COURSE DETAIL

MATHEMATICAL ANALYSIS IIIA
Country Iceland
Host Institution University of Iceland
Program(s) University of Iceland
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 155
UCEAP Course Suffix
UCEAP Official Title MATHEMATICAL ANALYSIS IIIA
UCEAP Transcript Title MATH ANALYSIS IIIA
UCEAP Quarter Units 6.50
UCEAP Semester Units 4.30

Course Description

The course is an introduction to three important tools of applied mathematics, namely ordinary differential equations, Fourier-series, and partial differential equations. Some basic theoretical properties are proved and solution methods presented. Ordinary differential equations: linear differential equations of order n, the Cauchy problem, Picard's existence theorem, solution by power series and equations with singular points. Fourier series: convergence point-wise, uniformly and in the mean-square, Parseval's equation. Partial differential equations: the heat equation and the wave equation solved on a finite interval by separation of variables and Fourier series and their solutions compared, the Dirichlet problem for the Laplace equation on the rectangle and the disc, the Poisson integral formula.

Language(s) of Instruction
English

Host Institution Course Number
STÆ304G

Host Institution Course Title
MATHEMATICAL ANALYSIS IIIA

Host Institution Course Details
https://ugla.hi.is/kennsluskra/index.php?tab=nam&chapter=namskeid&id=09103820256

Host Institution Campus

Host Institution Faculty
Faculty of Physical Sciences/Engineering and Natural Sciences

Host Institution Degree

Host Institution Department

Course Last Reviewed
2025-2026

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