Chapter 1

Calculus

Lectured by Professor Demetrios Papageorgiou Typed by Yu Coughlin Autumn 2023

0 Introduction

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
- $\bullet\,$ S Lang, Undergradute Analysis, 1997
- $\bullet\,$ J Marsden and A Weinstein, Calculus I and Calculus II, 1985

Lecture 1 Thursday 10/01/19

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1 Additions to analysis

- 1.1 Differentiation
- 1.2 Integration
- 1.3 Lengths, volumes and surfaces
- 1.4 Estimatins
- 2 Fourier series
- 2.1 Orthogonal and orthonormal function spaces
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