

MATH 648 SYLLABUS

Autumn 2007

LECTURER: Tim Carlson

OFFICE: 740 Math Tower

OFFICE HOURS: MWF 2:30-3:18

TEXT: *A Mathematical Introduction to Logic* by Herbert B. Enderton, second edition.

COURSE WEBPAGE: link at <http://www.math.ohio-state.edu/~carlson/>

Welcome to math 648. This course provides an introduction to mathematical logic up to and including Gödel's famous completeness theorem. One way of stating Gödel's theorem is:

Whenever a statement follows from a set of assumptions then there is a proof of that fact.

We will spend the first seven weeks going through sections 1.1-2.2 of the text. I will distribute notes on Gödel's theorem which we'll follow for the last four weeks.

If you take 649 in the winter and 647 in the spring you will get an introduction to the four main areas of mathematical logic: proof theory (Gödel's completeness theorem goes here), model theory (abstract algebra combined with formal languages), recursion theory (the foundations of computability), and set theory (a foundation for mathematics).

Your grade will be based primarily on the total points you earn in homework assignments given throughout the quarter. Class participation may be a factor in borderline cases.

A final exam is scheduled for Monday, December 3 at 3:30-5:18 PM. If necessary, we'll use that time to discuss additional material or the final homework assignment.