

Syllabus for MATH 151 SET THEORY

The text book of this course is K. KUNEN: *Set Theory — An Introduction to Independence Proofs*.

- Week 1 Chapter I: The foundations of set theory
 - §5 Extensionality and Comprehension
 - §6 Relations, functions, and well-ordering
- Week 2 §7 Ordinals
- Week 3 §9 Classes and recursion
- Week 4 §10 Cardinals
- Week 5 Chapter II: Infinitary combinatorics
 - §6 The c.u.b. filter
- Week 6 Chapter III: The well-founded sets
 - §2 Properties of well-founded sets
 - §3 Well-founded relations
- Week 7 §4 The Axiom of Foundation
 - §5 Induction and recursion on well-founded relations
- Week 8 Chapter IV: Easy consistency proofs
 - §2 Relativization
 - §3 Absoluteness
- Week 9 §4 The last word on Foundation
 - §5 More absoluteness
- Week 10 §6 The $H(\kappa)$
 - §7 Reflection theorems