

PHIL 331 (MATH 281): Deductive Logic

Spring 2008

Schedule: Tues and Thurs 11:40 – 12:55, Stimson G01
Website: <http://www.people.cornell.edu/pages/jwb274/> (go to the ‘Teaching’ section)
Instructor: Wylie Breckenridge, Goldwin Smith 237
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Office hours: By arrangement
Grader: Paul Shafer, Malott 218
Contacts: pshafer@math.cornell.edu
Office hours: Weds 11-12, or by arrangement

Overview:

We will be studying the syntax and semantics of the formal languages of propositional calculus (PC) and quantificational calculus (QC), with an emphasis on how they are used in the day-to-day practice of philosophy. We will also prove the compactness of each language, and the soundness and completeness of one or more deductive systems. The approach will be mostly philosophical, but some mathematical techniques will be employed – necessary background about sets, sequences, functions, and proof by mathematical induction will be provided (not assumed).

Textbook:

None – handouts will be distributed in class.

Helpful resources:

- Stanford online encyclopedia article: ‘Classical Logic’.
- Bostock, D. (1997), *Intermediate Logic* (Oxford: Oxford University Press).
- Enderton, H. B. (2001), *A Mathematical Introduction to Logic*, 2nd Ed. (San Diego, CA: Harcourt/Academic Press), Chapters 1 & 2.
- Mendelson, E. (1997), *Introduction to Mathematical Logic*, 4th Ed. (London: Chapman & Hall), Chapters 1 & 2.

Structure:

A set of exercises will be due at the start of each Tuesday’s class, which will be graded then returned and discussed at the start of Thursday’s class. All of Tuesday’s class and the remainder of Thursday’s class will be spent learning new material. A handout will be provided at the start of each week, containing the notes and exercises for the week.

Assessment:

- Weekly exercises (30%)
- An in-class mid-semester test (30%)
- An final exam (30%)
- Attendance and participation (10%)