



The Leon Recanati Graduate School of Business Administration

## 1231.3021.01 – Supply-Chain Management

### First Semester – 2020/21

Section	Day	Hour	Exam date	Lecturer	Email
01	Monday	18:45-21:30 (First half)	<a href="#">As posted on the list of exams</a>	Dr. Noam Shamir	nshamir@tauex.tau.ac.il

**Teaching Assistant (TA):** Yaniv Grosman, [yanivgro@gmail.com](mailto:yanivgro@gmail.com)

**Office Hours:** By appointment

### Course Units

1 course unit = 4 ECTS units

The ECTS (European Credit Transfer and Accumulation System) is a framework defined by the European Commission to allow for unified recognition of student academic achievements from different countries.

### Course Description

In the last decade supply chain management has captivated the interest and attention of top executives of global companies and is now considered to be one of the key concepts for competitiveness for companies in the age of globalization. Mastering supply chain management can enable companies to increase market shares, reduce costs, improve customer service, and increase market values through improvements in return to assets. Integrating supply with demand is a fundamental challenge to managers today. To compete successfully in today's market place, companies need to manage effectively numerous activities from design to forecasting to manufacturing and distribution of their products or services to their customers.

Supply chain management deals with the management of materials, information and financial flows in a network consisting of suppliers, manufacturers, distributors, and customers. The coordination and integration of these flows within and across companies are critical in effective supply chain management. This coordination is particularly challenging since it depends on the individual (and many times conflicting) interests of the supply chain members.

The main objective of this course is to introduce participants to key concepts, best practices, innovative ideas, practical thinking and critical thinking of integrative demand and supply chain management. Students will learn major concepts and frameworks available for supply chain management and will develop the ability to evaluate supply chain performance and formulate a supply chain strategy taking into account changes in the market as well as the competitive environment. An important component of the course is the focus on supply chain coordination.

## Course Objectives

Upon completion of the course, the student will be able to:

1. Understand what is a supply-chain, and the importance of a supply-chain in the ability of a firm to compete in the global economy.
2. Understand the main considerations when designing a supply-chain: the role of different locations, out-sourcing vs. in-sourcing, off-shoring, and supply-base design.
3. Evaluate the risk associated with an existing supply-chain and develop strategies to hedge against this risk.
4. Understand the effect of decentralized supply-chain and the strategies to increase the efficiency of such a supply-chain.

## Evaluation of Student and Composition of Grade

Percentage	Assignment	Date	Group Size/Comments
50%	Final exam	<a href="#">As posted on the list of exams</a>	Individual
10%	Active class participation		Individual
30%	Final project	Presentation during last meeting Submission one week after final exam	Groups of 4 students
20%	Inventory HW	At the beginning of meeting #4	Groups of 2 students

\* According to University regulations, participation in all classes of a course is mandatory (Article 5).

\* Students who absent themselves from classes or do not actively participate in class may be removed from the course at the discretion of the lecturer. (Students remain financially liable for the course even if they are removed.)

## Course Assignments

A student must complete the following assignments:

1. An inventory HW (can be done in groups of 2 students).
2. A final project (see below).
3. A final exam.
4. Active participation in the class

### The final project

The goal of the final project is to allow the students to use the knowledge acquired during this class in a real setting. The final project can be submitted in groups of up to 4 students.

Instructions for the final project:

1. Choose a company or an industry that you are familiar with.
  2. Analyze the market in which this company operates. Specifically address the following points:
    - a. What is the value proposition the company offers its customers?
    - b. How dynamic is this market (in terms of changes in products, in customers' requirements, entry of new competitors etc.)?
    - c. How would you characterize the overall level of uncertainty in this market?
  3. Describe the supply-chain in this market. In particular remember to address the following issues:
    - a. Which companies are involved in this supply-chain
    - b. Location of each stage in this supply-chain.
    - c. The flow of information in the supply-chain.
    - d. The contract type used in this supply-chain between the firms.
  4. In light of your analysis, write 2-3 concrete recommendations that you feel can improve this supply-chain. Please be specific as you explain how these recommendations will reach the goal of improvement.
5. Please be prepared to present the final project during the last class. The presentation should be between 10-12 minutes, followed by 5 minutes of Q&A from the other students.
  6. Submission of your final report is due one week after the final exam.
  7. The final submission will not exceed 5 pages (not including exhibits).

Students who are unable to complete an assignment or course requirement must notify the TA of the course in advance via email

## Grading Policy

In the 2008/9 academic year the Faculty instituted a grading policy for all graduate level courses that aims to maintain a certain level of the final course grade. Accordingly, the final average grade for this course (which is an elective course) will be in the range 82-87%.

Additional information regarding this policy can be found on the Faculty website.

## Evaluation of the Course by Student

Following completion of the course students will participate in a teaching survey to evaluate the instructor and the course, to provide feedback for the benefit of the students, the teachers and the university.

## Course Site (Moodle)

The course site will be the primary tool to communicate messages and material to students. You should check the course site regularly for information on classes, assignments and exams, at the end of the course as well.

Course material will be available on the course site.

Please note that topics that are not covered in the course material but are discussed in class are considered integral to the course and may be tested in examinations.

## Course Outline\*

The class is comprised of three main modules: (1) supply chain fundamentals, (2) supply chain strategy, (3) supply chain coordination. Each module is described in detail below.

**Introduction:** This module introduces the objectives of supply chain management.

**Module 1: Supply Chain Fundamentals – Inventory Management.** This module focuses on setting inventory levels for a make-to-stock firm facing uncertain demand. Learning objectives:

- Understand the costs associated with excess and insufficient inventory.
- Understand the common inventory-related measures of customer service.
- Understand the “newsvendor” model and the trade-off between excess and insufficient inventory.
- Be able to set safety stock levels for a periodic review, single item inventory system.
- Understand the implications of forecast error, lead-time and lead-time variability on inventory management.

**Module 2: Supply Chain Strategy.** We identify various levers that can be used to better match supply with demand, such as transportation and distribution design, lead time reduction, production planning, demand forecasting, and delayed product differentiation. This module demonstrates that excessive or insufficient inventory is often a symptom of underlying problems and highlights the significant cost of excessive or insufficient inventory in a supply chain. Learning objectives:

- Understand the inventory implications of postponed product differentiation.
- Understand the power of accurate response techniques.
- Understand the tradeoffs between make-to-order and make-to-stock production.

**Module 3: Supply Chain Coordination.** This module focuses on coordinating with suppliers and customers to jointly improve fulfillment system operations. Supply chains require the careful coordination of many players. Appropriately designed incentives and information systems can facilitate such coordination both within and across firm boundaries. We

examine several coordinating mechanisms used within supply chains and learn how best to evaluate supply chain partnerships. Learning objectives:

- Understand the role of asymmetrically distributed information, and levers to reduce the resulting inefficiencies.
- Understand incentive conflicts between different firms in the same supply chain and what mechanisms can resolve such conflicts.

Meeting	Topic	Case	Reading	Submission
<b><i>Supply Chain Fundamentals</i></b>				
1a	Introduction to Supply Chain Management The strategic role of supply chain management	Focus on Diamond Retailing	Chapters 1-3	
1b	Supply Chain Design: Forecasting and the Newsvendor problem	ZARA	Chapters 7 and 13	
2	Supply Chain Design: Cycle Inventory Safety Inventory	HP	Chapters 11-12	
<b><i>Supply Chain Sourcing and Pricing</i></b>				
3	Outsourcing, Offshoring, and Mass Customization	The Mexico – China Game	Chapters 4-6, chapter 15	
4	Risk Management in Supply-Chains	Renesas Electronics		Inventory hw
<b><i>Supply Chain Coordination</i></b>				
5	Supply Chain Coordination: The bullwhip effect	The beer game simulation	Chapter 10	
6	The role of contracts Negotiations in supply-chains			
7	presentations of final projects Course wrap-up			presentation of final projects

\*Subject to change

## Required Reading

The course uses Supply Chain Management (5th edition) by Chopra and Meindl, and a course pack of required cases. Handouts will also be provided by the instructor.