Course Announcement

Model Theory (PMATH 433/733)

Winter 2027 MWF 3:30–4:30 MC 4063 Instructor: Rahim Moosa

This is a first course in model theory aimed at advanced undergraduate and graduate students, and it serves as a follow-up to PMATH 432/632 (Mathematical Logic). Topics will include: Definable sets, quantifier elimination, types and saturation, elimination of imaginaries, strongly minimal ans o-minimal theories. There will be a focus on algebraic examples, in particular on the first order theories of vector spaces, algebraically closed fields, and real closed fields.

I will teach a graduate level topics course in model theory in Fall 2027 that will build on this course.

Pre-requisites. (Equivalent of) PMATH 432, or consent of instructor.

Reference Textbook. I will use David Marker's "Model Theory: An Introduction" (Graduate Texts in Mathematics 217, 2002) as a reference, but the lectures will be self-contained.

Assessment. I expect there will be assignments roughly every two weeks worth about 10%, a midterm worth 25%, and a final exam worth 65%.