Set Theory
Math 161 – Winter Quarter 2007-2008
Syllabus (01/09/08)

Meeting times: MW 2:15 PM-3:30 PM, 380-381U
Grading Basis: 3 units, Letter or CR/NC
Instructor: Solomon Feferman
Feferman office hours: Tu 3:30-4:15, Wed 3:45-4:45 and by arrangement;
Room 380-383Z.

Prerequisites: No formal prerequisites, but some prior upper division work in mathematics as well as some logic (e.g., Phil 151, First-Order Logic) is advised.

Course work: Regular assigned homework, due the following Monday of each week. No mid-term exam. Take-home final.

Text for the course (required):
K. Hrbacek and T. Jech, *Introduction to Set Theory*, 3^d edn.

Chapters to be covered in full or in part:
1. Sets
2. Relations, functions and orderings
3. Natural numbers
4. Finite, countable and uncountable sets
5. Cardinal numbers
6. Ordinal numbers
7. Alephs
8. The Axiom of Choice
9. Arithmetic of cardinal numbers
10. Sets of real numbers
15. Axiomatic set theory.

Other resources (to be placed on reserve in the Math/CS Library)
P. Halmos, *Naïve Set Theory*
K. Hrbacek and T. Jech, *Introduction to Set Theory*, 3^d edn.
K. Kuratowski and A. Mostowski, *Set Theory*
R. L. Vaught, *Set Theory: An introduction*, 2nd edn.