

# COURSE DETAIL

## FUNCTIONAL ANALYSIS

**Country**

Denmark

**Host Institution**

University of Copenhagen

**Program(s)**

University of Copenhagen

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Mathematics

**UCEAP Course Number**

144

**UCEAP Course Suffix****UCEAP Official Title**

FUNCTIONAL ANALYSIS

**UCEAP Transcript Title**

FUNCTIONAL ANALYSIS

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## Course Description

This course covers a number of fundamental topics within the area of Functional Analysis. These topics include: Banach spaces, the Hahn-Banach theorem, including its versions as separation theorem, weak and weak\* topologies, the Banach-Alaoglu theorem, fundamental results connected to the Baire Category theory (the open mapping theorem, the closed graph theorem and the Uniform Boundedness Principle), as well as and convexity topics, including the Krein-Milman theorem and the Markov-Kakutani fixed point theorem; Operators on Hilbert spaces, Spectral theorem for self-adjoint compact operators; Fourier transform on  $\mathbb{R}^n$  and the Plancherel Theorem; Radon measures and the Riesz representation theorem for positive linear functionals.

## Language(s) of Instruction

English

## Host Institution Course Number

NMAK10008U

## Host Institution Course Title

FUNCTIONAL ANALYSIS

## Host Institution Campus

Science

## Host Institution Faculty

## Host Institution Degree

## Host Institution Department

Mathematical Sciences

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