

MATHEMATICAL ANALYSIS 2 (ECTS 6)

GENERAL AND SPECIFIC COURSE GOALS

The main goal of the course is to introduce basic concepts in mathematical analysis of power series, and calculus of functions of several variables with appropriate applications.

General course goals

- 1 Students will gain fundamental knowledge in multivariable calculus (mathematical analysis of functions of several variables). Students will also develop critical and analytical thinking in solving mathematical and quantitative problems.

Specific course goals

Through lectures, exercises, readings and problem solving students learn about real functions of several variables. More precisely, the aim is to introduce students to the concept of an infinite series of functions, convergence and display of functions by power series, to study the basic properties of functions of two and more variables, to introduce the concept of partial derivatives, tangent plane, multiple integrals, curves and planar integrals, and to point out the most important examples and applications. All the topics will be covered through appropriate examples. Where eligible, applications in economics will be illustrated