

## PHIL 201: INTRODUCTION TO LOGIC

Instructor: Jennifer Wang

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Time: 10:55am-12:15pm, TF

Location: RAB 204, Douglass Campus

Office Hours: 9:30-10:30am, Douglass Café, Douglass Campus Center;  
and after class on Fridays

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### Course Description:

This is an introductory class in formal logic. With the help of the interactive computer software included with the textbook, we will learn how to use an artificial language called **First-Order Logic** (FOL).

### Course Website:

We have a website site at [sakai.rutgers.edu](http://sakai.rutgers.edu). Please check it regularly for announcements, lecture slides (posted after class), and additional materials.

### Textbook: *Language, Proof and Logic* by Jon Barwise and John Etchemendy

- ▶ This textbook/software package can be purchased at the Cook-Douglass Student Co-op, or online. You **must** purchase it new – the software requires a license that can only be used by one person and cannot be transferred. We will be using the software extensively.
- ▶ You may install the software on your personal computer and submit electronic assignments from there. The software can also be run directly off the CD-ROM elsewhere (like in a computer lab). However, make sure to save files in your drive or on a flash drive.

### Requirements:

You will be required to complete 12 homework assignments, two exams, attend all classes and do the assigned readings. Reading assignments for each class and homework due dates are listed on the schedule. There will be group and individual work during classes. There will be no make-ups for the midterm without a valid excuse (like a medical emergency – do not schedule non-emergency appointments during any class). The final will be on Tuesday, December 22, from 8-11am.

### Attendance and Participation Policy:

Attendance will be taken at the beginning of each class. Good attendance and frequent participation will count in favor of a student when determining final grades, but only in cases where the final grade is within a point of the next grade up.

### Late Submission Policy

There will be a penalty for late submission of homework assignments of 5 points per day late. Each "day" will start at 10:55am. For example, if the assignment is due Tuesday at the start of class but is not handed in until Wednesday at noon, 10 points will automatically be deducted.

### Grading

- ▶ **45%:** 2 Exams (20% midterm, 25% final)
- ▶ **50%:** 12 Homework Assignments
- ▶ **5%:** Attendance and Participation

### Rough Grading Scale

- ▶ (A) 100-95: 0-1 minor errors
- ▶ (A) 94-90: 1-2 minor errors
- ▶ (B+) 89-85: 3-4 minor errors
- ▶ (B) 84-80: 5-6 minor errors or 1 major error
- ▶ (C+) 79-75: 6-7 minor errors or 1 major and 1-2 minor errors
- ▶ (C) 74-70: 8-9 minor errors or 1 major and 3-4 minor errors
- ▶ (D) 60-69: 10-11 minor errors or 2 major errors
- ▶ (F) 59-0: 12+ minor errors or 3+ major errors

## SCHEDULE

Date	Homework	Reading	Topics
<i>Week 1</i> 09.01 09.04		§1.1-1.4	Introduction Atomic Sentences and Tarski's World
<i>Week 2</i> 09.08 09.11	HW 1 due	§2.1,2.2	NO CLASS (Monday classes meet) Logical Consequence, Proof
<i>Week 3</i> 09.15 09.18	HW 2 due	§2.3-2.5 §3.1-3.7	Proof and Fitch Meet the Booleans: $\wedge, \vee, \neg$
<i>Week 4</i> 09.22 09.25	HW 3 due	§4.1 §4.2-4.4	Truth Tables and Tautologies Consequence and Equivalence
<i>Week 5</i> 09.29 10.02	HW 4 due	§5.1-5.2 §5.3-5.4	Informal Boolean Proofs Indirect Proof
<i>Week 6</i> 10.06 10.09	HW 5 due	§6.1,6.2 §6.3-6.5	Conjunction and Disjunction Negation and Subproofs

<i>Week 7</i> 10.13 10.16	HW 6 due	§7.1-7.3,7.5 §8.1,8.2,8.4	Conditionals Conditional Proof
<i>Week 8</i> 10.20 10.23	HW 7 due		Review MIDTERM
<i>Week 9</i> 10.27 10.30		§9.1-9.3 §9.3-9.4	Basics of Quantification Basics of Quantification
<i>Week 10</i> 11.03 11.06	HW 8 due	§9.5,9.6 §10.1-10.4	Translations Taut, Cons, Equiv
<i>Week 11</i> 11.10 11.13	HW 9 due	§11.1-11.3 §11.4,11.5,11.8	Multiple and Mixed Quantifiers More Translations
<i>Week 12</i> 11.17 11.20	HW 10 due	§12.1,12.2 §12.3	Steps, Existential Instantiation General Proofs
<i>Week 13</i> 11.24 11.26	HW 11 due	§12.4	Proofs Involving Mixed Quantifiers NO CLASS (Thanksgiving)
<i>Week 14</i> 12.01 12.04		§13.1 §13.2	$\forall$ Rules $\exists$ Rules
<i>Week 15</i> 12.08 12.11	HW 12 due	§13.3 §13.5	Strategies and Tactics Review
<i>Week 16</i> 12.15 12.18			NO CLASS (Reading Day) NO CLASS
<i>Week 17</i> 12.22	Take-Home due		FINAL EXAM, 8-11am