

IDENTIFICACIÓN

DIVISIÓN/ VUAD:

ENGINEERING

FACULTAD/ DEPARTAMENTO/ INSTITUTO:

INDUSTRIAL ENGINEERING

PROGRAMA ACADÉMICO:

INDUSTRIAL ENGINEERING

NOMBRE DEL
DOCENTE:

JOSE ALEXANDER RODRIGUEZ H.

DENOMINACIÓN DEL ESPACIO ACADÉMICO (asignatura, curso, módulo, campo disciplinar, área de un campo)

SUPPLY CHAIN MANAGEMENT

CÓDIGO DEL ESPACIO ACADÉMICO:

15158

CARÁCTER DEL ESPACIO ACADÉMICO:

Teórico

☐

Teórico - práctico

X

Práctico

☐

NÚMERO DE CRÉDITOS

3

NÚMERO DE HORAS DE T.P.

4

NÚMERO DE HORAS T.I.

5

METODOLOGÍA DEL
ESPACIO:

Presencial

X

Virtual

Distancia

PRERREQUISITOS

N/A

PERTENECE AL
COMPONENTE
OBLIGATORIO
(si aplica, marcar
con una X)PERTENECE AL
COMPONENTE
FLEXIBLE
(si aplica, marcar
con una X)

CORREQUISITOS	N/A	PERTENECE AL COMPONENTE OBLIGATORIO <i>(si aplica, marcar con una X)</i>	PERTENECE AL COMPONENTE FLEXIBLE <i>(si aplica, marcar con una X)</i>

UBICACIÓN DEL ESPACIO ACADÉMICO

Indique según el diseño curricular del programa académico el ciclo, módulo, campo de formación, nivel, período, semestre y/o el área de conocimiento a la cual pertenece el espacio académico.

COMPONENT: MANDATORY

LEVEL OF TRAINING: COMPLEMENTARY - PROCESS IMPROVEMENT

SEMESTER: SEVENTH

PROPÓSITOS DEL ESPACIO ACADÉMICO

Intencionalidad del espacio académico en relación con la Misión, el (los) objetivo(s) general y específico o propósitos del programa académico contenidos en el PEP y en el Plan Analítico del programa. Determinar el alcance del espacio

académico. Tener en cuenta la descripción del espacio académico aportada en el Plan Analítico del Programa. (Máximo 120 palabras).

Every day logistics becomes more important in companies to achieve competitive advantages and attract more demanding customers. Due to this fact, companies require industrial engineers skillful in logistics management to ensure the integration and synchronization of the supply chain in order to coordinate the flow of materials, products, money, documents, human resources and technologies. In addition, they need to be capable of assuming the challenge of moving products and services from suppliers to consumers in the agreed time and quantities, minimizing costs and maintaining the expected quality with social responsibility and with the environment. The correct management of storage and transport are fundamental in the supply chain and become key competitiveness factors, in which today companies are focusing their efforts on to achieve operational efficiencies, with the objective of satisfying the needs of their customers delivering complete orders or services timely, with sustainable and profitable processes that contribute to the achievement of the strategic objectives.

Provide the students with concepts and tools that allow them to identify and to understand the role of each link within a supply chain.

To offer theoretical and practical spaces for students to apply in real cases the concepts learned, through the elaboration of workshops and business visits.

To be a fundamental academic space in developing the ability to understand, analyze, design and improve logistics operations.

ARTICULACIÓN CON EL NÚCLEO PROBLÉMICO

Describir de qué forma se articula el espacio académico con el(los) núcleo(s) problematizador (es). Enunciar las pregunta(s) orientadora(s) que dinamiza(n) el espacio académico. (Máximo 300 palabras)

The study of the supply chain gives students the possibility of understanding the productive and service business environment, contextualizing on topics such as competitiveness, operational efficiency, management, trends and best practices from the different variables and logistic behaviors.

Likewise, they will have a view on how logistics is a useful tool to establish practical and creative solutions in their materials and information flow strategies, and help them to have a clearer view on their supply chain and related problems, which allows them to provide customers with the products and services they need, reliably and timely.

Guiding questions:

- How to identify, understand and use the main conceptual tools related to logistics?
- How does supply chain management bring value to the company and its customers?
- How does supply chain become a differentiating factor and key component to improve competitiveness?
- How can the integration and competitiveness of supply chains be achieved in a way that they can contribute to the development of the country?

METODOLOGÍA

Descripción de la relación docente - estudiante para la construcción de conocimiento por medio de la metodología que utiliza cada docente dentro de su autonomía, para el desarrollo del espacio académico (Seminario alemán, aprendizaje autónomo, aprendizaje significativo, aprendizaje basado en problemas ABP, estudio de casos, aprendizaje por proyectos, círculos académicos, enseñanza para la comprensión y sus estrategias EPC, Aula pensante y espiral de aprendizaje, Proyecto Zero, trabajo colaborativo entre otros). Desde el Modelo Educativo Pedagógico USTA, qué acciones intencionadas y planeadas diseña e implementa el docente para que el estudiante con la mediación de éste o de la interacción con sus compañeros, su entorno y las mediaciones tecnológicas, construya significados y desarrolle habilidades intelectivas en y para lo superior (relación lectio, cuestio, disputatio). Papel del docente en la *conductio* y *promotio* aquinianas para la formación integral del estudiante Tomasino. Rol del docente como mediador.

(Máximo 300 palabras)

- The student should read the class topic before each session.
- The teacher explains the subject through audiovisual aids, videos, case studies.
- Workshops and exercises are carried out in class to put into practice the subjects covered.
- The teacher brings real, authentic cases to the classroom in order to make the student familiar with business experiences.
- Business visits will be carried out to support the learning of the topics covered.
- The student will carry out a project in a company with the aim of improving an operation through the tools seen in the academic space.

CONOCIMIENTOS PREVIOS PARA INICIAR EL ABORDAJE DEL ESPACIO ACADÉMICO

Se deben establecer a manera de competencias y de conocimientos, que deben tener los estudiantes para iniciar el abordaje del espacio académico. (Máximo 100 palabras)

Introduction to industrial engineering and research methodology.
Basic concepts of statistics and probability.
Operations and concept analysis tools.
Concepts of finance, costs and budgets.

 UNIVERSIDAD SANTO TOMÁS PRIMER CLAUSTRO UNIVERSITARIO DE COLOMBIA	SYLLABUS DE ESPACIO ACADÉMICO		
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DIMENSIONES DE LA ACCIÓN HUMANA, COMPETENCIAS, CONTENIDOS Y ESTRATEGIAS PEDAGÓGICAS A DESARROLLAR

Por cada competencia descrita, clasificar según sea genérica o específica y relacionarlas con las Dimensiones de la Acción Humana (Comprender, Obrar, Hacer, Comunicar).

Se deben tener en cuenta las competencias transversales institucionales (Humanidades, Lengua extranjera, Competencia lecto-escritural, TIC, Ciencias básicas o Pensamiento lógico matemático), las cuales son responsabilidad de los departamentos e Instituto de Lenguas o quien haga sus veces.

Enunciar de manera secuencial los contenidos (títulos, temas, subtemas) que se desarrollarán en el espacio académico, indicando el número de semanas o sesiones por contenido. Tener en cuenta lo consignado en el Plan Analítico del Programa.

Determinar las estrategias pedagógicas, didácticas y evaluativas, que se implementarán en el proceso de formación durante el desarrollo del espacio académico, por cada competencia relacionada.

La evaluación como proceso formativo debe tener en cuenta la autoevaluación, coevaluación, heteroevaluación, y éstas deben ser correspondientes con el modelo problematizador USTA. Las estrategias didácticas y evaluativas deben incorporar el uso de las TIC, a través de aulas virtuales, que faciliten el manejo del sistema de créditos académicos. Indicar lo correspondiente.

SESIÓN	COMPETENCIA	GENÉRICA (G)/ ESPECÍFICA		COMPRENDER	OBRAR	HACER	COMUNICAR	UNIDADES TEMÁTICAS/ EJES TEMÁTICOS/ CONTENIDOS	ESTRATEGIA(S) DIDÁCTICA(S)	ESTRATEGIA(S) EVALUATIVA(S)
		G	E							
1	Concepts and Evolution of Logistics and Supply Chain (SCM)	x		x			x	Origins of logistics. Role of the industrial engineer in logistics. Definitions of logistics, supply chain / value chain, and supply chain management (SCM). Structure of the supply chain. Integration in the supply chain.	Presentations on the covered topics; real, authentic cases; videos.	Workshops, students' participation.

								National Policy on Logistics		
2-3	Materials Handling - Packaging and wrapping		x	x	x	x	x	Conceptualization of product, load, types of load. Packaging, wrapping and packing. Unitization of cargo (stowage, containers) Identification of the load.	Presentations on the covered topics; videos; classwork.	Workshops, quizzes.
4-5	Purchasing and procurement management		x	x	x	x	x	SRM Purchasing objectives. Volumes of purchases. Selection, evaluation and certification of suppliers. VMI	Presentations on the covered topics; videos; classwork.	Classwork, quizzes.
6-7-8	Inventory management		x	x	x	x	x	Concepts and functions of inventories. Types of inventories. Inventory costs. Economic Order Quantity (EOQ). Security Inventory. ABC classification	Presentations on the covered topics, classwork.	Classwork, workshops, quizzes.
9	Storage Management	x		x			x	Functions, activities, responsibilities, typology. Role within the	Presentations on the covered topics; real, authentic cases; videos.	Workshops, students' participation.

								supply chain.		
10	Storage Systems		x	x	x	x	x	Types of storage, types of bookshelves, kinds of stowage, environments and areas. Inventory rotation's systems.	Presentations on the covered topics; classwork; videos.	Classwork, workshops, quizzes.
11	Transportation equipments		x	x	x	x	x	Types of fork lift trucks, stowage, lifts. Transport bands.	Presentations on the covered topics; real, authentic cases; videos.	Classwork, workshops, quizzes.
12-13	Logistics Costs							Costs of the supply chain, storage and transportation.	Presentations on the covered topics, classwork.	Classwork, workshops, quizzes.
14	Information Systems		x	x	x	x	x	Automatic capture systems: Bar codes, RFID, EPC. ERP Information systems WMS, TMS, CRM. Electronic data interchange. Merchandise tracking technology. Technologies for security control, structure of the warehouse in a WMS, warehousing parameterization in the WMS, shelf coding.	Presentations on the covered topics; real, authentic cases; videos.	Workshops, class participation.

15	Presentation of projects.									
16	1st EXAM									
17	Reception / Storage Process		x	x	x	x	x	Objectives, procedures, receipt scheduling, indicators, inspection, documents, certified deliveries, Cross Docking, areas. Principles, input strategies, capacity calculations	Presentations on covered topics, videos, classwork.	Workshops, quizzes.
18	Picking /Packing Process		x	x	x	x	x	Systems of picking, packing, associated documents, equipment, procedures, labeling.	Presentations on covered topics, classwork, videos.	Classwork, workshops, quizzes.
19			x	x	x	x	x	Objectives,	Presentations on	Classwork, workshops,

	Shipment / Returns / Packaging Process							procedures, documents, types of conditioning, tariffs, equipment. Policies, classification of returns. Reverse and Green Logistics	covered topics, classwork, videos.	quizzes.
20-21	Inventory Control Process		x	x	x	x	x	Types of materials, physical inventories, reconciliations, indicators.	Presentations on covered topics, classwork.	Classwork, workshops, quizzes.
22	Distribution / Transportation, Development and Globalization		x	x	x	x	x	Key elements and concepts Distribution channels. Location of facilities and methods. Network planning. Evolution of transport. Globalization and transport.	Presentations on covered topics, classwork, videos.	Classwork, workshops, quizzes.
23	Basic concepts of Transport Operations / Transport Networks		x	x	x	x	x	Transport economics. Tele-communications and transport. Dynamic complexity and transport measures. Transport network strategy.	Presentations on covered topics; real, authentic cases; videos.	Quizzes, class' participation.

24	Road transport by road Water Transport (Sea) Water Transport (Fluvial)		X	x	x	x	x	Vehicular typologies, support facilities. Urban transport of cargo. Determinants of cost transportation by road. Typologies of ships and maritime terminals, types of maritime services. Typologies of ships and fluvial terminals, types of fluvial services. Costs of water transport.	Presentations on covered topics; real authentic cases; videos.	Classwork, Presentations, quizz, class' participation.
25	Train Transport Air transport							Typologies of vehicles and facilities, types of trains, airplanes. Types of services, train and air transport costs	Presentations on covered topics, classwork.	Classwork, presentations, quizz, class' participation.
26	Presentation of projects.									
27	2ND. EXAM									
28	Intermodal and multimodal transport Incoterms and Transportation Safety Foreign trade		x	x	x	x	x	Challenges. National and international experience, support tools. Inter / multimodal transport facilities. Comparison with uni-modal transport. Incoterms,	Presentations on covered topics, classwork, videos.	Classwork, presentations, quizz, participation.

QUALIFICATION CRITERIA

- a. Parámetros a tener en cuenta para la valoración cualitativa y cuantitativa del aprendizaje (asistencia, completitud, oportunidad, disciplina, rigurosidad, participación activa en clase o aula virtual, otros)
- b. Ponderación de actividades didácticas y evaluativas para la medición del aprendizaje. Elaboración de rúbricas. (Tener en cuenta porcentajes según Reglamento General Estudiantil o Reglamento General de Posgrados)

SCM NOTES			
	1st Cut 35%	2nd Cut 35%	3th Cut 30%
Final Exam	40%	40%	40%
Others (Quizzes, presentations, workshops)	30%	30%	30%
Entrepreneurial Project	30%	30%	30%
TOTAL	100%	100%	100%

BIBLIOGRAFÍA, WEBGRAFÍA Y OTRAS FUENTES

- a. Bibliografía (título de libro, capítulo de libro, artículo de revista hemerografía)
- b. Webgrafía (recursos consultados en Internet teniendo en cuenta el rigor científico)
- c. Otras fuentes (vídeo, documental, entrevistas, sentencias de cortes, jurisprudencia, otros)

Bibliography

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- SIMCHI-LEVI. Designing and managing the supply chain: concepts, strategies, and case studies. 2 ed., McGraw Hill, 2003
- Administración de producción y operaciones. Chase, Aquilano. Octava edición. Mc GrawHill.
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- Mora, L. A. (2014). Logística del transporte y la distribución de carga. Bogotá D.C.: ECOE Ediciones.
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- Dicken, P. (2015). Global Shift: Mapping the changing contours of the world economy, 7th Edition. London: SAGE.
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Webgraphy

- <http://www.highlogistics.com/>
- <http://logisticayabastecimiento.jimdo.com/>
- <http://revistadelogistica.com/>
- <http://www.zonalogistica.com/>
- <https://cscmp.org/about-us/we-are-cscmp>
- <https://www.freightos.com/logistics-technology-and-startup-roundup-q2-2016/>

- <https://estrategiaycompetitividad.org/2015/08/03/algunos-de-los-mejores-libros-en-administracion-de-cadena-de-suministro/>
- <http://www.revistavirtualpro.com/revista/logistica-cadena-de-suministro/2>
- <http://www.revistavirtualpro.com/biblioteca/buscar?q=logistica&ejes=>
- Ministerio de Transporte. (2016). Transporte en Cifras - Estadísticas 2015. Bogotá: Ministerio de Transporte. (https://www.mintransporte.gov.co/Documentos/documentos_del_ministerio/Estadisticas)
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- Comisión Europea. (2015). Position paper (long) - Platform for multimodality and logistics in inland ports. Bruselas: Comisión Europea. (<http://ec.europa.eu/transport/sites/transport/files/modes/inland/doc/2015-07-logistics-inland-ports-platform-long-position-paper.pdf>)
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FIRMA DEL DOCENTE

V°B° COORDINADOR DE ÁREA, MÓDULO Y/O CAMPO DE FORMACIÓN

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DD	MM	AA
25	04	2016

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