

## Course E-Syllabus

1	<b>Course title</b>	Facilities Planning
2	<b>Course number</b>	0906422
3	<b>Credit hours</b>	3
	<b>Contact hours (theory, practical)</b>	Theory 5 hours per week
4	<b>Prerequisites/corequisites</b>	0906420
5	<b>Program title</b>	B.Sc. Industrial Engineering
6	<b>Program code</b>	
7	<b>Awarding institution</b>	The University of Jordan
8	<b>School</b>	Engineering
9	<b>Department</b>	Industrial Engineering
10	<b>Level of course</b>	mandatory course 4 <sup>th</sup> year
11	<b>Year of study and semester (s)</b>	Fall (1 <sup>st</sup> semester) 2020/2021
12	<b>Final Qualification</b>	
13	<b>Other department (s) involved in teaching the course</b>	
14	<b>Language of Instruction</b>	English
15	<b>Teaching methodology</b>	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	<b>Electronic platform(s)</b>	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input checked="" type="checkbox"/> Others... Youtube.....
17	<b>Date of production/revision</b>	

### 18 Course Coordinator:

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### 19 Other instructors:

Name: N/A  
Office number:  
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Name:  
Office number:  
Phone number:  
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## 20 Course Description:

This course is designed to introduce Strategic Facilities Planning, Location Selection. Product, Process and Schedule Design. Flow, Space and Activity Relationships, Personnel Requirements. Material Handling. Layout, Computer-Aided Layout. Warehouses.

## 21 Course aims and outcomes:

Course Learning Outcome #	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
<b><i>The B.Sc. in industrial Engineering program enables students to achieve, by the time of graduation following program learning outcome (SOs)</i></b>		
<b>1</b>	<i>an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics</i>	6 <i>an ability to develop and conduct appropriate experimental analyze and interpret data, and engineering judgment to draw conclusions</i>
<b>2</b>	<i>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</i>	7 <i>an ability to acquire and apply new knowledge as needed, using appropriate learning strategies</i>
<b>3</b>	<i>an ability to communicate effectively with a range of audiences</i>	
<b>4</b>	<i>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</i>	
<b>5</b>	<i>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</i>	

## 22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	<b>Introduction:</b> Facilities Planning Defined, Significance of Facilities Planning, Objectives of Facilities Planning, Facilities Planning Process, Strategic Facilities Planning, Developing Facilities Planning Strategies.	Live meeting/ Microsoft teams		
	1.2		Live meeting/ Microsoft teams		
	1.3		Live meeting/ Microsoft teams		
2	2.1		Live meeting/ Microsoft teams		
	2.2	<b>Product, Process, and Schedule Design:</b> Introduction	Live meeting/ Microsoft teams		
	2.3	<b>Product, Process, and Schedule Design:</b> Product Design	Live meeting/ Microsoft teams		
3	3.1	<b>Product, Process, and Schedule Design:</b> Process Design	Live meeting/ Microsoft teams		
	3.2	<b>Product, Process, and Schedule Design:</b> Process Design	Live meeting/ Microsoft teams		
	3.3	<b>Product, Process, and Schedule Design:</b> Schedule Design	Live meeting/ Microsoft teams		
4	4.1	<b>Product, Process, and Schedule Design:</b> Schedule Design	Recorded videos		
	4.2	<b>Product, Process, and Schedule Design:</b> Management Tools	Live meeting/ Microsoft teams	Quiz	
	4.3	<b>Flow Systems, Activity Relationships, and Space Requirements:</b> Introduction, Flow Systems	Live meeting/ Microsoft teams		
5	5.1	<b>Flow Systems, Activity Relationships, and Space Requirements:</b> Material Flow System	Live meeting/ Microsoft teams		
	5.2	<b>Flow Systems, Activity Relationships, and Space Requirements:</b> Departmental Planning	Live meeting/ Microsoft teams	Quiz	
	5.3	<b>Flow Systems, Activity Relationships, and Space Requirements:</b> Departmental Planning	Recorded videos		
6	6.1	<b>Flow Systems, Activity Relationships, and Space</b>	Recorded videos		

		<b>Requirements:</b> Activity Relationships			
	6.2	<b>Flow Systems, Activity Relationships, and Space Requirements:</b> Space Requirements.			
	6.3	<b>Personnel Requirements:</b> Introduction, The Employee–Facility Interface	Recorded videos		
7	7.1	<b>Personnel Requirements:</b> Restrooms	Recorded videos		
	7.2	<b>Personnel Requirements:</b> Food Services	Recorded videos		
	7.3	<b>Personnel Requirements:</b> Health Services, Office Facility Planning.	Recorded videos		
8	8.1	Review For the Midterm	Live meeting/ Microsoft teams		
	8.2	Review For the Midterm	Live meeting/ Microsoft teams		
	8.3	<b>Material Handling:</b> Introduction, Scope and Definitions of Material Handling, Material Handling Principles, Designing Material Handling Systems	Recorded videos		
9	9.1	<b>Material Handling:</b> Unit Load Design	Recorded videos		
	9.2	<b>Material Handling:</b> Material Handling Equipment, Estimating Material Handling Costs, Safety Considerations.	Recorded videos		
	9.3	<b>Layout Planning models and Design Algorithms:</b> Introduction, Basic Layout Types	Live meeting/ Microsoft teams		
10	10.1	<b>Layout Planning models and Design Algorithms:</b> Layout Procedures, Muther’s Systematic Layout Planning Procedure (SLP)	Recorded videos		
	10.2	<b>Layout Planning models and Design Algorithms:</b> Layout Procedures, Muther’s Systematic Layout Planning Procedure (SLP)	Recorded videos		
	10.3	<b>Layout Planning models and Design Algorithms:</b> Pairwise Exchange Method	Recorded videos		
11	11.1	<b>Layout Planning models and Design Algorithms:</b> Graph Based Method	Recorded videos		
	11.2	<b>Layout Planning models and Design Algorithms:</b>	Recorded videos		

		CRAFT.			
	11.3	<b>Layout Planning models and Design Algorithms:</b> CRAFT.	Recorded videos		
12	12.1	<b>Layout Planning models and Design Algorithms:</b> CRAFT.	Recorded videos		
	12.2	<b>Layout Planning models and Design Algorithms:</b> Algorithm Classification	Recorded videos		
	12.3	<b>Layout Planning models and Design Algorithms:</b> Department Shapes and Mail Aisles, Multi-Floor Facility Layout, Commercial Facility Layout Packages, The .Impact of Change, Developing Layout Alternatives.	Recorded videos		
13	13.1	<b>Warehouse Operations:</b> Introduction, Missions of a Warehouse, Functions in the Warehouse, Receiving and Shipping Operations, Dock Locations, Storage Operations.	Live meeting/ Microsoft teams		
	13.2	<b>Warehouse Operations:</b> Introduction, Missions of a Warehouse, Functions in the Warehouse, Receiving and Shipping Operations, Dock Locations, Storage Operations.	Live meeting/ Microsoft teams		
	13.3	<b>Warehouse Operations:</b> Introduction, Missions of a Warehouse, Functions in the Warehouse, Receiving and Shipping Operations, Dock Locations, Storage Operations.	Live meeting/ Microsoft teams		
14	14.1	Project submission. Presentations/quiz	Live meeting/ Microsoft teams	Project	
	14.2		Live meeting/ Microsoft teams	Quiz	
	14.3		Live meeting/ Microsoft teams		
15	15.1	Exam week			
	15.2	Exam week			
	15.3	Exam week			

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

### 23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

<b>Evaluation Activity</b>	<b>Mark</b>	<b>Topic(s)</b>	<b>Period (Week)</b>	<b>Platform</b>
HomeWorks	10			Microsoft Teams
Quizzes	10			Microsoft Teams
Midterm Exam	30			Microsoft Teams
Final Exam	50			Microsoft Teams

### 24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

Student should have a computer and internet connection.

### 25 Course Policies:

A- Attendance policies: all students are expected to attend all online meetings. Any student with more than 15% missing classes is subject to be failed in the class.

B- Absences from exams and submitting assignments on time: all students should submit the assigned quizzes, short late submission is permissible if the student had internet issues during the exam. The final exam is expected to be on campus, and all absent students are subject to the university regulation for accepting their absence excuse through the office of the assistant dean for student affairs

C- Health and safety procedures: None

D- Honesty policy regarding cheating, plagiarism, misbehavior: cheating, plagiarism, misbehavior: Discuss the assignments among yourselves. This is helpful to the learning process. However, direct copying of others work will NOT be allowed or tolerated and will result in a reduction of grade.

E- Grading policy:

Midterm	:30%
Projects and Quizzes	:20%

Final	:50%
Total	:100%

F- Available university services that support achievement in the course: : school of engineering computer labs

**26 References:**

<p>A- Required book(s), assigned reading and audio-visuals:</p> <p>Facilities Planning, Tompkins and others, 4th Ed., Wiley and Sons, 2010.</p> <p>B- Recommended books, materials and media:</p>
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**27 Additional information:**

<b><i>The B.Sc. in industrial Engineering program enables students to achieve, by the time of graduation the following program learning outcome (SOs)</i></b>			
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<b>4</b>	<i>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</i>		
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Name of Course Coordinator: -----Signature: ----- Date: -----

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----