

Study programme(s): Mathematics (MA), Master in Mathematics Teaching(MP)			
Level: master			
Course title: Algebraic Topology (MA-06)			
Lecturer: Aleksandar V. Pavlović			
Status: obligatory on MA, elective on MP			
ECTS: 5			
Requirements: Topology (MA-02)			
Learning objectives Getting familiar with the main problems of Algebraic topology and with basic methods for solving these problems. Extension and application of knowledge already obtained during the courses in General topology, Algebras, Projective and Analytic geometry. Gaining insight into connections between various mathematical theories.			
Learning outcomes Student are expected to show deeper understanding of homotopy, simplexes and fundamental groups by proving main theorems, obtaining fundamental groups of given topological spaces, knowing standard examples and connecting and applying obtained knowledge in the other areas of mathematics.			
Syllabus <i>Theoretical instruction</i> Quotient space, quotient mappings. Identifications. Paths, loops, path-connected spaces. Homotopy, Homotopy equivalent spaces, retracts. Simplexes, Simplicial complexes, Polyhedra, Simplicial mappings, Triangulation, Simplicial approximation theorem. Fundamental group of spaces and methods how to obtain it. <i>Practical instruction</i> Solving problems from the topics done during the theoretical instruction classes.			
Literature 1. M. Marjanović, <i>Topologija</i>, Matematički fakultet, Beograd, 1990 2. M. Mršević, <i>Zbirka rešenih zadataka iz topologije</i>, Naučna knjiga, Beograd, 1977 3. Hu Sze-Tsen, <i>Elements of General Topology</i>, Holden-Day Inc., San Francisco, 1965, Prevod: Savremena administracija, Beograd. 4. M. Kurilić, A. Pavlović, Fundamentalna grupa – predavanja iz algebarske topologije, u pripremi			
Weekly teaching load			Other: 0
Lectures: 2	Exercises: 2	Other forms of teaching: 0	Student research: 0
Teaching methodology Lectures: Classical methods of presenting theoretical topics with comments. Exercises: adoption of theories by solving problems.			
Grading (maximum number of points 100)			
Pre-exam obligations	points	Final exam	points
Colloquia	50	Oral exam	50