



Code	Subject Title	Cr. Hrs	Semester
MATH-121	Calculus-I	3	I
Year	Discipline		
1	Physics		

Number systems, bounded and unbounded sets, infimum and superimum, intervals, natural numbers, principle of induction, sequences, convergence, series and products, real valued functions, graphical representation of real valued functions.

Limit of a function, properties of limit, continuity and discontinuity, differentiation, derivatives, higher derivatives, properties of differentiable functions, exponential and logarithmic functions, trigonometric and inverse trigonometric functions, hyperbolic and inverse hyperbolic functions, maxima and minima, mean value theorems, intermediate forms, Taylor's theorem, Maclaurin's series, power series.

Plane curves, polar coordinates, tangents and normals, parabola, ellipse, hyperbola, vectors.

Books Recommended:

1. *Calculus and Analytic Geometry* G. B. Thomas and R. L. Finney, Addison-Wesley Publishing Company, 1996.
2. *Calculus*, E. W. Swokowski, M. Olinick, D. Pence, J.A. Cole, PWS Publishing Co. USA, 1994.
3. *Calculus*, J. Stewart, Books/Cole Publishing Co. USA, 1999.