

ISEN 6939 - Operations Supply Chain Strategy

Fall 2026 Syllabus, Section 01, CRN 43171,

Credit hours: 3

Instructor

Seok Gi Lee

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Public Instructor Information

Instructor Title: Assistant Professor

Instructor Professional Qualifications: PhD, Industrial and Manufacturing Engineering, Pennsylvania State University

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Course Description

6939. Operations & Supply Chain Strategy . This course explores manufacturing and service processes for transforming resources into technology-based products. It will cover strategies and processes for moving information and materials through the supply chain, strategies to support overall firm objectives, product development programs and capacity utilization requirements. The course will also explore manufacturing for flow design and facility layout; six sigma quality and statistical process control, lean supply chains, logistics, distribution and global sourcing; ERP, and inventory management. Prereq.: ISEN 3710 or equivalent. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	Factory Physics: The Foundations of Manufacturing Management	W. J. Hopp and M. L. Spearman	9781577667391

All course content will be summarized in PowerPoint slides and uploaded to Blackboard.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Course schedule (subject to change depending on the progress of the lecture)

Week of	Proposed Topic	Due/To Prepare for Class
8/24	Fundamental of batching strategy	
8/31	Sequential batching strategy	
9/7	Transfer batching strategy	
9/14	Line cycle time	
9/21	Fundamental of production scheduling (deterministic)	
9/28	Single machine models	
10/5	Single machine models	
10/12	Sequencing algorithms for multiple machines	
10/19	Fundamental of Line-of-balance problem	
10/26	Line-of-balance algorithms	
11/2	Line-of-balance algorithms	
11/9	Material requirement planning (MRP)	
11/16	Lot-sizing algorithms in MRP	
11/23	Wagner-Whitin procedure in MRP	
	Thanksgiving holiday	

11/30	Safety stock and safety lead time
12/7	Review materials

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.