

**Math 571 (Topics in logic: Model theory of fields),
Spring 2016
TR 1:30-3 p.m., DRL 4C4
University of Pennsylvania**

Instructor: William Simmons, DRL 4C3, wsimmo@sas.upenn.edu.

Office Hours (held in DRL 4C3): T: 3:30-5:00 p.m.; Th: 9-10:15 a.m.; Others, time permitting, by appointment.

Class website: Assignments, helpful links, and other information will be posted on my website <http://www.math.upenn.edu/~wsimmo>. We'll use email (using your address as found on CoursesInTouch) for announcements.

Materials: We don't have a fixed text. We'll use a variety of freely available materials, including *Model theory of fields (Lecture Notes in Logic)* by Marker, Messmer, and Pillay (Penn owns this as an e-book). I can also lend you or recommend various basic texts if you want to do some background reading on the logic side of things.

Grades: Grades are based on homework problems, which are generally due every week or two, and attendance.

Regarding attendance, if you regularly attend class meetings you will get 10 percentage points. (I would talk to you beforehand if there were a problem, so there won't be any surprises.)

You may correct your work and resubmit, so there's no need to worry about the homework grade. Just be consistent, come to office hours to talk about the material, and enjoy the interesting topics we'll cover.

Actual letter grades are calculated as follows:

- A: Earned 75% or more of available points
- A-: Earned between 60 and 74% of available points
- B+: Earned between 50 and 59% of available points.

I don't expect anything lower than this to be an issue; we're a small graduate/upper division elective course, so just make a reasonable effort to understand the material, learn as much as you can, and you'll almost certainly get an A.

Background: Since members of the class vary in exposure to logic and algebra, we'll review the topics we need. There will also be some choice of homework exercises to suit your taste and experience. The most helpful prerequisites are familiarity with basic abstract algebra (e.g., Math 370/371 or 502/503) and some basics of first-order logic (say, formulas, structures, and the compactness theorem). Just talk to me if you have questions about background knowledge; my intention is for

the class to be accessible on various levels and to be worthwhile whether you have taken model theory or haven't studied much mathematical logic. Most of all, you need to be curious about model theory and be willing to think through the material we discuss.