



SUBJECT SYLLABUS

ACADEMIC OVERVIEW

INTERNATIONAL SCHOOL OF ECONOMIC & ADMINISTRATIVE SCIENCES

SUBJECT NAME AND CODE: Differential Calculus (21101)

PROGRAM: Bachelor of Business Administration (BBA),
Bachelor of Administration & Service (BA&S)
Bachelor of International Business (BIB)
Bachelor of International Marketing & Logistics Administration (BIML)
Bachelor of Economics & International Finance (BEIF)
Gastronomy (GAS)

LEVEL OF STUDY: Undergraduate Program

GENERAL ACADEMIC INFORMATION			
LATEST UPDATE	2016-1		
VALID FOR	Valid		
ACADEMIC AREA	Mathematics		
SEMESTER	Second		
SUBJECT TYPE	Mandatory		
CREDIT POINTS	3		
CLASSROOM HOURS PER WEEK	5		
PRE-REQUISITES	Pre-Calculus		
LANGUAGE	Spanish		
INTERNATIONAL CONTENT	<ul style="list-style-type: none">• Reading materials in English• International bibliography is used		
COURSE DETAILS			
COURSE DESCRIPTION	It is aimed at promoting the use of calculation methods and applications in a variable, as well as the development of mathematical thinking and the communication of ideas in mathematical language. Its content is developed from the mathematical reasoning of the functions in the real numbers, limits and continuity, plus derivatives and derivative applications. Exercises and problems solving plays an important role in learning calculus, reason why the student applies the theoretical knowledge in problems applied in specific contexts.		
COMPETENCES DEVELOPED	Competence	Emphasis	Intended Learning Outcome (ILO)*

	By the end of the course the student must be competent in understanding, approaching and solving problems related to ratio of change, ratio of related change and optimization, using differential calculus tools in a variable.	Knowledge	ILO02 ILO 3 ILO 4
	To understand and apply the fundamental concepts of calculus in a variable. b) To demonstrate proficiency in limits and derivatives calculus. c) To mathematically represent a situation using functions, to graphically represent a function, and to read graphs and functions.	Knowledge	ILO01, ILO04,
	To read, understand, pose and propose alternative problem solving solutions for problems related to ratio of change, ratio of related change and optimization.	Knowledge	ILO01, ILO02,
	To promote the use of calculus methods and applications in a variable; the development of mathematical thinking, and the communication of ideas in a mathematical language.	Knowledge	BBA ILO 07 BIB ILO 08
	To encourage the development of values and habits of academic work as discipline, order, laboriosity and responsibility among others	Skill	ILO03, ILO04
	<p>* Intended Learning Outcome</p> <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>ILO04: Ethics & Social Responsibility: Demonstrate awareness of ethical issues in business environments and contribute to the improvement of social conditions.</p> <p>BBA ILO07: Communication: Communicate effectively in written and spoken manner in Spanish and English.</p> <p>BIB ILO08: Communication: Communicate effectively in written and spoken manner in Spanish, English, and a third language.</p>		
COURSE CONTENTS	<ol style="list-style-type: none"> 1. Real numbers and functions 2. Relations and functions 3. Limits and continuity 		

	<p>4. Derivation</p> <p>5. Application of derivatives</p> <p>6. Functions of several variables</p>
METHODOLOGY	<p>Lectures where the teacher presents basic concepts; direct work with teacher's guidance for strengthening the reasoning ability through argumentation and shared discussion, which seeks to awake curiosity and to create systematic attitudes of inquiry, discovery, approach and problem solving; independent academic activity of the students to prepare class content, expand and confront information, discover new relationships and questions, practice and discuss with their peers or monitors, solve new problems, develop new skills as a result of their personal work, especially autonomy, all of them with the discipline of study and the self-control of their learning, working on themes different from those addressed in the program</p>
ASSESSMENT	<p>The student will demonstrate analysis and innovation skills solving problems in the mathematical context and in other areas related to engineering and economics .</p>