



## PURE MATHEMATICS 545 "HONOURS ANALYSIS II"

**Calendar Description:** H(3-0)

Sequences and series of functions; theory of Fourier analysis, functions of several variables: Inverse and Implicit Functions and Rank Theorems, integration of differential forms, Stokes' Theorem, Measure and Lebesgue integration.

**Prerequisite:** Pure Mathematics 455; or a grade of B+ or better in Pure Mathematics 435.

**Suggested Texts:**

W. Rudin, *Principles of Mathematical Analysis*, 3ed, McGraw-Hill, 1976 [Chapters 7, 8, 9, 11].

M. Spivak, *Calculus on Manifolds* [Chapters 3-5].

### *Syllabus*

<u>Topics</u>	<u>Number of Hours</u>
Sequences and Series of Functions	7
Theory of Fourier Analysis	6
Functions of Several Variables. Inverse and Implicit Function Theorems. Rank Theorem	10
Integration of Differential Forms. Stoke's Theorem	10
Measure. Lebesgue Measure. Lebesgue Integration	3
<b>TOTAL HOURS</b>	<b>36</b>

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