PHIL 120A: Autumn 2007

Class Schedule

Topics for each of the MWF lectures are listed below, along with the corresponding reading assignments in *Language, Proof and Logic* (LPL), listed by section numbers. In addition to the readings in LPL, you should read the relevant sections of the Software Manual, as needed. Look at chapters 2 and 3 immediately, along with the assignment for September 27. Look at chapter 4 by October 1, and chapter 5 by October 8. You will very likely want to use these chapters for subsequent reference. The *Supplement* for class on December 7 can be downloaded from the Lecture Notes web page.

Date	Topics Covered	Reading
September 26	Using the software: how to submit homework files. Individual constants; predicate symbols; atomic sentences.	Introduction, pp. 1-10; §1.1 - §1.3
September 28	General first-order languages; valid and sound arguments; methods of proof.	§1.4, §2.1, §2.2
October 1	Formal proofs; constructing proofs in Fitch; demonstrating nonconsequence.	§2.3 - §2.5
October 3	Negation symbol: ¬; conjunction symbol: ∧; disjunction symbol: ∨; remarks about the game.	§3.1 - §3.4
October 5	Ambiguity and parentheses; equivalent ways of saying things; translation.	§3.5 - §3.7
October 8	Tautologies and logical truth; logical and tautological equivalence; logical and tautological consequence.	§4.1 - §4.3
October 10	Tautological consequence in Fitch; valid inference steps; proof by cases.	§4.4, §5.1, §5.2
October 12	Indirect proof (proof by contradiction); arguments with inconsistent premises; conjunction rules.	§5.3, §5.4, §6.1
October 15	Disjunction rules; negation rules.	§6.2, §6.3
October 17	The proper use of subproofs; strategy and tactics; proofs without premises.	§6.4 - §6.6
October 19	Material conditional symbol: →; biconditional symbol: ↔; conversational implicature.	§7.1 - §7.3
October 22	Informal methods of proof; formal rules of proof for → and ↔.	§8.1, §8.2

Date	Topics Covered	Reading
October 24	Soundness and completeness; valid arguments: some review exercises.	§8.3, §8.4
October 26	MIDTERM EXAM	
October 29	Variables and atomic wffs; the quantifier symbols: ∀, ∃; wffs and sentences.	§9.1 - §9.3
October 31	Semantics for the quantifiers; the four Aristotelian forms.	§9.4, §9.5
November 2	Translating complex noun phrases; tautologies and quantification.	§9.6, §10.1
November 5	First-order validity and consequence; first-order equivalence and DeMorgan's laws.	§10.2, §10.3
November 7	Other quantifier equivalences; multiple uses of a single quantifier.	§10.4, §11.1
November 9	Mixed quantifiers; the step-by-step method of translation; paraphrasing English.	§11.2 - §11.4
November 12	HOLIDAY	
November 14	Ambiguity and context sensitivity; prenex form	§11.5, §11.7
November 16	Prenex form (continued); some extra translation problems.	§11.8
November 19	Valid quantifier steps; the method of existential instantiation; the method of general conditional proof.	§12.1- §12.3
November 21	Proofs involving mixed quantifiers; universal quantifier rules.	§12.4, §13.1
November 23	THANKSGIVING HOLIDAY	
November 26	Existential quantifier rules; strategy and tactics.	§13.2 - §13.3
November 28	Soundness and completeness; review exercises; practice with proofs	§13.4 - §13.5
November 30	Numerical quantifications.	§14.1
December 3	Proving numerical claims.	§14.2
December 5	*The* — Russell's theory of definite descriptions.	§14.3
December 7	Properties of relations; infinite domains.	Supplement, §15.5
December 10	FINAL EXAM: 8:30 - 10:20 am	