INSTITUTE OF MATHEMATICS
College of Science
University of the Philippines Diliman

Math 126 Course Syllabus

A. Course Catalogue Description

Course Number	Math 126
Course Title	Real Analysis
Course Description	Properties of real numbers; integral of step functions; Lebesgue integral; convergence theorem; measurable functions; measurable sets
Prerequisite	Math 123.1
Course Credit	3 units
Number of Hours	3 hours/week

B. Course Content

I. Course Introduction

II. Lebesgue Measure
   1. Measurable sets
   2. Measurable functions
   3. Littlewood's Principles
   4. Lusin's and Egorove Theorems

III. Lebesgue Integrals
   1. The integral of measurable functions
   2. Fatou's Lemma and the Monotone Convergence Theorem
   3. Lebesgue's Dominated Convergence Theorem

IV. Lebesgue Spaces
   1. Hölder and Minkowski inequalities
   2. Completeness

V. Linear Transformations and Banach Spaces
   1. Continuity and Boundedness
   2. Principle of Uniform Boundedness
   3. Banach Spaces

For a more detailed syllabus, send an email request to ddapr@math.upd.edu.ph.