

Salisbury University Department of Mathematical Sciences

MATH 451/551 : Analysis I
Syllabus (Tentative)

Description: Modern real analysis including topology of the real number system, sequences, continuity, differentiability and integration. 4 Hours Credit: Meets four hours per week.

Prerequisites: C or better in MATH 202, MATH 210.

Intended Audience: All majors in the mathematical sciences and any students who wish to pursue graduate study in Mathematics or its applications, physics or engineering.

Objective: To develop the foundations for the analysis of real valued functions. The primary focus will be on proof.

Textbooks: *Introduction to Real Analysis (4e)* by Bartle and Sherbert, ISBN 978-0-471-43331-6.

Topic	Weeks
Preliminaries (Ch.1)	1
Sets, Functions, Mathematical Induction, Finite and Infinite sets	
The Real Numbers (Ch.2)	3.5
Algebraic and Order properties of \mathbb{R} , Absolute Value and the Real Line, The Completeness Property of \mathbb{R} , Supremum, Intervals	
Sequences and Series (Ch.3)	3