Linguistics

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FACULTY OF THE DEPARTMENT OF LINGUISTICS

Professors  Stephen Anderson, Robert Frank (Chair), †Roberta Frank, Laurence Horn (Emeritus), †Frank Keil, †Joshua Knobe, †Jason Stanley, †Zoltán Szabó, Petronella Van Deussen-Scholl (Adjunct), Raffaella Zanuttini

Associate Professors  Claire Bowern, Ashwini Deo, Maria Piñango, Kenneth Pugh (Adjunct)

Assistant Professor  Ryan Bennett

Lecturers  Hannah Haynie, Jim Wood

† A joint appointment with primary affiliation in another department.

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. Interested students should consult the director of undergraduate studies.

Students with no previous background in linguistics are encouraged to approach the field by taking a 100-level course.

The major requires twelve term courses in linguistics and related areas, distributed as follows:

1. Breadth requirement (four courses). All majors must take a course in each of the core areas of phonology (LING 232) and syntax (LING 253). In addition, at least one course must be taken in any two of the six remaining core areas of linguistics: phonetics, morphology, semantics/pragmatics, computational linguistics, language and mind/brain, and historical linguistics.

2. Depth requirement (two courses). In one of the eight core areas of linguistics, students must take two additional courses beyond the introductory level.

3. Electives (four courses). Four additional courses relating to linguistics are required, at least one of which must be at the 200 level or above. Electives may be chosen from courses offered by the Linguistics department or, with approval of the director of undergraduate studies, from related courses in programs such as Anthropology, Classics, Cognitive Science, Computer Science, English, Philosophy, Psychology, or foreign languages.

4. Research requirement (one course). LING 490, Research Methods in Linguistics, is required and is usually taken in the fall term of the senior year.

5. Senior requirement (one course). Students attend a research colloquium and write a senior essay in LING 491 during the spring term of the senior year.

Combined B.A./M.A. degree program  Exceptionally able and well-prepared students may complete a course of study leading to the simultaneous award of the B.A. and M.A. degrees after eight terms of enrollment. See Simultaneous Award of the Bachelor’s and Master’s Degrees under Special Arrangements (http://catalog.yale.edu/ycps/academic-regulations/special-arrangements) in the Academic Regulations. Interested students should consult the director of undergraduate studies prior to the sixth term of enrollment for specific requirements in Linguistics.

REQUIREMENTS OF THE MAJOR

Prerequisites  None

Number of courses  12 term courses (incl senior req)

Specific courses required  LING 232, 253, 490

Distribution of courses  1 course each in 2 addtl core areas, as specified; 2 addtl courses beyond intro level in 1 core area; 4 electives, at least 1 at the 200 level or above

Senior requirement  LING 491

Introductory Courses

Courses in this group do not require previous study of linguistics.

* LING 005a, The Mental Lexicon  Maria Piñango

Examination of the mental lexicon, a hypothesized space in the mind that is built on long-term memory and that holds and manipulates the basic building blocks of language. The structure of this space as it is currently understood; subsystems connected by the mental lexicon, including word structure, sound structure, and meaning structure; real-time word processing and bilingualism. Enrollment limited to freshmen. Preregistration required; see under Freshman Seminar Program.
[ LING 006, Languages of the World ]

[ LING 007, Varieties of English ]

* LING 010b / HIST 013b, Language and Power  Claire Bowern and Alejandra Dubcovsky-Joseph
The relationships between language and power explored through the perspectives of linguistics and history. How and when languages change, disappear, and are created. Focus on the Americas and on four outcomes of language contact and their social precursors: pidgins, creoles, mixed languages, and language death. Enrollment limited to freshmen. Preregistration required; see under Freshman Seminar Program. SO

[ LING 017, Linguistic Diversity and Endangerment ]

LING 109b / ENGL 149b, History of the English Language  Roberta Frank
The evolution of English from its beginnings nearly 1500 years ago to the language of* Beowulf*, Chaucer, Shakespeare, Milton, Jane Austen, Melville, Twain, Langston Hughes, Woody Allen, Maya Angelou, and Kendrick Lamar. An overview of the 'Englishes' that populate our globe, including a look at the ways that technology affects language. HU

LING 110a, Language: Introduction to Linguistics  Jim Wood
The goals and methods of linguistics. Basic concepts in phonology, morphology, syntax, and semantics. Techniques of linguistic analysis and construction of linguistic models. Trends in modern linguistics. The relation of linguistics to psychology, logic, and other disciplines. SO

LING 112a, Historical Linguistics  Claire Bowern
Introduction to language change and language history. Types of change that a language undergoes over time: sound change, analogy, syntactic and semantic change, borrowing. Techniques for recovering earlier linguistic stages: philology, internal reconstruction, the comparative method. The role of language contact in language change. Evidence from language in prehistory. HU

* LING 115a / SKRT 110a, Introductory Sanskrit I  David Brick
An introduction to Sanskrit language and grammar. Focus on learning to read and translate basic Sanskrit sentences in Devanagari script. No prior background in Sanskrit assumed. L1 1½ Course cr

LING 116b / CGSC 216b, Cognitive Science of Language  Claire Moore-Cantwell
The study of language from the perspective of cognitive science. Exploration of mental structures that underlie the human ability to learn and process language, drawing on studies of normal and atypical language development and processing, brain imaging, neuropsychology, and computational modeling. Innate linguistic structure vs. determination by experience and culture; the relation between linguistic and nonlinguistic cognition in the domains of decision making, social cognition, and musical cognition; the degree to which language shapes perceptions of color, number, space, and gender. SO

LING 117a / PSYC 137a, Language and Mind  Maria Piñango
Knowledge of language as a component of the mind: mental grammars, the nature and subdivisions of linguistic knowledge in connection with the brain. The logical problem of language acquisition. The "universal grammar hypothesis" according to which all humans have an innate ability to acquire language. The connection between language acquisition and general cognitive abilities. SO

[ LING 130, Evolution of Language ]

LING 138a / SKRT 130a, Intermediate Sanskrit I  David Brick
The first half of a two-term sequence aimed at helping students develop the skills necessary to read texts written in Sanskrit. Readings include selections from the* Hitopadesa*, *Kathasaritsagara*, *Mahabharata*, and *Bhagavadgita*. After SKRT 120 or equivalent. L3 1½ Course cr

[ LING 140, Computational Models in Cognitive Science ]

* LING 150a / ENGL 150a, Old English  Roberta Frank
An introduction to the literature and culture of earliest England. A selection of prose and verse, including riddles, heroic poetry, meditations on loss, a dream vision, and excerpts from* Beowulf*, all read in the original Old English. HU

Intermediate Courses
Some courses in this group have prerequisites; others do not, and may be taken as a student's first course in linguistics.

[ LING 200, Experimentation in Linguistics ]

* LING 211b, Grammatical Diversity in U.S. English  Jim Wood
Study of differences among varieties of English spoken in North America, focusing in particular on morphosyntactic variation: double modals ("I might could go to the store"), negative inversion ("Don't nobody want to ride the bus"), aspect marking ("Bruce be running," "I done pushed it"), "drama SO" ("I am SO not going to study tonight"), personal datives ("I need me a new printer"), positive "anymore" ("Gas is expensive anymore"). Emphasis on the grammatical richness and complexity of each variety. Debunking of the prejudice against examples of a natural grammatical diversity. Prerequisite: LING 253, or with permission of instructor. SO
LING 212b, Linguistic Change  Stephen Anderson
Principles governing linguistic change in phonology and morphology. Status and independence of proposed mechanisms of change.
Relations between the principles of historical change and universals of language. Systematic change as the basis of linguistic comparison; assessment of other attempts at establishing linguistic relatedness. Prerequisites: LING 112, 232, and 253.  SO

* LING 219a / ANTH 380a, The Evolution of Language and Culture  Claire Bowern
Introduction to cultural and linguistic evolution. How diversity evolves; how innovations proceed through a community; who within a community drives change; how changes can be “undone” to reconstruct the past. Methods originally developed for studying evolutionary biology are applied to language and culture.  WR, SO

LING 220b / PSYC 318b, General Phonetics  Ryan Bennett
Investigation of possible ways to describe the speech sounds of human languages. Acoustics and physiology of speech; computer synthesis of speech; practical exercises in producing and transcribing sounds.  SO

* LING 224a, Formal Foundations of Linguistic Theories  Robert Frank
Study of formal systems that play an important role in the scientific study of language. Exploration of a range of mathematical structures and techniques; demonstrations of their application in theories of grammatical competence and performance including set theory, graphs and discrete structures, algebras, formal language, and automata theory. Evaluation of strengths and weaknesses of existing formal theories of linguistic knowledge.  QR, SO

LING 227a / PSYC 327a, Language and Computation I  Staff
Design and analysis of computational models of language. Topics include finite state tools, computational morphology and phonology, grammar and parsing, lexical semantics, and the use of linguistic models in applied problems. Prerequisite: prior programming experience or permission of instructor.  QR, SO

LING 229b, Language and Computation II  Robert Frank
Exploration of the computational and linguistic foundations of systems for natural language processing by computer. Theoretical and practical issues involved in the construction of such systems, for problems including parsing, semantic interpretation, and machine translation. Prerequisite: LING 227.  SO

LING 231b / PSYC 331b, Neurolinguistics  Maria Piñango
The study of language as a cognitive neuroscience. The interaction between linguistic theory and neurological evidence from brain damage, degenerative diseases (e.g., Alzheimer’s disease), mental illness (e.g., schizophrenia), neuroimaging, and neurophysiology. The connection of language as a neurocognitive system to other systems such as memory and music.  SO

LING 232a, Introduction to Phonological Analysis  Ryan Bennett
The structure of sound systems in particular languages. Phonemic and morphophonemic analysis, distinctive-feature theory, formulation of rules, and problems of rule interpretation. Emphasis on problem solving. Prerequisite: LING 220, or a grade of B or above in LING 110. (Formerly LING 132)  SO

LING 233b, The Literate Brain and Mind  Kenneth Pugh
The neurobiological and cognitive foundations of reading and writing. Emerging research on gene–brain–behavior analyses of typically and atypically developing readers. The relationship between speech perception/production and individual differences in literacy learning; distributed brain circuits that support word reading, text comprehension, and second-language learning; the neurobiology of acquired and developmental reading and writing disorders.  SO

* LING 235b, Phonological Theory  Claire Moore-Cantwell
Topics in the architecture of a theory of sound structure. Motivations for replacing a system of ordered rules with a system of ranked constraints. Optimality theory: universals, violability, constraint types and their interactions. Interaction of phonology and morphology, as well as the relationship of phonological theory to language acquisition and learnability. Opacity, lexical phonology, and serial versions of optimality theory. Prerequisite: LING 232 or permission of instructor.  SO RP

* LING 241a, Field Methods  Ryan Bennett
Principles of phonetics, phonology, morphology, syntax, and semantics applied to the collection and interpretation of novel linguistic data. Data are collected and analyzed by the class as a group, working directly with a speaker of a relatively undocumented language. Open to majors in Linguistics, and to others with permission of instructor.  SO

[ LING 247, Indigenous Languages of Australia ]

LING 253a, Syntax I  Raffaella Zanuttini
An introduction to the syntax of natural language. Generative syntactic theory and key theoretical concepts. Syntactic description and argumentation. Topics include the structure of clauses and noun phrases, movement operations, and the notion of parameter. (Formerly LING 153)  SO

LING 254b, Syntax II  Robert Frank
Recent developments in the principles and parameters approach to syntactic theory. In-depth exploration of theoretical and empirical issues in long-distance dependencies (island effects, dependency types, movement vs. binding), the character of syntactic structure (constituency, thematic mapping, functional categories), and the architecture of grammatical derivations (logical form, operations for structure building, anaphora). Prerequisite: LING 253.  SO
**LING 263a, Semantics I**  Ashwini Deo  
Introduction to truth-conditional compositional semantics. Set theory, first- and higher-order logic, and the lambda calculus as they relate to the study of natural language meaning. Some attention to analyzing the meanings of tense/aspect markers, adverbs, and modals.  
QR, SO

* **LING 267a, Aspectual Phenomena in Language**  Ashwini Deo  
Introduction to core phenomena pertaining to lexical and grammatical aspect. Key aspectual properties and how they may be lexically present or derived through composition with arguments, adverbial modifiers, and grammatical aspect markers. The relation between aspectual properties and temporal reference. After or concurrently with LING 263, or with permission of instructor.  
SO

**LING 275b, Pragmatics**  Laurence Horn  
Context-dependent aspects of meaning and inference. Speech act theory, presupposition, implicature. Role of pragmatics in the lexicon and in meaning change. The semantics-pragmatics distinction from different perspectives; the position of pragmatics in linguistic theory.  
SO RP

* **LING 280b, Morphology**  Stephen Anderson  
The theory of word structure within a formal grammar. Relation to other areas of grammar (syntax, phonology); basic units of word structure; types of morphology (inflection, derivation, compounding). Prerequisites: LING 232 and 253, or permission of instructor.  
SO

**Advanced Courses and Seminars**

* **LING 334b, Experimental Semantics**  Maria Piñango  
The structure of meaning as part of the human cognitive system. How language use, which is serial and local in nature, is able to package meaning, which is multidimensional and atemporal. Psycholinguistic and cognitive modeling of core phenomena in lexical and compositional semantics. Readings from the fields of neurocognition and cognitive psychology, model-theoretic and lexico-conceptual semantics, and pragmatics. Prerequisite: LING 005, 110, 117, 260, 263, or CGSC 110, or with permission of instructor.  
SO

[ LING 341, Topics in Phonology: Prosody at the Interfaces ]

* **LING 343a, Topics in Phonology: Models of Phonological Variation**  Claire Moore-Cantwell  
Exploration of variable phonological phenomena and how they are best modeled, both within and across lexical items. Topics include gradient phonotactic knowledge and the nature of phonological grammar as well as the larger cognitive system in which it is situated. LING 235 (Phonological Theory) or permission of instructor.  
SO

* **LING 349b, Topics in Phonology: The Phonetics-Phonology Interface**  Ryan Bennett  
The relationship between phonology, as the mental representation of speech, and phonetics, as the physical substance of speech. Universal and language-particular phonetics; phonetic knowledge as grammatical knowledge; phonetic detail in phonological representation and computation; unified vs. modular conceptions of the phonetics-phonology divide; the shaping of phonological systems by phonetic pressures; the shaping of phonetic patterning by phonological structure. Prerequisites: LING 220 and 235, or with permission of instructors.  
SO

[ LING 355, Doubling in Syntax ]

[ LING 360, Topics in Syntax: Compositional Syntax ]

* **LING 362b, Semantic Change**  Ashwini Deo  
Investigation of systematic change in the domain of semantics and pragmatics. Empirical phenomena include grammaticalization in the domain of tense, aspect, and modality markers, markers of location and possession, and negation, as well as intensifiers. Focus on reconciling grammaticalization and typological research with formal semantic studies. Prerequisite: LING 263 or permission of instructor.  
SO

* **LING 367a, Ellipsis Constructions**  Staff  
Analysis of the literature on ellipsis constructions, where words and phrases are missing from the speech signal. Exposure to licensing and antecedence conditions on ellipsis constructions, current open questions, and the background and tools necessary to pursue research in the field. LING 253a (Syntax I)  
SO

[ LING 372, Meaning, Concepts, and Words ]

[ LING 390, Negation and Polarity ]

**Research Courses**

* **LING 471a and LING 472b, Special Projects**  Raffaella Zanuttini  
Special projects set up by students with the help of a faculty adviser and the director of undergraduate studies to cover material not otherwise offered by the department. The project must terminate with at least a term paper or its equivalent and must have the approval of the director of undergraduate studies. Only one term may be offered toward the major; two terms may be offered toward the bachelor’s degree.
* LING 490a / PSYC 372a, Research Methods in Linguistics  Raffaella Zanuttini
Development of skills in linguistics research, writing, and presentation. Choosing a research area, identifying good research questions, developing hypotheses, and presenting ideas clearly and effectively, both orally and in writing; methodological issues; the balance between building on existing literature and making a novel contribution. Prepares for the writing of the senior essay.

* LING 491b, The Senior Essay  Raffaella Zanuttini
Research and writing of the senior essay under the guidance of a faculty adviser. Students present research related to their essays in a weekly colloquium. Prerequisite: LING 490.

Related Courses

ANTH 205b, Language, Culture, and Identity  J. Joseph Errington
Introduction to the role of language in the constitution of gendered, class, ethnic, and national identities. Ethnographic and linguistic case studies are combined with theoretical and comparative approaches. Enrollment limited to 40. (Formerly ANTH 120)  SO

ANTH 231a, Introduction to Linguistic Anthropology  Paul Kockelman
Critical approaches to popular culture in Africa and African history. Questions include what "popular" means in popular culture; who becomes the "popular" and under what conditions; how forms of popular culture comment on social experience; and what happens when those forms are co-opted. Case studies include the reception of soap operas in Egypt, the ambiguity of political authority in Cameroonian cartoons, and the global aspirations of Tanzanian barbershop owners. Forms of popular culture that intersect and overlap in and around southern Africa's mines and in the context of informal urban economies.  SO

* ANTH 333a, Bilingualism in Social Context  J. Joseph Errington
The linguistic phenomenon of bilingualism presented through broad issues in social description inseparably linked to it: growth and change in bilingual communities; bilingual usage, social identity, and allegiance; and interactional significances of bilingual speech repertoire use.  SO
Anthropology: Linguistic

* ANTH 413a, Language, Culture, and Ideology  J. Joseph Errington
Review of influential anthropological theories of culture, with reference to theories of language that inspired or informed them. American and European structuralism; cognitivist and interpretivist approaches to cultural description; the work of Bakhtin, Bourdieu, and various critical theorists.  SO  RP
Anthropology: Linguistic

CGSC 110a / PSYC 130a, Introduction to Cognitive Science  April Ruiz
An introduction to the interdisciplinary study of how the mind works. Discussion of tools, theories, and assumptions from psychology, computer science, neuroscience, linguistics, and philosophy.  SO

* CHLD 128b / EDST 128b / PSYC 128b, Language, Literacy, and Play  Nancy Close and Carla Horwitz
The complicated role of play in the development of language and literacy skills among preschool-aged children. Topics include social-emotional, cross-cultural, cognitive, and communicative aspects of play.  WR, SO  RP

CPSC 201a or b, Introduction to Computer Science  Stephen Slade
Introduction to the concepts, techniques, and applications of computer science. Topics include computer systems (the design of computers and their languages); theoretical foundations of computing (computability, complexity, algorithm design); and artificial intelligence (the organization of knowledge and its representation for efficient search). Examples stress the importance of different problem-solving methods. After CPSC 112 or equivalent.  QR
Math: Stat/Applied Math

[ CPSC 430, Formal Semantics ]

CPSC 470a, Artificial Intelligence  Drew McDermott
Introduction to artificial intelligence research, focusing on reasoning and perception. Topics include knowledge representation, predicate calculus, temporal reasoning, vision, robotics, planning, and learning. After CPSC 201 and 202.  QR

CPSC 472a, Intelligent Robotics  Katherine Tsui
Introduction to the construction of intelligent, autonomous systems. Sensory-motor coordination and task-based perception. Implementation techniques for behavior selection and arbitration, including behavior-based design, evolutionary design, dynamical systems, and hybrid deliberative-reactive systems. Situated learning and adaptive behavior. After CPSC 201 and 202 or equivalents. May not be taken after CPSC 473.

GREK 390a, Greek Syntax and Stylistics  Victor Bers
A review of accidence and syntax, elementary composition, and analysis of Greek prose styles of the fifth and fourth centuries B.C., including a comparison of "prosaic" and "poetic" syntax. Prerequisite: previous familiarity with some Greek prose beyond the elementary level, or permission of instructor.  L5, HU
LATN 110a, Beginning Latin: The Elements of Latin Grammar  Staff
Introduction to Latin. Emphasis on morphology and syntax within a structured program of readings and exercises. Prepares for LATN 120. No prior knowledge of Latin assumed. Preregistration, which is required, takes place at the Academic Fair. See the Calendar for the Opening Days or the departmental Web site for details about preregistration.  L1  RP  1½ Course cr

* LATN 390b, Latin Syntax and Stylistics  Joseph Solodow
A systematic review of syntax and an introduction to Latin style. Selections from Latin prose authors are read and analyzed, and students compose short pieces of Latin prose. For students with some experience reading Latin literature who desire a better foundation in forms, syntax, idiom, and style.  L5, HU

PHIL 115a, First-Order Logic  Bruno Whittle
An introduction to formal logic. Study of the formal deductive systems and semantics for both propositional and predicate logic. Some discussion of metatheory.  QR

PHIL 267a, Mathematical Logic  Sun-Joo Shin
An introduction to the metatheory of first-order logic, up to and including the completeness theorem for the first-order calculus. Introduction to the basic concepts of set theory. Prerequisite: PHIL 115 or permission of instructor.  QR

Math: Logic/Foundations

* PHIL 427b, Computability and Logic  Sun-Joo Shin
A technical exposition of Gödel's first and second incompleteness theorems and of some of their consequences in proof theory and model theory, such as Löb's theorem, Tarski's undefinability of truth, provability logic, and nonstandard models of arithmetic. Prerequisite: PHIL 267 or permission of instructor.  QR, HU

Math: Logic/Foundations

* PHIL 446b, Philosophy of Language: Situations and Events  Zoltán Szabó
Unification of event semantics and situation semantics. Questions about the underlying metaphysics of the resulting theory. Prerequisites: a course in logic and an advanced course in metaphysics or semantics.  HU