



UNIVERSIDAD
esan

Course Syllabus Supply Chain Management

March – July 2019

Term VII

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I. General Course Information

Subject:	Supply Chain Management		
Prerequisite:	None	Code:	01239
Precedent:	Operations Research II	Semester:	2019-1
Credits:	3	Term:	VII
Weekly Hours:	4 hours	Course type:	In-class
CourseType Career	Compulsory: Industrial and Commercial Engineering Elective: Business Administration	Course Coordinator:	Augusto Choy: achoy@esan.edu.pe

II. Summary

This course covers theoretical and practical topics. It seeks to develop competencies in the analysis of key elements associated with the design and administration of supply chains, considering the efficient integration of suppliers, manufacturers, warehouses and distributors and retail outlets.

The course focuses on the criteria and tools that students can utilize to manage costs while analyzing the relationship between logistics and marketing, logistics and the supply chains, and the implementation of supply chain replenishment. It seeks to monitor the customer's management and the creation of value, the integration of order processes with the logistic system of the company and inventory management, warehousing system, packing, outsourcing and multimodal services, global logistics; control of logistic processes and the impact of logistics on the company's profitability.

III. Course Objectives

The objective of the course is to generate models and strategies for effective integration of the supply chain network in order to improve the competitiveness of the company. Students are asked to describe and analyze and supply chain various situations form a range of strategic and operational contexts and are expected to offer improvement suggestions.

IV. Learning Results

At the end of the course, the students will be able to:

- Classify the stages drivers and roles of supply chains and their part in improving supply chain network performance.
- Evaluate strategies to balance responsiveness and efficiency under different conditions of supply and demand uncertainty.
- Define and contrast the concepts of Green Supply Chain Management and its benefits for the organization and the needs of society.
- Demonstrate a basic level of application of the SAP ERP software in a range of supply chain contexts.

- Apply and calculate different demand planning techniques, manufacturing strategies and inventory control systems in the context of the supply chain.
- Evaluate sourcing decisions in terms of the benefits and risks.
- Summarize and interpret the logistics functions to improve supply chain performance.

V. Methodology

During the development of the course, sessions will contain student presentations and discussions in multidisciplinary teams. The topics will be about theoretical aspects learned in class, where students are encouraged to use their knowledge and creativity to answer questions and solve problems with the lecturer's guidance.

Theoretical lectures will provide students with essential background knowledge that are reinforced with visual tools (videos) about relevant topics of supply chains.

Major assignments (two case studies and two team projects) in this class is to be completed in teams of three to five students that **mandatorily will work in multidisciplinary teams** in order to recreate real business-like situations.

VI. Evaluation

The evaluation system is comprehensive and continuous. It is subdivided as follows: Permanent evaluation (50%), mid-term exam (25%) and final exam (25%).

The final grade (PF) will be obtained in the following way:

$$PF = (0,25 \times EP) + (0,50 \times PEP) + (0,25 \times EF)$$

Where:

PF	= Final Grade	(PF)
EP	= Mid-Term Exam	(EP)
PEP	= Continuous Evaluation	(PEP)
EF	= Final Exam	(EF)

The permanent evaluation results from the weighted average of the evaluations that correspond to the assessment of the student's learning process: Quizzes Presentations / Research projects / Graded Practical work and Laboratories (e.g for the SAP Supply Chain modules). The average of these grades provides the corresponding grade.

The weights within the permanent evaluation are described in the following table:

AVERAGE PERMANENT EVALUATION (PEP) 50%		
Evaluation Type	Description	Weight
Moodle quizzes	4 online Moodle quizzes (2.5% each)	10%
Theory paper	3 quizzes on assigned academic papers (5% each)	15%
Graded practical	Two integrated analysis cases (15% each)	30%
SAP modules	Completion of scheduled modules	5%
Course Projects	Project #1 Report	10%
	Project #1 Presentation	5%
	Project # 2 Report	10%
	Project # 2 Presentation	5%
Participation	Teamwork and involvement in groups and class	10%

VII. Programmed Content

WEEK	CONTENTS	ACTIVITIES / EVALUATION
LEARNING UNIT I: INTRODUCTION TO SUPPLY CHAINS AND THEIR MANAGEMENT LEARNING OUTCOME: <ul style="list-style-type: none"> Classify the roles and stages of supply chains and how these may improve supply chain network performance. Evaluate strategies to balance responsiveness and efficiency under different conditions of supply and demand uncertainty. 		
1° March 21 - 27	SUPPLY CHAIN BASICS & UNDERSTANDING THE SUPPLY CHAIN. 1.1) What is supply chain management 1.2) Objectives of supply chain management 1.3) Supply chain stages and roles	Presentation: Course Methodology Guideline - Review for UESAN written work presentation (APA Standards) Guideline - Effective Presentations
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 1 Págs. 3-28	Moodle Quiz N°1 Wisner et al. (2012) Principles of Supply Chain Management, Ch 1 Details on UEVirtual.
2° March 28 - April 03	1.4) Supply Chain Performance: Achieving Strategic Fit and Scope	Moodle Quiz N°2 Chopra & Meindl (2010) Supply Chain Management: Strategy, Planning and Operation. Ch 2 Details on UEVirtual.
	Chopra, S. & Meindl, P. (2010) Supply Chain Management: Strategy, Planning and Operation. (4th Edition), Ch 2 Págs. 19-36	
3° April 04 - 10	1.5) Coordination of the Supply Chain 1.6) Bullwhip effect	Activity N° 1 The Soda/Beer game lab Graded Practical N° 1 Set
	Chopra, S. & Meindl, P. (2010) Supply Chain Management: Strategy, Planning and Operation. (4th Edition), Ch 10 Págs. 250-269	
LEARNING UNIT II: GREEN SUPPLY CHAINS LEARNING OUTCOME: <ul style="list-style-type: none"> Define and contrast the concepts of Green Supply Chain Management and its benefits for the organization and the needs of society. Apply and calculate different demand planning techniques, manufacturing strategies and inventory control systems in the context of the supply chain. 		
4° April 11 - 17 (Holidays April 18,19 and 20)	2.1) Green Supply Chain: Basic concepts, 2.2) Benefits of Green Supply Chain Management, 2.3) Reverse logistics.	Group Project N° 1 Set Theory Quiz #1: Paul, et al (2014). A review on Green Manufacturing
	Chopra, S. & Meindl, P. (2010) Supply Chain Management: Strategy, Planning and Operation. (4th Edition), Ch 18 Págs. 500-509	

LEARNING UNIT III: SUPPLY CHAIN FORECASTING AND PLANNING LEARNING OUTCOME:		
<ul style="list-style-type: none"> Apply and calculate different demand planning techniques, manufacturing strategies and inventory control systems in the context of the supply chain. Demonstrate a basic level of application of the SAP ERP software in a range of supply chain contexts. 		
5° April 22 - 27	3.1) Demand forecasting 3.2) Types of forecasting approaches	Activity N° 2 Supply Chain Laboratory SAP Introduction and navigation
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 5 Págs. 133-162	
6° April 29 – May 04	3.3) Aggregate planning in the supply chain 3.4) Basic Chase and Level strategies	Graded Practical N° 1 Due: Upload and present printed copy to professor in class
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 6 Págs. 165-202	Activity N° 3 Supply Chain Laboratory SAP Forecasting
7° May 06 - 11	3.5) Chase and level strategies with additional variables Green Supply Chain Group Project Presentations	Group Project N° 1 Due: Upload and present printed copy to professor in class
8° May 13 - 18	MID-TERM EXAMS	
LEARNING UNIT IV: PRODUCTION AND MATERIALS MANAGEMENT LEARNING OUTCOME:		
<ul style="list-style-type: none"> Evaluate sourcing decisions in terms of the benefits and risks. Apply and calculate different demand planning techniques, manufacturing strategies and inventory control systems in the context of the supply chain. 		
9° May 20 - 25	4.1) Sourcing decisions in the supply chain 4.2) Outsourcing 4.3) Make or Buy 4.4) Managing risk and availability	Graded Practical N° 2 Set:
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 2 Págs. 37-69 Chopra, S. & Meindl, P. (2010) Supply Chain Management: Strategy, Planning and Operation. (4th Edition), Ch 15 Págs. 428-462	
10° May 27 – June 01	4.5) Materials management in the supply chain 4.6) Available to Promise 4.7) Bill of materials 4.8) Net requirements planning	Activity N° 4 Supply Chain Laboratory SAP Production Planning Group Project #2 Set
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 6 Págs. 165-202	Moodle Quiz N° 3 Wisner et al. (2012) Principles of Supply Chain Management, Ch 6 Details on UEVirtual

LEARNING UNIT V: LOGISTICS FUNCTION		
LEARNING OUTCOME:		
<ul style="list-style-type: none"> Summarize and interpret the logistics functions to improve supply chain performance. Demonstrate a basic level of application of the SAP ERP software in a range of supply chain contexts. Apply and calculate different demand planning techniques, manufacturing strategies and inventory control systems in the context of the supply chain. 		
11° June 03 - 08	Logistics Function I: Inventory 5.1) Inventory Management (Theory and Practice) 5.2) Cycle Inventory 5.3) Economic Order Quality	Activity N° 5 Supply Chain Laboratory SAP MPS & MRP Theory Quiz #2: Hoole, (2005). Five ways to simplify your supply chain.
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 7 Págs. 207-242	Graded Practical N° 2 Due: Upload and present printed copy to professor in class
12° June 10 - 15	5.4) Safety Inventory 5.5) Statistical reorder point 5.6) Probabilistic demand estimation	Moodle Quiz N° 4 Wisner et al. (2012) Principles of Supply Chain Management, Ch 7 Details on UEVirtual.
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 7 Págs. 207-242	Activity N° 6 Supply Chain Laboratory SAP Procurement and Inventory management
13° June 17 - 22	5.7) Managing Inventories 5.8) ABC control method 5.9) Service level and Item Fill Rates 5.10) Weighted Average Fill Rates Logistics Function II: Facilities 5.11) Warehouse / Distribution facilities	Theory Quiz #3: van Hoek (2001). E-supply chains – virtually non-existing
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 7 Págs. 207-242 Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 9 Págs.318-325	
14° June 24 - 29	5.12) Facility location decisions 5.13) Facility location factors 5.14) Facility location models Peruvian Supply Chain Group Project Presentations	Group Project N° 2 Due: Upload and present printed copy to professor in class on day of presentation
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 11 Págs. 375-398 299-339	
15° July 01 - 06	Logistics Function III: Transport 5.15) Transportation in the supply chain 5.16) Transportation types and attributes Course review	
	Wisner/Tan/Leong. Principles of Supply Chain Management: A Balanced Approach 3rd Ed.Ch 9 Págs. 299-339	

16°
July 08 -
13

FINAL EXAMS

VIII. Bibliography

Base Reading:

- Chopra, S. & Meindl, P. (2010) **Supply Chain Management: Strategy, Planning and Operation**. (4th Edition) New Jersey, Pearson Prentice-Hall, Inc. [HF5415.13 C533i 2010]
- Wisner, J.D., Tan, K-C., & Leong, G.K. (2012) **Principles of Supply Chain Management**, (3rd Edition), Mason, OH: South-Western - Cengage Learning

Complimentary Readings:

- Paul, I.D., Bholeb, G.P., & Chaudharic, J.R. (2014). A review on Green Manufacturing: It's important, methodology and its application. *Procedia Materials Science* 6, 1644 – 1649. <https://doi.org/10.1016/j.mspro.2014.07.149>
- Hoole, R. (2005). Five ways to simplify your supply chain. *Supply Chain Management: An International Journal* (10)1, 3-6, <https://doi.org/10.1108/13598540510578306>
- van Hoek, R. (2001). E-supply chains – virtually non-existing, *Supply Chain Management: An International Journal* (6)1, 21-28, <https://doi.org/10.1108/13598540110694653>

Research Ethics:

PLEASE NOTE: Internet searches will often take you to non-academic information resources. You may supplement your research with these sources, but keep in mind that the information you find there may not be accurate, since it does not come under a formal oversight or peer-review process.

While you may use and cite non-academic resources such as Wikipedia when working on assignments, you may not rely on them exclusively. The majority of your sources should be peer-reviewed academic journals. Further, remember that you are responsible for the accuracy of any facts you present in your assignments and therefore should confirm the veracity of information you find on non-academic sources through further research.

IX. Lab Support

6 Lab sessions for the course for Bullwhip simulation requiring internet connection and one introductory and 4 case-based SAP supply chain modules.

X. Lecturers

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