IE 1080 – Supply Chain Analysis
Syllabus
Fall Term 2019 - 2020

Instructor: Prof. Robert T. P. Lu
Credit Hours: 3
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Lectures Wednesday, 13:50 PM - 16:25 PM
Classroom Zone 4, room 201

Textbook Design and Managing the Supply Chain: Concepts, Strategies, and Case Studies. Simchi-Levi/Kaminsky, third Edition, McGraw Hill

Additional Reference

Production and Operations Analysis**.** Steven Nahmias and Tava Lennon Olsen, 7th Edition, Waveland Press

Course Objective/Outline

This course intends to introduce essential topics regarding supply chain analysis and management. Supply chain management is an integrated approach to manage the processes of manufacturing and distribution channel from the initial supplier to ultimate customer. This course will introduce the development of supply chain management concept and strategies. The focus of this course will be on major supply chain management functions including forecasting, resource planning, manufacturing scheduling, order management, logistics management, inventory control, and supply chain performance evaluation. Other important topics related to supply chain management practices, such as the integration of supply chain management information systems, supply contract, and future challenges of supply chain management will also be addressed. The real-world case study will also be an important part of this course.

Applicable ABET Outcomes:

(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to analyze and interpret data

(c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
(d) An ability to identify, formulate, and solve engineering problems
(e) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Pre-requisites No specific courses, but students must show a solid engineering background and sufficient academic maturity.

Co-requisites None

Grading

Semester Test	25%
Homework and Final Project	25%
Hands-on Exercise/Labs	20%
Real World Case Problem Solving	20%
Class Participation – (Think and Discuss)	10%

Final grades:

Level	Letter Grade	Reported Numerical Score	Grade Points
Superior Performance	A	90 - 100	4.0
	A-	85 - 89	3.7
Meritorious Performance	B+	80 - 84	3.3
	B	76 - 79	3.0
	B-	73 - 75	2.7
Adequate Performance	C+	70 - 72	2.3
	C	66 - 69	2.0
	C-	63 - 65	1.7
Minimal Performance	D+	61 - 62	1.3
	D	60	1.0
Insufficient Performance (Failure)	F	< 60	0.0

Course Policies:

- Students are expected to come prepared for each lecture by reading the appropriate material prior to class
- Questions concerning the grading of homework assignments, project-related materials, or exams must be presented to the instructor or the TA within one week (7 calendar days) after the materials have been made available for return to the student
- Late assignments will **NOT** be accepted, and all assignments, projects, and examinations must be **completed/taken at the scheduled time**. No exceptions will be made unless there are truly extenuating circumstances
- Cheating or academic dishonesty in any form will result in a grade of F for the course; there will be no exceptions to this policy.
- Professional classroom demeanor is required; in particular, all cell phones and personal electronic devices must remain off or silent during the lecture.
- Do not conduct side conversations during the lecture as it is distracting to the lecturer and other students.

Email Policy I will respond to emails as promptly as I can, usually within two days. For detailed technical questions, please come to the TA or the instructor during office hour. The instructor will not be addressing detailed technical questions via email as it is not efficient.

Teamwork

The homework, project, hands-on exercise/Labs, and real-world case problem will be team-based. Detail description of these works will be provided during class. These works are designed to apply supply chain analysis and management functions to enterprises to solve real-world problems. Evaluation of these works will be based on both the presentations and the written reports. In the team-based report, the student will need to identify which part of the report he/she is responsible for. The overall performance of the team reports and presentations will account for 50% of the student's grade, and the student's personal performance of the report and presentation will account for the other 50%. That means, while project/casework is team-based, the evaluation will be individual-based.

Audio-Video Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion, and activities without the advance written permission of the instructor, and any such recording properly approved in advance should be used solely for the student's private use.

Special Accommodations

If the student has a disability for which the student is or may be

requesting an accommodation, the student is encouraged to contact the instructor.

Tentative Schedule

Week 1: Introduction to Supply Chain Analysis and Management
Week 2: The Evolution and Scope of Supply Chain Management
Week 3: Supply Chain Management Functions Overview
Week 4: Forecasting for Supply Chain Integration
Week 5: Resource Planning for Supply Chain Integration
Week 6: Scheduling for Supply Chain Integration
Week 7: Order Management for Supply Chain Integration
Week 8: Inventory Management – Continuous Review Policies
Week 9: The SCORE model
Week 10: Inventory Management – Periodical Review Policies
Week 11: Supply contracts – Make to Order
Week 12: Supply contracts – Make to Stock
Week 13: Hands-on Practice – The Beer Game
Week 14: Major Challenges in Supply Chain Management
Week 15: Semester Test
Week 16: Information Technology for Supply Chain Integration
Week 17: Real-world Case Problem Solving
Week 18: Final Project Presentation