This course will cover a number of fundamentals of model theory including:

- Quantifier Elimination
- Applications to algebra including algebraically closed fields and real closed fields.
- Types and saturated models.

Given time, the course may also touch upon the following topics:

- Vaught’s conjecture and Morley’s analysis of countable models
- $\omega$-stable theories and Morley rank
- Fraisse’s amalgamation theorem.

**Prerequisites** Students should be familiar with the following concepts: Languages, structures, formulas, theories, Godel’s completeness theorem and the compactness theorem.