Graduate Committee

Fall 2011

Course Number: Math 718L

Course Title: Stable theories

Instructor: Chris Laskowski

Office: 3312 Phone: 5-5336 email: mcl@math.umd.edu

Course Outline:

The course will give an introduction to the vast field of stability theory. The course will begin by discussing two unstable theories, Dense Linear Order (DLO) and the theory of the Random Graph. Following this, our point of view will be primarily combinatorial – We will discuss possible configurations that can occur in uniformly definable families $\{\varphi(M^n, \bar{b}) : \bar{b} \in M^m\}$ when $M$ is a sufficiently saturated model. We will make our initial definitions of stable formulas and theories in this realm.

After proving several equivalents of these notions, we will embark on a proof of Morley’s theorem, which asserts that a complete theory in a countable language that is categorical in some uncountable power must be categorical in all uncountable powers.

Prerequisites: Graduate standing or consent of the instructor. A first year graduate logic course (e.g., Math 712) would be helpful.

Course work: No exams, weekly(?) problem sets.