# LING 106: Knowledge of Meaning
### Harvard University
### Spring 2024 Syllabus

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**Class meeting**: M-W 10:30-11:45 am  **Professor**: Yağmur Sağ-Parvardeh
**Location**: Sever 103  **Email**: yagmur_sag-parvardeh@fas.harvard.edu
**Office:** Boylston G03  **Office Hours**: Tues 11 am-12 pm or by app.

This course is an introduction to the field of natural language semantics, which is a branch of linguistics concerned with meaning. We will aim to understand how the meaning of complex expressions arises through the meaning of their parts and the way these parts are combined in the syntax. Our approach to understanding these combinatorial phenomena will be rooted in truth-conditional, model-theoretic semantics, following Gottlob Frege's insights.

Frege conjectured that semantic composition involves a 'saturation' of an 'unsaturated' meaning component and modeled this 'saturation' using mathematical functions. Frege's treatment of semantic composition as functional application will serve as our guiding principle, and for this, we will learn some descriptive tools, including set theory, propositional and predicate logic, $\lambda$-calculus, and type theory. We will explore how these formal tools apply (and do not apply) to natural languages and discuss how we can achieve a more comprehensive understanding of meaning.

## MEETING TIMES & DISCUSSION SECTIONS

The course has two required components: lecture and discussion section. We will have our lectures on Mondays and Wednesdays from 10:30 am to 11:45 am.

Attendance at discussion sections is mandatory, and it will contribute to your in-class participation grade. If you cannot attend your scheduled session, please notify your TF. You may consider attending another section during that week, or we can explore alternative arrangements to make up for the missed session. Please note that there won't be any sections held during the last week of classes. Additionally, each section has a dedicated Slack channel that we encourage you to utilize.

**Office hours:** Office hours will be held in person but we can also meet virtually if you prefer to do so. You should email me to request a Zoom link for a virtual meeting.

**Discussion Section Details:**

**Time**: D1: W 3-4:00 pm/D2: Th 4:30-5:00 pm  **TF**: Natasha Thalluri
**Location**: TBA  **Email**: natasha_thalluri@g.harvard.edu
**Office:** TBA  **Office Hours**: Mon 3:00-4:00 pm

**Natasha Thalluri's Office hours:** Office hours will be held in person. If you do not feel comfortable with an in-person meetings or cannot make that time, you can request for a Zoom meeting by prior appointment.

## READINGS & COURSE MATERIAL

The course does not require a textbook, and course materials will be compiled from various sources. The sources are listed below, with Coppock & Champollion (2024) and Portner (2005) being optional readings for this course.

**Sources:**

1. Altshuler, D. Parsons, D. and Schwarzchild, R. (2019). *A Course in Semantics*. The MIT Press.

2. Coppock, E. and Champollion, L. (2024). *Invitation to Formal Semantics*. Draft of January, 18 2024. Available online here.

3. Chierchia, G. and McConnell-Ginet, S. (2000). *Meaning and Grammar: An Introduction to Semantics*, 2nd Ed. The MIT Press.

4. Heim, I. and Kratzer, A. (1998). *Semantics in Generative Grammar*, Blackwell Publishing.

5. Partee, Barbara H., ter Meulen, Alice G., and Wall, Robert E. (1993). *Mathematical Methods in Linguistics.* Vol. 30, Springer.

6. Portner, P. H. (2005). *What is Meaning? Fundamentals of Formal Semantics.* Blackwell Publishing.

## REQUIREMENTS & EVALUATION

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| Homework | 30% |
| In-class Participation | 15% |
| Midterm Exam | 25% |
| Final Exam | 30% |
| **Total** | 100% |

**Homework Assignments:** There will be up to **6 problem sets** assigned throughout the semester. The assignments will not only serve to test your understanding of the material covered in class but also give you the opportunity to practice the freshly learned techniques to help you keep up with the lectures.

Each problem set will be posted as a PDF on our Canvas website (Assignments) following the Wednesday lecture of the week in which it is assigned. The link will direct students to an assignment on GradeScope, through which students then submit their completed assignments. Problem sets are due on the following week before the Wednesday lecture starts. The assignments will have to be submitted individually. One assignment with the lowest grade will be dropped. Homework assignments are worth 30% of your overall grade.

**Reading Assignments:** Our course material will be mainly handouts that I will prepare based on various sources. These handouts will be your primary reading source. Additionally, for our class on January 29, you are required to read Portner (2005) Chapter 1 and 2, which is available on our Canvas website (Modules). You can also read the relevant chapters in Coppock and Champollion (2024) every week. But this is optional.

**In-class Participation:** Attendance to the lectures is **very strongly recommended**. Moreover, your active participation in class discussions will be evaluated through short pop-up quizzes, i.e., In-Class Exercises (ICEs). Each ICE will be 1 point worth (consider it as a ✓). ICEs won't be

graded based on correct answers; you just need to show us that you have been paying attention to the lectures. If you provide a completely wrong/irrelevant answer then you might get a 0 (consider it as a ✗). If you need to miss a lecture for a reason, email your TF in advance. You will be allowed to make up the ICE of that class.

ICEs are worth 10% of your overall grade. As mentioned above, attendance to discussion sections is required and it will be tracked by your TF. This will be worth 5% of your overall grade. (In total, in-class participation is worth 15% of your grade.)

**Midterm and Final:** We will have a midterm (25%) and a final exam (30%). The midterm will be held on **March 6** in our lecture time. The final exam date and time will be announced and **it will be cumulative**. Both tests will consist mainly of short answer questions and problems like those encountered in homework problem sets. The tests are designed to take significantly less time than any problem set.

**A note on collaboration:** Collaboration on homework assignments is permitted, but there are strict guidelines for doing so. Each student must attempt to complete each assignment in its entirety before discussing it with other students. All write-ups must be completed independently. It is not allowed for any student to copy an answer of another student or for them to write up answers together. If done, it would be considered plagiarism, which is a violation of the Honor Code for Harvard College. When discussing the assignment with others, a student must indicate at the top of the assignment who they worked with. In addition, you must cite any books, articles, websites, etc. that have helped you with your work using appropriate citation practices.

**Late Work:** Assignments are due on the following week before the Wednesday lecture starts. As a rule: no late assignments will be accepted, without a clear reason (and/or any appropriate documentation). If a student believes their homework will be late, they should approach their TF before the deadline. If you fail to do so and submit your assignment late, you will lose some points from the total. 1 day late: 5%, 2 days late: 10%, 3 days late: 15%, 4+ days late: 100%

Extensions for foreseeable reasons (such as scheduled extra-curricular activities) must be sought in advance. In most cases, we will require that the student turn in their problem set before their anticipated absence, if at all possible.

### DISABILITIES

Any student needing academic adjustments or accommodations is requested to present their letter from the Disability Access Office (DAO) and speak with the professor by the end of the second week of the term. Failure to do so may result in the course head's inability to respond in a timely manner. All discussions will remain confidential, although AEO may be consulted to discuss appropriate implementation.

### Use of AI

This course forbids the use of ChatGPT or any other generative artificial intelligence (AI) tools at all stages of the work process, including preliminary ones. Violations of this policy will be considered academic misconduct. We draw your attention to the fact that different classes at Harvard could implement different AI policies, and it is the student's responsibility to conform to expectations for each course.

| Tentative Schedule | | |
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| **Week** | **Topic** | **Problem Sets** |
| **Preliminaries** | | |
| **Week 1** **Jan 22 & 24** | Introduction Varieties of Implication | |
| **Week 2** **Jan 29 & 31** | Truth-Conditional Semantics Compositionality (**Reading for Jan 29:** Portner 2005, Ch 1 & 2) | PSet 1 posted: Due in a week |
| **Week 3** **Feb 5 & 7** | Set Theory Negative Polarity Items | |
| **Week 4** **Feb 12 & 14** | Relations and Functions Propositional Logic | PSet 2 posted: Due in a week |
| **Week 5** **Feb 21** | No class on Feb 19 (University Holiday) Predicate Logic | PSet 3 posted: Due date TBA |
| **Week 6** **Feb 26 & 28** | Predicate Logic, contd. | |
| **Week 7** **Mar 4 & 6** | Review **Midterm Exam (Mar 6)** | **Spring Break:** Mar 9-17 |
| **Executing the Fregean Program** | | |
| **Week 8** **Mar 18 & 20** | Typed Lambda Calculus | |
| **Week 9** **Mar 25 & 27** | Function Application Generalized Quantifiers and Quantificational Determiners | PSet 4 posted: Due in a week |
| **Beyond Function Application** | | |
| **Week 10** **Apr 1 & 3** | Generalized Quantifiers, contd. Modification | PSet 5 posted: Due in a week |
| **Week 11** **Apr 8 & 10** | Relative Clauses Quantifiers in Object Position and Quantifier Raising and Scope | |
| **Week 12** **Apr 15 & 17** | Quantifier Raising and Scope, contd. Revisiting Presuppositions and Implicatures | PSet 6 posted: Due in a week |
| **Week 13** **Apr 22 & 24** | Revisiting Presuppositions and Implicatures, contd. Review | |