

Supply Chain: Strategy, planning and management

CODE: DOI-OPT-611
SEMESTER: 2^a
CREDITS: 6 ECTS (4 hrs. per week)
LANGUAGE: English
DEGREES: MII

Course overview

In this subject the student will acquire knowledge about supply chains, their operation, purpose and strategic alignment with the company. Likewise, the student will be able to design chains of supply by sizing its resources and deciding locations and modes of operation in globalized environments. Under real environments of uncertain behavior of the demand, the student will internalize the importance of the coordination and sustainable management of logistics operations. The student will use decision-making and linear programming optimization with Excel.

Prerequisites

There are no prerequisites to attend this course. However, it is recommended to be familiar with knowledge of statistics, probability and linear programming optimization. It can be done with Excel. Concepts learned in the courses related to “Manufacturing and Production” and “Operations Management” can help to understand challenges in the Supply chain management.

Course contents

Theory:

1. **Supply Chains:** Description, performance and objectives
2. **Logistic Network Design:** Stages, Decision models and Risk Management
3. **Logistic Planning:** Demand forecasting, Aggregated Planning and S&OP
4. **Sustainable Management of Logistic operations:** Logistic coordination and sustainable supply chains

Laboratory:

There will be several sessions of Practices: Bullwhip effect, Optimal Locations & Network Designs.

Textbook

- Chopra, S. and Meindl P., "Supply Chain Management. Strategy, Planning and Operation". Sixth Edition. Global Edition. 2016. ISBN 10: 1292093560
- R.S. Russell y B. W. Taylor. Operations Management. Creating Value Along the Supply Chain. (7ª ed.). John Wiley & Sons, Inc.. Estados Unidos (2011)

Grading

Regular take:

The following conditions must be accomplished to pass the course:

- A minimum overall grade of at least 5 over 10.
- A minimum exam grade of 4 over 10 (weighting the final exam 2/3 and mid-term exam 1/3).

The overall grade is obtained as follows:

- Final exam: 40%.
- Mid-term exam: 20%.
- Report and oral presentation of a global project management case: 25%.
- Class Participation: 15%

Retake:

The following conditions must be accomplished to pass the course:

- A minimum overall grade of at least 5 over 10.
- A minimum final exam grade of 4 over 10.

The overall grade is obtained as follows:

- Final exam: 60%.
- Report and presentation of a global project management case: 25%.
- Class Participation: 15%

	ACTIVIDADES PRESENCIALES				ACTIVIDADES NO PRESENCIALES		
WEEK	h/w	Theory/Problems	Cases/ Practices	Evaluation	h/w	Individual study	Problem solving
1	4	Bloque 1. Descripción, funcionamiento y finalidad (36)	Amazon, Zara PPT and discussion Questions		8	Lectura y estudio de los contenidos teórico-prácticos del bloque 1	
2	4	Bloque 1. Alineamiento estratégico empresarial (26)	Half pallet ex. Ocado and Industry 4.0 videos. Blockbuster case discussion		8	Lectura y estudio de los contenidos teórico-prácticos del bloque 1	Resolución de casos del bloque 1
3	4	Bloque 1. Indicadores, factores y recursos logísticos (31)	VIDEOS RFID and warehouse UPS. Seven Eleven Japan case discussion	Show example SC CASE REPORT	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 1	Resolución de casos del bloque 1
4	4	Bloque 2. Etapas de diseño logístico (32)	Amazon and Peapod video. 11 Discussion questions	Online grocery with COVID	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 2	Resolución de casos del bloque 1
5	4	Bloque 2. Modelos de optimización de decisiones de localización y capacidad (32)	Shenzen VIDEO. Using SOLVER with 3 examples; CoolWipes Case		8	Lectura y estudio de los contenidos teórico-prácticos del bloque 2	
6	4	Bloque 2. Modelos de optimización de decisiones de localización y capacidad (32)	Trip Logistic Decision Tree. SMART phone SC		8	Lectura y estudio de los contenidos teórico-prácticos del bloque 2	Resolución de problemas y casos del bloque 2
7	4	Bloque 2. Modelos de optimización de decisiones de localización y capacidad (75)	D-Solar decision Tree		8	Lectura y estudio de los contenidos teórico-prácticos del bloque 2	Resolución de problemas y casos del bloque 2
8	4	Bloque 2. Modelos de optimización de decisiones de localización y capacidad (75)	Nokia decision Tree	Upload Supply Chain Report by Oct 23rd	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 3	
9	4	Bloque 3. Previsión de la demanda (33)	5 discussed questions. Salt Example	Mid term Exam by Oct 30th	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 3	Resolución de problemas y casos del bloque 3
10	4	Bloque 3. Planificación agregada (37)		Supply Chain Team reports	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 3	Resolución de problemas y casos del bloque 3
11	4	Bloque 3. Planificación agregada (37)		Supply Chain Team reports	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 3	Resolución de problemas y casos del bloque 4
12	4	Bloque 3. Planificación de ventas y operaciones (34)	One Company and Consum CRP examples. KPH case	Supply Chain Team reports	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 4	Resolución de problemas y casos del bloque 4
13	4	Bloque 4. Coordinación logística (26)	Arbora Case	Supply Chain Team reports	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 4	Resolución de problemas y casos del bloque 4
14	4	Bloque 4. La sostenibilidad y la cadena de suministro (29)	DELL Case	Bullwhip effect Practice	8	Lectura y estudio de los contenidos teórico-prácticos del bloque 4	Resolución de problemas y casos del bloque 4