Code	Subject Title		Cr. Hrs	Semester
MATH-123	Calculus-II		3	II
Year	Discipline			
1	Physics			

Riemann integrals and their applications, Fundamental theorems of calculus, area under the curve, integration of rational, irrational, trigonometric, exponential and logarithmic functions, improper integrals, beta and gamma integrals.

Real functions of several variables, directional derivatives, partial derivatives, local maxima and minima, gradient, chain rule, stationary points, mean value theorems, total differentials, implicit functions, curve tracing, tangents, one parameter family of curves, envelops of a family of curves.

Volumes of solids of revolution, area of a surface of revolution, moments and center of gravity, multiple integrals and applications, infinite series, tests for its convergence, root and ratio tests, Gauss and integral tests.

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