Study programmes: MASTER STUDIES - Mathematics

Course name: Selected topics of differential topology

Lecturers: Siniša Vrećica, Aleksandar Vučić, Vladimir Grujić

Status: Optional

ECTS: 8

Attendance prerequisites: Algebraic topology

Course aims: Acquisition of basic knowledge in differential topology.

Course outcome: Upon completion of the course, the student mastered basic notions of differential topology. Student understands notions: smooth manifolds, degree of mappings, oriented manifolds, framed bordism. Student is familiar with basic theorems and techniques of differential topology. Student is qualified to solving problems from mentioned area. Also, student is qualified to follow advanced courses in topology and other mathematical areas where topology has important applications.

Course content: Cohomology groups, cohomology ring, Kunneth formula. Orientations and homology, duality theorems. Homotopy groups, Whitehead's theorem, Hurewicz's theorem, bundles, obstruction theory.

Literature:

1. J. Milnor, Topology from the differentiable viewpoint, The University Press of Virginia, Charlottesville, 1965.

Number of hours: 7	**Lectures**: 3	**Tutorials**: 2	**Laboratory**: -	**Research**: 2

Teaching and learning methods: Frontal / Tutorial

Assessment (maximal 100 points)

Course assignments	**points**	**Final exam**	**points**
Lectures	-	Written exam	20
Exercises / Tutorials	-	Oral exam	20
Colloquia	30	Written-oral exam	-
Essay / Project	30		