

Math 4547 Introduction to Real Analysis 1

AU 2018

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Syllabus

PRELIMINARIES :

Sets and functions, mathematical induction, finite and infinite sets

THE REAL NUMBERS:

The algebraic and order properties of real numbers, absolute value and the real line, the completeness property, applications of the supremum property, intervals

SEQUENCES AND SERIES:

Sequences and their limits, limit theorems, monotone sequences, subsequences and the Bolzano-Weierstrass theorem, the Cauchy criterion, properly divergent sequences, Introduction to Infinite Series

LIMITS:

Limits of functions, limit theorems, some extensions of the limit concept

CONTINUOUS FUNCTIONS:

Continuous functions, combinations of continuous functions, continuous functions on intervals, uniform continuity, continuity and gauges, monotone and inverse functions

Academic Misconduct Statement:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term academic misconduct includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-48.7). For additional information, see the Code of Student Conduct at <http://studentlife.osu.edu/csc/>.

Disability Services Statement:

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.