Combinatorics of Coxeter groups

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Coxeter groups arise in a multitude of ways in several areas of mathematics. Their study is part of both algebra, geometry and combinatorics, and certain aspects are of importance also in other fields of mathematics (e.g., singularity theory). The theory of Coxeter groups is usually presented from algebraic and geometric points of view. The purpose of this course is to treat its core combinatorial aspects. In particular, I plan to present some of the areas that have seen the most research activity in the last few years such as reduced expressions, associated posets and graphs, connections with combinatorial representation theory, and enumeration.