Heures (Hebdo)	4.0
Cours	2.0
Exercices	2.0
Pratique	0.0
Total	56.0

Langue	anglais
Semestre	Automne
Mode d'évaluation	Examen oral
Session	Janvier
Format de l'enseignment	Cours, exercices

Cursus	Type	ECTS
Baccalauréat universitaire en mathématiques	N/A	6.0
Baccalauréat universitaire en mathématiques, informatique et sciences numériques	N/A	6.0
Maîtrise universitaire en mathématiques	N/A	6.0
Maîtrise universitaire en mathématiques, informatique et sciences numériques	N/A	6.0

Introduction to hyperplane arrangements

14M255 | *Paul Turner*

Objectifs

A hyperplane arrangement is a finite set of codimension one affine subspaces (hyperplanes) in a fixed vector space. In the cartesian plane this consists of a finite collection of lines. These seemingly simple objects give rise to interesting combinatorial and geometrical questions - the former based on the intersections of hyperplanes and the latter on the topology and geometry of the complement.

This course is an introduction to the combinatorics and geometry of hyperplane arrangements, with special emphasis on braid arrangements (making a connection to knot theory) and graphical arrangements (making a connection to colouring problems in graph theory). It will be taught in English.

Description

1. Introduction and examples.
2. Partially ordered sets.
3. Intersection posets and characteristic polynomials.
4. Deletion-restriction.
5. Counting regions and Zaslavskys theorem.
6. Braid arrangements.
7. Graphical arrangements.