

# ADVANCED TOPICS IN LEAVITT PATH ALGEBRAS

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The classification of Leavitt path algebras is one of the main topics in the theory which has not yet been completed. Finding a right invariant for classification is one of the major problems in the theory. In this course we concentrate on the Graded Classification Conjecture, describing the notion of graded Grothendieck groups as a possible complete invariant for such algebras. We start with a short introduction on the graded methods in algebras and then describe the graded Grothendieck groups. Along the way we touch on the so called talented monoid of a directed graph which seems to capture a substantial amount of geometry of the graph.