

PMATH 432/632 – First order logic and computability

TTh 11.30-12.50pm, MC 4063

Instructor: Dino Rossegger

Abstract:

The concepts of formal provability and logical consequence in first order logic are introduced, and their equivalence is proved in the soundness and completeness theorems. Goedel's incompleteness theorem is discussed, making use of the halting problem of computability theory. Relative computability and the Turing degrees are further studied.

Course Material:

We will follow the following book:

Ebbinghaus, H-D., Jörg Flum, and Wolfgang Thomas. *Mathematical logic*. Springer Science & Business Media, 2013.

Assessment:

For 432: Final 60%, 40% assignments (approximately 8 assignments)

For 632: Final 40%, 40% assignments, 20% project