Institute of Computer Science/Information Technology (ICS&IT)
Faculty of Management Sciences & CS/IT (FMCS)
The University of Agricultural Peshawar

Programme: BS (CS)-5th
Course Name: Differential Equations
Course Code: CSS-501
Credit Hours: 03
Total Weeks: 16
Total Hours: 48

Course Objectives
        Differential Equations play very important role in Engineering Science, Computer Science and Information Technology. After the completion of this course the students of BS (CS) will be able to use the application of the Differential Equations in different computer programs.

Week-1
        -Basic definitions of Differential Equations
        -Formation of Differential Equations

Week-2
        -Solution of Separable Differential Equations

Week-3
        -Solution of Differential Equation Reducible to Separable form

Week-4
        -Solution of Homogenous Differential Equations

Week-5
        -Solution of Differential Equations Reducible to Homogenous form

Week-6
        -Solution of Exact Differential Equations.

Week-7
        -Solution of Differential Equations Reducible Exact form.

Week-8
        -Solution of linear Differential Equations.

Week-9
        -Solution of Differential Equations Reducible Linear form.

Week-10
        -Solution of Homogeneous Linear Differential Equations of Second Order with Constant Coefficient

Week-11
-Solution of Homogenous linear Differential Equation of Higher order with Constant Coefficient.

Week-12
- Solution of Non-Homogeneous Linear Differential Equations.

Week-13
-Solution Cauchy Euler Differential Equations.

Week-14
-Partial Differential Equations

Week- 15, 16
-Solution of   Partial Differential Equations

Recommended Books:
1.   Advanced Engineering Mathematics by Erwin Kreyszig 8th Edition.
2.   Mathematical Technique by Dr. Karamat Hussain Dar.