

Analysis 2

Introducing

Description

Sequences of Functions

Pointwise convergence, uniform convergence

Properties of limits of functions

Series of Functions

Pointwise, uniform, and normal convergence

Properties of series of functions

Case of power series

Linear Ordinary Differential Equations (ODEs)

Examples, general framework of affine ODEs

Particular case of linear ODEs with constant coefficients

Objectives

The student should be able to:

Study the pointwise and uniform convergence of a sequence and a series of functions

Analyze functions defined as sums

Solve linear differential equations with or without a

forcing term

Solve linear systems of differential equations with or without a forcing term

Necessary prerequisites

First-year linear algebra: vector spaces, linear maps, matrices, the concepts of image and kernel of a linear transformation.

Manipulation of sets, calculations of sums and numerical series, derivatives, integrals (single and multiple), improper integrals, equivalent expressions, and limits.

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