

# LINGUISTICS (LING-GA)

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## LING-GA 44 Field Methods (4 Credits)

*Typically offered Fall and Spring*

Students interview a native speaker of an unfamiliar language to study all aspects of the language's grammar: phonetics, phonology, morphology, syntax, semantics. We evaluate and organize real, non idealized linguistic data and formulate generalizations that serve as the basis for research.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## LING-GA 48 Linguistics as Cognitive Science (4 Credits)

*Typically offered occasionally*

This course examines the place of Linguistics within Cognitive Science from multiple perspectives. Foundational questions for a science of linguistics will be addressed both from within linguistics and from philosophy and psychology. Issues include the nature of the evidence for constructing grammars, the interpretation of grammatical rules as cognitive or neural operations, the significance of neo-behaviorist approaches to language and computational modeling for a cognitive theory of language, the connection between linguistic theory and genetics, and the importance of socio-cultural and historical variation for understanding the nature of language. Students will be expected to engage in debate over these issues bringing to the table their own background in one of the relevant disciplines as well what they learn from the assigned readings. The primary instructor will be joined for several of the lectures by guest speakers with complementary expertise.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## LING-GA 1012 Natural Language Understanding and Computational Semantics (3 Credits)

Since at least the proposal of the Turing test, building computational systems that can communicate with humans using natural language has been a central goal for AI research. Understanding real, naturally occurring human language is the key to reaching this goal. This course surveys recent successes in language understanding and prepares students to do original research in this area, culminating with a substantial final project. The course will focus on text, but within that will touch on the full range of applicable techniques for language understanding, including formal logics, statistical methods, distributional methods, and deep learning, and will bring in ideas from formal linguistics where they can be readily used in practice. We'll discuss tasks like sentiment analysis, word similarity, and question answering, as well as higher level issues like how to effectively represent language meaning.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## LING-GA 1029 Intro to Morphology at An Advanced Level (4 Credits)

*Typically offered occasionally*

This course examines the building blocks of words and sentences: the atomic units of word structure, their hierarchical and linear arrangement, and their phonological realization(s). The course provides an introduction to fundamental issues in morphology, including allomorphy, morpheme order, paradigm structure, blocking, and cyclicity. The field of morphology currently embraces much of what goes on in linguistics as a whole; syntax, morphology, phonology, semantics and variation all play an essential role, and their interactions will be highlighted here.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## LING-GA 1210 Phonology I (4 Credits)

*Typically offered Fall*

This course is the first half of a two-course sequence introducing phonological theory. The content and course design are oriented primarily toward graduate students in linguistics. This course has three goals, which will be pursued in roughly the following order of logical (not chronological) priority. (i) To teach students how to work with phonological data, make a generalization, and translate it into an analysis. (ii) To teach students how to reason critically about phonological theories and pursue their consequences. This is a prerequisite to the transition from student to researcher. (iii) to provide a grounding in prosodic phonology, focusing on syllable structure and stress.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## LING-GA 1220 Phonology II (4 Credits)

*Typically offered Spring*

This class is a continuation of Phonology I, the two classes together aim to provide a basic survey of phonological typology and theoretical questions, as well as familiarize you with the formal machinery phonologists use. The focus of this course is on segmental phonology and experimental investigations into phonological knowledge. Like Phonology I, this class is built around problem sets, which hopefully require you to extend the ideas we develop in class to new data and problems. Another goal of the class is to give you some experience presenting to a group. You will give three presentations throughout the semester; the first is a presentation of a paper written pre-OT, the second is of one of the assigned readings and the third is of your term project.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## LING-GA 1230 Computational Phonology (4 Credits)

This course covers computational techniques used in phonology. These can be broadly divided into two categories. The first is computational modeling: phonological theories must be made explicit when they are implemented as computational algorithms, and this explicitness allows the theorist to explore theoretical predictions in a precise way. Second, computational techniques can be used to extract quantitatively robust generalizations from orthographic corpora and to design behavioral experiments quickly and efficiently. Coursework includes intensive practical assignments and a final project with either an experimental or a modeling focus.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## LING-GA 1310 Syntax I (4 Credits)

*Typically offered Fall*

Syntax I and II together form a comprehensive introduction to the concepts and principles of syntactic theory, in the framework of Principles and Parameters and Minimalist Syntax. Syntax I is concerned with phrase structure, argument structure (unaccusatives, unergatives, transitives, double object constructions), Case and agreement (Agree), A-movement (passives, raising constructions), head movement, binding and control. Emphasis in both Syntax I and II is on reading the primary literature and writing a research paper.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

**LING-GA 1340 Semantics I (4 Credits)***Typically offered Fall*

The goal of this course is to introduce what every well-trained linguistic researcher who cares about language should know about semantics. Topics covered include logic, the lambda calculus, and compositional semantics.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 1510 Sociolinguistics (4 Credits)***Typically offered Fall*

This course is an introduction to the theory, methods, and central concerns of sociolinguistics, the study of the relationship between language and society. Our focus will be on the social correlates of language variation and change. By reading and discussing classic and contemporary papers in the field, we will address a number of fundamental questions about how language varies and changes: across speaker groups, within individuals, and over time. Emphasis will be placed on exposing students to topics of current interest and active debate in sociolinguistic research, with the aim of preparing students to contribute to the field. This course assumes a basic familiarity with phonetics, phonology, morphology, and syntax.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2110 Acoustic Phonetics (4 Credits)***Typically offered occasionally*

This course is a graduate introduction to acoustic phonetics. The acoustic theory of speech production is introduced and the acoustic correlates of speech sounds are presented. Topics such as the basic physics of speech, acoustic analysis, use of Praat, voice quality, and the acoustic cues to perception are covered. It is assumed that students in this class are already familiar with the International Phonetic Alphabet and the articulatory place, manner and voice features of a large range of phonemes.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2220 Laboratory Phonology (4 Credits)***Typically offered Fall*

The purpose of this course is to introduce you to some of the theoretical questions in phonology that can be investigated experimentally and the methodologies that are used to do so. Laboratory phonology can be viewed not as the exploration of a particular theoretical framework for example, Optimality Theory or rule-based, non-linear phonology but rather as a shared commitment among phonological researchers that traditional approaches to phonology such as transcription and native speaker intuition must be extended by incorporating primary empirical data gathered using experimental or corpus-based methods.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2310 Syntax II (4 Credits)***Typically offered Spring*

Syntax II is a continuation of Syntax I. Syntax I and II together form a comprehensive introduction to syntactic theory, in the framework of Principles and Parameters and Minimalism. Topics of interest in Syntax II include A'-movement, the left periphery, differences between A- and A'-movement, weak and strong crossover, remnant movement, successive cyclic movement, general constraints on movement (phases, relativized minimality), that-trace effects, the adjunct/argument asymmetry and covert movement.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2330 Professional Seminar (1-3 Credits)***Typically offered Spring*

This course deals with professional training and mentoring of doctoral students, including Responsible Conduct of Research training. Topics covered include advising, publishing, grant applications, writing, conferences, websites and job applications, in addition to other relevant topics.

**Grading:** GSAS Graded**Repeatable for additional credit:** Yes**LING-GA 2370 Semantics II (4 Credits)***Typically offered Spring*

Graduate Semantics II requires Semantics I as a prerequisite. Semantics II aims to continue the training of specialists in semantics and related subfields. The main goals are as follows: learning how to read the primary literature in semantics; learning a certain amount of mathematics underlying the structures on which some semantic explanations rest; becoming acquainted with some of the main problem domains that semanticists tend to worry about, with a slight bias towards topics that are also of interest to related subdisciplines (i.e., topics such as focus and events); learning to evaluate and critique semantic solutions; and—above all—experiencing the deep joy of new semantic insight.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2380 Semantics III (4 Credits)***Typically offered Spring*

Semantics III is a reading course, not a research seminar focusing on a particular topic. Students are expected to lead the discussion of some of the readings, and enrolled students will write a term paper or significantly enrich an independently existing project with material covered in this course. The precise topics will be tailored to the interests of the course participants.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2530 Linguistic Variation (4 Credits)***Typically offered Spring*

This course is an intensive graduate-level introduction to the quantitative study of variation in language. The course has two goals: 1. Students will gain an understanding of some of the fundamental questions in variationist sociolinguistics, concerning how variation in language is structured and how it is represented formally. 2. Students will gain currency in methods for the analysis of variationist sociolinguistic data. This comprises quantitative and statistical techniques and the processing of corpus data. In class, we will learn by reading and by doing. We will read and discuss classic and recent papers in the field addressing the two points above. Throughout the semester, we'll work on a group project studying the structure of a particular linguistic variable decided on by the class. Ideally, this will culminate in a co-written abstract to be submitted to a conference such as New Ways of Analyzing Variation (NWAV).

**Grading:** GSAS Graded**Repeatable for additional credit:** No

**LING-GA 2540 Sociolinguistic Field Methods (4 Credits)***Typically offered Fall*

Students are introduced to the qualitative and quantitative methods used in sociolinguistic and anthropological fieldwork, from traditional dialectological to contemporary experimental approaches, to gather and analyze data. Additionally, students receive intensive practical training in the collection of linguistic data from native speakers using a combination of reading, discussion, fieldwork, computer-mediated communication and experimental design. The data-gathering methods which will be covered are: elicitations, questionnaire investigations, sample investigations (e.g., anonymous interviews, mass media monitoring), ethnography, entering and observing the speech community (e.g., participant-observation), individual interviews, group interviews, using formal methods (e.g., reading passages), eliciting and analyzing specific linguistic features via interviews and/or surveys. We also consider the following related topics: research questions and goals, ethics, working in the community, technical equipment, record-keeping, human subjects approval, transcription, quantitative analysis, discourse analysis and the use of different data-gathering methods (i.e., sociolinguistic and formal linguistics). The end goal is for students to either: 1) formulate a strong research agenda, or 2) generate a corpus for future research and coursework.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2610 First Lang Acquisition (4 Credits)***Typically offered occasionally*

This course provides a non-exhaustive overview of the current state of the field of First Language Acquisition. We focus on: (a) current learning theories and methodologies, (b) state of the art understanding within domains of language in development, broadly construed as Symbols, Structures and Meanings, and (c) dynamics and change over time in mental grammars and their outputs. For each of these (a-c), we aim to get some sense of the history of the area, as well as the current relevance.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2620 Seminar in Language Acquisition (4 Credits)**

This is a topics course that addresses some current theme in first language acquisition research. The course is based on readings from scientific journals and includes a research project and paper.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2710 Neurolinguistics (4 Credits)***Typically offered occasionally*

This is an advanced introduction to the cognitive neuroscience of human language. Lectures and discussion on central topics in the neurobiology of language processing and on foundational questions having to do with the relationship between experimental and theoretical approaches to the study of language. Literature and ongoing research on auditory perception, lexical access and syntactic/semantic processing are discussed. In addition to surveying existing results, the course is heavily focused on discussing what kinds of questions about language processing and representation can be investigated with the currently available neurobiological methods/knowledge. Basic neuroanatomy, functional imaging techniques and behavioral measures of cognition are introduced.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 2945 Statistical Analysis in Linguistics (4 Credits)***Typically offered occasionally*

Given the availability of high quality courses that are now available online for learning statistics and Python, the experimental and computational faculty in the linguistics department makes use of these materials to ensure that students have a sufficient foundation for statistical analysis of experimental results and programming for computational modeling. Since students come in with various backgrounds, and it is difficult to design courses that are appropriate for everyone, these options outlined below will be offered as the starting point for statistics and programming requirements in the department. These courses allow for some amount of customization and for different credit amounts depending on what option is chosen. The foundations that are developed from these courses will be expanded on in more specialized linguistics courses (whether computational or experimental) and in students' research projects that they will develop in conjunction with their adviser(s).

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 3110 Seminar in Phonetics (4 Credits)***Typically offered occasionally*

This is a topics course that addresses some current theme in phonetics research. The course is based on readings from scientific journals and includes a research project and paper.

**Grading:** GSAS Graded**Repeatable for additional credit:** Yes**LING-GA 3210 Seminar in Phonology (4 Credits)***Typically offered Fall and Spring*

This is a topics course that addresses some current theme in phonology research. The course is based on readings from scientific journals and includes a research project and paper.

**Grading:** GSAS Graded**Repeatable for additional credit:** Yes**LING-GA 3230 Syntax III (4 Credits)***Typically offered Fall*

This course revolves around a close and critical reading of papers from the (morpho)syntax literature. Each paper is presented by a student or by a pair of students. All present participate in the discussions.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 3240 Seminar in Syntax & Semantics (4 Credits)***Typically offered Spring*

This is a topics course that addresses some current theme in research at the syntax-semantics interface. The course is based on readings from scientific journals and includes a research project and paper.

**Grading:** GSAS Graded**Repeatable for additional credit:** No**LING-GA 3250 Computational Methods for Linguistics (4 Credits)***Typically offered Fall*

To ensure that Linguistics PhD students have a sufficient foundation for programming for computational modeling, this course provides a self-paced introduction to Python programming using a high-quality online course. The foundations that are developed from this course will be expanded on in more specialized linguistics courses (whether computational or experimental) and in students' research projects that they will develop in conjunction with their adviser(s).

**Grading:** GSAS Graded**Repeatable for additional credit:** No

**LING-GA 3320 Seminar in Syntax (4 Credits)**

*Typically offered occasionally*

Topics vary each semester. Students are typically required to complete weekly readings and participate in class discussion, and to write a research paper related to the theme of the class.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

**LING-GA 3340 Seminar in Semantics (4 Credits)**

*Typically offered occasionally*

Topics vary each semester. Students are typically required to complete weekly readings and participate in class discussion, and to write a research paper related to the theme of the class.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

**LING-GA 3510 Sem in Sociolinguistics (4 Credits)**

*Typically offered occasionally*

This is a topics course that addresses some current theme in sociolinguistics research. The course is based on readings from scientific journals and includes a research project and paper.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

**LING-GA 3710 Sem in Neurolinguistics (4 Credits)**

*Typically offered occasionally*

An advanced seminar in neurolinguistics, with a different topic each time when offered. Prerequisite: Neurolinguistics

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

**LING-GA 3910 Directed Reading in Linguistics (1-6 Credits)**

*Typically offered Fall and Spring*

This is an independent study course; the structure and content of this course is determined between the student and the faculty supervisor.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

**LING-GA 3912 Ph.D.Thesis Research (1-4 Credits)**

*Typically offered Fall and Spring*

Students enroll in this course while they are writing their doctoral dissertation.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

**LING-GA 3930 PhD Dissertation Research (1-6 Credits)**

*Typically offered Fall and Spring*

Students enroll in this course while they are writing their doctoral dissertation.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes