

COURSE DETAIL

INTRODUCTION TO NUMERICAL ANALYSIS

Country

Norway

Host Institution

University of Oslo

Program(s)

University of Oslo

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

103

UCEAP Course Suffix**UCEAP Official Title**

INTRODUCTION TO NUMERICAL ANALYSIS

UCEAP Transcript Title

INTRO NUM ANALYSIS

UCEAP Quarter Units

8.00

UCEAP Semester Units

5.30

Course Description

This course gives insight into theory and algorithms for fundamental mathematical problems associated with systems of equations, optimization, and approximation of functions. There are many applications, for example, the representation of geometry, images, and more generally large data sets. Applications in various areas of the natural sciences are an essential part of the course. This subject assumes familiarity with linear algebra and calculus of several variables. The course discusses topics including important numerical methods; strategies both for constructing methods and analyzing them, often with the help of linear algebra; the limitations of various mathematical approximations and the effect of computer rounding errors; concrete methods for solving various kinds of equation systems and non-linear optimization problems; and methods for approximating functions with the help of simpler functions, such as polynomials, piecewise polynomials, and trigonometric functions.

Language(s) of Instruction

English

Host Institution Course Number

MAT3110

Host Institution Course Title

INTRODUCTION TO NUMERICAL ANALYSIS

Host Institution Course Details

Host Institution Campus

Mathematics and Natural Sciences

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematics

Course Last Reviewed

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