



**The University of Jordan**  
**School of Engineering**  
**Industrial Engineering Department**  
**2<sup>nd</sup> Semester 2024/2025**

Course name:	Production Planning and Control			
Course code:	IE0906421			
Credits hours	3			
Contact hours& room\office hours:	Contact hours: Sec 1: Sunday, Tuesday, Thursday (9:30-10:30) Office hours: Announced at office door			
Course instructor's name, E-mail, and phone:	Lina Al-Qatawneh lqatawneh@ju.edu.jo / Ext: 22932			
Course Coordinator:	Lina Al-Qatawneh			
Text book:	Operations Management: Processes and supply chains. Krajewski, L., Ritzman, L. and Malhotra, M., Pearson Prentice Hall, 11th Edition, 2016.			
Other reference(s):	Operations Management: Sustainability and Supply Chain Management. Heizer, J., Render, B. and Munson, C., Pearson, 12th Edition, 2016			
Course Description:	Theory and concepts involved for the analysis and control of production systems. Productivity and productivity measures. Demand forecasting models, capacity planning, inventory management, aggregate planning, Master Production Scheduling (MPS), Material Requirements Planning (MRP), and introduction to Enterprise Resource Planning (ERP).			
Providing Department:	Industrial Engineering			
Prerequisite Course:	Principles of Linear Algebra (IE0906305)			
Course type	Mandatory			
Assessment Methods:	Method	Weight %	Date	
	Quizzes	15		
	Mid Exam	35		
	Final Exam	50		
Course Learning Outcomes:	#	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					
Brief list of topics	Week #	Topic							
	1-4	Forecasting Demand							
	5-9	Managing Inventories							
	10-11	Planning and Scheduling Operations							
	12-15	Efficient Resource Planning							
Important Notes:		<ul style="list-style-type: none"> <li>• Do not hesitate to ask questions</li> <li>• You are required to bring a notebook and take notes in classes.</li> <li>• Students are expected to attend every class session and they are responsible for all material, announcements, schedule changes, etc., discussed in class.</li> <li>• Discuss the assignments among yourselves</li> <li>• 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 a n "F" for the course. There will be no exceptions.</li> <li>• 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</li> <li>• 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.</li> <li>• 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.</li> </ul>							
<p><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></p>									
1	<i>an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics</i>								
2	<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>								
3	<i>an ability to communicate effectively with a range of audiences</i>								
4	<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>								
5	<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>								
6	<i>an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions</i>								
7	<i>an ability to acquire and apply new knowledge as needed, using appropriate learning strategies</i>								