

WINTER SEMESTER 2024–25

L7. PHILOSOPHY OF LOGIC/PHILOSOPHICAL LOGIC

THURSDAYS 3–6, ROOM NB3.

*Logic* deals with what conclusions follow from what premisses. *Philosophical logic*, as opposed to its mathematical counterpart, is logic that either uses methods which are philosophical (analysing concepts, developing arguments, etc.) and not mathematical or applies mathematical methods but has aims which are philosophical (or, at any rate, non-mathematical: the aims sometimes come from computer science or linguistics). It often adopts both philosophical and mathematical methodology. *Philosophy of logic*, on the other hand, is not logic but is related to logic just as e.g. philosophy of psychology and philosophy of mathematics are related to psychology and mathematics respectively: it discusses metaphysical, epistemological or semantic questions about logic.

We will study some topics in philosophical logic relying on L. Horsten and R. Pettigrew (eds.), *The Bloomsbury Companion to Philosophical Logic* (London, Bloomsbury, 2014) and fewer topics in philosophy of logic relying on D. Cohnitz and L. Estrada González *An Introduction to the Philosophy of Logic* (Cambridge, CUP, 2019). Both those books are textbooks; that is, they are addressed to students. Generally, L7 is a survey course.

The topics to be discussed are the following:

A. *Philosophical logic*:

1. Introduction: Logical Consequence.
2. Identity and Existence in Logic.
3. Higher-Order Logic. Higher-order logic is mainly second-order logic, which differs from first-order logic because it allows quantification into predicate position.
4. The Paradox of Vagueness.
5. Negation. Various philosophers, such as those who espouse intuitionism in mathematics, have argued that not all principles of classical logic about negation should be accepted.
6. Modal logic. This is the logic that studies the concepts of necessity and possibility.
7. Temporal logic. Temporal logic studies expressions such as “it was once the case that”, “it has always been the case that” and the like.
8. Truth and Paradox. The concept of truth is involved in paradoxes, of which the simplest is the paradox of the liar, already known in antiquity, that is, the paradox of the sentence that describes itself as being false.

B. *Philosophy of logic*:

9. The metaphysics of logic. The central question here is: if a logical principle is correct, what makes it correct (the world, our language, or something else)?
10. The epistemology of logic. The main question here is: if a logical principle is correct (or wrong), how can we know that it is correct (or wrong)?

11. Logical pluralism. Logical pluralism is the view that more than one system of logic is correct (but e.g. each correct system applies to a different area of discourse). The opposite is logical monism.

For several of those topics we will need more than one week. So it isn't certain that we shall cover all of them. E.g. we need two meetings for topics 4 and 5, given that the relevant chapters in the *Bloomsbury Companion* are long.

Properly following the course requires some familiarity with classical propositional and first-order logic, since the logical systems we shall discuss are either extensions of classical logic or deviations from it. This familiarity is provided in course L1 (Mathematical Logic).

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