## Ph.D. in Mathematics and Computer Science

Academic year 2023/2024

## **TOPICS IN ALGEBRA** Cohomology of groups and local-global questions

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One century ago Hasse proved his famous local-global principle on quadratic forms as a generalization of a theorem produced by Minkowski. Since then local-global problems have been a main topic in algebraic number theory. These questions often have an equivalent formulation in the cohomology of groups, which is widely studied in algebra. The course provides a brief introduction to the cohomology of groups, the p-adic completions, the Hasse-Minkowski theorem on quadratic forms and subsequent local-global problems.

