

COURSE DETAIL

ANALYSIS I AND LINEAR ALGEBRA

Country

Germany

Host Institution

Technical University Berlin

Program(s)

Technical University Berlin

UCEAP Course Level

Lower Division

UCEAP Subject Area(s)

Mathematics Engineering

UCEAP Course Number

51

UCEAP Course Suffix**UCEAP Official Title**

ANALYSIS I AND LINEAR ALGEBRA

UCEAP Transcript Title

ANALYS I & LIN ALG

UCEAP Quarter Units

14.00

UCEAP Semester Units

9.30

Course Description

This course covers the following topics: sets and mappings, complete induction; number representations, real numbers, complex numbers; number sequences, convergence, infinite series, power series, limits and continuity of functions; elementary rational and transcendental functions; differentiation, extreme values, mean value theorem and consequences; higher derivatives, Taylor polynomial and series; applications of differentiation; definite and indefinite integral, integration of rational and complex functions, improper integrals, Fourier series; matrices, linear systems of equations, Gauss algorithm; vectors and vector spaces; linear mappings; dimension and linear independence; matrix algebra; vector geometry; determinants, eigenvalues; linear differential equations.

Language(s) of Instruction

German

Host Institution Course Number

3236 L 002/7

Host Institution Course Title

ANALYSIS I AND LINEAR ALGEBRA

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Institut für Mathematik

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