

## COURSE DESCRIPTION.

Course Name	Geometric Group Theory Seminar
Supervisor	Tadeusz Januszkiewicz, Piotr Nowak, Piotr Przytycki
ECTS credit allocation	1 – SD IM PAN program; Recommended 3 credits for master's programs per semester
Duration	One semester
Number of hours	30
Language	English or Polish if every participant speaks Polish
Prerequisites	Fundamental group, group presentation, Cayley graph
Course content	Research Seminar in Geometric Group Theory: asymptotic properties of groups, Kazhdan's property (T), hyperbolic groups, CAT(0) spaces, Coxeter groups and buildings, random groups, 3-manifolds and cube complexes
Recommended reading	<ol style="list-style-type: none"> <li>1. M. Bridson and A. Haefliger <i>Metric spaces of non-positive curvature</i>. Grundlehren der Mathematischen Wissenschaften, 319. Springer-Verlag, Berlin, 1999.</li> <li>2. M. Davis <i>The geometry and topology of Coxeter groups</i>. London Mathematical Society Monographs Series, 32. Princeton University Press, Princeton, NJ, 2008.</li> <li>3. W.P. Thurston. <i>Three-dimensional geometry and topology</i>. Vol. 1. Edited by Silvio Levy. Princeton Mathematical Series, 35. Princeton University Press, Princeton, NJ, 1997.</li> </ol>
Learning outcomes	Participants are up to date with current research in Geometric Group Theory; they know the notions of hyperbolic groups, CAT(0) spaces, Kazhdan's property (T).
Assessment methods and criteria	Attendance, giving a talk
Remarks	

