

PHIL 220g: Introduction to Logic

Fall 2026

Time and Place

Lecture	Mon, Wed 8:30 - 9:50 am	THH 202
Discussion Section	Mon 9 - 9:50 am	MHP 102
Discussion Section	Mon 10 - 10:50 am	MHP 102
Discussion Section	Mon 11 - 11:50 am	MHP 102
Discussion Section	Wed 9 - 9:50 am	MHP 102
Discussion Section	Wed 10 - 10:50 am	GFS 228
Discussion Section	Wed 11 - 11:50 am	DMC 256

Instructor

Gabriel Uzquiano
STO 221
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Email

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URL: <https://dornsife.usc.edu/profile/gabriel-uzquiano/>

Please write 'PHIL 220' in the subject line when you email me (or your section leader). We will aim to reply to your email within 48 hours, but please feel free to follow up after that period.

Office Hours

Mon 11 - 12pm	Open Discussion	STO 221
Wed 12 - 1:30pm	Online One-on-One Session	Zoom Room
	Make an appointment	https://usc.zoom.us/my/uzquiano

If you have a conflict with the scheduled office hours, please email me to make an appointment for another time.

Section Leaders

Benjamin Andrew
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Office Hours: TBA

Yudi Huang
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Course Description

The course will provide you with a suite of formal methods for the evaluation of natural language arguments. We use arguments to reason and persuade others, and we will focus valid arguments, which are able to guarantee the truth of the conclusion given the truth of the premises. We ask what sets *valid* arguments apart from the rest, and we look at the link between validity and truth. The course will consist of two major units.

1. **Propositional Logic.** We introduce the language of propositional logic in order to account for the validity of an important family of natural language arguments in terms of the behavior of propositional connectives such as ‘not’, ‘and’, ‘or’, and ‘if ... , then ...’.
2. **Quantificational Logic.** We look at the language quantificational logic, which accounts for the validity of a variety of natural language arguments in terms of the behavior of some quantifier expressions such as ‘all’ or ‘some’. We will finally expand the language of quantificational logic with identity in order to cover the validity of additional natural language arguments, e.g., those that involve number and definite descriptions.

Goals

By the end of this course students will be able to . . .

- identify the premises and the conclusion of natural language arguments
- provide formal representations of natural language sentences in the language of propositional and quantificational logic with identity
- use truth tables to determine whether arguments formulated in the language of propositional logic are valid
- deploy a natural deduction system to construct a proof of a conclusion from certain premises stated in the language of propositional and quantificational logic with identity
- construct models to establish the invalidity of arguments formulated in the language of quantificational logic with identity
- use a suite of formal methods to determine whether a natural language argument is propositionally or quantificationally valid

Course Materials

COURSE WEBSITE

Lecture notes and other materials for the course will be made available in the [course website](#).

USC LOGIC WEB

We will use [USC Logic Web](#) as an online companion to the course. The website includes tutorials for different aspects of propositional and quantificational logic covered in the course. Each tutorial is accompanied by a battery of problems you should be able to use to check your own progress with the material of the course. Solutions to the problems are generally available.

CARNAP

Online assignments and quizzes will be made available in [Carnap](#), which is a free and open software framework for the study of formal logic. To use the platform, you should first register with your USC address. Once registered as a Carnap user, you should follow the link below in order to enroll in the Carnap course associated with this class:

[USC Introduction to Logic Fall 2026](#)

BRIGHTSPACE

We will use [Brightspace](#) to post grades for different components of the course and to distribute general announcements for the course.

Course Requirements

This is tentative and subject to change.

PARTICIPATION

The course will be based on active participation and discussion. You will be expected to be present both in lecture and in discussion section and be prepared to ask questions, contribute to discussion, and participate in discussion activities.

ONLINE ASSIGNMENTS

We will use the [Carnap](#) platform for biweekly online assignments. These problems are specifically designed to help you acquire and practice core skills associated with the course objectives. The problems will appear each week in [Carnap](#) under the label 'Assignments'.

The platform may not provide you with hints but it will nevertheless alert you if your answer is incorrect and it will allow you to change it until it is correct.

We will have a *problem session* almost every other week, where we will discuss some of the problems as a group. To earn full credit for these problems, you should submit your own answers through the online platform by midnight of the due date specified in the schedule below. By default, late (and very late) submissions will receive partial credit provided they are submitted by midnight of the last day of classes, Fri. 12/5.

CHECK-IN QUIZZES

We will generally reserve the last 30 minutes of each problem session for a 20 minute check-in quiz. The main purpose of the quizzes is to check your comprehension of the central concepts introduced over the course of last two weeks and to provide us with feedback as to how well these

key concepts have been communicated. The check-in quizzes will often be delivered through the Carnap platform.

MIDTERM

We will have a midterm on **Monday, October 20**. You will be asked to translate four arguments from English into the language of propositional logic and to assess their validity.

The point of the midterm is to help you consolidate your comprehension of the methods of propositional logic and to evaluate your ability to apply the core skills of the first unit of the course. A practice midterm will be made available prior to the exam, and we will post solutions to the practice midterm questions at least 48 hours prior to the exam.

FINAL

We will have a two-hour final on **Wednesday, December 9** at 8 am. We will ask you to translate four arguments from English into the language of propositional logic and to assess their validity. We will use the last session to discuss a practice final with exactly the same format.

Course Evaluation

The aim of this course is for you to become proficient in the course objectives we listed at the outset. So, we will generally not use numerical scores to evaluate your work. Instead, your online assignments, check-in quizzes, and timed tests will be evaluated on a proficiency scheme:

- Extending** Your answers are thorough, complete, and justified through appropriate reasons or examples as the case may be. Communication is clear and complete.
- Proficient** Some of your answers may still require revision or expansion, but there are no significant gaps in your explanation or evidence of gaps in comprehension. Communication is clear.
- Developing** There are significant gaps in explanation, and further work and review of basic concepts involved in the assignment is recommended.
- Emerging** Fragmentary answers with significant gaps and omissions.
- Incomplete** Largely incomplete answers.

By default, Carnap will use numerical scores to assess the biweekly online assignments. Each online problem submitted *on time* in the Carnap platform will receive a maximum of either 5 or 10 points as the case may be for a total 100 points per problem set. We will use the following table to convert these numerical scores into a proficiency standard:

- Extending** 86 - 100
- Proficient** 76 - 85
- Developing** 66 - 75
- Emerging** 56 - 65
- Incomplete** 0 - 55

Course Grade

Your final grade for the course will be a record of your proficiency in the objectives for this course, and it will be based both on the number of activities you have successfully completed and the standard at which you have performed in them. The table below lists the minimum requirements for each letter grade. Each row lists a number of activities of each type and the standard you must have achieved to earn the grade.

Grade	Online Assignments (7)	Check-in Quizzes (7)	Timed Tests (2)
A	5 Extending/1 Proficient	4 Extending	2 Extending
A-	4 Extending/2 Proficient	3 Extending/1 Proficient	1 Extending/1 Proficient
B+	3 Extending/2 Proficient	2 Extending/1 Proficient	2 Proficient
B	2 Extending/3 Proficient	3 Proficient	2 Proficient
B-	1 Extending/4 Proficient	2 Proficient/1 Developing	2 Proficient
C+	3 Proficient/1 Developing	1 Proficient/2 Developing	1 Proficient /1 Developing
C	2 Proficient/2 Developing	1 Developing/2 Emerging	1 Proficient/1 Developing
C-	1 Proficient/3 Developing	3 Emerging	1 Proficient/1 Developing
D+	3 Developing/1 Emerging	2 Emerging	1 Developing
D	2 Developing/2 Emerging	2 Emerging	1 Developing
D-	1 Developing /3 Emerging	1 Emerging	1 Developing

To earn an A for the course, you must have completed *at least* 6 online assignments, *at least* 4 check-in quizzes, and 2 timed tests. You must have performed at an *extending* level on 5 online assignments, 4 check-in quizzes, and 2 timed tests and at least at a *proficient* level on 1 more online assignment.

Note that it is the combination of the number of activities and the standard at which you have performed at them that earns you a given grade. Even if someone completes all 7 online assignments, all 6 check-in quizzes, and both timed tests, the final grade will be determined by the standard at which they have performed. If they perform at an extending level at no more than 3 online assignments, then they will earn at most a B+ for the course, regardless of the number of activities or the standard they may have achieved elsewhere.

Course Policies

Late Policies

Most online assignments will consist of either 20 or 10 exercises. By default, each online problem submitted on time in the Carnap platform will receive a maximum of either 5 or 10 points as the case may be for a total 100 points per problem set. Late exercises will receive a maximum of either 4 or 9 points for a total of somewhere between 80 and 90 points per late problem set **provided they are submitted by midnight of the last day of classes, Fri. 12/3.**

Token System

Life can be complicated and in the event of an emergency, you may not be able to submit an assignment in time, you may miss a quiz, or you may find that your timed test did not reach the standard you had hoped to achieve. In order to accommodate these and other unforeseen

circumstances, you will be given *four tokens* to spend during the term. You can use a token to do one of the following:

- **make up a quiz** with your section leader **within a week** of the original test.

The rationale for the requirement that quizzes are made up within a week is that they are time-sensitive as they are designed to gauge your comprehension of the material at the time at which they are scheduled.

- **extend a deadline** for an **online assignment by a week**.

Late assignments receive only partial credit unless you extend a deadline with the help of a token. Once you do, your section leader will give you full credit for the assignment provided it is submitted within the extended deadline.

- **repeat one timed test** for full credit **within a week of the original**.

You can only repeat **one timed test**, and your new grade, whether higher or lower than the initial grade, will replace the grade for the original test.

Your discussion leader will be in charge of token usage for your section and they should be notified with sufficient time for them to be able to accommodate your use of a token.

Schedule

This schedule is tentative and subject to change.

Date	Topic	Activity
	INTRODUCTION	
Mon 8/24	Arguments	
Wed 8/26	Validity and Form	
Mon 8/31	Problem Session 1	Quiz 1
	PROPOSITIONAL LOGIC	
Wed 9/2	Basic Language	Online Assignment 1
Mon 9/7	University Holiday: Labor Day	
Wed 9/9	Truth Tables	
Mon 9/14	Problem Session 2	Quiz 2
Wed 9/16	Validity	Online Assignment 2
Mon 9/21	Translation	
Wed 9/23	Complex Translation	

Mon 9/28	Problem Session 3	Quiz 3
Wed 9/30	Natural Deduction: Conjunction	Online Assignment 3
Mon 10/5	Natural Deduction: Conditional and Disjunction	
Wed 10/7	Natural Deduction: Negation	
Mon 10/12	Problem Session 4	Quiz 4
Wed 10/14	Propositional Validity	Online Assignment 4
Mon 10/19	Midterm	
	QUANTIFICATIONAL LOGIC	
Wed 10/22	Basic Language	
Mon 10/26	Problem Session 5	Quiz 5
Wed 10/28	Translation	Online Assignment 5
Mon 11/2	Issues with Translation	
Wed 11/4	Models	
Mon 11/9	Problem Session 6	Quiz 6
Wed 11/11	University Holiday: Veterans Day	
Mon 11/16	Quantificational Validity	Online Assignment 6
Wed 11/18	Natural Deduction: Quantification	
Mon 11/23	Problem Session 7	Quiz 7
Wed 11/25	Thanksgiving Break	
Mon 11/30	Common Mistakes and Strategies	Online Assignment 7
Wed 12/2	Practice Final	
Wed 12/9	Final	

Statement on Academic Conduct and Support Services

ACADEMIC CONDUCT

Plagiarism — presenting someone else’s ideas as your own, either verbatim or recast in your own words — is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section II, “[Behavior Violating University Standards](#)” Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and consult [university policies on scientific misconduct](#).

SUPPORT SYSTEMS

- [Counseling and Mental Health Services \(CMH\)](#) — (213) 740-9355 - 24/7 on call.
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.
- [National Suicide Prevention Lifeline](#) — 1 (800) 273-8255 - 24/7 on call.
Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.
- [Relationship and Sexual Violence Prevention Services \(RSVP\)](#) — (213) 740-9355 (WELL), press 'o' after hours - 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.
- [Office of Equity and Diversity \(OED\)](#) — (213) 740-5086/Title IX - (213) 821-8298
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.
- [Reporting Incidents of Bias or Harassment](#) — (213) 740-5086 or (213) 821-8298
Avenue to report incidents of bias, hate crimes, and micro-aggressions to the Office of Equity and Diversity/Title IX for appropriate investigation, supportive measures, and response.
- [The Office of Student Accessibility Services \(OSAS\)](#) — (213) 740-0776
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.
- [USC Campus Support and Intervention](#) — (213) 821-4710
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.
- [Diversity at USC](#) — (213) 740-2101
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.
- [USC Emergency](#) — UPC: (213) 740-4321, HSC: (323) 442-1000 - 24/7 on call.
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.
- [USC Department of Public Safety](#) — UPC: (213) 740-6000, HSC: (323) 442-1200 - 24/7 on call
Non-emergency assistance or information.