor's name, E-mail, and phone:	Lamees AL-Dirgham			
	l.aldurgham@ju.edu.jo			
	22942			
Course Coordinator:	Lamees AL-Dirgham			
Text book:	Facilities Planning, Tompkins and others, 4th Ed., Wiley and Sons, 2010.			
Other reference(s):	"Operations Management: Process and Supply Chains", By: Lee L. Krajweski and Others, Pearson, Eleventh Edition, 2015.			
Course Description:	Theory and concepts involved in model formulation for design and analysis of facility plans. Includes facility layout, facility location and material handling system design. Application of quantitative tools and techniques for flow analysis, layout planning, and automated material handling system design. Warehouses planning.			
Providing Department:	Industrial Engineering			
Prerequisite Course:	0906421			
Course type	Compulsory			
Assessment Methods:	**Method**	**Weight %**	**Date**	
	Midterm	**30**		
	Quizzes	**10**		
	HomeWorks	**10**		
	Final Exam	**50**		

Course Learning Outcomes:	#	**After successful completion of this course, the student will be able to**	**SO**	
	CLO1	To understand significance of strategic facilities planning process and developing strategies for various types of facilities.	**1**	
	CLO2	To determine the interrelationship between product, process and scheduling design.	**2**	
	CLO3	To provide the necessary considerations, flow system, activity relationship and space requirements in determining the necessities in a facility.	**2**	

	Week #	**Topic**

Brief list of topics	1	**Introduction:** Facilities Planning Defined, Significance of Facilities Planning, Objectives of Facilities Planning, Facilities Planning Process, Strategic Facilities Planning, Developing Facilities Planning Strategies.
	2-3	**Product, Process, and Schedule Design:** Introduction, Product Design, Process Design, Schedule Design, Facilities Design.
	4-5	**Flow Systems, Activity Relationships, and Space Requirements:** Introduction, Flow Systems, Material Flow System, Departmental Planning, Activity Relationships, Space Requirements.
	6-9	**Personnel Requirements:** Introduction, The Employee– Facility Interface, Restrooms, Food Services, Health Services, Office Facility Planning.
	10-12	**Material Handling:** Introduction, Scope and Definitions of Material Handling, Material Handling Principles, Designing Material Handling Systems, Unit Load Design, Material Handling Equipment, Estimating Material Handling Costs, Safety Considerations.
	13-15	**Layout Planning models and Design Algorithms:** Introduction, Basic Layout Types, Layout Procedures, Algorithmic Approaches, apartment Shapes and Mail Aisles, Multi-Floor Facility Layout, Commercial Facility Layout Packages, The .Impact of Change, Developing Layout Alternatives.
	16	**Warehouse Operations:** Introduction, Missions of a Warehouse, Functions in the Warehouse, Receiving and Shipping Operations, Dock Locations, Storage Operations.
Important Notes:	• Don't Cheat; direct copying of others work will NOT be allowed or tolerated and will result in a reduction of grade. If you are found to be cheating in any way, on an exam or assignment, even signing the roll sheet for another student, you will be given an "F" for the course. There will be no exceptions. • All cases of academic dishonesty will be handled in accordance with university policies and regulations. JU policy requires the faculty member to assign ZERO grade (F) if a student misses 15% of the classes that are not excused, and 20% of the classes that are excused • Students are expected to be ready to take a quiz any time they have a class. There will be no make-up quizzes or home works. • Any students with disabilities who need accommodations in this course are encouraged to speak with the instructor as soon as possible to make appropriate arrangements for these accommodations.	

The B.Sc. in industrial Engineering program enables students to achieve, by the time of graduation the following program learning outcome (SOs)			
1	*An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.*	*5*	*An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.*
2	*an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.*	*6*	*an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions*
3	*An ability to communicate effectively with a range of audiences.*	*7*	*an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.*
4	*An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.*		