Title of the course: Set-theoretic topology

Course instructor: Miloš Kurilić, Boriša Kuzeljević

Status of the course: non-obligatory

Number of ESPB points:

Prerequisites: none.

Aim of the course:

Students should get familiar with basic notions of set-theoretic topology, product topology, various kinds of compactness and connectivity, as was as with the applications of these notions to concrete spaces.

Expected results of the course:

At the end of the course a student is expected to show understanding of covered material through presenting proofs of theorems, topological analysis of a given space, and familiarity with basic examples in this area.

Syllabus:

Lectures:

Topological spaces. Countability axioms. Basic operators. Separability. Continuity. Axioms of separation. Convergence of nets and filters. Subspace, sum, product, and quotient. Compactness and local compactness. Compactifications. Lindolef spaces. Cech-complete spaces. Baire theorem. Countably compact, pseudocompact, and sequentially compact spaces. Connectivity. Metric spaces. Completeness. Total boundedness. Metrizability.

Recommended literature:

- 1. R. Engelking, General Topology, Heldermann Verlag, Berlin, 1989.
- 2. Kelley J.L., General Topology, D. Van Nostrand Comp. Inc., Princeton, New Jersey, 1957.
- 3. Kuratowski K., Topology I-II, Academic Press, New York; PWN, Warszawa, 1966.

Number of teaching hours:
Lectures:
Tutorial: -

Methods of teaching:

Lectures, problem-solving, and student presentations.

Grade (maximum number of points 100)

Seminar or homework: 50 points.

Oral exam: 50 points.