

Study programmes: Bachelor — Mathematics			
Course name: Geometry 5			
Lecturers: Vladica S. Andrejić, Miroslava Ž. Antić, Ivan Dimitrijević, Mirjana Đ. Đorić, Zoran P. Rakić, Tijana Šukilović, Srđan N. Vukmirović			
Status: Compulsory for modul M and optional for modules R, S, PM			
ECTS: 5			
Attendance prerequisites: none			
Course aims: Gaining general and specific knowledge about affine, Euclidean and projective geometry, developing geometric intuition, studying geometry using linear algebra, with special emphasis on application.			
Course outcome: After completing the course, students will have gained elementary knowledge about affine, Euclidean and projective geometry and the relation between them. Moreover, besides grasping the basic concepts, students understand the most important properties of affine mappings, isometries and projective transformations. Students will be capable of both coordinate description of different mappings and recognition of mappings defined using coordinates. Besides broadening their knowledge, this course is especially helpful to students interested in the application of geometry, particularly in computer graphics.			
Course content: Affine, Euclidean and projective space. Linear and quadratic geometry. Isometry groups, affine and projective transformations and their invariants.			
Literature: V. Andrejić: Projektivna geometrija ravni , Matematički fakultet, Beograd, 2016. N. Bokan, S. Vukmirović: Projektivna geometrija , Matematički fakultet, Beograd, 2004. N. Blažić, N. Bokan, Z. Lučić, Z. Rakić: Analitička geometrija , Matematički fakultet, Beograd, 2003. G. Kalajdžić, M. Đorić, Afina i euklidska geometrija , materijal za studente, Beograd 2013. M. Audin, Geometry , Springer Universitext, 2003. J. Gallier, Geometric Methods and Applications for Computer Science and Engineering , Springer, New York, Inc. 2001. C. Tisseron, Géométries affine, projective et euclidienne , Hermann, 1983.			
Number of hours: 5		Lectures: 2	Tutorials and Exercises: 2 + 1
Teaching and learning methods: Frontal, interactive, lectures, tutorials, exercises			
Assessment (100 points maximum)			
Course assignments	points	Final exam	points
Lectures	-	Written exam	30
Exercises / Tutorials	-	Oral exam	40
Colloquia	30	Written-oral exam	-
Essay / Project			

