

**IE 1080 – Supply Chain Analysis
Syllabus
Fall Term 2023 - 2024**

Instructor: Prof. Robert Lu

Credit Hours: 3

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Office Hours: Tuesdays
12:00 PM - 15:40 PM

Wednesdays and Thursdays
12:00 PM - 13:50 PM
16:25 PM - 17:15 PM

Office: Zone 4, room 220

Teaching Assistant:

Scarlett Ruan
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Lectures Wednesdays, 13:50 - 16:25

Classroom Zone 4, room 203

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 the ultimate customer. This course will introduce the development of the 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 contracts, 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	30%
Homework and Final Project	30%
Hands-on Exercise and Real World Case Problem Solving	30%
Class Participation – (Think and Discuss)	10%

Final grades:

等级成绩 (Level score)	A	A-	B+	B	B-	C+	C	C-	D+	D	F
等级成绩 (Level score)	优秀 (Excellent)		良好 (Good)		中等 (Average)		合格 (Qualified)			不合格 (Failed)	
百分制成绩 (Percentage score)	100~90	89~85	84~80	79~76	75~73	72~70	69~66	65~63	62~61	60	<60
成绩绩点 (Grade point)	4	3.7	3.3	3	2.7	2.3	2	1.7	1.3	1	0

Course Policies:

- Students are expected to come prepared for each lecture by reading the appropriate material prior to class

- Unless announced otherwise, 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 to the student
- Late assignments will **NOT** be accepted and all assignments, projects, examinations, etc. 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 Email will be responded as promptly as possible, 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, final project, and Hands-on Exercise/ Real World Case Problem Solving 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 reports and presentation materials, the student will need to identify on the cover page 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 the case studies are 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, discussions, and/or 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 own private use.

Make-up exam Policy

Make-up exam grading is only to replace your semester test grading. Students who pass the course after the make-up exam will receive only a passing grade as the final grade.

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: Information Technology for Supply Chain Integration
Week 16: Real-world Case Problem Solving Competition
Week 17: Final Project Presentation
Week 18: Semester Test

Semester Test Schedule

TBD