



Code	Subject Title	Cr. Hrs	Semester
MATH-221	Differential Equations-I	3	III
Year	Discipline		
2	Physics		

Classification of differential equations, solution of differential equations, initial and boundary value problems, first order ordinary differential equation, method of solution, separable equations, homogeneous and exact equations, non-exact differential equations.

Second and higher order differential equations, Initial and boundary value problems, linear independence of solutions and Wronskian, method of solution, solutions in series.

Books Recommended:

1. *Advanced Engineering Mathematics* by E. Kreyszig, Wiley, New York, 1999.
2. *Mathematical Methods for Physicists* by G. B. Arfken and H. J. Weber, A Press, New York, 1995.
3. *Mathematical Methods for Physics and Engineering* by K. F. Riley, M. P. Hobson and S. J. Bence, Cambridge University Press, 1997.
4. *A First Course in Differential Equations with Applications* by G. D. Zill Windsor and Schmidt, Prinder R. E. Williamson 1997.
5. *An Introduction to Differential Equations and Dynamical Systems*, McGraw-Hill, 1982.
6. *An Introduction to Differential Equations and their Applications* by S. J. Farlow, McGraw-Hill, 1994.