**Course Title:** Coxeter Groups

**Course Description:** Coxeter groups are groups which are defined by generators and a certain type of relations. This class of groups include the finite groups of Lie type such as the well-known symmetric groups and dihedral groups, and is understandably related to Lie groups and Lie algebras.

The module will begin with a study of general Coxeter groups, before focusing its attention to the finite ones—which we shall prove are precisely the finite groups generated by some reflections on a finite-dimensional real Euclidean space—culminating with the classification of such groups.

If time allows, we will also look into those Coxeter groups with more rigid structures: the crystallographic groups or the Weyl groups.

**Eligibility/Prerequisite:** MA2101 (preferably MA2101S) and MA2202

**Assessment Mode and Weightage:**
- Tutorial/Presentation : 30%
- Mid-term (closed-book, no helpsheet) test : 30%
- Exam (closed-book, no helpsheet) : 40%