The University of Jordan
Faculty of Engineering
Industrial Engineering Department
Fall Semester 2024/2025

Course name:	Industrial Logistics Engineering			
Course code:	0916525			
Credits hours	3			
Contact hours/room:	Section 1: Sunday, Tuesday, Thursday: 8:30-9:30 am Section 2: Monday, Wednesday: 8:30-10:00 am			
Course instructor's name, E-mail, and phone:	Nibal Albashabsheh, Ph.D. n.albashabsheh@ju.edu.jo 22938			
Course Coordinator:	Nibal Albashabsheh, Ph.D.			
Text book:	G. Ghiani, G. Laporte, and R. Musmanno 2013, Introduction to Logistics Systems Management, 2nd edition. ISBN: 9781119943389			
Other reference(s):	D. Simchi-Levi, X. Chen, and J. Bramel 2005, The Logic of Logistics: Theory, Algorithms, and Applications for Logistics and Supply Chain Management, 2nd edition. ISBN: 0387221999			
Course Description:	This course provides comprehensive coverage of logistics system design, analysis, and management, with a particular emphasis on freight transportation and supply chain systems. It introduces key challenges arising in supply chain systems, quantitative models for addressing these challenges, and methods for solving the models. Emphasis is placed on analyzing model results and communicating their implications for decision-making.			
Providing Department:	Industrial Engineering			
Prerequisite Course:	Production Planning and Control (0906421)			
Course type	Mandatory			
Assessment Methods:	**Method**	**Weight %**	**Date**	
	Midterm	**30**		
	Quizzes	**10**		
	Projects	**10**		
	Final Exam	**50**		
Course Learning Outcomes:	#	**After successful completion of this course, the student will be able to**	**SO**	
	CLO1	Understand the basic concepts in Logistics and supply chain	**1**	

	CLO2	Be able to recognize and classify problems according to the three decision levels in supply chain: Strategic, tactical, and operational	**1**	
	CLO3	to develop the ability to create quantitative models for the design and control of logistics systems, and to analyze results obtained with such models	**1**	
	CLO4	to develop skill in applying a variety of techniques to solve logistics problems.	**1**	

	Week #	**Topic**
Brief list of topics		Introduction: Introduction to supply chain engineering What is a supply chain system? What are its key components? What technical decisions are involved in its design and control, and what engineering approaches are used to make these decisions?
		Long-haul freight transportation: mode selection and traffic routing How should shippers decide which modes/carriers to use for moving freight? How do transportation and pipeline inventory costs impact inventory management decisions? How should shipments be consolidated to take advantage of scale economies?
		Short-haul freight transportation Introduction to routing and scheduling problems for a local consolidation terminal. What are the key issues in designing collection and distribution systems? What methods are used to solve routing and scheduling problems?
		Logistics resource scheduling How should a firm's resources (planes, trucks, drivers) be allocated across tasks to optimize service?
		Facility location Where and how many facilities should be opened? How should customers be assigned to facilities? How should system efficiency or effectiveness be measured?
Important Notes:	• The students are asked to work as groups and present part of the lecture's materials on power point slides after the midterm exam. This can be an effective method to motivate students, be more engaged with the material, participate in the class, and collaborate with each other. The instructor usually moderates the whole activity. • Do not hesitate to ask questions	

	• You are required to bring a notebook and take notes in classes. • Students are expected to attend every class session and they are responsible for all material, announcements, schedule changes, etc., discussed in class. • Discuss the assignments among yourselves • 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.*		