LINGUISTICS (LING)

LING 101a, Introduction to English Words  Jim Wood
Where do the words of English come from, and where do they go? When do words stick around, and when do they fade? What is the difference between informal speech and slang? This course introduces students to the study of language through the lens of English word structure, with occasional glances at the structure of words in other languages of the world. We study different ways of forming new words from prefixes and suffixes, as well as from compounding, blending, and other more exotic processes. We study the sound structure of words and how they are used in sentences. We study what happens when English adopts words from other languages, and when English words are used in other languages, and how words change their sound, shape, and meaning over time. Finally, we discuss the different 'effects' that different words might have in conversation, and the issues that word choice raises in society at large.  

* LING 106b, Illusions of Language  Joshua Phillips
Introduction to linguistics, with special emphasis on sociolinguistics and psycholinguistics. Study of grammatical illusions: expressions the parser mistakenly accepts as grammatical despite making little sense and grammatical sentences which the parser has difficulty processing. Emphasis also on illusions and misconceptions about language, such as the belief that women speak more than men, that "vocal fry" can harm your voice, and that double negation is illogical.  

* LING 107b / ER&M 207b, Linguistic Diversity and Endangerment  Joshua Phillips
Introduction to the complexity of the question "How many languages are there in the world?" Geographical and historical survey of the world's languages; consideration of the ways in which languages can differ from one another. Language endangerment and the threat to world linguistic diversity it poses. Language reclamation and revitalization. None  

LING 110a, Language: Introduction to Linguistics  Claire Bowern
This is a course about language as a window into the human mind and language as glue in human society. Nature, nurture, or both? Linguistics is a science that addresses this puzzle for human language. Language is one of the most complex of human behaviors, but it comes to us without effort. Language is common to all societies and is typically acquired without explicit instruction. Human languages vary within highly specific parameters. The conventions of speech communities exhibit variation and change over time within the confines of universal grammar, part of our biological endowment. The properties of universal grammar are discovered through the careful study of the structures of individual languages and comparison across languages. This course introduces analytical methods that are used to understand this fundamental aspect of human knowledge. In this introductory course students learn about the principles that underly all human languages, and what makes language special. We study language sounds, how words are formed, how humans compute meaning, as well as language in society, language change, and linguistic diversity.  

LING 112a, Historical Linguistics  Chelsea Sanker
Introduction to language change and language history. How do people use language, and how does that lead to language change 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 (doing archaeology with language).  

* LING 115a / SKRT 110a, Introductory Sanskrit I  Aleksandar Uskokov
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.  

LING 116b / CGSC 216b / PSYC 116b, 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.  

LING 138a / SKRT 130a, Intermediate Sanskrit I  Aleksandar Uskokov
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, Kathasaritasagara, Mahabharata, and Bhagavadgita. After SKRT 120 or equivalent.  

LING 146b / PSYC 320b / WGSS 145b, Language and Gender  Natalie Weber
An introduction to linguistics through the lens of gender. Topics include: gender as constructed through language; language variation as conditioned by gender and sexuality within and between languages across the world; real and perceived differences between male and female speech; language and (non)binarity; gender and noun class systems in language; pronouns and identity; role of language in encoding, reflecting, or reinforcing social attitudes and behavior.  

* LING 150a / ENGL 150a, Old English  Emily Thornbury
An introduction to the language, 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, which are read in the original Old English.
**LING 211b, Grammatical Diversity in U.S. English**  
Raffaella Zanutti  
Language as a system of mental rules, governing the sound, form, and meaning system. The (impossible) distinction between language and dialect. The scientific study of standard and non-standard varieties. Social attitudes toward prestige and other varieties; linguistic prejudice. Focus on morpho-syntactic variation in North-American English: alternative passives (“The car needs washed”), personal datives (“I need me a new printer”), negative inversion (“Don’t nobody want to ride the bus”), "drama SO" (“I am SO not going to study tonight”).  

**LING 212b, Linguistic Change**  
Chelsea Sanker  
How languages change, how we study change, and how language relates to other areas of society. This seminar is taught through readings chosen by instructor and students, on topics of interest. Prerequisite: LING 112 or equivalent.  

**LING 217a / EDST 237a / PSYC 317a, Language and Mind**  
Maria Pinango  
The structure of linguistic knowledge and how it is used during communication. The principles that guide the acquisition of this system by children learning their first language, by children learning language in unusual circumstances (heritage speakers, sign languages) and adults learning a second language, bilingual speakers. The processing of language in real-time. Psychological traits that impact language learning and language use.  

**LING 219a / ANTH 380a, The Evolution of Language and Culture**  
Claire Bowern  
Introduction to cultural and linguistic evolution. How human language arose; 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.  

**LING 220a / PSYC 318a, General Phonetics**  
Jason Shaw  
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.  

**LING 224a, Mathematics of Language**  
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 231b / PSYC 331b, Neurolinguistics**  
Maria Pinango  
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 232b, Phonology I**  
Natalie Weber  
Why do languages sound distinct from one another? Partly it is because different languages use different sets of sounds (in spoken languages) or signs (in signed languages) from one another. But it is also because those sounds and signs have different distributional patterns in each language. Phonology is the study of the systematic organization and patterning of sounds and signs. Students learn to describe the production of sounds and signs (articulatory phonetics), discuss restrictions on sound and sign distribution (morphemic alternation, phonotactics), and develop a model of the phonological grammar in terms of rules and representations. Throughout the course, we utilize datasets taken from a variety of the world’s languages.  

**LING 233a, The Literate Brain and Mind**  
Kenneth Pugh  
The development of fluent reading and writing skills in children is essential for achieving success in the modern world, yet significant numbers of people from all languages and cultures fail to obtain adequate literacy outcomes. This course examines: 1) the genetic neurobiological and cognitive foundations of reading and writing, 2) how learning to read both depends upon and changes oral language systems in the brain, 3) how insights from cognitive neuroscience inform our understanding of teaching and remediation of language and literacy disorders, and 4) how all of this is both similar and dissimilar across contrastive written languages and diverse cultures. Students acquire familiarity with multiple brain imaging tools and what we need to do to deliver on the promise of neuroscience in education. LING 110 or CGSC 110 is recommended, but not required.  

**LING 234b, Quantitative Linguistics**  
Chelsea Sanker  
This course introduces statistical methods in linguistics, which are an increasingly integral part of linguistic research. The course provides students with the skills necessary to organize, analyze, and visualize linguistic data using R, and explains the concepts underlying these methods, which set a foundation that positions students to also identify and apply new quantitative methods, beyond the ones covered in this course, in their future projects. Course concepts are framed around existing linguistic research, to help students design future research projects and critically evaluate academic literature. Assignments and in-class activities involve a combination of hands-on practice with quantitative tools and discussion of analyses used in published academic work. The course also include brief overviews of linguistic topics as a foundation for discussing the statistical methods used to investigate them.  

**LING 235a, Phonology II**  
Natalie Weber  
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 260b, Articulatory Phonology  Jason Shaw  
Study of experimental methods to record articulatory movements using electromagnetic articulography and/or ultrasound technologies and analytical approaches for relating articulatory movements to phonological structure. Hands-on training in laboratory techniques are paired with discussion of related experimental and theoretical research. Prerequisites: LING 220 and LING 232 or permission of instructor. **SO**

LING 238b, Encoding Speech in Minds and Machines  Jason Shaw  
This class introduces analytical tools that support quantitative reasoning about speech. Methods for encoding speech in computer applications are considered alongside theories of how speech is represented in human minds. The purpose in examining these two areas together is to explore the degree to which theories of the mental representation of speech can inform smart computer applications and the degree to which machine learning techniques can advance the study of the human mind. Topics include computational modelling of speech movements, the resulting speech signal, human speech perception behavior, as well as relevant computational tools for signal processing, feature extraction, and machine learning. No prior experience with Matlab or R is required but some general familiarity with programming is required. **QR, SO**

* LING 241a, Field Methods  Chelsea Sanker  
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. Discussion of ethics, linguistic diversity, and endangerment, Open to majors and graduate students in Linguistics, and to others with permission of instructor. Students should have taken LING 232 or LING 220 and one other linguistics class. **SO**

LING 253a, Syntax I  Raffaella Zanuttini  
If you knew all the words of a language, would you be able to speak that language? No, because you’d still need to know how to put the words together to form all and only the grammatical sentences of that language. This course focuses on the principles of our mental grammar that determine how words are put together to form sentences. Some of these principles are shared by all languages, some differ from language to language. The interplay of the principles that are shared and those that are distinct allows us to understand how languages can be very similar and yet also very different at the same time. This course is mainly an introduction to syntactic theory: it introduces the questions that the field asks, the methodology it employs, some of the main generalizations that have been drawn and results that have been achieved. Secondarily, this course is also an introduction to scientific theorizing: what it means to construct a scientific theory, how to test it, and how to choose among competing theories. **SO**

LING 254b, Syntax II  Jim Wood  
This course continues the development of the “principles and parameters” approach to grammatical theory in Government-Binding theory and the Minimalist Program. We begin with a brief review of the architecture of syntactic theory, move on to an extended exploration of the mechanisms of dependency formation in syntax (including displacement, agreement, control, scope and anaphora), and conclude with a discussion of the nature of syntactic representation (constituency in double object constructions, the mapping between structure and thematic relations, the role of functional categories). Throughout, a major goal of the course is to engage in foundational issues by reading primary literature in syntax and applying theoretical concepts to novel data. Prerequisite: LING 253. **WR, SO**

LING 263a, Semantics I  Venecta Dayal  
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 271a / PHIL 271a, Philosophy of Language  Jason Stanley  
An introduction to contemporary philosophy of language, organized around four broad topics: meaning, reference, context, and communication. Introduction to the use of logical notation. **HU**

LING 275b / CGSC 275b / PHIL 280b, Pragmatics  Laurence Horn  
Speakers often mean things they don’t say, but how does a hearer figure out what the speaker meant? Which sentences are designed to change the world rather than just to represent it? How are sentences used to mean different things in different contexts? Pragmatics explores the relations between what is said and what is meant, focusing on how speech acts and the principles of “street logic”—presuppositions and implicatures—help speakers and hearers shape the landscape of a conversation. No formal prerequisites, but some familiarity with linguistics or philosophy of language will help on some of the readings. **SO RP**

* LING 278a, Topics in Semantics: Time & Possibility  Joshua Phillips  
What are the mechanisms by which natural languages “displace” discourse in terms of time and possibility space? An introduction to a range of temporal and modal phenomena as exhibited in natural language. We develop formal/model-theoretic tools based on intensional logics in view of better understanding the meaning of tense, aspectual and modal operators, the structure of these semantic domains, and their relation to other linguistic categories (including negation & evidentiality.) Pre- or co-requisite: LING 263 (or other introduction to formal semantics) or permission of instructor. **HU**
* LING 327a / ARBC 450a / NELC 453a, History of the Arabic Language  Kevin van Bladel
This course covers the development of the Arabic language from the earliest epigraphic evidence through the formation of the Classical 'Arabiyaa and further, to Middle Arabic and Neo-Arabic. Readings of textual specimens and survey of secondary literature. Prerequisite: ARBC 140 and permission of instructor.  

* LING 332a, Linguistic Structure in Speech Planning and Production  Jason Shaw
How do the cognitive processes involved in speech production relate to linguistic structure, including the morphological and phonological structure of words? This seminar engages with this question by bringing together primary readings on (1) neurocognitive models of speech motor control and (2) language-specific phonetic patterns, as they relate to morphological and phonological structure. Prerequisite: LING 220, LING 235, LING 236, LING 238, or permission of instructor.  

* LING 344a, Topics in Phonology: Prosody-Syntax Structure Correspondence  Natalie Weber
This course explores how languages organize sounds into domains arranged within a hierarchical structure. Research over the past 40 years has shown that this prosodic structure often matches syntactic and syllabic structure, but mismatches can arise due to phonological pressures and restructuring. We examine several theories of the relationship between syntactic and prosodic structure by discussing primary literature and data from a range of languages. The course culminates in an original research paper on a topic chosen by the student. Prerequisites: LING 232 and LING 253, or permission of instructor. LING 235 is recommended, but not required.  

* LING 369a, Semantic Change  Joshua Phillips
Investigation of systematic change in the domain of semantics and pragmatics. Empirical phenomena include grammaticalization and meaning change in at least the domains of tense, aspect, and modality and negation, as well as intensifiers. Focus on reconciling recent literature on grammaticalization, typological research and historical pragmatics with formal semantic studies. Prerequisite: LING 263 or permission of instructor.  

* LING 372a, Meaning, Concepts, and Words  Maria Pinango
A cognitive approach to the structure of meaning from the perspective of the language system. The brain’s finite collection of stored concepts, which are combined and recombined via predetermined principles. The system of associating combinations of concepts with combinations of words and sentences to produce an unlimited number of novel thoughts. Prerequisite: at least one course in linguistics, psychology, or cognitive science.  

* LING 379a / LING 381 / LING 781, The Syntax-Morphology Interface  Jim Wood
Syntax and morphology are intertwined in many fascinating ways, and in fact, many current theories take the building blocks of words, phrases, and sentences to involve the same mechanisms in the same modules of grammar. Whether this view is correct or not, there are many phenomena where the form of a word and the structure of a phrase or sentence interact in a way that deserves special attention. This seminar focuses on such phenomena. While there are many things that fall under the umbrella of this course (see possible term paper topcis in syllabus), much of the class is devoted to cases where morphological syncretism makes a syntactic structure possible that otherwise would not be. Prerequisite: LING 253. Either LING 280 or LING 254 would be a huge plus as well, but are not strictly necessary. Please contact the instructor if you have questions.  

* LING 380a, Topics in Computational Linguistics: Neural Network Models of Linguistic Structure  Robert Frank
An introduction to the computational methods associated with "deep learning" (neural network architectures, learning algorithms, network analysis). The application of such methods to the learning of linguistic patterns in the domains of syntax, phonology, and semantics. Exploration of hybrid architectures that incorporate linguistic representation into neural network learning. Prerequisites: Python programming, basic calculus and linear algebra, introduction to linguistic theory (LING 106, 110, 116, 217 or equivalent).  

* LING 395b, What do Discourse Particles Mean?  Venecia Dayal
This course probes the grammatical character of discourse particles, expressions that do not relate directly to the core meaning expressed by a construction: a proposition in the case of a declarative, a set of propositions in the case of an interrogative, and a directive in the case of an imperative. An example of a discourse particle is again in the question: What is your name, again? Discourse particles function instead to connect the core meaning of the construction to the context of utterance, introducing components of meaning that lie outside the linguistic domain, construed narrowly. Students read primary semantic literature on declaratives, interrogatives and imperatives to get a solid grounding in the theoretical issues surrounding their semantics and explore empirical phenomena related to discourse particles in a range of languages. Current semantic and pragmatic proposals designed to capture their meaning are critically evaluated. Prerequisite: LING 263 or permission of instructor.  

* LING 475b, Linguistic Meaning and Conceptual Structure  Maria Pinango
The meaning of a word or sentence is something in the human mind that has specific properties: it can be expressed (written/signed/spoken forms); it can be combined with other meanings; its expression is not language dependent; it connects with the world; it serves as a vehicle for inference; and it is hidden from awareness. The course explores these properties in some detail and, in the process, provides the students with technical vocabulary and analytical tools to further investigate them. The course is thus intended for those students interested in undertaking a research project on the structure of meaning, the nature of lexico-conceptual structure, that is, the structure of concepts which we refer to as "word meanings", and how they may be combined through linguistic and non-linguistic means. Its ultimate objective is to bridge models of conceptual structure and models of linguistic semantic composition, identify their respective strengths and weaknesses and explore some of the fundamental questions that any theory of linguistic meaning composition must answer. Evidence discussed will emerge from naturalistic, introsessional, and experimental methodologies. Prerequisites: LING 110, CGSC 110, LING 217, or LING 263.  

* LING 320a, Introduction to Computational Linguistics: Neural Network Models of Linguistic Structure  Robert Frank
An introduction to computational methods associated with "deep learning" (neural network architectures, learning algorithms, network analysis). The application of such methods to the learning of linguistic patterns in the domains of syntax, phonology, and semantics. Exploration of hybrid architectures that incorporate linguistic representation into neural network learning. Prerequisites: Python programming, basic calculus and linear algebra, introduction to linguistic theory (LING 106, 110, 116, 217 or equivalent).  

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* 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  Jim Wood
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.