The purpose of this course is given the concepts of mathematics and its applications. This course consists of six chapters. First chapter give the fundamental of sets, inequalities and its applications. Second chapter study the straight lines, applications of linear equations. Third chapter represent the matrix algebra which contains: addition, subtraction, multiplication of matrices and solve the system of linear equations by row reduction method. Chapter five contains the determinants and its properties, inverse of the matrix by determinants and Cramer law to solve the system of linear equations. In chapter five included the derivatives, the concept of derivative by using principal law, the derivative of power function, the derivative of sum, product and quotients, the chain rule, the derivative of exponential and logarithmic function and higher derivative. In final chapter we give anti-derivative and the table of integration and its applications.