

SCHEDULE OF TOPICS

PHILOSOPHY 428/526 “Logic and Language”

Pelletier, Fall 2013

This is an attempt at a schedule of topics for the course. However, I am immensely bad at keeping to schedules. You should take this rather as an indication of the *order* in which various topics will be discussed and work due. The first exam will happen at about the mid-term point of the course, and will cover whatever material we have done up to then. I expect it will happen in the middle of the vagueness material. The second exam will take place at the end of the course, and will cover the material from after the first exam.

We will first try to get a common background in elementary formal logic. You need not know very much detailed information, but you should have knowledge of some of the major hallmarks. And since we’re going to talk a bit about translating from English to logic, you should know how this is done in classical first-order logic.

Texts: **[Required]** Graham Priest *An Introduction to Non-Classical Logic* [2nd Ed.] (NCL)
[Recommended] Lou Goble *The Blackwell Guide to Philosophical Logic* (PL)

Topic I: Background to first-order logic. This is intended as a review, plus some perhaps different ways to looking at classical logic. Also, I will present some information about classical logic that is not widely known. NCL starts with an “introduction to set theory background” which is very short and you might wish to read. Also, Priest has a short intro to mathematical induction. His Chapter 1 is about classical propositional logic, and Chapter 12 about classical predicate logic. You should review these both, even though we will follow Priest in considering features of propositional logic before going off into predicate logic. If you have it, you could also read PL’s *Introduction*, esp. pp.1-4, and Chapter 1 (which is written by Hodges, esp. pp. 9-32, but don’t commit to his specific axiomatic development on pp. 24ff, but instead just concentrate on the content of the theorems on pp. 26-31 and not their proofs.) In connection with this, you might also look at the first two pages of Ch. 2 in PL, written by Shapiro. Since Priest uses tableaux methods as a proof theory, you should learn how they work, if you don’t already know.

<at the end of this topic there will be a homework assignment>

Topic II: (Propositional) modal logic. Read Chapters 2 & 3 in NCL. You can also look at Cresswell (Ch. 7 in PL). Since this is not a modal logic class, we will not study his proofs of completeness. You should just learn what the conditions for the “possible worlds” are, and what sort of things different modal logic systems can validate. In connection with this, you might look at the first page of Hilpinen (Ch.8 in PL), the first 4.5 pages of Meyer (Ch. 9 in PL), and the first 3.5 pages of Venema (Ch. 10 in PL). [all assuming you have PL]. NCL’s Chapter 4 is about non-normal modal logics, but we probably will discuss them only in passing. NCL also gives tableaux methods for modal logics, which will be necessary to learn. (I may present my own (somewhat different) version...for your pleasure. Pick whichever one seems easier for you.)

Topic III: Many-valued (propositional) logic. Read NCL Chapter 7, which is very nice and mentions many philosophical topics related to many-valued logic. Malinowski (Ch. 14 in PL) is also about many-valued logic. Some of this material is advanced, and I will be presenting a much simplified version. Chapter 11 in NCL is about infinite-valued logic (“fuzzy logic”), which we will briefly discuss in connection with this.

<at the end of this topic there will be a homework assignment>

Topic IV: Vagueness. Priest discusses vagueness to some extent in his Chapters 7, 11, and 25 (esp. 25.5-25.7). But a great philosophical background is given in the Introduction (pp. 1-57) to Rosanna Keefe & Peter Smith *Vagueness: A Reader*. [This book is available electronically from our library: <http://www.library.ualberta.ca/permalink/opac/3032528/WUAARCHIVE> .] It also contains arguments against many of the theories presented in the “readings” that comprise the rest of the book. We want to look at modal logic theories of vagueness, many-valued theories of vagueness (with some discussion of fuzzy logic), and at “supervaluations”. The classic supervaluation paper is Kit Fine (pp.119-150 in *Vagueness*), and is also discussed in NCL (Ch. 7, Section 10). Tye (pp. 281-293 in *Vagueness*) gives a three-valued approach to vagueness, Machina (pp. 174-203 in *Vagueness*) gives a much larger (infinite?) many-valued approach. Williamson (pp. 265-280 in *Vagueness*) argues against *any* many-valued approach, and an article by Pelletier & Stainton will be passed out that argues against that.

Topic V: Free logics. These are logics that allow for non-denoting names (“empty names”). NCL’s Chapter 13 is devoted to this topic, although he doesn’t talk much about definite descriptions. Joe Lambert (Ch. 12 in PL) discusses a variety of free logics in a very short space, mentioning definite descriptions on pp. 271-2, but we will talk in more depth about formal theories for definite descriptions – especially those that are alternatives to Bertrand Russell’s “elimination” of definite descriptions. Using many-valued logics as a way to handle empty definite descriptions is mentioned in NCL (Chapter 7.8).

<at the end of this topic there will be a homework assignment>

Topic VI: Conditionals. Conditionals form the topic of much of Priest’s book. Chapter 1.6-1.10; Chapters 4, 5, and parts of 6; and much of the material about relevant logic in Chapters 9 and 10; and also in fuzzy logic, Chapter 11.6. The article by Edgington (Ch. 17 in PL) is a general introduction to all the theories, without, however, much logic. The relevant logic material is also covered by Mares & Meyer (Chapter 13 in PL, especially pp. 280-283). It is not clear how much time we will have to cover this topic. Some of it, such as the discussion in Chapter 1 in NCL, will be covered earlier in the course.