Level: bachelor

Course title: Analysis 1 (M4-05)

**Status**: obligatory

**ECTS**: 8

# **Requirements**: none

## Learning objectives

Acquiring basic knowledge and skills in mathematical analysis, differential and integral calculus, number and functional series.

### Learning outcomes

Students are expected to meet and learn the basic notions and theorems of differential calculus and integral calculus, as theory of numerical series and functional sequences end series.

It is desirable that a student adopts the knowledge of basic theorems, their proofs and corresponding techniques, and to be able to independently solve exercises.

#### **Syllabus**

Theoretical instruction

Derivatives. Basic notions ant theorems. L'Hospital's rule, Taylor's formula and applications. Integral calculus, basic notations, properties and formulas. Numerical series and convergence. Functional sequences and series. Convergence and uniform convergence. Real analytic functions. Practical instruction

Theoretical results will be illustrated through good choice of examples, and various techniques will be acquired.

#### Wookly tooching load

Weekly teaching load				Other: 0
Lectures: 3	Exercises: 3	Other forms of	Student research: 0	
		teaching: 0		