

University of London BA Philosophy 2001-02

Course: PHILOSOPHY OF MATHEMATICS

Convenor: Dr. K.

Hossack

Aims

This course aims to acquaint students with basic problems in metaphysics and epistemology of mathematics, and to provide a critical examination of major contending philosophical responses to those problems. Students should acquire some grasp not only of problems and views, but also of ideas invented to deal with those problems and arguments marshalled for and against those views. It is also hoped that general epistemological and metaphysical theories will be illuminated by their application in philosophy of mathematics.

Philosophy of Mathematics I: Arithmetic and Geometry

A critical examination of the main philosophical views of (a) the nature of the subject matter of Euclidean geometry and our knowledge of it, from Plato to Kant, and (b) the nature of whole numbers and arithmetical knowledge, from Plato to Frege.

Reading

There is no textbook for this course. Detailed references will be handed out during the course. We will be looking at passages from Plato's *Republic*, Berkeley's *Principles of Human Knowledge*, Mill's *System of Logic*, Kant's *Critique of Pure Reason*, Frege's *Foundations of Arithmetic*.

For background see chapters 1 - 4 of:

Shapiro, S. *Thinking about Mathematics*. Oxford University Press 2000.

Lectures: Mondays 6-7, Room 202, Birkbeck Annexe, Gresse Street.

Lecturer: Dr. Marcus Giaquinto

Philosophy of Mathematics II: Logicism, Finitism, Intuitionism

A critical examination of the main philosophical views informing the 20th century foundational programmes for mathematics.

Reading

Again, there is no textbook. But detailed reading list will be supplied during the course. The following is a very useful collection:

Benacerraf, P. and Putnam, H. (ed.s) *Philosophy of Mathematics: selected readings*. Second edition. Cambridge: Cambridge University Press 1983.

For background see the section on ‘the big three’ in:

Shapiro, S. *Thinking about Mathematics*. Oxford University Press 2000.

Lectures: Mondays 6-7, Room 202, Birkbeck Annexe, Gresse Street.

Lecturer: Dr. Helen Billinge