Math 946a
Instructor: G. Zuckerman
MW 2:45-4:00
Rm. 214 LOM

Axiomatic Foundations of Mathematics

First Meeting, Wednesday, September 3, 2014

Topics:

(1) Paradoxes in naive set theory, e.g., Russell's paradox

(2) Zermelo's axioms for the theory of sets, including the axiom of choice

(3) Fraenkel's axiom of replacement for operations on sets

(4) Axiom of regularity versus axiom of anti-foundation

(5) Sets versus proper classes

(6) von Neumann-Godel-Bernays axioms for the theory of classes

(7) Morse-Kelley axioms for the theory of classes

(8) Operads of first order operations on classes

(9) Large cardinals and Grothendieck universes

(10) Small, large and very large categories

Fall Term 2014