

Code	IIN301	Prerequisites	INI393, INI393L INI392, INI392L
Name	Supply Chain Engineering	Co-requisites	None

Credits	Contact Hours
04	52
Categorization of credits	
Math and basic science	
Engineering topic	X
Other	

Coordinator's name	Layna Santana
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Text book
Alfalla Lique, R. (2016). Strategic management of the supply chain. (1st ed.). Pacific University.
Chopra, S., Meindl, P. (2015). Supply Chain Management: Strategy, Planning, and Operation. Pearson Education.
Christopher, M. (2016). Logistics & Supply Chain Management. (5th Ed.). Publishing Financial Times.
Sabria, F. (2016) Supply Chain. (3rd ed.). Marge Books.
Other supplemental materials
Pawar K, Rogers H, Potter A, Naim M (2016). Developments in Logistics and Supply Chain Management: Past, Present and Future. UK: Palgrave Macmillan.
Santon, D. (2017). Supply Chain Management for Dummies. Business & Economics.
Velasco, J. (2013). Gestión de la logística en la empresa: Planificación de la cadena de suministros (Economía Y Empresa). Pirámide.

Description	
<p>Supply chain engineering aims to analyze the activities of planning, operation and control of the flow of materials and products, in order to propose strategies that reduce inventory levels and increase the level of service for the end customer. At the end of this program the student is expected to be able to evaluate, design and recommend improvements for the optimization of the supply chain.</p> <p>The content of this subject includes the different logistics processes that are part of the supply chain, such as: demand forecasting, statistically analyzing the behavior of demand for the operations area, maintaining a balance with the commercial area; production planning, indicating what, when and how much to produce; And storage, what should be the optimal inventory levels, and the location of storage points.</p>	
Type of course	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective

Specific goals for the course	
Outcomes of instruction	<ol style="list-style-type: none"> <li>1. Apply the techniques and tools for the design and configuration of distribution networks.</li> <li>2. Design integrated systems that include the planning, operation and control of the flow of materials and products, using models to define the balance between logistics decisions and service levels.</li> <li>3. Contrast the advantages and disadvantages of the different logistics decisions that take place in the supply chain.</li> <li>4. Work collaboratively with groups of students to develop projects.</li> <li>5. Show a critical, purposeful and proactive attitude in the oral presentations of their projects.</li> </ol>
Student outcomes	<p>SO2. Apply the engineering design process to produce solutions that meet specific needs considering public health, safety and welfare, as well as global, cultural, social, environmental and economic factors.</p> <p>SO4. Recognize ethical and professional responsibilities in engineering situations and makes informed judgments considering the impact of engineering solutions in global, economic, environmental, and social contexts.</p> <p>SO5. Function effectively in a team whose members together provide leadership, create a collaborative and inclusive environment, set goals, plan tasks, and meet objectives.</p> <p>SO7. Acquire and apply new knowledge using appropriate learning strategies.</p>

topics
Unit I. Introduction to the Supply Chain Unit II. Supply chain management Unit III. Supply Chain Optimization