LPS/Phil 105A/205A: Elementary Set Theory
Course Syllabus

Instructor:
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Office SST 785 – Office hours: Th 11-12am

Course description: This course is designed as an introduction to basic set theoretic notions and methods. Material fundamental to mathematical logic and to a range of philosophical controversies will be emphasized (e.g., ontological reduction, the axiomatic method, foundations and philosophy of mathematics), along with the nature and structure of ordinary mathematical proof. Topics:

1. Sets and basic operations
2. The universe of sets
3. The axioms of Extensionality, Empty Set and Pairing
4. Ordered pairs
5. The axioms of Union, Power Set, and Separation
6. Relations
7. Orderings
8. Functions
9. The axiom of Choice
10. Natural numbers
11. Infinite numbers

Required Course Text: Maddy, Logic for Philosophers (on class web page)
Recommended Text: Enderton, Elements of Set Theory

Course Requirements:

- Graduates: There will be problem sets which will be presented and discussed at a weekly meeting.
- Undergraduates: Midterm and final exams.