Linguistics

Director of undergraduate studies: Raffaella Zanuttini, Rm. 209, 370 Temple St., 432-2452, raffaella.zanuttini@yale.edu; ling.yale.edu

FACULTY OF THE DEPARTMENT OF LINGUISTICS

Professors  Stephen Anderson, Robert Frank (Chair), Roberta Frank, Laurence Horn, Frank Keil, Zoltán Szabó, Raffaella Zanuttini
Associate Professors  Claire Bowern, Ashwini Deo, Gaja Jarosz, Maria Piñango
Assistant Professor  Ryan Bennet
Lecturers  Ben George, Jim Wood

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 freshman seminar or 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" 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 006b, Languages of the World  Claire Bowern
Introduction to the study of the world’s languages, including core concepts in the field of linguistics and tools for linguistic analysis. The number of languages that exist and ways in which they vary; universals of language; loss of linguistic diversity, and the effects of that loss both on science and on language speakers. Enrollment limited to freshmen. Preregistration required; see under Freshman Seminar Program.
*LING 018b, Acquiring a First Language  Maria Piñango
Current debates and areas of consensus in the field of language acquisition. The logical problem of language acquisition; phonological, morphological, and syntactic milestones; the bootstrapping problem; acquisition under special circumstances; acquiring a second language; language loss. Enrollment limited to freshmen. Preregistration required; see under Freshman Seminar Program.  So

LING 110a*, Language: Introduction to Linguistics  Ryan Bennett
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  Robert Frank
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 125b* / SKRT 120b*, Introductory Sanskrit II  David Brick
Continuation of SKRT 110. Focus on the basics of Sanskrit grammar; readings from classical Sanskrit texts written in Devanagari script. After SKRT 110.  L2 1½ Course cr

LING 130a* / PSYC 322a, Evolution of Language  Stephen Anderson
The origin and evolution of human language from an interdisciplinary perspective. Topics include the design features of language, the structure of evolutionary theory, elementary molecular genetics and genetic evidence for language evolution, cognitive continuity and discontinuity with other species, hominid evolutionary history, domain specificity and generality of the language faculty, evidence for evolutionary shaping of physical and cognitive structures.  L1 1½ Course cr

LING 130a* / 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 148b* / SKRT 140b*, Intermediate Sanskrit II  David Brick
Continuation of SKRT 130, focusing on Sanskrit literature from the kavya genre. Readings include selections from the Jatakamala of Aryasura and the opening verses of Kalidas’s Kumaarasamhita. After SKRT 130 or equivalent.  L4 1½ Course cr

*LING 169b* / PHIL 436b*, Meaning  Laurence Horn and Benjamin George
Analysis of selected classic readings in the study of meaning. Problems of sense and reference, presupposition, speaker intention, semantics of descriptions, names, and natural kinds. Historical tensions concerning the relationship between logical formalism and ordinary language; debates about the role of context in theories of meaning. Readings from works by Frege, Russell, Strawson, Donnellan, Austin, Grice, Kripke, and Putnam.  So

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 211b, Grammatical Diversity in U.S. English  Raffaella Zanuttini and Laurence Horn
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: at least one 100-level course in Linguistics, or permission of instructor.  

*LING 214a*, **Hebrew and Semitic Linguistics**  
Tamas Biro  
Study of linguistic phenomena in Semitic languages, with a focus on Hebrew. Perspectives from historical-comparative, philological, sociolinguistic, and contemporary-generative methodologies. Prerequisite: an introductory course in linguistics or familiarity with a Semitic language.  

*LING 235b*, **Sign Languages and the Mind**  
Kathryn Zaremba  
Analysis of sign languages at different levels of linguistic structure, such as phonology, morphology, syntax, and semantics. Related aspects of cognition in the visual modality, including working memory, the neural bases for sign language, and deafness and language development. Ways in which perspectives from manual/visual language study can inform general theories of linguistic structure, plasticity, and domain generality in cognitive science.  

LING 220b, **General Phonetics**  
Jelena Krivokapic and Christian DiCanio  
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. (Formerly LING 120)  

*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.  

LING 227b, **Language and Computation**  
Gaja Jarosz and Tamas Biro  
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. (Formerly LING 141)  

*LING 228b*, **Optimality Theory and Cognitive Science**  
Tamas Biro  
Introduction to optimality theory and its applications in the broader field of cognitive science. Optimality theory’s philosophical, mathematical, and computational aspects; its relation to similar cognitive models; and its lesser-known applications in syntax, semantics, and anthropology.  

LING 231b, **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.  

LING 232a, **Introduction to Phonological Analysis**  
Ryan Bennett and Tamas Biro  
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)  

*LING 233b*, **Phonological Theory**  
Ryan Bennett  
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. (Formerly LING 135)  

*LING 241b*, **Field Methods**  
Claire Bowern  
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.  

*LING 248a*, **Indo-Aryan Languages**  
Ashwini Deo  
Introduction to the Indo-Aryan language family, its linguistic context, and its evolution from the ancient period to the present. Focus on comparative morphosyntax and semantic phenomena, with some attention to issues of classification and contact.  

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)  

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.
LING 263a, Semantics  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. Prerequisite: LING 253.

LING 271a / PHIL 271a, Philosophy of Language  Zoltán Szabó
An introduction to contemporary philosophy of language, organized around four broad topics: meaning, reference, context, and communication. Introduction to the use of logical notation.

LING 280a, 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.

Advanced Courses/Seminars

LING 322a, Topics in Phonetics: Perception  Ryan Bennett
A survey of topics related to speech perception in phonetics, with some attention to phonology and sound change. Phoneme categorization, first-language influence on perception, prelinguistic auditory processing, compensation for coarticulation, cue integration, perceptual similarity, misperception, cue robustness, contrast enhancement/dispersion, direct realism, and the perception of prosodic structure. Prerequisites: LING 220 and 232, or with permission of instructor.

LING 341b, Topics in Phonology: Prosody at the Interfaces  Ryan Bennett
Topics in prosodic structure at the word level and above. Direct vs. indirect reference; how prosodic structure is computed from morphosyntactic structure; the extent to which prosodic constituents are isomorphic to syntactic constituents; whether prosody or other aspects of phonology can influence syntactic or morphological structures. Prerequisites: LING 232 and 235 or equivalents.

LING 342a, Topics in Phonology: Underlying Representations  Stephen Anderson
The concept of abstract phonological representations of the sound structure of linguistic forms, as distinct from their surface phonetic realization. Historical background and motivation for this notion; phonological theories on the status of underlying forms. Prerequisite: LING 232. Recommended preparation: LING 235.

LING 361a / PSYC 360a, Topics in Syntax: The Mental Lexicon  Maria Piñango
Definitions of lexical knowledge; views of the lexicon as a repository of information vs. a "generative" system; the case of idioms; the lexicon and the grammar-conceptual structure interface; acquisition of the lexicon. (Formerly LING 260)

LING 391a / PHIL 429a, Problems in Semantics: Quantification  Benjamin George
Topics in the semantics of quantification, with a focus on the expressive power of quantification in natural language. Analysis of quantifiers such as some, every, no, many, fewer, and most; generalizations about and possible universals of quantification in natural language; implications for mathematical and philosophical properties of logics that are suitable for modeling natural language semantics; plural quantification.

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, 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

CGSC 110a / PSYC 130a, Introduction to Cognitive Science  Brian Scholl  
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 430a, Formal Semantics  Zhong Shao  
Introduction to formal approaches to programming language design and implementation. Topics include lambda calculus, type theory, denotational semantics, type-directed compilation, higher-order modules, and application of formal methods to systems software and Internet programming. After CPSC 202 and 323.  QR

*ENGL 152b, Anglo-Saxon Literature  Roberta Frank  
Close reading in translation of selected works composed in Anglo-Saxon England, c. 700–1100. Genres include heroic poems, monster treatises, travelogues, biblical translations and adaptations, histories, saints’ lives, catalog poems, prayers, and riddle collections. Later uses and appropriations of this literature from the Norman Conquest to Tolkien, Auden, and Heaney.  HU

English: Pre-1800 Lit

English: Junior Seminar

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 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

*MUSI 343a / CGSC 343a, Music Cognition  Ian Quinn  
A survey of historical and current approaches to questions about the perception and cognition of music. Topics include psychoacoustics; the cognitive neuroscience of music; relationships between music and language; the nature of musical knowledge; and debates about aesthetics, evolutionary psychology, and musical universals. Prerequisite: MUSI 110 or familiarity with music notation.  SO

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 427a, 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