PHIL 201: INTRODUCTION TO LOGIC

Course Number: 730: 201: B1
Time: M, T, W, TH: 10:20am - 12:15pm
Location: TBD, College Ave Campus
Course website: TBD
Instructor: Thomas Blanchard
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Office: 1 Seminary Place (CAC), Room 12
Office Hours: TBD

Course Description:

The goal of this class is to make you familiar with the basics of formal logic. Logic is the systematic study of correct reasoning – of what distinguishes correct arguments from incorrect ones. *Formal* logic studies correct reasoning by using rigorous, mathematical techniques which involve the use of artificial languages. In this course, we will study two such formal languages known as *propositional logic* and *predicate logic*. By studying this language we will be able to formulate precisely the central concepts of validity, proof and inference and to analyze in details certain patterns of inference. You will learn to translate English sentences and arguments into those languages, to evaluate the validity of those arguments, to construct counterexamples for invalid arguments and proofs for valid arguments.

Textbook:

- We will use Barwise, J. and Etchemendy, J. (2003). *Language, Proof and Logic*. Stanford: CSLI Publications. This textbook contains a software on which we will rely heavily during the class. In particular, you will use the software to submit **homework assignments**.

- For this reason, it is **very important** that you purchase the book **NEW**. The software requires a registration ID which can be used only by one person. You CANNOT purchase the book used.

- The book has a very useful website, http://ggww2.stanford.edu, on which you can get help with technical problems, as well as some tips for homework assignments.

Grading:

- The grade breakdown for this class is as follows:

    Midterm Exam: 250 points – 25% of the grade
    Final Exam: 300 points – 30% of the grade
    Ten Homework Assignments: 400 points (40 points each) – 40% of the grade
    Attendance/Participation: 100 points – 5% of the grade

- The Midterm will take place on June 21. The Final Exam will take place on July 7.

- There will be roughly two homework assignments per week. Each assignment will count for 40 points. Many homework assignments will be submitted through the software associated with the textbook. Note that the homework on a given due date must be turned in **before** the class taking place on this due date.

- During each class, we will spend some time on group exercises. I will randomly call students to provide their group's solution. This will enable me to check attendance and to make sure that you understand the material. It is very important that you attend the class regularly. Learning logic is a cumulative, step-by-step process: if you miss classes you will very quickly find yourself lost.

Late Homeworks:

You can turn in a homework late without penalties **only if you have a Dean's note** (this is the University policy). If you do not have a Dean's note, the penalty for late HW is as follows:
    1-day late: You lose 4 points (10% of the total points).
    2-days late: You lose 8 points (20% of the total points).
    3-days late: You lose 12 points (30% of the total points).
    Etc., with 4 points lost for each additional late day.

Missed Exams:

If you miss an exam, you will have to provide me with a Dean's note (again, this is the University policy). In that case we will schedule a make-up.

Academic Integrity:

Rutgers' policy on academic integrity can be seen at http://academicintegrity.rutgers.edu/integrity.shtml. I encourage you to look at this page closely. I will report any violation immediately.

Special Needs:

If you have a disability, please come see me at the end of this class. We will discuss possible accommodations to help you improve your experience in this class.

Schedule:

Date	Readings in LPL	Topics	Homework
06.01	1.1 – 1.4	Introduction Atomic Sentences	
06.02	2.1 – 2.2	Validity and Proof	
06.03	2.3 – 2.5	Proof and Fitch	HW 1 Due
06.07	3.1 – 3.7	Boolean Connectives	HW 2 Due
06.08	4.1 – 4.4	Boolean Logic	
06.09	5.1 – 5.4	Proofs for Boolean Logic	
06.10	6.1 – 6.2	Formal Proofs for Boolean Logic	HW 3 Due
06.14	6.3 – 6.5	Formal Proofs for Boolean Logic (Continued)	HW 4 Due
06.15	7.1 – 7.3	Conditionals: Introduction	
06.16	8.1 – 8.2	Conditionals: Proofs	
06.17	Review Chs. 1-8		HW 5 Due
06.21		MIDTERM EXAM	
06.22	9.1 – 9.3	Introduction to Quantification	
06.23	9.4 – 9.6	Introduction to Quantification (Continued)	
06.24	10.1 – 10.3	Logic of Quantifiers	HW 6 Due
06.28	11.1 – 11.3	Multiple Quantifiers	HW 7 Due
06.29	11.4 – 11.5	Quantifiers: Translation	
06.30	12.1 – 12.2	Proofs and Quantifiers	
06.31	12.3 – 12.4	Proofs and Quantifiers (Continued)	HW 8 Due
07.04	13.1 – 13.2	Formal Proofs and Quantifiers	HW 9 Due
07.05	13.3	Formal Proofs and Quantifiers (Continued)	
07.06	Review		HW 10 Due
07.07		FINAL EXAM	