

Course activity plan
Advanced topics in algebraic combinatorics
DCC - UFMG - 2024/2

Course details

Name: Advanced topics in algebraic combinatorics

Code: DCC831

Professor: Gabriel Coutinho

Workload: 60 hours

AC: Theory

Course Description

This will be a seminar course in the sense that the vast majority of the classes will be presented by enrolled students. The goal is to encourage a focused study of advanced topics in algebraic combinatorics. It is essentially a mathematics course, so it is necessary to be comfortable with reading and presenting theorems, as well as understanding and reproducing their demonstrations.

Syllabus

Graph isomorphism. Expanding graphs. Physical models in graphs. Geometric representations of graphs and partitioning problems. Association schemes and Cayley graphs. Quantum walks. Extremal results in algebraic combinatorics.

Informal prerequisites

Graph Theory, Linear Algebra II.

Language

All classes must be in English.

Iteration method

Moodle (minhaUFMG): all students must be enrolled in the Moodle class. Initially, this should happen automatically for those who are correctly enrolled. Grades will be released throughout the semester only through this channel.

Evaluations

Enrolled students will be evaluated according to the quality of their seminars. There will be questions asked at the end of each seminar, and they will also be evaluated according to the quality of the questions and answers.

Bibliography

Recent articles published on the topic of the seminars.

Questions about this document

Students who have questions about this course in 2024/2 should contact the subject professor by sending an email to gabriel@dcc.ufmg.br.