

## Course E-Syllabus

1	<b>Course title</b>	Production Planning and Control
2	<b>Course number</b>	IE0906421
3	<b>Credit hours</b>	3
	<b>Contact hours (theory, practical)</b>	Sunday, Tuesday, Thursday (10:30-11:30) Monday, Wednesday (8:30-10:00)
4	<b>Prerequisites/corequisites</b>	Operations Research-1 (IE0906353)
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>	4th Year/ 2 <sup>nd</sup> Semester
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>	None
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 checked="" type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input checked="" type="checkbox"/> Other: YouTube/Facebook
17	<b>Date of production/revision</b>	10/10/2020

### 18 Course Coordinator:

Name: Lina Al-Qatawneh  
Office number:  
Phone number: 06 535 5000 Ext.: 22932  
Email: lqatawneh@ju.edu.jo

### 19 Other instructors:

Name:  
Office number:  
Phone number:  
Email:

Name:  
Office number:  
Phone number:  
Email:

## 20 Course Description:

Strategic issues in designing production planning and control systems. Supply Chain Management, Forecasting, Inventory Management, Aggregate Planning, Master Production Scheduling, and Materials Requirements Planning.

## 21 Course aims and outcomes:

### A- Aims:

The main objective of this course is to introduce the students to the fundamentals of different strategies employed in manufacturing and service industries to plan production and control inventory. This includes the understanding of the main concepts of forecasting techniques, capacity and aggregate planning, inventory management, scheduling, materials requirement planning.

### B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course, students will be able to:

#	After successful completion of this course, the student will be able to	SO
CLO1	Understand the general view of supply chains	1,2
CLO2	Make forecasts in the manufacturing and service sectors using judgmental, causal, and time-series methods	1,2
CLO3	Calculate the five basic measures of forecast errors and choose the best forecasting method for a service or product	1,2
CLO4	Define the different types of inventory and the roles they play in supply chains	1,2
CLO5	Use ABC analysis to identify the items deserving most attention and tightest inventory control	1,2
CLO6	Apply selected inventory control systems for independent demand items	1,2
CLO7	Define the key factors that determine the appropriate choice of an inventory control system	1,2
CLO8	Use spreadsheets for sales and operations planning	1,2
CLO9	Develop workforce and workstation schedules	1,2
CLO10	Develop a master production schedule (MPS) and compute available-to-promise quantities	1,2
CLO11	Apply the logic of a material requirements planning (MRP) system for dependent demand items	1,2
CLO12	Perform a case study project in designing production planning and control systems and communicate and present the results effectively	2,3

## 22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1-4	All	Forecasting Demand	Synchronous and Asynchronous lecturing/meeting	Homework, Quiz	Operations Management: Processes and supply chains. Krajewski, L., Ritzman, L. and Malhotra, M., Pearson Prentice Hall, 12th Edition, 2019.
5-9	All	Managing Inventories	Synchronous and Asynchronous lecturing/meeting	Homework, Quiz	

10-11	All	Planning and Scheduling Operations	Synchronous and Asynchronous lecturing/meeting	Homework, Quiz	
12-15	All	Efficient Resource Planning	Synchronous and Asynchronous lecturing/meeting	Homework, Quiz	

- 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:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Homework/Quiz	15			
Mid Exam	35			
Final Exam	50			

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

Students should have a computer, internet connection, account on Moodle

### 25 Course Policies:

A- Attendance policies:

B- Absences from exams and submitting assignments on time:

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

E- Grading policy:

F- Available university services that support achievement in the course:

**26 References:**

A- Required book(s), assigned reading and audio-visuals:

Operations Management: Processes and supply chains. Krajewski, L., Ritzman, L. and Malhotra, M., Pearson Prentice Hall, 12th Edition, 2019.

B- Recommended books, materials and media:

Operations Management: Sustainability and Supply Chain Management. Heizer, j., Render, B. and Munson, C., Pearson, 12th Edition, 2019

**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>			
<b>1</b>	<i>an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics</i>	<b>6</b>	<i>an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use 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>	<b>7</b>	<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>		

Name of Course Coordinator: -----Signature: ----- Date: -----

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

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

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

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