Linguistics is the scientific study of language. The major in Linguistics offers a program of study leading toward an understanding of phonological, grammatical, and semantic structure and of various approaches to descriptive, experimental, and historical linguistics. Majors may concentrate on theoretical, experimental, or computational linguistics, on various aspects of comparative grammar, or on a particular family of languages.

1 Broad Overview

Since high schools do not typically offer courses in linguistics, most students arriving at Yale have no background in the discipline. That’s not a problem!

We offer introductory courses, which are perfect for new students:

**Fall 2020**
- LING 110 Language: Introduction to Linguistics
- LING 103 Language Contact in the Ancient World
- LING 117 Language in America
- LING 217 Language and Mind

**Spring 2021**
- LING 112 Historical Linguistics
- LING 116 Cognitive Science of Language

A less direct (but still valid) route to the study of linguistics consists in taking courses that focus on the grammatical system of a particular language, for example:

**Fall 2020**
- LING 150 Old English
- LING 115 Introductory Sanskrit I (L1)
- LING 138 Intermediate Sanskrit I (L3)
- LATN 110 Beginning Latin: The Elements of Latin Grammar (L1)
- GREK 110 Beginning Greek: The Elements of Greek Grammar (L1)

**Spring 2021**
- LING 125 Introductory Sanskrit II (L2)
- LING 148 Intermediate Sanskrit II (L4)
We also offer **intermediate level courses** that focus on various sub-fields of linguistics:

**Fall 2020**
- LING 253 Syntax I
- LING 263 Semantics 1

**Spring 2021**
- LING 220 General Phonetics
- LING 232 Phonology 1

Students with some background can then take **advanced level courses** that focus on various specific topics in linguistics:

**Fall 2020**
- LING 280 Morphology
- LING 300 Cognitive Science of Sign Languages
- LING 341 Phonology at the Interfaces: Contrast Dispersion
- LING 396 Semantic Investigations in an Unfamiliar Language

**Spring 2021**
- LING 254 Syntax II
- LING 264 Semantics II
- LING 241 Field Methods
- LING 326 Language Change Practicum
- LING 349 Phonetics-Phonology Interface
- LING 376 Implicature and Pragmatic Theory
- LING TBD Syntax of Passives & Impersonals

2 Distributional Requirements

The linguistics classes discussed in this section count toward the major and toward various other distributional requirements.

2.1 Social Science

Most linguistics classes carry a social science designation, so they will not be listed specifically here. In addition there are two anthropology classes that carry this designation and count as linguistics electives.

**Spring 2021**
- ANTH 368 Language, Culture, and Identity
- ANTH 432 Politics of Language
2.2 Humanities and Arts

Some linguistics courses instead carry the Humanities and Arts distributional designation.

**Fall 2020**
- LING 103 Language Contact in the Ancient World
- LING 150 Old English
- LING 271 Philosophy of Language

**Spring 2021**
- LING 112 Historical Linguistics
- LING 164 The History of the German Language
- PHIL 411 Early Modern Philosophy of Language
- PHIL 442 Language and Power

2.3 Quantitative Reasoning

The following classes count toward the major and carry the QR designation.

**Fall 2020**
- LING 234 Quantitative Linguistics
- LING 263 Semantics I
- PHIL 267 Mathematical Logic
- CPSC 201 Introduction to Computer Science

**Spring 2021**
- LING 227 Language and Computation I
- CPSC 201 Introduction to Computer Science
- CPSC 460 Automata Theory and Formal Languages
- CPSC 477 Natural Language Processing

2.4 Language Requirements

The following classes count toward the major and satisfy various levels of the language requirement.

**Fall 2020**
- LING 115 Introductory Sanskrit I (L1)
- LING 138 Intermediate Sanskrit I (L3)
- LATN 110 Beginning Latin: The Elements of Latin Grammar (L1)
- GREK 110 Beginning Greek: The Elements of Greek Grammar (L1)

**Spring 2021**
- LING 125 Introductory Sanskrit II (L2)
- LING 148 Intermediate Sanskrit II (L4)
- LING 164 The History of the German Language (L5)
- LING 165 Languages in Dialogue: Hebrew and Arabic (L5)
- GREK 403 History and Structure of Ancient Greek (L5)
- LATN 390 Latin Syntax and Stylistics (L5)
2.5 Social Science

The following classes count toward the major and carry the WR designation.

**Spring 2021**
- LING 254 Syntax II
- PSYC 128 Language, Literacy, and Play

3 Major Requirements

3.1 Breadth Classes

Linguistics majors take 4 classes that expose them to 4 distinct subfields of linguistics:

- Phonology
- Syntax
- Phonetics
- Morphology
- Semantics/Pragmatics
- Computational Linguistics
- Language & Mind/Brain
- Historical Linguistics

All majors take a course in Phonology and a course in Syntax. The remaining two classes are selected from the other 6 subfields above. The following classes are ideal for satisfying the breadth requirements in 2020-2021.

**Fall 2020**
- LING 253 Syntax I
- LING 263 Semantics I
- LING 280 Morphology
- LING 217 Language and Mind

**Spring 2021**
- LING 112 Historical Linguistics
- LING 220 General Phonetics
- LING 227 Language and Computation I
- LING 232 Phonology I
3.2 Depth Classes

Linguistics majors take at least 2 advanced classes within 1 of the subfields of linguistics listed above. In these courses, you go well beyond the introductory level, and read (and even conduct) original research in the area. Note that some courses potentially apply to more than one subfield. Ask your friendly neighborhood DUS if you aren’t sure. The following classes are ideal for satisfying the depth requirement in 2020-2021.

**Fall 2020**
- LING 280 Morphology
- LING 300 Cognitive Science of Sign Languages
- LING 341 Phonology at the Interfaces: Contrast Dispersion
- LING 396 Semantic Investigations in an Unfamiliar Language

**Spring 2021**
- LING 254 Syntax II
- LING 264 Semantics II
- LING 241 Field Methods
- LING 326 Language Change Practicum
- LING 349 Phonetics-Phonology Interface
- LING 376 Implicature and Pragmatic Theory
- LING TBD Syntax of Passives & Impersonals

**4 Classes by area of study**

- The study of the sound system (phonetics and phonology):
  1. LING 220 General Phonetics
  2. LING 232 Phonology I
  3. LING 341 Phonology at the Interfaces: Contrast Dispersion
  4. LING 349 Phonetics-Phonology Interface

- The study of how languages combine pieces words to form words and sentences (morphology and syntax):
  1. LING 253 Syntax I
  2. LING 254 Syntax II
  3. LING 280 Morphology
  4. LING TBD Syntax of Passives & Impersonals

- The study of meaning (semantics and pragmatics):
  1. LING 263 Semantics I
  2. LING 396 Semantic Investigations in an Unfamiliar Language
  3. LING 264 Semantics II
  4. LING 271 Philosophy of Language
5. LING 376 Implicature and Pragmatic Theory
6. PHIL 411 Early Modern Philosophy of Language

• The study of the psychological and neural underpinnings of language:
  1. LING 217 Language and Mind
  2. LING 300 Cognitive Science of Sign Languages
  3. PSYC 128 Language, Literacy, and Play

• The study of how languages change over time (historical linguistics):
  1. LING 103 Language Contact in the Ancient World
  2. LING 112 Historical Linguistics
  3. LING 150 Old English
  4. LING 326 Language Change Practicum
  5. LING 164 The History of the German Language
  6. GREK 403 History and Structure of Ancient Greek

• The documentation of understudied languages, including the techniques for doing fieldwork:
  1. LING 241 Field Methods
  2. LING 396 Semantic Investigations in an Unfamiliar Language

• The study of the relationship between language and society (sociolinguistics)
  1. LING 117 Language in America
  2. LING 165 Languages in Dialogue: Hebrew and Arabic
  3. PHIL 442 Language and Power
  4. ANTH 368 Language, Culture, and Identity
  5. ANTH 432 Politics of Language

• The study of the formal properties of language, and the computational techniques that are used for language processing by computers (computational linguistics):
  1. LING 227 Language and Computation I
  2. CPSC 201 Introduction to Computer Science
  3. PHIL 267 Mathematical Logic
  4. CPSC 460 Automata Theory and Formal Languages
  5. CPSC 477 Natural Language Processing
Frequently asked questions:

1. What is the difference between Intro to Linguistics and Cognitive Science of Language?

Both are sound options for introducing you to the scientific study of language, and providing you with a solid grounding to build on in future courses. Intro to Linguistics will be a systematic overview of the field of linguistics and give you exposure to different areas of linguistic analysis. Most of the semester will be spent studying sound systems (phonetics and phonology), word structure (morphology) and phrase/sentence structure (syntax). Broader issues involving linguistic variation will also play a prominent role, including dialect variation, prescriptive versus descriptive grammar, pidgin and creole formation, and the distinctly human nature of the language faculty. Cognitive Science of Language will situate the study of language and linguistic structure within the broader field of cognitive science, and will explore different methodological approaches (including linguistic analysis, but also experimentation, neuroscience, computation) to the science of language. This course will cover the fundamentals of phonetics/phonology, morphology and syntax, and will prepare students for further courses in these specific subfields.

2. What is the difference between Mathematics of Language and Language and Computation?

Mathematics of Language focuses on the mathematical underpinnings of linguistic theory and the cognitive science of language, including set theory, algebra, formal languages and theory of computation. In doing this, the course also attempts to teach a bit of what is sometimes called "mathematical maturity": the ability to work with and define formal objects and to understand their properties through the construction of proofs.

Language and Computation, on the other hand, deals with computational techniques that are used for language processing by computers and modeling of language learning and processing. Some of these techniques are based on the mathematical objects that are studied in Mathematics of Language (e.g., finite state automata and context free grammars). However, the focus in Language and Computation is on algorithms and implementation.

The work you will be asked to do in the two courses will also be quite different. In Mathematics of Language, you will be doing problem sets, which will require you to formalize and/or prove things about mathematical structures, as well as apply these structures to linguistic problems. In Language and Computation, on the other hand, you will be doing implementations (in Python) of different techniques for spelling correction, phonological modeling, syntactic parsing, etc.

3. How is LING 227 Language and Computation different from CPSC 477 Natural Language Processing?

This is an excellent question: these courses cover many of the same topics and use the same textbook. Nonetheless, they differ in a number of respects. First, Language and Computation spends more time on the linguistic aspects of computational linguistics, exploring the strengths and weaknesses of different NLP methods for the modeling of specific linguistic phenomena. Correspondingly, it spends less time on NLP applications such as question answering, text summarization, and machine translation. Next, it covers a narrower range of topics that CPSC 477, spending more time on each of the topics
that are covered. Finally, although both courses require programming, the assignments in *Language and Computation* are perhaps a bit less intense in that respect.