Graduate Committee

Course Outline

Fall 2006

Time: MWF 10:00–10:50

Course Number: Math 718L

Course Title: Set theory for the working model theorist

Instructor: Chris Laskowski

Office: 4117, Phone: 5-5082, email: mcl@math.umd.edu

Course Outline:

The course will cover combinatorial set theory, with a particular emphasis on techniques and results that are applicable in model theory. After discussing the ZFC axioms and developing the theory of ordinals, we will cover cardinal arithmetic, regularity, clubs and stationary sets, trees, Martin’s axiom, partition theorems, and strong limit cardinals. Along the way we will see model theoretic applications of these concepts, such as realizing types, saturated models, omitting types, reflection principles, two-cardinal theorems, many models constructions, and Hanf number computations.

A number of open problems will be discussed, many of which would be appropriate thesis topics.

Prerequisites: Math 712-713 or consent of the instructor.

Course work: No exams, occasional problem sets.

Recommended reference:

Kunen, *Set theory* primarily Chapters 1 and 2.