Phil 315:
Applied Symbolic Logic

9.04.2012

Instructor:	Ben Levinstein
Email:	ben@levinstein.org
Time:	TF 10:55-12:15
Place:	Ruth Adams Building 209B
Office:	Seminary 1, 315; map
Office Hours:	TBA

Course Description:

This class is a broad overview of "philosophically useful" logic. We have three main goals: (1) To gain fluency in reading and constructing proofs using natural deduction, axiomatic systems, and sequent calculi, (2) To achieve a basic understanding of logical consequence, soundness, and completeness, (3) To become acquainted with alternative logics involving non-truth-functional operators.

Textbook:

Logic for Philosophy by Theodore Sider

Requirements:

30% Midterm
30% Final
40% Homework

Grading Scale:

Letter Grade	Score
A	90 and above
B+	86-89
B	80-85
C+	75-79
C	70-74
D	65-69
F	0-64

Late Submission Policy:

Late submissions of problem sets will not be accepted, since we will go over portions of problem sets in class. However, your lowest two problem set grades will be dropped. In

extreme cases, we can work something out.

LaTeX & LyX:

If you plan to continue studying formal methods, it's worth learning either LaTeX or LyX. It's also much easier for me to grade a nicely typeset problem-set than one in Word or one written out by hand. So, homework submitted in .pdf format and generated by either of these programs will receive 2 bonus points.

Class Etiquette & Academic Integrity:

I expect you to behave ethically, at least as pertains to matters in this class. Students are encouraged to ask questions, respond to other students' questions, and raise issues. Everyone is expected to treat others critically but respectfully. Further, I take academic integrity very seriously. **Problem sets, quizzes and exams need to represent your own, original work. Cheating of any kind will be reported to the relevant academic dean, will result in a failing grade on the assignment, and could result in your suspension or expulsion from Rutgers**. For more information, see the Rutgers policy: http://ctaar.rutgers.edu/integrity/policy.html. If you have any questions about this policy or acceptable collaboration with other students, please contact me.

Tentative Schedule:

Date	HW Due	Reading	Topics
Week 1			*Introduction*
9.04			Introduction
9.07		1.1-7	The Concepts of Logic
Week 2			*Set Theory and Propositional Logic*
9.11		1.8	Set Theory
9.14		2.1-6	Sequent Calculus & Axiomatic Proofs
Week 3			*Induction, Soundness, & Completeness*
9.18		2.7-9	Induction
9.21	PS1		Soundness & Completeness
Week 4			*Heretical Logic*
9.25		3 (all)	Nonclassical Logic
9.28	PS2		Nonclassical Logic
Week 5			*Predicate Logic*
10.02		4 (all)	Grammar, Semantics, & Validity
10.05	PS3		Axiomatic Proofs & Metalogic
Week 6			*Beyond Predicate Logic*
10.09		5 (all)	Additions & Expansions
10.12	PS4		Additions & Expansions

Date	HW Due	Reading	Topics
Week 7			*Midterm*
10.16			Review
10.19			**Midterm**
Week 8			*Modal Propositional Logic*
10.23		6.1-4	Intro to Modal Logic
10.26	PS5		Intro to Modal Logic
Week 9			*Modal Propositional Logic*
10.30		6.5-6	Soundness & Completeness
11.02	PS6		Soundness & Completeness
Week 10			*Quantified Modal Logic*
11.06		9.1-5	SQML
11.09	PS7	9.6-7	Variable Domains
Week 11			*Intuitionistic Propositional Logic & Class Choice*
11.13		7.4	IPL
11.16	PS8		Class Choice
Week 12			*Class Choice*
11.27			Class Choice
11.30	PS9		Class Choice
Week 13			*Class Choice*
12.04			Class Choice
12.07	PS10		Class Choice
Week 14			*Review*
12.11			Review