Chapter 1

Differential Equations

Lectured by Professor Demetrios Papageorgiou
Typed by Yu Coughlin
Spring 2024

Introduction

Lecture 1
Thursday
10/01/19

The following are suggested textbooks:

- G F Simmons, Calculus with Analytic Geometry, 1995
- J Stewart, Calculus, 2011
- S Lang, A First Course in Calculus, 1986
- S Lang, Undergradute Analysis, 1997
- J Marsden and A Weinstein, Calculus I and Calculus II, 1985

Contents

1 Differential Equations **1**

Lecture 1
1 Fourier transform . . . 3
2 Ordinary differential equations . . . 3
3 Qualitative analysis . . . 3
4 Bifurcations . . . 3
5 Multivariate calculus . . . 3
6 Partial differential equations . . . 3

1 Fourier transform

2 Ordinary differential equations

3 Qualitative analysis

4 Bifurcations

5 Multivariate calculus

6 Partial differential equations