COURSE DETAIL

INTRODUCTION TO MATHEMATICAL ANALYSIS
Country Hong Kong
Host Institution University of Hong Kong
Program(s) University of Hong Kong
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 106
UCEAP Course Suffix
UCEAP Official Title INTRODUCTION TO MATHEMATICAL ANALYSIS
UCEAP Transcript Title MATH ANALYSIS
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description
This course introduces basic ideas and techniques of mathematical analysis. Topics: the real number system: the real numbers as an ordered field, supremum and infimum, the completeness axiom, denseness of the rational numbers; sequences and series of real numbers: limits of sequences, properties of convergent sequences, monotone sequences and Cauchy sequences, subsequences, series, tests of convergence for series; continuity of real-valued functions: properties of continuous functions, the extreme value theorem, the intermediate value theorem, uniform continuity, limits of functions; differentiation: properties of differentiable functions, the mean value theorem, Taylor's theorem and its applications; integration: construction of the Riemann integral using Darboux sums and Riemann sums, the fundamental theorem of calculus. Text: Kenneth A. Ross, ELEMENTARY ANALYSIS; THE THEORY OR CALCULUS. Assessment: coursework (50%), final exam (50%).

Language(s) of Instruction
English

Host Institution Course Number
MATH2241

Host Institution Course Title
INTRODUCTION TO MATHEMATICAL ANALYSIS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics

Course Last Reviewed
2023-2024

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