Course: Locally convex spaces

Course instructors: Stevan Pilipović

Course type: elective

Credit points ECTS: 12

Prerequisites: -

Course objectives:

Connecting algebraic and topological structures and adopting basic principles of locally convex structures. Understanding of characteristic examples of related structures and application in the study of different classes of operators.

Learning outcomes:

To understand basic notions and properties of locally convex spaces: balanced, absorbing and convex sets. Adopting basic principles and peculiarities of different locally convex spaces. The study of tensor products, linear operators, and their connection to kernel functions.

Course description (outline):

Theoretical classes

Topological vector spaces, local convexity, Frechet spaces. Linear mappings, duality, Radon measures and distributions, tensor products and kernel theorems. Nuclear operators.

References:

1. R. Meise, D. Vogt, Introduction to functional analysis, Oxford University Press, Oxford, 1997.
2. H.Schaefer, Topological Vector Spaces, Springer-Verlag, NewYork, 1971.
3. F. Treves, Topological Vector Spaces, Distributions and Kernels, Dover Publications Inc, New York, 2006.

Active teaching hours: 5	Theoretical classes: 5	Practice classes:

Methods of teaching:

Lectures, discussions and regular consultations

Grading structure (100 points)

Solving selected homework: 50 points, oral exam: 50 points