



The Graduate Center of CUNY
Ph.D. Program in
Mathematics Course Syllabus
Spring 2017

Course Title: Mathematical Logic

Course #: 71200

Time and Location: Tu and Th, 2:00 pm - 3:30 pm, Room TBA

Instructor Name: Professor Joel David Hamkins

Contact Information: jhamkins@gc.cuny.edu OR <http://jdh.hamkins.org>

Pre-Requisites: None

Office Hours: GC Room 4432, before class

Description:

Course Website: <http://jdh.hamkins.org/mathematical-logic-gc-math-712-spring-2017>

This course is a graduate introduction to mathematical logic, in which we shall cover a variety of topics united by the theme of Gödel's incompleteness theorem. In particular, during the semester we shall give several independent proofs of that theorem and its generalizations from different perspectives. We shall do so in the context of our studies of computability theory, decidability, strongly undecidable structures, the arithmetic hierarchy, arithmetization, definability and selected topics in proof theory, model theory and set theory, including the hierarchy of consistency strength. Students will complete weekly problem sets and write a term paper.