

Analysis 1

Introducing

Description

- The notion of differentiability of a function of multiple variables, partial derivatives
- The concept of norms, convergence of sequences in vectorial spaces, basic topological concepts: open and closed sets,
- Integrals of functions unbounded or on unbounded domains, with several variables

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

- The notion of differentiability of a function of multiple variables, partial derivatives
- The concept of norms, convergence of sequences in vectorial spaces, basic topological concepts: open and closed sets,
- Integrals of functions unbounded or on unbounded domains, with several variables

The student will be able to:

- Carry out computations of integrals on bounded intervals, of unbounded functions.
- Study the differentiability of a function of multiple (real) variables, carry out an asymptotic expansion
- Manipulate norms of vectors and matrices, study the convergence of a sequence limits in vectors spaces.

Necessary prerequisites

Basic Calculus, Basic Linear algebra

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse