Course: Finite Element Method

Course instructors: Nataša Krejić

Course type: elective

Credit points ECTS: 12

Prerequisites: Numerical analysis of PDEs

Course objectives:

Learning Finite Element Method (FEM)

Learning outcomes:

Students will have knowledge of FEM that enables their research work, as well as the applications in other scientific fields.

Course description (outline):

Theoretical classes

Function spaces. Approximation of elliptic problems. Piecewise polynomial approximation. A posteriori error analysis by duality. Evolution problems.

References:

- 1. E. Suli, Lecture Notes on Finite Element Methods for Partial Differential Equations, Oxford 2020.
- 2. A. Ern and J.-L. Guermond, Theory and practice of finite elements, vol. 159 of Applied Mathematical Sciences, Springer-Verlag, New York, 2004

Active teaching hours: 5 :	Theoretical classes: 5	Practice classes:
Methods of teaching:		
Lectures and independent work of students		
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Grading structure (100 points)		
50 Colloquia, 50 Exam		