

Code	CBM102	Prerequisites	CBM101
Name	Differential Calculus	Co-requisites	None

Credits	Contact Hours
05	
Categorization of credits	
Math and basic science	X
Engineering topic	
Other	

Coordinator's name	Edward Segura
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Text book
Stewart J. (2001). Calculus of a variable: Early Transcendents. (4th Edition). Publisher Cengage Learning.
Other supplemental materials
Purcell and Varberg, Calculus with Analytic Geometry. (6th Edition) Publisher Prentice May Zill, D. (1987). Calculus with analytical geometry. (3rd Edition). Ibero-American publishing group. Leithold, L. (1982). Calculus with analytical geometry. (6th edition). Harla Publisher. Swokowski, E.; Abreu, J. (1989). Calculus with Analytic Geometry (2nd Edition). Ibero-American publishing group. Thomas, G Jr.; Finney, R.L. (1987). Calculus and Analytic Geometry (6th Edition) Addison-Wesley Publisher.

Description	
From this subject the student will assimilate knowledge of the fundamental principles of Calculus, studying everything related to the concepts of limit and derivative of a function. The study of algebraic and transcendental functions, their limits and derivatives is deepened; In addition to studying the applications of derivation, especially the determination of maximum and minimum functions, to link calculation with daily life, which serve as mediators for the development of the proposed skills.	
Type of course	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective

Specific goals for the course	
Outcomes of instruction	<p>EG1. Become aware of the different problems of life (tangent problem, speed problem, crystal manufacturing, rates of change, rectilinear motion, differential equations, etc.) that are solved with limits and derivatives.</p> <p>EG2. Appreciate the knowledge of how the needs of the human being (to express approximations, calculate rates of change of a variable, etc.) have been expanding the use of limits and derivatives.</p> <p>EG3. Share with classmates the emotion when solving problems of the subject using mathematics.</p> <p>EG4. Allow the help of classmates for best understanding of any mathematical topic.</p>
Student outcomes	<p>CG1. Understand and develop theories, abilities and skills in the management and resolution of individual and collective problems through a logical-mathematical thinking capacity, in order to correctly use the strategies to be developed in the environment and daily life in which they participate.</p>

Topics
<p>Unit I. Functions and Models.</p> <p>Unit II. Limits and Derivatives</p> <p>Unit III. Derivation Rules.</p> <p>Unit IV. Derivative applications.</p>