Department: Philosophy

Course No: PHIL 211Q

Title: Symbolic Logic

Credits: 3

Contact: Donald Baxter

WQ: Q

Catalog Copy: 211Q. Symbolic Logic I. Either semester. Three credits. Prerequisite: At least one of LING 101, POLS 106, PHIL 101, 102, 103, 104, 105, 106; MATH 101 or passed Q Readiness Test or passed a Q course. Open to sophomores or higher. Beall, Wheeler Systematic analysis of deductive validity; formal languages which mirror the logical structure of portions of English; semantic and syntactic methods of verifying relations of logical consequence for these languages.

Course Information: -This course teaches first-order logic, proof-algorithms, translation-skills for turning ordinary language arguments into a form amenable to algorithmic treatment, and some set theory. In addition, it discusses and proves formal properties of first order logic, e.g. completeness and consistency, and gives simplified versions of uncomputability theorems.

Q Criteria : 1) the course uses boolean algebra, algorithm theory, and functions throughout, in problem-solving practice and in proving theorems about the system. 2) Formal logic is part of the theory of formal abstract structures, a branch of mathematics. 3) To the extent that proving theorems about formal structures and learning to run through algorithms is actual mathematics, formal logic is actual mathematics.

Role of Grad Students: No graduate students TA for this course, except sometimes as graders, if they are mathematically talented.