**Philosophy of Mathematics – Essay 1**

**(Knowledge and Semantics in Mathematics: Benacerraf's Dilemma)**

**Readings:**

- **(!) Benacerraf, P., 'Mathematical Truth'**, in Benacerraf, P. and Putnam H. (eds.), *Philosophy of Mathematics*, 2ed edition, Cambridge University Press, 1983. (Henceforth I shall refer to this book as 'B&P').
- **(!) Shapiro, S.,** ***Thinking about Mathematics*** OUP, 2000, **ch. 2**.
- **(!) Steiner M**., '**Platonism and the Causal theory of knowledge**', *Journal of Philosophy* 70, 1973, pp.57-66.
- Putnam, H., '**Models and Reality**', in B&P.
- Quine, W.V.O., '**Carnap and logical truth**' *or* Quine W.V.O, '**Truth by convention**' – both in B&P.
- Hempel, C., 'On the nature of mathematical truth', in B&P.

**Essay Questions:** What is the dilemma presented by Benacerraf between an account of truth and an account of knowledge in mathematics? Is the dilemma particular to the case of *mathematics* or can it be generalised to other realms of knowledge? What is a more promising avenue for addressing the dilemma: by rethinking our account of mathematical *knowledge* or by rethinking what constitutes *truth* in mathematics?