

**SUBJECT SYLLABUS
ACADEMIC OVERVIEW
INTERNATIONAL SCHOOL OF ECONOMIC & ADMINISTRATIVE SCIENCES**

COURSE NAME AND CODE: **Manufacturing Logistics (1472501)**

PROGRAM:

Bachelor of International Marketing & Logistics Administration (BIMLA)

LEVEL OF STUDY:

Undergraduate Programme

GENERAL ACADEMIC INFORMATION					
LATEST UPDATE	2020-2				
ACADEMIC DEPARTMENT	Operations Management				
SUBJECT TYPE	Mandatory				
LANGUAGE	Spanish				
SEMESTER	Programme	Semester			
	BIMLA	5			
NUMBER OF ACADEMIC CREDITS	3				
HOURS OF ACADEMIC WORK	144	CONTACT HOURS	64	HOURS OF INDEPENDENT/AUTONOMOUS WORK	80
LEARNING PREREQUISITES	<ul style="list-style-type: none">Abstract, analyze and synthesize situations that may arise in the operations of organizations.Know how to apply mathematical models to the context of organizational dynamics.				
INTERNATIONAL COMPONENT	<ul style="list-style-type: none">National and international standards, policies, regulations and mores related to the professional field.Vocabulary and technical language to communicate in different cultural contexts.				

SUSTAINABLE DEVELOPMENT GOALS (SDG)	9. Industry, Innovation, and Infrastructure					
COURSE DETAILS						
COURSE DESCRIPTION	This subject empowers the student with the fundamental aspects of the programming and control of the operations of production of goods and services, as well as the most common sequencing tools, starting from the characterization of the problem to be solved and defining its objectives and restrictions.					
KEY WORDS:	Production, Production scheduling, Production logistics					
COMPETENCES DEVELOPED	EICEA ILOS or Programme ILOS	Course ILOS	Type	Content	Teaching and Learning strategy	Assessment Method
	ILO01	Know and identify the need for a strategic vision for the development of the production logistics plan in modern organizations.	Knowledge	- INTRODUCTION TO PRODUCTION PLANNING *Logistics *Production system *Decision making in production * Strategic, tactical and operational planning * Planning of operations	Theoretical Class	Summative Assessment
	ILO01	Know the fundamental tools for decision-making in strategic, tactical and operational aspects with respect to operations and production logistics	Knowledge	- INTEGRATED SYSTEMS TO PRODUCTION LOGISTICS *MPS *MRPII *ERP *APS * Trends in systems integrated to production logistics (IoT, Big data Analytics) * Balanced Scorecard associated with production Logistics	Theoretical Class	Summative Assessment

	ILO02	Know the different production scheduling problems and their nomenclature	Knowledge	- INTRODUCTION TO PRODUCTION PLANNING *Logistics *Production system * Decision making in production * Strategic, tactical and operational planning * Planning of operations	Theoretical Class	Summative Assessment
	ILO02 ILO05	Identify the basic elements of a production scheduling problem: tasks, machines, objectives and the different constraints and problems that arise in a production problem	Skill	- SYSTEMS INTEGRATED TO THE PRODUCTION LOGISTICS *MPS *MRPII *ERP *APS * Trends in integrated systems to production logistics (IoT, Big data Analytics)	Theoretical Class	Summative Assessment
	ILO03 ILO05 BIMLA ILO07	Apply the fundamental tools for decision making in strategic, tactical and operational aspects with respect to operations and production logistics	Attitude	* Balanced Scorecard associated with production Logistics PROGRAMMING OF OPERATIONS IN MANUFACTURING AND SERVICE COMPANIES * Background * Model of a machine * Parallel machines model * Flowshop model * Model of jobshop and openshop * Differences between scheduling operations in service companies and scheduling operations in manufacturing companies	Projects Based Learning	Formative Assessment
					Theoretical Class	Summative Assessment

				* Example of the complexity of scheduling services * Cases, tools and applications		
	<p>ILO01: Global Vision: Demonstrate an understanding of multicultural environments both in local and global contexts.</p> <p>ILO02: Critical Thinking: Evaluate information using critical and analytical reasoning to address changing economic and business situations.</p> <p>ILO03: Teamwork: Understand and work with others of different backgrounds to solve problems, develop meaningful relationships, and share knowledge.</p> <p>ILO05: Business Analytics: Interpret data sets according to their different patterns, trends and scenarios using analytical tools that create value in organizations.</p> <p>BIMLA ILO07: Apply technical skills associated with marketing and logistics in the decision making process of the firm.</p>					
BIBLIOGRAPHY	<ul style="list-style-type: none"> • J.R. Montoya Torres, 2015, Logística de producción. Modelos y métodos de programación de operaciones. Editorial Universidad de La Sabana, Coedición: Tirant lo Blanch, México. • J.R. Montoya-Torres, A. Juan, L. Huaccho, J. Faulin, G.L. Rodriguez-Verjan (eds.). Hybrid Algorithms for Service, Computing and Manufacturing Systems: Routing and Scheduling Solutions. IGI Global. ISBN: 978-1-61350-086-6. • M. Pinedo. Shceduling: Theory, Algorithms, and Systems. Springer, 2012 • M. Pinedo. Planning and Scheduling in Manufacturing and Services. Springer. 2009. • S. Nahmias. Análisis de la producción y las operaciones. McGraw Hill. 2005. • Sunil Chopra, Peter Meind. Supply Chain Management Strategy. Third Edition, Sunil, Prentice Hall, 2007. • Supply Chain Management and advance Schedule planning (APS), Third Editions, editorial Springer, Alemania, 2005. • Chase, R.; Jacobs, F.; Aquilano, N. Administración de Operaciones. Producción y Cadena de Suministros. Ed. Mc.Graw Hill, 2009. • Chase, R.; Aquilano, N. Dirección y Administración de la Producción y las Operaciones. Ed. Irwin, 2005. • Gaither, N. Administración de Producción y Operaciones. Ed. Thompson, 2000. • T.E. Vollman, W.L Berry, D.C. Whybark, F. R. Robert. Planeación y Control de la Producción. McGrawHill, 2005. • D. Sipper. Production: Planning, control, and integration. McGraw-Hill Companies. 1998. • R. G. Askin, C.R. Standrige. Modeling and Analysis of Manufacturing Systems. Jhon Wiley. 1993. • T. E. Vollmann, W. L. Berry, D. C. Whybark, F. R. Jacobs. Planeación y control de la producción. McGraw-Hill. 2005 					