

Set Theory Course (F01): Lecture 1

A Short History of Set Theory

Cantor

Origin in the study of series; development of the basic concepts and theorems; the Continuum Hypothesis.

Frege

Set-theory in its foundational role (as a basis for arithmetic and analysis). The ill-fated Law V.

Russell

His great negative contribution: the Russell Paradox.

His two great positive contributions: the theory of types within a precise logical setting; development of mathematics from the theory of types.

Zermelo

The cumulative hierarchy (cumulative types, up into the transfinite, without syntactic barriers).
The Axiom of Choice and Well-ordering.

Goedel/Cohen

The Independence Proofs for Choice and CH.

Reading Assignment

Read the introduction of the Vaught book and sections 1-5 of chapter 1. Look at the problems (some of them will later be assigned).