COURSE ANNOUNCEMENT
MATHEMATICAL LOGIC
MATH 220A, UCLA, FALL 2018
MWF 9AM–9:50AM, MS 5148

Instructor: Artem Chernikov
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Office hours: W 3:30–5pm, or by appointment
Final Exam: Thursday, December 13, 3:00–6:00pm

Description. This is the first in a three part series of courses on Mathematical Logic and Set Theory. This part focuses on the basics of First Order Logic and Model Theory, including as highlights Gödel's completeness theorem, the compactness theorem, applications of the compactness theorem, quantifier elimination, and basics on types, saturation and the omitting types theorem.

Recommended pre-requisites: Logic 114L or similar, some course in algebra. Please contact me if in doubt.

Text. I will follow my own notes. The material will roughly follow along the same lines as in the notes of
- "A first journey through logic" by Martin Hils and François Loeser (https://webusers.imj-prg.fr/∼francois.loeser/hils-loeser.pdf, Chapters 2 and 3),
- van den Dries (https://faculty.math.illinois.edu/∼vddries/main.pdf) and
- Moschovakis (http://www.math.ucla.edu/∼ynm/lectures/lnl.pdf).

Other useful sources include: the books
- "Model Theory, an Introduction" by Marker,
- "A Mathematical Introduction to Logic" by Enderton,
- "Mathematical Logic" by Shoenfield

These books contain a lot more material than what is covered in 220A.

Grading. The final grade will be based on homework (50%) and a final exam (50%). Exam questions will typically ask for proofs or parts of proofs that were covered in class or homework assignments, or some variants of these.

Homework assignments. Due by the end of Sunday each week (except for the first week). Weekly assignments will be listed on the CCLE website of the course, and preferably submitted there online. They will be graded by a reader.