

Download Differential Equations Notes Pdf

Preface What follows are my lecture notes for a first course in differential equations, taught at the Hong Kong University of Science and Technology. A differential equation is a mathematical equation that relates some function with its derivatives. In applications, the functions usually represent physical quantities, the derivatives represent their rates of change, and the equation defines a relationship between the two. Differential Equations are the language in which the laws of nature are expressed. Understanding properties of solutions of differential equations is fundamental to much of contemporary science and engineering. Lecture Notes on Ordinary Differential Equations Christopher P. Grant 1 ODEs and Dynamical Systems Lecture 1 Math 634 8/30/99 Ordinary Differential Equations An ordinary differential equation (or ODE) is an equation involving derivatives of an unknown quantity with respect to a single variable.