Study programmes: MASTER STUDIES - Mathematics	
Course name: Non-Euclidean geometry	
Lecturers: Vladica S. Andrejić, Miroslava Ž. Antić, Srđan N. Vukmirović, Mirjana Đ. Đorić, Zoran S. Lučić, Zoran P. Rakić	
Status: Optional	
ECTS: 8	
Attendance prerequisites: -	
Course aims: Acquisition of general and specific knowledge in synthetic approach to Lobachevsky's geometry. Preparing students for advanced courses in this area.	
Course outcome: Upon completion of the course, the student mastered basic notions of synthetic approach to Lobachevsky's geometry. Student is qualified to individual understanding basic examples and solving problems from this area.	
Course content: Isometries of Euclidean plane and space. Geometrical equality and Pythagoras' theorem. Thales's theorem. Similarity. Measuring of surface. Circular and spherical transformations. Hyperbolic congruence. Defect and area. Parallel and ultra-parallel lines and planes. Isometries of hyperbolic plane and space. Pencils and sheafs in hyperbolic geometry. Curves and surfaces with constant curvature. Geometry of sphere and orisphere. Asymptotic polygons and polyhedra. Lobachevsky's function. Models of hyperbolic plane and space. Consistence of hyperbolic geometry.	

Literature:

1. Z. Lučić, Osnove geometrije, Total Design i Matematički fakultet, Beograd, 1997,H.S.M. Coxeter, Non-Euclidean geometry, The Mathematical Association of America,c6ed., 1998

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	20	Written exam	30
Exercises / Tutorials	-	Oral exam	30
Colloquia	-	Written-oral exam	-
Essay / Project	20		