SUBJECT SYLLABUS
ACADEMIC OVERVIEW
INTERNATIONAL SCHOOL OF ECONOMIC & ADMINISTRATIVE SCIENCES

COURSE NAME AND CODE: **Pre-Calculus (21107)**
PROGRAM:

Bachelor of Business Administration (BBA)
Bachelor of Administration & Service (BA&S)
Bachelor of International Business (BIB)
Bachelor of International Marketing & Logistics Administration (BIMLA)
Bachelor of Gastronomy (GAS)

LEVEL OF STUDY: **Undergraduate Programme**

GENERAL ACADEMIC INFORMATION					
LATEST UPDATE	2020-2				
ACADEMIC DEPARTMENT	Mathematics & Statistics				
SUBJECT TYPE	Mandatory				
LANGUAGE	Spanish				
SEMESTER	Programme	Semester			
	BBA	1			
	BA&S	1			
	BIB	1			
	BIMLA	1			
	GAS	1			
NUMBER OF ACADEMIC CREDITS	2				
HOURS OF ACADEMIC WORK	96	**Contact hours**	48	**Hours of independent/autonomous work**	48

LEARNING PREREQUISITES	• N/A
INTERNATIONAL COMPONENT	• Research and/or projects with international and intercultural components.
SUSTAINABLE DEVELOPMENT GOALS (SDG)	4. Quality Education
COURSE DETAILS	
COURSE DESCRIPTION	Pre-Calculus course belongs to the scientific foundation cycle. It develops and assures mathematical reasoning pertaining logic themes, set theory, and algebra in real numbers. During the course, the student will acquire all mathematical skills that a professional should have and will be able to know how to apply the knowledge in day-to-day situations that may appear in their careers. The knowledge and application of logic and set theory provides the students with the skill to communicate precisely the data that they might get and therefore make inferences with respect to said situations. Problem solving exercises plays an important role in mathematical reasoning learning, which is why the student will apply theorical concepts to applied problems in specific contexts.
KEY WORDS:	Problem-solving, mathematical reasoning, logic

COMPETENCES DEVELOPED

EICEA ILOS or Programme ILOS	Course ILOS	Type	Content	Teaching and Learning strategy	Assessment Method
ILO01 ILO02 ILO03	**Apply** inductive and/or deductive reasoning strategies.	Skill	POSE AND SOLVE PROBLEMS - Problem solving through inductive reasoning - Strategies for problem solving. - Calculus, estimating, and graph reading.	Problems Based Learning	Evaluation of learning will be done using written and oral methods in regards of declarative knowledge. Evaluation

	ILO01 ILO02 ILO03	**Apply** first order logic to analyze the validity of arguments and conclusions	Skill	INTRODUCTION TO LOGIC - Statements and quantifiers - Truth tables and equivalent statements - Conditionals - Analysis and arguments	Thinking Based Learning	techniques will be used in group or individual work. Rubrics will be used to evaluate the learning evidence of the students, and thus proceed to give feedback of the final answer and the process.
	ILO01 ILO02 ILO03	**Apply** set theory in data problem solving.	Skill	BASIC CONCEPTS OF SET THEORY - Symbols and notation - Venn Diagrams and subsets - Set operations - Cardinality	Challenge Based Learning	
	ILO01 ILO02 ILO03	**Apply** algebraic operation properties.	Skill	REAL NUMBERS AND THEIR REPRESENTATIONS - Operations, properties and applications of real numbers - Rational numbers and decimal representation - Decimal and percent applications BASIC ALGEBRA CONCEPTS - Lineal equations and applications - Reason, proportion and variation - Lineal inequalities - Second degree polynomials - Quadratic equations	Adaptive Learning	

	ILO01: Global Vision: Demonstrate an understanding of multicultural environments both in local and global contexts. ILO02: Critical Thinking: Evaluate information using critical and analytical reasoning to address changing economic and business situations. ILO03: Teamwork: Understand and work with others of different backgrounds to solve problems, develop meaningful relationships, and share knowledge.
Bibliography	• Ba MILLER, D Charles y otros. Matemática: Razonamiento y aplicaciones. Pearson Editores. Decimosegunda edición. (Texto guía). • SUPPES, Patrick. Introducción a la Lógica Matemática. Editorial Reverté STEWART, James, otros. Precálculo, Matemáticas para el Cálculo. 6 edición. • ROSEN, Kenneth. Matemáticas discretas y sus aplicaciones. Mc Graw Hill. 7 edición.