Kathmandu University School of Management
Bachelor of Business Administration
Course Syllabus

Course Title	**MATHEMATICS-II**
Course Code Number	**MAS 102**
Credit Hours	**3**
Course Objective	
Main Objective	The objective of the course is to provide the students with basic knowledge of calculus that is applicable in various areas of management.
Learning Unit	
Learning Unit One **Net Contact Hours -6 hrs**	**1. Limits And Continuity** Properties of Limits, Limits at infinity, Continuity, Locating Discontinuities.
Learning Unit Two **Net Contact Hours - 12 hrs**	**2. Differentiation** Derivative, Rules for Differentiation, Derivative as a Rate of Change, Differentiability and Continuity, Product and Quotient Rules, Chain Rule and Power Rule, Derivatives of Logarithmic Functions, Derivatives of Exponential Functions, Elasticity of Demand, Implicit Differentiation, Logarithmic Differentiation, Higher-Order Derivatives.
Learning Unit Three **Net Contact Hours - 8 hrs**	**3. Curve Sketching** Relative extrema, First derivative test, curve sketching using first derivative test, Absolute extrema on a Closed Interval, Concavity and inflection points, Second Derivative Test, Asymptotes, Applied Maxima and Minima.
Learning Unit Four **Net Contact Hours - 7 hrs**	**4. Integration** Indefinite Integral, Integration with Initial Conditions, More Integration Formulas, Techniques of Integration, Summation, Definite Integral, Fundamental Theorem of Integral Calculus, Area between Curves, Consumers' and Producers' Surplus.
Learning Unit Five **Net Contact Hours - 6 hrs**	**5. Methods and Applications of Integration** Integration by Parts, Integration by Partial Fraction, Differential Equations, Applications of Differential Equations.
Learning Unit Six **Net Contact Hours - 9 hrs**	**6. Multivariable Calculus** Functions of Several Variables, Partial Derivatives, Application of Partial Derivatives, Implicit Partial Differentiation, Higher-order Partial Derivatives, Chain Rule, Maxima and Minima for Functions of Two Variables, Lagrange Multipliers, and Multiple Integrals.
Total Contact Hours	48 hrs (excluding assessment and final examination)
Basic Text	Haeussler, E. F., Richard S. P., & Wood R. J. (2010). *Introductory Mathematical Analysis (13th ed.)*, USA: Pearson Prentice Hall.
Evaluation Scheme	In-Semester evaluation 50% End-Semester evaluation 50% Total 100%

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