Course No.	Course Title	No. of Units			Pre-requisites
		Th.	Pr.	Credit	
MATH 101	Mathematics	3	-	3	MATH 002

Course Objectives:
On completion of the course, the students should be able to:

- Handle functions occurring in calculus and in the mathematical modeling of real-world problems.
- Grasp the central idea of limit and continuity, and its application in a variety of problems.
- Understand the main theme of calculus and its applications involving rates of change and the approximation of functions.
- Differentiate standard functions by applying the fundamental rules of differentiation.
- Compute the optimal values of functions and handle the optimization problems.
- Apply the concepts of monotonicity and concavity in sketching the plane curves.
- Deal with indeterminate forms and L'Hôpital's rule.
- Understand the connection between derivatives and antiderivatives

Course Description:
Limits, continuity and differentiability of a single variable functions (exponential, logarithmic, hyperbolic, trigonometric and inverse trigonometric functions). Applications: related rates, local linear approximation, differentials, absolute and local extrema, 1st and 2nd derivative tests, curve sketching, applied optimization problems. Antiderivatives, Definite integral. Fundamental Theorem of Calculus. Techniques of integration.
Main Text Book:

- Calculus: Early Transcendentals, by James Stewart, 8th Ed., Cengage Learning, 2016.

Subsidiary Books:

- Calculus: Early Transcendentals, by Jon Rogawski and Colin Adams, 3rd Ed., Macmillan Education, 2015.