

Study programmes: PhD – Mathematics				
Course name: Symmetric groups				
Lecturers: Zoran Lučić, Zoran P. Rakić, Mirjana Đ. Đorić, Srđan N. Vukmirović				
Status: Optional				
ECTS: 9				
Attendance prerequisites: -				
Course aims: Acquisition of general and specific knowledge about finite symmetric groups. Preparing student for advanced courses and introducing student to scientific work in this area.				
Course outcome: Upon completion of the course, the student has necessary knowledge about: finite rotation groups, regular tessellations on orientable surfaces, cyclic, dicyclic and metacyclic groups, hyperbolic tessellations and fundamental groups, groups generated by reflections. Student is qualified to individual understanding basic examples and solving problems from this theory. Also, student is prepared for advanced courses.				
Course content: Regular tessellations. Finite rotation groups. The Petrie polygons. Regular tessellations on orientable surfaces. Finite quaternion groups. Cyclic, dicyclic and metacyclic groups. Coset enumeration. Graph, maps and Cayley diagram. Abstract crystallography. Hyperbolic tessellations and fundamental groups. Regular maps. Groups generated by reflections.				
Literature:				
<ol style="list-style-type: none"> 1. L. C. Grove, C. T. Benson, Finite reflection groups, 1985, Springer-Verlag, New York-Berlin-Heidelberg-Tokyo, Second Edition 2. A. Beardon, Geometry of Discrete groups, 1995 Graduate Texts in Mathematics Vol 91 Springer Verlag, New York-Berlin-Heidelberg. 				
Number of hours: 10	Lectures: 4	Tutorials: -	Laboratory: -	Research: 6
Teaching and learning methods: Lectures/ Tutorials				
Assessment (maximal 100 points)				
Course assignments	points	Final exam		points
Lectures	-	Written exam		-
Exercises / Tutorials	20	Oral exam		60
Colloquia	-	Written-oral exam		-
Essay / Project	20			