UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Numerical Methods for Partial Differential Equations

2425-1-113R-07

Title

Numerical Methods for Partial Differential Equations

Teacher(s)

Prof. Bruno Giacomazzo

Language

English

Short description

The course will introduce some basic numerical methods to solve partial differential equations via the use of finite difference methods. The course will cover in particular the following topics:

1. Definition of Partial Differential Equations (Hyperbolic, Parabolic, Elliptic), Stability, and Convergence
2. Numerical Solutions of Hyperbolic Partial Differential Equations
3. Numerical Solutions of Parabolic Partial Differential Equations
4. Numerical Solutions of Elliptic Partial Differential Equations

All lessons are held in person and the students will need a laptop. The students will also need to be familiar with one programming language. The teacher will provide some examples in Python, but any other programming language is accepted.

The exam will require a short written report on the numerical solutions discussed in class and the solution of a numerical exercise.

CFU / Hours

1 CFU / 8 hours

Teaching period

April - May

Sustainable Development Goals

QUALITY EDUCATION