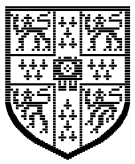

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M.Phil. In Computer Science: the Logic Module

The background we assume for this course can be had from 1A Discrete Mathematics and 1B Logic and Proof. Candidates new to Cambridge will be able to find the materials on the Lab web site. The M. Phil. committee recommends Herb Enderton's "A Mathematical Introduction to Logic" but the lecturer's "Logic Induction and sets" which is much cheaper (£15 ppk) and is in most college libraries covers most of the suggested material. The lecturer will also make suitable material available from his home page at `www.dpmms.cam.ac.uk/~tf`.

The course will cover soundness and completeness of propositional and first-order logic and the Skolem-Löwenheim theorem. A number of first-order theories will be developed, and the ideas of *complete* and *incomplete* and *countably categorical* theory will be developed and illustrated. There will also be an elementary treatment of axiomatic set theory.

On completion of this module students should have a good understanding of propositional and first order logic, their proof systems and models.

Assessment will be by weekly exercises plus a take-home assignment over the Christmas vacation.