

# LINGUISTICS

Linguistics is the study of all aspects of human language: how languages make it possible for us to construe another person's ideas and feelings; how and why languages are similar and different; how we develop different styles and dialects; what will be required for computers to understand and produce spoken language; and how languages are used in everyday communication as well as in formal settings. Linguists try to figure out what it is that speakers know and do by observing the structure of languages, the way children learn language, slips of the tongue, conversations, storytelling, the acoustics of sound waves and the way people's brains react when they hear speech or read. Linguists also reconstruct prehistoric languages, and try to deduce the principles behind their evolution into the thousands of languages of the world today.

## Purpose of the MA Program

The goal of the MA program in linguistics is to provide students with sufficient knowledge of linguistics to enable them to work in industry and organizations where knowledge of linguistics helps in problem solving. The program also helps students determine in a relatively short time whether they want to make research in linguistics a lifelong career and prepares students who decide to do so to apply to the PhD program at CU or at other institutions.

The main component of the MA program is 30 credits of coursework (at least 24 of them in linguistics). Students may also choose to write an MA thesis. Students on both the thesis plan and non-thesis plan must take and pass the comprehensive exam in the fourth semester of study in order to receive the MA degree. Starting July 2024, students will have the option to either write an MA thesis or take the comprehensive exam in order to complete the MA degree requirements. By meeting additional requirements, MA students may also obtain the MA with a certificate in cognitive science, human language technology, teaching English to speakers of other languages (TESOL), Native American and Indigenous Studies, or culture, language and social practice (CLASP).

## Purpose of the MS Program

The program is intended to provide students with a solid background in both theoretical linguistics and computer science. Graduates of the program will be specialists in the application of computers to the processing of natural languages, such as English, Chinese, Arabic and Urdu. The field of computational linguistics, also known as text analytics, natural language processing and informatics, is burgeoning and has become critical to the success of mainstream global businesses who compete for employees qualified to address these needs. The interdisciplinary nature of CLASIC is a significant market strength, because success in this developing field of natural language processing requires a strong background in both linguistics and computer science. The training will prepare students for careers in predictive text messaging, search engines, question-answering, interactive virtual agents and machine translation.

CLASIC students will complete a two-year degree (32 credits of approved graduate study in linguistics and computer science), including a 2-credit capstone project that will run in conjunction with an internship or CU based research project. As part of the capstone, students will be evaluated by their employer or industry project manager. Students will prepare a technical report on the completed project that the program directors and project leader will jointly evaluate. For more information, visit the department's Computational Linguistics (CLASIC)

MS (<https://www.colorado.edu/linguistics/current-students/graduates/computational-linguistics-clasic-ms/>) webpage.

## Purpose of the PhD Program

The goal of the linguistics doctoral program is to prepare graduates to design and conduct original, empirically based research within a theoretical framework. Doctoral students prepare for careers in academic research and teaching or applied work in industry or other organizations. We encourage doctoral students to begin engaging in research projects early, as these will contribute to developing the research program that will lead to the thesis project. Early projects not only lead to preliminary exam topics and/or publishable papers, but also enable students to pilot methods that will be usable for the dissertation project. Early projects may be extensions of coursework and may involve a faculty advisor other than the thesis advisor.

Doctoral students complete a core of required courses that provide a firm foundation in linguistic theory and methods. These courses are supplemented by advanced courses and individual work related to an area of specialization in a field where this department offers research strengths (e.g., description of Native American and Indigenous languages, sociolinguistics, interaction and grammar, computational linguistics, psycholinguistics, first-language acquisition, phonetics, laboratory phonology, functionally-oriented syntax). Doctoral students may obtain a certificate in cognitive science, human language technology, teaching English to speakers of other languages (TESOL), Native American and Indigenous Studies, or culture, language and social practice (CLASP). Additionally, students may apply to pursue a joint PhD in linguistics and cognitive science.

Course codes for this program are LING and ESLG.

## Master's Degrees

- Computational Linguistics, Analytics, Search and Informatics - Master of Science (MS) (<https://catalog.colorado.edu/graduate/colleges-schools/interdisciplinary-programs/computational-linguistics-master-science-ms/>)
- Linguistics - Master of Arts (MA) (<https://catalog.colorado.edu/graduate/colleges-schools/arts-sciences/programs-study/linguistics/linguistics-master-arts-ma/>)

## Doctoral Degree

- Linguistics - Doctor of Philosophy (PhD) (<https://catalog.colorado.edu/graduate/colleges-schools/arts-sciences/programs-study/linguistics/linguistics-doctor-philosophy-phd/>)

## Certificates

- Cognitive Science - Graduate Certificate (<https://catalog.colorado.edu/graduate/colleges-schools/arts-sciences/programs-study/cognitive-science/cognitive-science-graduate-certificate/>)
- Culture, Language and Social Practice (CLASP) - Graduate Certificate (<https://catalog.colorado.edu/graduate/colleges-schools/arts-sciences/programs-study/linguistics/culture-language-social-practice-graduate-certificate/>)
- Human Language Technology - Graduate Certificate (<https://catalog.colorado.edu/graduate/colleges-schools/arts-sciences/programs-study/cognitive-science/human-language-technology-graduate-certificate/>)

- Native American and Indigenous Studies Certificate (NAIS) - Graduate Certificate (<https://catalog.colorado.edu/graduate/colleges-schools/interdisciplinary-programs/native-american-indigenous-studies-graduate-certificate/>)
- Teaching English to Speakers of Other Languages (TESOL) - Graduate Certificate (<https://catalog.colorado.edu/graduate/colleges-schools/arts-sciences/programs-study/linguistics/teaching-english-speakers-other-languages-graduate-certificate/>)

## Faculty

While many faculty teach both undergraduate and graduate students, some instruct students at the undergraduate level only. For more information, contact the faculty member's home department.

Bell, Alan  
Professor Emeritus

Brown, Susan Windisch  
Assistant Professor Adjunct; PhD, University of Colorado Boulder

Calder, Jeremy ([https://experts.colorado.edu/display/fisid\\_159936/](https://experts.colorado.edu/display/fisid_159936/))  
Assistant Professor; PhD, Stanford University

Cowell, James Andrew ([https://experts.colorado.edu/display/fisid\\_107090/](https://experts.colorado.edu/display/fisid_107090/))  
Professor; PhD, University of California, Berkeley

Farrelly, Raichle ([https://experts.colorado.edu/display/fisid\\_166033/](https://experts.colorado.edu/display/fisid_166033/))  
Senior Instructor, Lecturer; PhD, University of Utah

Fox, Barbara ([https://experts.colorado.edu/display/fisid\\_106066/](https://experts.colorado.edu/display/fisid_106066/))  
Professor; PhD, University of California, Los Angeles

Frajzyngier, Zygmunt ([https://experts.colorado.edu/display/fisid\\_104000/](https://experts.colorado.edu/display/fisid_104000/))  
Professor; PhD, University of Warsaw (Poland)

Gutiérrez Lorenzo, Ambrocio ([https://experts.colorado.edu/display/fisid\\_168627/](https://experts.colorado.edu/display/fisid_168627/))  
Assistant Professor; PhD, University of Texas, Austin

Hall, Kira ([https://experts.colorado.edu/display/fisid\\_123111/](https://experts.colorado.edu/display/fisid_123111/))  
Professor, Associate Chair; PhD, University of California, Berkeley

Haynie, Hannah ([https://experts.colorado.edu/display/fisid\\_166099/](https://experts.colorado.edu/display/fisid_166099/))  
Assistant Professor; PhD, University of California, Berkeley

Hodges, Adam  
Assistant Professor Adjunct; PhD, University of Colorado

Hulden, Mans ([https://experts.colorado.edu/display/fisid\\_154602/](https://experts.colorado.edu/display/fisid_154602/))  
Associate Professor; PhD, University of Arizona

Menn, Lise  
Professor Emerita

Michaelis-Cummings, Laura A. ([https://experts.colorado.edu/display/fisid\\_105599/](https://experts.colorado.edu/display/fisid_105599/))  
Professor, Chair; PhD, University of California, Berkeley

Narasimhan, Bhuvaneshwari ([https://experts.colorado.edu/display/fisid\\_144863/](https://experts.colorado.edu/display/fisid_144863/))  
Associate Professor; PhD, Boston University

Palmer, Martha  
Professor; PhD, University of Edinburgh (Scotland)

Raymond, Chase Wesley ([https://experts.colorado.edu/display/fisid\\_158278/](https://experts.colorado.edu/display/fisid_158278/))  
Associate Professor; PhD, University of California, Los Angeles

Rood, David  
Professor Emeritus

Scarborough, Rebecca ([https://experts.colorado.edu/display/fisid\\_143741/](https://experts.colorado.edu/display/fisid_143741/))  
Associate Professor, Associate Chair; PhD, University of California, Los Angeles

Shay, Erin J.  
Assistant Professor Adjunct; PhD, University of Colorado

Taylor, Allan R.  
Professor Emeritus

Thomas-Ruzic, Maria L.  
Senior Instructor Emerita

## Courses

### LING 5030 (3) Linguistic Phonetics

Introduces practical and theoretical aspects of phonetics. Provides training in recognition and production of speech sounds, and instruction on fundamentals of articulatory, acoustic, and auditory phonetics.

**Requisites:** Restricted to graduate students only.

### LING 5140 (2) CLASIC Capstone

In this capstone to the Computational Linguistics, Analytics, Search and Informatics (CLASIC) professional master's program, we will review each student's internship project and prepare presentations and technical reports based on those internships. Students will present their work on the annual Industry Day or at an Advisory Board meeting to industry representatives. They will also submit a paper to a relevant conference or workshop. Previously offered as a special topics course.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 5140

**Requisites:** Restricted to students in the Computational Linguistics, Analytics, Search and Informatics (CLSI) program only.

**Recommended:** It is recommended that this course be taken after the CLASIC internship has been completed.

### LING 5200 (3) Introduction to Computational Corpus Linguistics

This course is an introduction to the use of corpora for linguistic analysis and natural language processing. A major focus is the development of computational skills, preparing the student for CSCI 5832 (Natural Language Processing). Previous completion of LING 1200 or CSCI 1300 highly recommended.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4200

**Requisites:** Restricted to graduate students only.

### LING 5300 (3) Research in Psycholinguistics

Explores research topics and methods in psycholinguistics selected from areas such as language production and comprehension, language and cognition, and language acquisition.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite at least one graduate-level course in LING, PSYC or CSCI.

**LING 5410 (3) Phonology**

Studies sound systems of language. Introduces both principles of organization of sound systems and major kinds of phonological structures found worldwide. Provides extensive practice in applying phonological principles to data analysis.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5030.

**LING 5420 (3) Morphology and Syntax**

Introduces principles of word formation and sentence structure. Covers major morphological and syntactic structures found in the world's languages, and methods for describing grammatical structures, and includes practice in analyzing data from a variety of languages.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4420

**Requisites:** Restricted to graduate students only.

**LING 5430 (3) Semantics and Pragmatics**

Explores fundamental concepts of semantics and pragmatics, including theories of communication and meaning, representation, conversational implications, speech acts, and discourse structure.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5420.

**LING 5570 (3) Introduction to Diachronic Linguistics**

Familiarizes students with terminology, methods, and theories dealing with phenomena of language change through time.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5410.

**LING 5610 (3) Pedagogical Grammar for Teachers of English to Speakers of Other Languages**

Provides an introduction to the study of English grammar from the perspective of the nonnative learner and user of English. The focus is on understanding the form, meaning, and use of grammatical constructions and on how to teach these constructions in an ESL/EFL context.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4610

**Requisites:** Restricted to graduate students only.

**LING 5620 (3) Teaching Second Language (L2) Oral Skills and Communication**

Provides teaching and learning principles and practices for developing nonnative speakers' oral English proficiency and intercultural communication skills. Examines the sound system of American English (including prosody), listening and pronunciation, lexical considerations, and discourse functions and grammar, and how these contribute to speaking fluency, accuracy and communicative effectiveness. Focuses on teaching applications and includes one-on-one sessions with English learners.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4620

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 3100 or LING 5030 and LING 5410.

**Grading Basis:** Letter Grade

**LING 5622 (3) Statistical Analysis for Linguistics**

Aims to acquaint students with the fundamentals of quantitative analysis in linguistics and provide a practical introduction to the R statistical computing environment. Topics that will be covered include examining and manipulating data, tests for independence, regression modeling, mixed models, measures of association, and data visualization. It is suitable for students with no prior experience with statistics or statistical software packages.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4622

**LING 5630 (3) TESOL and Second Language Acquisition: Principles and Practices**

Provides an overview of methods and materials for teaching English as an additional language, along with opportunities for students to observe, discuss and analyze these in relation to language teaching principles, linguistic considerations, and global and local contexts. Aimed primarily at the teaching of English to nonnative speaking adults, the course also addresses second and foreign language teaching generally.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4630

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5610 or LING 5620.

**Grading Basis:** Letter Grade

**LING 5640 (3) Teaching Language Skills: Focus on Social Justice**

Introduces the underlying theories and classroom practices for teaching second language reading, writing, listening and speaking. The course highlights the nature of literacy and oral language development, beginning language skills (phonemic awareness, phonics, pronunciation), and meaning-focused language instruction. This unique iteration of the course, designed for CU Boulder's Global Seminar program takes a theme-based and project-based approach, contextualizing the study of language teaching around an exploration of social justice issues that are pressing both in Armenia and globally.

**Equivalent - Duplicate Degree Credit Not Granted:** 4640

**Grading Basis:** Letter Grade

**LING 5650 (3) Language Teaching Materials Design**

This course introduces the role of English as an international language and its impact on languages, cultures, and communities around the world. Students evaluate approaches to teaching English against the backdrop of sociopolitical and historical factors. This course utilizes a project-based approach to study language teaching in a Zapotec speech community. The project involves co-creating language teaching materials for use by Zapotec speakers in efforts to maintain and revitalize the Zapotec language among young learners.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4650

**Requisites:** Restricted to graduate students only.

**LING 5700 (3) Conversation Analysis and Interactional Linguistics**

Provides an introduction to the theories and methods of Conversation Analysis (CA) and Interactional Linguistics (IL), which aim to uncover the procedural infrastructure of language use in social interaction.

The course emphasizes hands-on experience in analyzing naturally-occurring interactional data. Topics may include: turn-taking, sequence and preference organization, repair, reference, epistemics, and identity.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4700

**Grading Basis:** Letter Grade

**LING 5800 (3) Open Topics in Linguistics**

Various topics not normally covered in the curriculum. Offered intermittently depending on student demand and availability of instructors. Contact the department office for information.

**Repeatable:** Repeatable for up to 3.00 total credit hours. Allows multiple enrollment in term.

**Requisites:** Restricted to graduate students only.

**Grading Basis:** Letter Grade

**LING 5832 (3) Natural Language Processing**

Explores the field of natural language processing as it is concerned with the theoretical and practical issues that arise in getting computers to perform useful and interesting tasks with natural language. Covers the problems of understanding complex language phenomena and building practical programs.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 5832

**Requisites:** Restricted to graduate students only.

**LING 5900 (1-3) Independent Study**

**Repeatable:** Repeatable for up to 7.00 total credit hours. Allows multiple enrollment in term.

**Requisites:** Restricted to graduate students only.

**LING 5910 (3) TESOL Practicum**

Provides observation and supervised teaching experiences in classroom and other contexts involving the teaching of English to speakers of other languages, especially adults and young adult learners in settings outside K-12. Meetings provide opportunities to debrief and to consult on teaching practice; help students connect theory, methods and practice; and support a professional teaching portfolio process.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4910

**Repeatable:** Repeatable for up to 6.00 total credit hours. Allows multiple enrollment in term.

**Requisites:** Requires prerequisite course of LING 4630 or LING 5630 (minimum grade C). Restricted to graduate students only.

**Recommended:** Prerequisite LING 4610 or LING 5610.

**LING 5920 (3) Speakers and the Structure of their Languages**

This is a summer intensive course that introduces various areas of Linguistics (specifically phonology, morphology, and syntax) at the same time that highlights the importance of language documentation, description and revitalization. The target language for Summer 2024 is Zapotec. 50% of this course is designed so that students can get a basic knowledge of an indigenous language as a second language and be able to interact with the community of speakers.

**Equivalent - Duplicate Degree Credit Not Granted:** LING 4920

**LING 6200 (3) Issues and Methods in Cognitive Science**

Interdisciplinary introduction to cognitive science, examining ideas from cognitive psychology, philosophy, education, and linguistics via computational modeling and psychological experimentation. Includes philosophy of mind; learning; categorization; vision and mental imagery; consciousness; problem solving; decision making, and game-theory; language processing; connectionism. No background in computer science will be presumed.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 6402 and EDUC 6504 and PHIL 6310 and PSYC 6200 and SLHS 6402

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite at least one course at the 3000-level or higher in CSCI, LING, PHIL, or PSYC.

**LING 6300 (3) Topics in Language Use**

Discusses current issues and research in a selected area related to language use and function. Sample topics include conversational interaction, language policy, language content, and sociolinguistic variation.

**Requisites:** Restricted to graduate students only.

**LING 6310 (3) Sociolinguistic Analysis**

Serves as an advanced introduction to the empirical and theoretical foundations of contemporary sociolinguistic analysis, with special emphasis on linguistic variation, diversity and change.

**Repeatable:** Repeatable for up to 6.00 total credit hours.

**Requisites:** Restricted to graduate students only.

**LING 6320 (3) Linguistic Anthropology**

Serves as an advanced introduction to the empirical and theoretical foundations of contemporary linguistic anthropology, with special emphasis on the ways in which culture and society emerge semiotically through language and discourse.

**Equivalent - Duplicate Degree Credit Not Granted:** ANTH 6320

**Requisites:** Restricted to graduate students only.

**LING 6450 (3) Syntactic Analysis**

Introduces the major constructs used by formal theories of syntax to capture the relationship between meaning and syntactic form and uses data from diverse languages to explore the universality of these constructs.

**Requisites:** Restricted to graduate students only.

**LING 6500 (3) Issues in Indigenous Languages**

Addresses socio-cultural issues concerning indigenous languages, including human rights, intellectual property, language endangerment and maintenance, identity, linguistic relativity, sense of place.

**Equivalent - Duplicate Degree Credit Not Granted:** ANTH 6500

**Requisites:** Restricted to graduate students only.

**Grading Basis:** Letter Grade

**LING 6510 (3) Language Structures**

Surveys the structure of one or more languages, emphasizing understanding how parts of the language interact. Designed to supplement courses in which parts of languages are used to illustrate theoretical claims.

**Repeatable:** Repeatable for up to 6.00 total credit hours. Allows multiple enrollment in term.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisites LING 5410 and LING 5420.

**LING 6520 (3) Topics in Comparative Linguistics**

Students compare and contrast selected structures of languages treated from a typological, genetic, or a real perspective. No special prior knowledge of the subject language is required.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisites LING 5410 and LING 5420 and LING 5570.

**LING 6560 (3) Language Acquisition**

Theories and research methods in first-language acquisition of phonology, morphology, syntax, semantics, and pragmatics.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisites LING 5410 and LING 5420 and LING 5430.

**LING 6632 (3) Machine Learning and Linguistics**

Is an introduction to machine learning, with a focus on linguistic applications. It is oriented toward students who want to understand the basics of machine learning and apply well-known techniques to address problems related to language and linguistics. The main goal is to achieve a practical grasp of the fundamental and most successful concepts in machine learning and to be equipped with techniques to apply this knowledge in linguistic domains. The course is also intended to provide a perspective on natural language acquisition and learning; namely, insight into what types of language acquisition problems are truly difficult, and what types of learning problems can be solved by fairly straightforward pattern recognition techniques.



**LING 6861 (1-2) Interdisciplinary Training in the Social Sciences Methods Course**

This is a new course number for a series of interdisciplinary graduate methods seminars created as part of the new Interdisciplinary Training in the Social Sciences program, which is co-funded by the Graduate School and the College of Arts and Sciences. These courses, which have rotating topics, train graduate students in qualitative and quantitative methods. CARTSS/IBS will arrange three one-credit advanced methods mini-courses each Spring semester. The mini-courses will be taught weekly (two hours per week) for five weeks. The courses will change each spring; topics include a wide variety of advanced statistical analysis methods, machine learning for social sciences, text analysis, experimental techniques, network analysis, survey design, interview protocols, etc. Open to all interested graduate students, with programming provided jointly by the Institute of Behavioral Science (IBS) and the Center to Advance Research and Teaching in the Social Sciences (CARTSS).

**Equivalent - Duplicate Degree Credit Not Granted:** SOCY 6861

**Repeatable:** Repeatable for up to 6.00 total credit hours. Allows multiple enrollment in term.

**Grading Basis:** Letter Grade

**LING 6930 (1) Professional Internship**

Provides a structure for CLASIC graduate students to receive academic credit for internships with industry partners that have an academic component to them suitable for graduate-level work. Participation in the program will consist of an internship agreement between a student and an industry partner who will employ the student in a role that supports the academic goals of the internship. Instructor participation will include facilitation of final assessments of student performance as well as support for any academic-related issues that may arise during the internship period. May be taken during any term following initial enrollment and participation in CLASIC graduate program courses.

**Repeatable:** Repeatable for up to 3.00 total credit hours.

**Requisites:** Restricted to graduate students only.

**LING 6940 (1) Master's Candidate for Degree**

Registration intended for students preparing for a thesis defense, final examination, culminating activity, or completion of degree.

**Requisites:** Restricted to graduate students only.

**LING 6950 (1-6) Master's Thesis**

**Repeatable:** Repeatable for up to 6.00 total credit hours.

**Requisites:** Restricted to graduate students only.

**LING 7030 (3) Phonetic Theory and Analysis**

Provides students with the practical skills and the conceptual framework to do independent research in phonetics (or in other areas relying on phonetic data). Introduces current and traditional issues in phonetic research (both experimental and theoretical) and gives training in analytical methods.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisites LING 5030 and LING 5410.

**LING 7100 (3) Field Methods 1**

Introduces the process of discovering structure of a language from data obtained directly from its speakers. Emphasizes effectiveness in the field context, rapid recognition of structural features, and preliminary formulation using computational tools.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisites LING 5410 and LING 5420.

**LING 7310 (3) Social Semiotic Theory**

Introduces students to semiotics, the study of the use and interpretation of signs. Engages with key topics and concepts in the study of semiotic theory; e.g., indexicality, iconicity, enregisterment, embodiment, agency, and how these topics bear on research in sociolinguistics and linguistic anthropology.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 6310 or LING 6320.

**LING 7350 (3) Language and Gender in Cultural Perspective**

Examines organizations of language and gender in a variety of societies and cultures from the perspectives of sociolinguistics, linguistic anthropology, and socially-oriented discourse analysis.

**Requisites:** Restricted to graduate students only.

**LING 7410 (3) Phonological Theory**

Provides an introduction to phonetic and morphophonological representations, with a focus on distinctive features; segments; prosodic structures; morphological structures; phonological processes and their interaction; naturalness conditions.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5410.

**LING 7415 (2) Cognitive Science Research Applications Seminar 1**

Independent, interdisciplinary research project in cognitive science for advanced graduate students pursuing a joint PhD in an approved core discipline and cognitive science. Research projects integrate at least two areas within the cognitive sciences: psychology, computer science, linguistics, education, philosophy. Students need commitments from two mentors for their project.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 7412 and EDUC 6506 and PSYC 7415 and PHIL 7415 and SLHS 7418

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite EDUC 6505.

**LING 7420 (3) Syntactic Theory**

Covers various topics in syntactic theory.

**Repeatable:** Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5420.

**LING 7425 (2) Cognitive Science Research Applications Seminar 2**

Independent, interdisciplinary research project in cognitive science for advanced graduate students pursuing a joint PhD in an approved core discipline and cognitive science. Research projects integrate at least two areas within the cognitive sciences: psychology, computer science, linguistics, education, philosophy. Students need commitments from two mentors for their project.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 7422 and EDUC 6516 and PSYC 7425 and PHIL 7425 and SLHS 7428

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 7415 or PSYC 7415 or CSCI 7412 or EDUC 6506.

**LING 7430 (3) Semantic Theory**

Explores current developments in the theory of linguistic semantics. Potential topics include truth-conditional and set-theoretic theories of meaning; cognitive semantics; semantic typology; social semiotics; the syntax-semantics interface; and the interaction between meaning conventions and conventions of usage.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5430.

**LING 7565 (3) Computational Phonology and Morphology**

Surveys of the main approaches and central questions related to computational modeling and learning of morphology and phonology. We consider questions related to learnability of phonology/morphology, machine learning implementations, and linguist-driven grammar modeling.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 7565

**Recommended:** Prerequisites LING 5410 and LING 5420.

**LING 7570 (3) Advanced Diachronic Linguistics**

Presents theories of language change. Discusses mechanisms of language change, its trajectories over linguistic categories and items and its relation to theories of grammar and of language variation.

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisites LING 5410 and LING 5420 and LING 5570.

**LING 7575 (3) Computational Lexical Semantics**

Computational semantics has recently been upended by the advent of language models trained on vast amounts of text. These have proven to be very effective as a starting point for building robust downstream applications, although their ability to appropriately take context and world knowledge into account is still open to question. At the same time, rich representational schemes such as Abstract Meaning Representation (AMR) have been improving performance on numerous semantic tasks, including information extraction, question-answering, co-reference, and entailment. This class will explore the theory and practice behind these two advances, examine their respective strengths and weaknesses, and brainstorm about ways of combining them.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 7575

**Requisites:** Restricted to graduate students only.

**Recommended:** Prerequisite LING 5430 Semantics and Pragmatics, LING 5832 Natural Language Processing (cross-listed as CSCI 5832) are recommended.

**Grading Basis:** Letter Grade

**LING 7585 (3) Computational Models of Discourse and Dialogue**

This course is an introduction to computational models, corpora, and processing methods for discourse and dialogue. The course will introduce students to the foundational concepts and approaches, building a base from which students can go on to do research in these areas.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 7585

**Recommended:** Prerequisite LING 5832 Natural Language Processing.

**Grading Basis:** Letter Grade

**LING 7775 (1) Topics in Cognitive Science**

Reading of interdisciplinary innovative theories and methodologies of cognitive science. Students participate in the ICS Distinguished Speakers series that hosts internationally recognized cognitive scientists who share and discuss their current research. Session discussions include analysis of leading edge and controversial new approaches in cognitive science.

**Equivalent - Duplicate Degree Credit Not Granted:** CSCI 7772 and EDUC 7775 and PHIL 7810 and PSYC 7775 and SLHS 7775

**Repeatable:** Repeatable for up to 4.00 total credit hours.

**Requisites:** Restricted to graduate students only.

**LING 7800 (3) Open Topics in Linguistics**

Various topics not normally covered in the curriculum; offered intermittently depending on student demand and availability of instructors. Contact the department office for information.

**Repeatable:** Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.

**Requisites:** Restricted to graduate students only.

**LING 7900 (1-5) Independent Study**

**Repeatable:** Repeatable for up to 7.00 total credit hours. Allows multiple enrollment in term.

**Requisites:** Restricted to graduate students only.

**LING 8990 (1-10) Doctoral Dissertation**

All doctoral students must register for not fewer than 30 hours of dissertation credit as part of the requirements for the degree. For a detailed discussion of doctoral dissertation credit, refer to the Graduate School section.

**Repeatable:** Repeatable for up to 30.00 total credit hours.

**Requisites:** Restricted to graduate students only.