

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

**COURSE NAME AND CODE:** Models for Decision Making (1464502)

**PROGRAM:**

Bachelor of International Business (BIB)

**LEVEL OF STUDY:**

Undergraduate Programme

GENERAL ACADEMIC INFORMATION					
<b>LATEST UPDATE</b>	2020-2				
<b>ACADEMIC DEPARTMENT</b>	Operations Management				
<b>SUBJECT TYPE</b>	Mandatory				
<b>LANGUAGE</b>	English				
<b>SEMESTER</b>	Programme	Semester			
	BBA	5			
<b>NUMBER OF ACADEMIC CREDITS</b>	2				
<b>HOURS OF ACADEMIC WORK</b>	96	<b>CONTACT HOURS</b>	32	<b>HOURS OF INDEPENDENT/AUTONOMOUS WORK</b>	64
<b>LEARNING PREREQUISITES</b>	<ul style="list-style-type: none"> <li>• Master basic mathematical concepts, such as mathematical analysis, solution of linear equations and handling of rules of three.</li> <li>• Master the basic concepts of probability.</li> </ul>				
<b>INTERNATIONAL COMPONENT</b>	<ul style="list-style-type: none"> <li>• Vocabulary and technical language to communicate in different cultural contexts.</li> </ul>				

<b>SUSTAINABLE DEVELOPMENT GOALS (SDG)</b>	9. Industry, Innovation, and Infrastructure					
<b>COURSE DETAILS</b>						
<b>COURSE DESCRIPTION</b>	This subject empowers the student to develop analytical thinking for decision-making in matters of operations, using mathematical models that allow solutions to be given to the efficient use of companies' resources.					
<b>KEY WORDS:</b>	Linear programming, forecasts, inventories					
<b>COMPETENCES DEVELOPED</b>	<b>EICEA ILOS or Programme ILOS</b>	<b>Course ILOS</b>	<b>Type</b>	<b>Content</b>	<b>Teaching and Learning strategy</b>	<b>Assessment Method</b>
	ILO01	Develop capacities that allow identifying, knowing and applying the different classic models and methodologies for decision-making in organizations worldwide.	Skill	INTRODUCTION  Mathematical formulation and problem solving  LINEAR PROGRAMMING:	Theoretical Class	Summative Assessment
	ILO02 ILO05	Apply concepts of mathematical modelling, sensitivity analysis, forecasts and basic concepts in inventory management for decision making in organizations.	Skill	Introduction to linear programming: history, applications and success stories worldwide. Mathematical modelling Basic formulation Graphical solution method	Theoretical Class	Summative Assessment
	ILO02 ILO05	Develop capacities that allow identifying, knowing and applying the different classic models and methodologies for	Skill	Troubleshooting using specialized software (Solver from MS Excel and GAMS) Sensitivity and Duality Analysis  DEMAND PLANNING:	Theoretical Class	Summative Assessment

	ILO06	decision-making organizations.	in	Know ledge	<p>Basic definitions. Demand cycles Seasonality Analysis of historical data and demand patterns Quantitative methods for forecasting demand Forecast Evaluation</p> <p>MODULE FOUR: INVENTORY MANAGEMENT Basic definitions: Inventory management Inventory ABC Classification (Categorization)</p>	Theoretical Class	Summative Assessment
<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>ILO05: Business Analytics: Interpret data sets according to their different patterns, trends and scenarios using analytical tools that create value in organizations.</p> <p>ILO06: Understand principles and concepts of administration: Demonstrate specific knowledge in the field according to the level of study (Bachelor).</p>							
<b>BIBLIOGRAP HY</b>	<ul style="list-style-type: none"> <li>• Swokowski, E. Cole, J. Algebra y Trigonometría con geometría analítica. Thompson, undécima edición.</li> <li>• Heizer J. &amp; Render B. (2014). Operations Management: Sustainability and Supply Chain Management. US: Pearson. 11th edition. ISBN: 9780132921145</li> <li>• Hillier F.S. &amp; Lieberman G.J. (2010) Introduction to Operations Research. New York: McGraw-Hill Higher Education. 9th edition. ISBN: 9780073376295</li> <li>• Winston W.L. (2005) Investigación de operaciones: aplicaciones y algoritmos. México: International Thomson Editores. ISBN: 978-9706863621</li> </ul>						