

COGNITIVE SCIENCE (COGS)

COGS 101. Introduction to Cognitive Science. 3 Units.

This course introduces students to the field of cognitive science. Cognitive scientists are interested in how humans think. This huge question has been addressed by many academic fields, including computer science, neuroscience, psychology, linguistics, and philosophy. Cognitive science tries to unite these different fields. In this course, you'll get an introduction to topics that are central to the study of human cognition, such as memory, categorization, language, the anatomy and functioning of the brain, artificial intelligence and problem solving.

COGS 102. Introduction to Cognitive Neuroscience. 3 Units.

A survey of the fundamental methods, findings, and theories that attempt to understand the human mind from a neuroscientific standpoint. The course provides the student with background knowledge of brain processes underlying such psychological phenomena as consciousness, sensation, perception, thought, language, and voluntary action. Since many fields of neuroscience have contributed to cognitive neuroscience, the approach of this course is cross-disciplinary. It introduces theories and data from clinical and experimental neuropsychology, brain imaging, neuroelectric and neuromagnetic brain activity, the neuroscience of language, and behavioral neuroscience, among other fields.

COGS 201. Human Cognition in Evolution and Development. 3 Units.

COGS 201 covers mind unfolding in time, including the fundamental methods, findings, and theories of human mental phylo- and ontogenesis. It provides the student with background knowledge about the unfolding of cognitive structures and functions over time, in both the deep temporal perspective of evolution (measured across many lifetimes) and the shorter one of development (measured within single lifetimes). The approach of the course is cross-disciplinary, including approaches that come from anthropology, archaeology, philosophy, computing science, comparative psychology, primatology, and comparative linguistics, among others.

COGS 202. Cognition and Culture. 3 Units.

The human mind gives rise to complex cultural products (language, literature, film, music, etc.) and practices (religion, education, monetary and political systems, etc.). In this class, we'll engage with the following kinds of questions: What can we learn about cultural products and practices by studying them as cognitive scientists? What can we learn about human cognition by studying cultural products and practices? What differences and commonalities emerge when we use the lens of cognitive science to understand culture? By bringing the theoretical and methodological tools of cognitive science to bear on culture, students will develop new understandings of what culture is; of how cultural variation, similarity, and change are central to human cognition; and how culture shapes the impact of our actions on different peoples. Counts as a Human Diversity & Commonality course.

COGS 215. Words and Mind. 3 Units.

There is something fascinating and special about words. They are the aspect of language that everyone knows about and pays attention to—and every academic discipline with an interest in language has something to say about them! The sheer number of words known by every speaker of any human language is quite vast (and the exact number is a mystery). In this class we will learn about words in all their aspects, and see what the wide weirdness of words can help us understand about the human mind. Subjects covered include the question of what makes a word (is "ouch" a word? "ain't"?); word origins; taboo words; words and memory; word boundaries; and word games, puns, and puzzles.

COGS 250. Responsible AI: Cultivating a Just and Sustainable Socio-technical Future through Data Citizenship. 3 Units.

An introduction to the key issues that inform ethically responsible design, deployment, and use of artificial intelligence (AI) technologies, with particular focus on the impact of data practices. From generative language models to video surveillance and identity detection to facial recognition, AI is becoming more and more embedded in our everyday lives. These AI technologies are increasingly built on our data, whether we are aware of it or not. In this praxis-oriented course, we will explore how data is fundamental to the development of AI technologies and develop practices for increased awareness of and participation in this data ecosystem. As we interrogate AI systems in everyday life through hands-on engagement with AI tools and their data pipelines, we will begin to construct a data citizenship model that can help us reclaim the power of collective responsibility in order to build a more just and sustainable socio-technical future. Students will focus their individual and group projects on questions and issues directly related to the subject area of the offering they are enrolled in. Offered as COGS 250, ENGL 250, HUMN 250, MUGN 250, PHIL 250 and RLGN 250. Counts as a Moral & Ethical Reasoning course.

COGS 272. Morality and Mind. 3 Units.

Recent research in cognitive science challenges ethical perspectives founded on the assumption that rationality is key to moral knowledge or that morality is the product of divine revelation. Bedrock moral concepts like free will, rights, and moral agency also have been questioned. In light of such critiques, how can we best understand moral philosophy and religious ethics? Is ethics primarily informed by nature or by culture? Or is ethics informed by both? This course examines 1) ways in which cognitive science—and related fields such as evolutionary biology—impact traditional moral perspectives, and 2) how the study of moral philosophy and comparative ethics forces reconsideration of broad cognitive science theories about the nature of ethics. The course examines the concept of free will as a case study in applying these interpretive viewpoints. Interdisciplinary readings include literature from moral philosophy, religious ethics, cognitive science, and evolutionary biology. Offered as COGS 272 and RLGN 272.

COGS 301. Special Topics in Cognitive Science. 3 Units.

Special Topics in Cognitive Science. Topics vary. Offered as COGS 301 and COGS 401.

COGS 305. Social Cognition and the Brain. 3 Units.

Human beings develop intricate means of presenting themselves to others; of representing others as friends, enemies, or strangers; of making quick assessments of any situation based on the attribution of intentions; of sizing up the Other via symbols and other shibboleths; and of the disposition and ability to empathize and sympathize with the emotional states of others for specific purposes. In recent years, the role of culture and cultural diversity has come to play a significant role in thinking about social cognition and the evolution of sociality. It is likewise an unfortunate fact that many human beings lack many of the means, abilities, and dispositions to connect with one another easily and without extensive and explicit tutelage. Such clinical populations (e.g., autistics, schizophrenics, etc.) are of considerable interest because of their promise as a contrastive model of typicality. This course will focus on these aspects of sociality both at the level of the interpersonal and personal (cognitive and phenomenological) and the sub-personal (neuroscientific). By term's end, students in this class will develop a deep understanding of several dimensions of social cognition research and its implications for the next generation of cognitive neuroscience. Each student will articulate a research problem and develop a method for investigating it through independent and collaborative means of practicing their research, critical thinking, writing and communication skills. Offered as COGS 305 and COGS 405. Counts as a Disciplinary Communication course.

COGS 306. Theory of Cognitive Linguistics I. 3 Units.

This course will introduce you to theories and methods that have been developed in cognitive linguistics and usage-based linguistics for the study of grammar, semantics, and their relations to cognition. Through a combination of readings, discussion, and hands-on exploration of puzzling data and problem sets, you will get a solid foundation in the foundational concepts and methodologies of cognitive/usage-based linguistics, and learn how to use cognitive linguistic principles and concepts to analyze new data and examples. Offered as COGS 306 and COGS 406.

COGS 307. Cog Linguistics Theory II. 3 Units.

This is the second course in a two-course sequence presenting theory and practice of cognitive linguistics. Offered as COGS 307 and COGS 407. Counts as a SAGES Departmental Seminar course.

COGS 308. Advanced Research Workshop I. 3 Units.

This course is an advanced research workshop for undergraduates and MA students. The workshop involves development of research topics (theoretical or empirical), and working on them with the input of other workshop members to produce final papers. Offered as COGS 308 and COGS 408.

COGS 309. Advanced Research Workshop II. 3 Units.

This course is an advanced research workshop for undergraduates and MA students. The workshop involves development of research topics (theoretical or empirical), and working on them with the input of other workshop members to produce final papers. MA students in cognitive linguistics will typically take this course as the second part of a two-part sequence. Offered as COGS 309 and COGS 409.

COGS 311. Mind and Media. 3 Units.

An introduction to the study of mind and media, including the study of multimodal communication. This course investigates patterns of human cognition that are ancient to human beings and upon which media have converged for powerful, immersive effect. The cognitive processes studied include perception, sensation, imagination, joint attention, narrative conception, simulation, dreaming, identity construction, imaginative play, and implicit learning. Students engage in hands-on media analysis to study how basic human mental operations are used in media to achieve a variety of effects. Graduate students will have, beyond the undergraduate program, additional group meetings with the professor, more advanced expectations for the writing assignments and oral presentations, and consultation with the professor about how this course fits into their graduate programs. Offered as COGS 311 and COGS 411. Counts as a Disciplinary Communication course. Counts as a SAGES Departmental Seminar course.

COGS 312. Second Language Acquisition I. 3 Units.

This course is an introduction to the growing field of second language acquisition (SLA). SLA seeks to understand the linguistic, psychological and social processes that underlie the learning and use of second language(s). The goal of research is to identify the principles and processes that govern second language learning and use. SLA is approached from three perspectives in the course: 1) as linguistic knowledge; 2) as a cognitive skill; and 3) as a socially and personality-mediated process. Important factors in second language learning will be identified and discussed. These include: age-related differences, the influence of the first language, the role played by innate (universal) principles, the role of memory processes, attitudes, motivation, personality and cognitive styles, and formal versus naturalistic learning contexts. The objective of this course is to survey the principal research in second language acquisition. Students will become familiar with the major research issues through their reading of both primary and secondary sources, as well as through lectures and class discussions. Offered as COGS 312, COGS 412, LING 301 and LING 401.

COGS 314. Second Language Acquisition II: Second Language Acquisition Research and Second Language Teaching. 3 Units.

This course will examine various issues in second language acquisition research that are particularly relevant to foreign language teaching and learning. Topics covered will include: the role of input (listening/reading) vs. output (speaking/writing); implicit vs. explicit learning; negative vs. positive evidence (including the role of error correction); affective factors (motivation, anxiety); individual differences; teachability hypothesis and syllabus construction, program design/evaluation, language testing, among others. The purpose of this course is to survey the principal research in the acquisition of second language that is relevant to second language teaching in a classroom setting, and to obtain the state-of-the-art knowledge of the SLA research literature that is relevant to L2 teaching. The focus is not necessarily on the practical application of the SLA research, although we will not exclude discussion of classroom application. Rather, we critically examine and evaluate SLA research and come up with our own syntheses with respect to various issues. To achieve this goal, we should ask following questions in reading and discussing the relevant literature: 1) What are the main claims that the author(s) make(s)? 2) Are the author's claims sound? If not why? 3) What further research is needed to answer remaining questions? Students will become familiar with the major research issues through their reading of both primary and secondary sources, as well as through lectures and class discussions. The students are required to complete a term project that addresses the issues treated in the course. Offered as LING 302, LING 402, COGS 314 and COGS 414. Prereq: COGS 301 or requisites not met permission.

COGS 316. Decision-Making. 3 Units.

This course is a topical introduction to decision-making, a major area of cognitive social science, with connections to economics, law, political science, business, policy, artificial intelligence, and related fields. Topics include game theory and rational calculation, equilibria, kinds of choice, heuristics, the role of affect in decision, framing, bounded rationality, mechanisms of choice such as heuristics, the role of social cognition in choice, concepts of self and other, and computer modeling of choice, especially AI systems that model decision-making and AI systems that serve as copilots or even agents in decision-making. The course also includes an introduction to the design of empirical behavioral research and a minor introduction to software for statistical work. Offered as COGS 316 and COGS 416. Counts as a SAGES Departmental Seminar course.

COGS 317. Cognitive Diversity and Commonality. 3 Units.

This course focuses on the ways in which cognition is shaped by experience. We'll consider dimensions such as sex, gender, race/ethnicity, bodily differences, cultural differences, and effects of speaking different languages. Through reading and discussing primary research in the cognitive sciences, we will reflect on how human diversity leads to both differences and parallels in cognition, and how these impact our actions, interactions, perspectives and experiences. Offered as COGS 317 and COGS 417. Counts as a CAS Global & Cultural Diversity course. Counts as a Human Diversity & Commonality course.

COGS 319. Elements of Surprise. 3 Units.

This course will connect research into the cognitive experiences of surprise and suspense with the ways people can create those experiences for each other—cooperatively and uncooperatively—in everyday interaction and in cultural products like jokes, architecture, music, written narratives, films, and games. Topics include predictions and expectations involved in perceiving and navigating the physical world, cognitive biases, timing in conversation, language processing, attention, perspective-taking, counterfactual thinking, the psychological structure of explanations, and the psychology of "fair play." Offered as COGS 319 and COGS 419. Counts as a Disciplinary Communication course.

COGS 322. Human Learning and the Brain. 3 Units.

This course focuses on the question, "How does my brain learn and how can its learning best be facilitated?" Each student is required to develop a comprehensive theory about personal learning. These theories will take the form of a major paper which will be expanded and modified throughout the semester. Readings and class discussions will focus on the following topics: learning and education systems, major structures of the brain and their role in learning, neuronal wiring of the brain and how learning changes it, the emotional brain and its essential role in learning, language and the brain, the role of images in learning, memory and learning (and related pathologies, such as PTSD). Students are expected to incorporate information on these topics into their personal theory of learning. In so doing, students are expected to articulate meaningful questions, skillfully employ research and apply their own knowledge to address such questions, produce clear, precise academic prose to explicate their ideas, and provide relevant and constructive criticism during class discussions. Offered as BIOL 302 and COGS 322. Counts as a SAGES Departmental Seminar course.

COGS 325. Cognitive Approaches to Literature. 3 Units.

This course approaches literature as a window into language, in which cognition is characterized by the same imaging and imaginary properties as artistic literature. It is an attempt to identify and analyze procedures as aesthetically interesting and generally relevant forms of human thinking, feeling, imagining, fantasizing, and conceptualizing. The course introduces current theories of literature in relation to language and mind, and it presents and discusses practical applications in critical reading and text analysis, using examples from modern literature in the main genres. Recommended preparation: COGS 101 and COGS 202. Offered as COGS 325 and COGS 425.

COGS 327. Gesture in Cognition and Communication. 3 Units.

Most people never notice that when they are talking, they're also gesturing. Why do we produce these gestures? What can studying them tell us about the human mind? This course surveys scientific research on gesture, exploring topics such as the role of gesture in communicating, thinking, cross-cultural differences in gesture, the relationship between gesture and signed languages, and how gesture is represented in the brain. Offered as COGS 327 and COGS 427. Counts as a Disciplinary Communication course. Counts as a SAGES Departmental Seminar course.

COGS 330. Cognition and Computation. 3 Units.

An introduction to (1) theories of the relationship between cognition and computation; (2) computational models of human cognition (e.g. models of decision-making or concept creation); and (3) computational tools for the study of human cognition. All three dimensions involve data science: theories are tested against archives of brain imaging data; models are derived from and tested against datasets of e.g., financial decisions (markets), legal rulings and findings (juries, judges, courts), legislative actions, and healthcare decisions; computational tools aggregate data and operate upon it analytically, for search, recognition, tagging, machine learning, statistical description, and hypothesis testing. Offered as COGS 330, COGS 430, DSCI 330 and DSCI 430.

COGS 331. Introduction to Applied Linguistics. 3 Units.

This course provides students with answers to the question, "Linguistics? What can you do with that?" We will survey the ways that linguistics has been used (i.e. applied) to solve 'real world' problems. Some of these, like computational linguistics and the teaching of language, are intimately involved in language, even though they do not necessarily concern themselves with linguistic theory. Others, such as language and the law, use linguistics as a tool to do their work. We will be concerned with understanding the various ways that linguistic inquiries have been used or neglected, and also with the implications of applied fields for linguistic theories. Offered as LING 309, LING 409, COGS 331 and COGS 431. Counts as a CAS Global & Cultural Diversity course.

COGS 335. Japanese Linguistics. 3 Units.

The purpose of this course is to survey the principal research in Japanese linguistics for students who have basic knowledge of Japanese and are interested in more in-depth treatment of linguistic phenomena (phonetics, phonology, morphology, syntax, semantics, etc.). Lectures and discussions will cover many different aspects of the Japanese language. There is a great deal of analytic studies of the Japanese language done both inside and outside Japan, which will be surveyed in this course. Students will become familiar with the major issues through lectures and class discussions, as well as through their reading of both primary and secondary sources. Both formal and functional approaches to the analysis of Japanese will be examined, and the acquisition of these structures will also be discussed. The course will also be useful for the improvement of students' Japanese language proficiency. Recommended preparation: JAPN 101 and JAPN 102, or equivalent competence in Japanese. Offered as COGS 335, COGS 435, JAPN 435, LING 335 and LING 435. Counts as a CAS Global & Cultural Diversity course.

COGS 343. Music Cognition. 3 Units.

Why do you like the music you like? How does one learn music without direct instruction? How are music and language processing both similar and different? What about music's predictability makes it euphoric? Music operates as a tangled web of biological, cognitive, behavioral, and sociocultural processes that have captivated philosophers, scientists, and artists for centuries. This interdisciplinary course presents a survey and critical review of scholarly literature and methodologies related to the multiple ways of "knowing" music. Specific topics will include: neuroanatomical reactions related to music perception, cognitive organization and processing of music, psychological measures in music research, and enculturated effects on musical interactions. Students will become familiar with multiple bodies of literature in order to explore their own interests in musical processing and produce theories to help solve musical problems based on those interests and develop potential research strategies for future inquiries. Offered as COGS 343 and COGS 443 and MUED 343 and MUED 443 and PSCL 343 and PSCL 443. Counts as a Human Diversity & Commonality course.

COGS 348. Buddhism and Cognitive Science. 3 Units.

In 1987, the Dalai Lama initiated a yearly event—Mind and Life Dialogues—to address "critical issues of modern life at the intersection of scientific and contemplative understanding". Dialogue topics included issues related to Buddhist thought and practice, and cognitive science. Others with an interest in the intersection of Buddhism and cognitive science, such as Robert Wright in *Why Buddhism is True: The Science and Philosophy of Meditation and Enlightenment* (2017), argue that non-supernatural aspects of Buddhism, such as the benefits of mindfulness meditation and the nature of the (non-)self, are affirmed by cognitive science and evolutionary psychology. The notion that at least some aspects of Buddhism are "true" in relation to contemporary cognitive scientific views of mind and brain has attracted considerable attention from both Buddhist practitioners and cognitive scientists. This seminar explores Buddhist and cognitive science perspectives on issues such as embodied cognition, consciousness, mind, self and personal identity, theory of mind, morality, representation, and language. We start with a general overview of Buddhist philosophy, and then turn to specific readings on Buddhist concepts in relation to similar concepts found in the cognitive science literature. For instance, we will explore the Buddhist concept of no permanent self or soul (an-tman). This idea resonates with Daniel Dennett's notion of the "narrative self" and the cognitive neuroscience view that there is no neurological center of self or experience. Although the specific concepts covered will vary in each iteration of this course, readings will always be drawn from both Buddhist primary and secondary readings, and from the cognitive science literature. Offered as COGS 348, COGS 448, RLGN 348 and RLGN 448. Counts as a CAS Global & Cultural Diversity course. Prereq: Completion of one COGS or RLGN course or Requisites Not Met permission.

COGS 377. Ecopsychology: Reconnecting Mind, Body, Community. 3 Units.

Evidence from psychology, biology, ecology, and other disciplines converges around the finding that humans need a close connection to the natural world in order to be psychologically healthy. This course introduces students to a branch of psychology that considers the mind to be fundamentally connected to the planet on which it evolved and exists, Ecopsychology. Ecopsychology's goal is to support the pursuit of ecological justice by transforming people's psychological orientations toward the natural world and the ecological crisis. In this class, we'll consider the relationship between the mechanistic thinking of mainstream cognitive science and historical and ongoing environmental and racial injustice. We'll consider the consequences of disconnection from our planet for our physical, mental, and social health. You will read, write, reflect, and get to know places and people in our community. These class activities will 1) allow you to develop and apply wellness-related knowledge in pursuit of a healthy lifestyle and improved quality of life for yourself and your community, 2) develop civic and societal responsibility and a deeper understanding of communities in Cleveland. Some classes are held outside and off campus. Offered as COGS 377 and COGS 477 and HUMN 377 and HUMN 477. Counts as a Full-Semester Wellness/Non-movement course. Counts as a Local & Global Engagement course.

COGS 378. Computational Neuroscience. 3 Units.

Computer simulations and mathematical analysis of neurons and neural circuits, and the computational properties of nervous systems. Students are taught a range of models for neurons and neural circuits, and are asked to implement and explore the computational and dynamic properties of these models. The course introduces students to dynamical systems theory for the analysis of neurons and neural learning, models of brain systems, and their relationship to artificial and neural networks. Term project required. Students enrolled in MATH 478 will make arrangements with the instructor to attend additional lectures and complete additional assignments addressing mathematical topics related to the course. Recommended preparation: MATH 223 and MATH 224 or BIOL 300 and BIOL 306. Offered as BIOL 378, COGS 378, MATH 378, BIOL 478, CSDS 478, EBME 478, ECSE 478, MATH 478 and NEUR 478.

COGS 390. Signs and Symbols: Semiotics in Cognition, Culture, and Communication. 3 Units.

What is "semiotics"? Greek for "sign," it is the study of meaning as conveyed through types of signs: symbols, pictures, pointing gestures, writing systems, etc. – anything used to construct and communicate meaningful thought and action. The cognitive sciences invariably deal with human meaning-making, and thus, "doing" cognitive science is also a form of "doing" semiotics. The same holds for just about all the social sciences and humanities, and some would argue that all forms of knowledge generation are semiotic. The purpose of this course is to introduce students to the systematic study of signals, signs, and sign systems that give rise to meaning. Students will become familiar with theories and methods in semiotics, learning about sign types and their interactions, as well as competing theories and methods. Offered as COGS 390 and COGS 490.

COGS 391. Introduction to Text Semiotics. 3 Units.

Introduction to Text Semiotics addresses both students of Literature and students in Cognitive Science. Most of the authors included in the reading list extend their linguistic approach towards fields that intersect literature, psychology, philosophy, aesthetics, and anthropology. The scholarly traditions of text analysis and structural theory of meaning, including authors from classical formalism, structuralism, structural semiotics, and new criticism will be connected to cognitive theories of meaning construction in text, discourse, and cultural expressions in general. The focus of this course, taught as a seminar, is on empirical studies, specific text analyses, discourse analyses, speech act analyses, and other studies of speech, writing, and uses of language in cultural contexts. This course thus introduces to a study of literature and cultural expressions based on cognitive science and modern semiotics—the new view that has been coined Cognitive Semiotics. Offered as COGS 391 and WLIT 391.

COGS 397. Capstone in Cognitive Science. 3 Units.

Supervised original research on a topic in cognitive science, culminating in a public presentation and a polished, substantial final capstone paper. The research may be in the form of an independent research project, a literature review, or some other form approved by the department. Students work independently in consultation with their faculty supervisor, who will provide guidance and regularly review their progress. Counts as a Capstone Project course. Counts as a SAGES Senior Capstone course.

COGS 399. Independent Studies in Cognitive Science. 1 - 3 Units.

This course is for students with special interests and commitments that are not fully addressed in regular courses, and who wish to work independently.

COGS 401. Special Topics in Cognitive Science. 3 Units.

Special Topics in Cognitive Science. Topics vary. Offered as COGS 301 and COGS 401.

COGS 405. Social Cognition and the Brain. 3 Units.

Human beings develop intricate means of presenting themselves to others; of representing others as friends, enemies, or strangers; of making quick assessments of any situation based on the attribution of intentions; of sizing up the Other via symbols and other shibboleths; and of the disposition and ability to empathize and sympathize with the emotional states of others for specific purposes. In recent years, the role of culture and cultural diversity has come to play a significant role in thinking about social cognition and the evolution of sociality. It is likewise an unfortunate fact that many human beings lack many of the means, abilities, and dispositions to connect with one another easily and without extensive and explicit tutelage. Such clinical populations (e.g., autistics, schizophrenics, etc.) are of considerable interest because of their promise as a contrastive model of typicality. This course will focus on these aspects of sociality both at the level of the interpersonal and personal (cognitive and phenomenological) and the sub-personal (neuroscientific). By term's end, students in this class will develop a deep understanding of several dimensions of social cognition research and its implications for the next generation of cognitive neuroscience. Each student will articulate a research problem and develop a method for investigating it through independent and collaborative means of practicing their research, critical thinking, writing and communication skills. Offered as COGS 305 and COGS 405. Counts as a Disciplinary Communication course.

COGS 406. Theory of Cognitive Linguistics I. 3 Units.

This course will introduce you to theories and methods that have been developed in cognitive linguistics and usage-based linguistics for the study of grammar, semantics, and their relations to cognition. Through a combination of readings, discussion, and hands-on exploration of puzzling data and problem sets, you will get a solid foundation in the foundational concepts and methodologies of cognitive/usage-based linguistics, and learn how to use cognitive linguistic principles and concepts to analyze new data and examples. Offered as COGS 306 and COGS 406.

COGS 407. Cog Linguistics Theory II. 3 Units.

This is the second course in a two-course sequence presenting theory and practice of cognitive linguistics. Offered as COGS 307 and COGS 407. Counts as a SAGES Departmental Seminar course. Prereq: COGS 406 or consent of instructor.

COGS 408. Advanced Research Workshop I. 3 Units.

This course is an advanced research workshop for undergraduates and MA students. The workshop involves development of research topics (theoretical or empirical), and working on them with the input of other workshop members to produce final papers. Offered as COGS 308 and COGS 408.

COGS 409. Advanced Research Workshop II. 3 Units.

This course is an advanced research workshop for undergraduates and MA students. The workshop involves development of research topics (theoretical or empirical), and working on them with the input of other workshop members to produce final papers. MA students in cognitive linguistics will typically take this course as the second part of a two-part sequence. Offered as COGS 309 and COGS 409.

COGS 411. Mind and Media. 3 Units.

An introduction to the study of mind and media, including the study of multimodal communication. This course investigates patterns of human cognition that are ancient to human beings and upon which media have converged for powerful, immersive effect. The cognitive processes studied include perception, sensation, imagination, joint attention, narrative conception, simulation, dreaming, identity construction, imaginative play, and implicit learning. Students engage in hands-on media analysis to study how basic human mental operations are used in media to achieve a variety of effects. Graduate students will have, beyond the undergraduate program, additional group meetings with the professor, more advanced expectations for the writing assignments and oral presentations, and consultation with the professor about how this course fits into their graduate programs. Offered as COGS 311 and COGS 411. Counts as a Disciplinary Communication course. Counts as a SAGES Departmental Seminar course.

COGS 412. Second Language Acquisition I. 3 Units.

This course is an introduction to the growing field of second language acquisition (SLA). SLA seeks to understand the linguistic, psychological and social processes that underlie the learning and use of second language(s). The goal of research is to identify the principles and processes that govern second language learning and use. SLA is approached from three perspectives in the course: 1) as linguistic knowledge; 2) as a cognitive skill; and 3) as a socially and personality-mediated process. Important factors in second language learning will be identified and discussed. These include: age-related differences, the influence of the first language, the role played by innate (universal) principles, the role of memory processes, attitudes, motivation, personality and cognitive styles, and formal versus naturalistic learning contexts. The objective of this course is to survey the principal research in second language acquisition. Students will become familiar with the major research issues through their reading of both primary and secondary sources, as well as through lectures and class discussions. Offered as COGS 312, COGS 412, LING 301 and LING 401.

COGS 414. Second Language Acquisition II: Second Language Acquisition Research and Second Language Teaching. 3 Units.

This course will examine various issues in second language acquisition research that are particularly relevant to foreign language teaching and learning. Topics covered will include: the role of input (listening/reading) vs. output (speaking/writing); implicit vs. explicit learning; negative vs. positive evidence (including the role of error correction); affective factors (motivation, anxiety); individual differences; teachability hypothesis and syllabus construction, program design/evaluation, language testing, among others. The purpose of this course is to survey the principal research in the acquisition of second language that is relevant to second language teaching in a classroom setting, and to obtain the state-of-the-art knowledge of the SLA research literature that is relevant to L2 teaching. The focus is not necessarily on the practical application of the SLA research, although we will not exclude discussion of classroom application. Rather, we critically examine and evaluate SLA research and come up with our own syntheses with respect to various issues. To achieve this goal, we should ask following questions in reading and discussing the relevant literature: 1) What are the main claims that the author(s) make(s)? 2) Are the author's claims sound? If not why? 3) What further research is needed to answer remaining questions? Students will become familiar with the major research issues through their reading of both primary and secondary sources, as well as through lectures and class discussions. The students are required to complete a term project that addresses the issues treated in the course. Offered as LING 302, LING 402, COGS 314 and COGS 414. Prereq: COGS 401 or requisites not met permission.

COGS 416. Decision-Making. 3 Units.

This course is a topical introduction to decision-making, a major area of cognitive social science, with connections to economics, law, political science, business, policy, artificial intelligence, and related fields. Topics include game theory and rational calculation, equilibria, kinds of choice, heuristics, the role of affect in decision, framing, bounded rationality, mechanisms of choice such as heuristics, the role of social cognition in choice, concepts of self and other, and computer modeling of choice, especially AI systems that model decision-making and AI systems that serve as copilots or even agents in decision-making. The course also includes an introduction to the design of empirical behavioral research and a minor introduction to software for statistical work. Offered as COGS 316 and COGS 416. Counts as a SAGES Departmental Seminar course.

COGS 417. Cognitive Diversity and Commonality. 3 Units.

This course focuses on the ways in which cognition is shaped by experience. We'll consider dimensions such as sex, gender, race/ethnicity, bodily differences, cultural differences, and effects of speaking different languages. Through reading and discussing primary research in the cognitive sciences, we will reflect on how human diversity leads to both differences and parallels in cognition, and how these impact our actions, interactions, perspectives and experiences. Offered as COGS 317 and COGS 417. Counts as a CAS Global & Cultural Diversity course. Counts as a Human Diversity & Commonality course.

COGS 419. Elements of Surprise. 3 Units.

This course will connect research into the cognitive experiences of surprise and suspense with the ways people can create those experiences for each other—cooperatively and uncooperatively—in everyday interaction and in cultural products like jokes, architecture, music, written narratives, films, and games. Topics include predictions and expectations involved in perceiving and navigating the physical world, cognitive biases, timing in conversation, language processing, attention, perspective-taking, counterfactual thinking, the psychological structure of explanations, and the psychology of "fair play." Offered as COGS 319 and COGS 419. Counts as a Disciplinary Communication course.

COGS 425. Cognitive Approaches to Literature. 3 Units.

This course approaches literature as a window into language, in which cognition is characterized by the same imaging and imaginary properties as artistic literature. It is an attempt to identify and analyze procedures as aesthetically interesting and generally relevant forms of human thinking, feeling, imagining, fantasizing, and conceptualizing. The course introduces current theories of literature in relation to language and mind, and it presents and discusses practical applications in critical reading and text analysis, using examples from modern literature in the main genres. Recommended preparation: COGS 101 and COGS 202. Offered as COGS 325 and COGS 425.

COGS 427. Gesture in Cognition and Communication. 3 Units.

Most people never notice that when they are talking, they're also gesturing. Why do we produce these gestures? What can studying them tell us about the human mind? This course surveys scientific research on gesture, exploring topics such as the role of gesture in communicating, thinking, cross-cultural differences in gesture, the relationship between gesture and signed languages, and how gesture is represented in the brain. Offered as COGS 327 and COGS 427. Counts as a Disciplinary Communication course. Counts as a SAGES Departmental Seminar course.

COGS 430. Cognition and Computation. 3 Units.

An introduction to (1) theories of the relationship between cognition and computation; (2) computational models of human cognition (e.g. models of decision-making or concept creation); and (3) computational tools for the study of human cognition. All three dimensions involve data science: theories are tested against archives of brain imaging data; models are derived from and tested against datasets of e.g., financial decisions (markets), legal rulings and findings (juries, judges, courts), legislative actions, and healthcare decisions; computational tools aggregate data and operate upon it analytically, for search, recognition, tagging, machine learning, statistical description, and hypothesis testing. Offered as COGS 330, COGS 430, DSCI 330 and DSCI 430.

COGS 431. Introduction to Applied Linguistics. 3 Units.

This course provides students with answers to the question, "Linguistics? What can you do with that?" We will survey the ways that linguistics has been used (i.e. applied) to solve 'real world' problems. Some of these, like computational linguistics and the teaching of language, are intimately involved in language, even though they do not necessarily concern themselves with linguistic theory. Others, such as language and the law, use linguistics as a tool to do their work. We will be concerned with understanding the various ways that linguistic inquiries have been used or neglected, and also with the implications of applied fields for linguistic theories. Offered as LING 309, LING 409, COGS 331 and COGS 431. Counts as a CAS Global & Cultural Diversity course.

COGS 435. Japanese Linguistics. 3 Units.

The purpose of this course is to survey the principal research in Japanese linguistics for students who have basic knowledge of Japanese and are interested in more in-depth treatment of linguistic phenomena (phonetics, phonology, morphology, syntax, semantics, etc.). Lectures and discussions will cover many different aspects of the Japanese language. There is a great deal of analytic studies of the Japanese language done both inside and outside Japan, which will be surveyed in this course. Students will become familiar with the major issues through lectures and class discussions, as well as through their reading of both primary and secondary sources. Both formal and functional approaches to the analysis of Japanese will be examined, and the acquisition of these structures will also be discussed. The course will also be useful for the improvement of students' Japanese language proficiency. Recommended preparation: JAPN 101 and JAPN 102, or equivalent competence in Japanese. Offered as COGS 335, COGS 435, JAPN 435, LING 335 and LING 435. Counts as a CAS Global & Cultural Diversity course.

COGS 443. Music Cognition. 3 Units.

Why do you like the music you like? How does one learn music without direct instruction? How are music and language processing both similar and different? What about music's predictability makes it euphoric? Music operates as a tangled web of biological, cognitive, behavioral, and sociocultural processes that have captivated philosophers, scientists, and artists for centuries. This interdisciplinary course presents a survey and critical review of scholarly literature and methodologies related to the multiple ways of "knowing" music. Specific topics will include: neuroanatomical reactions related to music perception, cognitive organization and processing of music, psychological measures in music research, and enculturated effects on musical interactions. Students will become familiar with multiple bodies of literature in order to explore their own interests in musical processing and produce theories to help solve musical problems based on those interests and develop potential research strategies for future inquiries. Offered as COGS 343 and COGS 443 and MUED 343 and MUED 443 and PSCL 343 and PSCL 443. Counts as a Human Diversity & Commonality course.

COGS 448. Buddhism and Cognitive Science. 3 Units.

In 1987, the Dalai Lama initiated a yearly event—Mind and Life Dialogues—to address "critical issues of modern life at the intersection of scientific and contemplative understanding". Dialogue topics included issues related to Buddhist thought and practice, and cognitive science. Others with an interest in the intersection of Buddhism and cognitive science, such as Robert Wright in *Why Buddhism is True: The Science and Philosophy of Meditation and Enlightenment* (2017), argue that non-supernatural aspects of Buddhism, such as the benefits of mindfulness meditation and the nature of the (non-)self, are affirmed by cognitive science and evolutionary psychology. The notion that at least some aspects of Buddhism are "true" in relation to contemporary cognitive scientific views of mind and brain has attracted considerable attention from both Buddhist practitioners and cognitive scientists. This seminar explores Buddhist and cognitive science perspectives on issues such as embodied cognition, consciousness, mind, self and personal identity, theory of mind, morality, representation, and language. We start with a general overview of Buddhist philosophy, and then turn to specific readings on Buddhist concepts in relation to similar concepts found in the cognitive science literature. For instance, we will explore the Buddhist concept of no permanent self or soul (an-tman). This idea resonates with Daniel Dennett's notion of the "narrative self" and the cognitive neuroscience view that there is no neurological center of self or experience. Although the specific concepts covered will vary in each iteration of this course, readings will always be drawn from both Buddhist primary and secondary readings, and from the cognitive science literature. Offered as COGS 348, COGS 448, RLGN 348 and RLGN 448. Counts as a CAS Global & Cultural Diversity course. Prereq: Completion of one COGS or RLGN course or Requisites Not Met permission.

COGS 477. Ecopsychology: Reconnecting Mind, Body, Community. 3 Units.

Evidence from psychology, biology, ecology, and other disciplines converges around the finding that humans need a close connection to the natural world in order to be psychologically healthy. This course introduces students to a branch of psychology that considers the mind to be fundamentally connected to the planet on which it evolved and exists, Ecopsychology. Ecopsychology's goal is to support the pursuit of ecological justice by transforming people's psychological orientations toward the natural world and the ecological crisis. In this class, we'll consider the relationship between the mechanistic thinking of mainstream cognitive science and historical and ongoing environmental and racial injustice. We'll consider the consequences of disconnection from our planet for our physical, mental, and social health. You will read, write, reflect, and get to know places and people in our community. These class activities will 1) allow you to develop and apply wellness-related knowledge in pursuit of a healthy lifestyle and improved quality of life for yourself and your community, 2) develop civic and societal responsibility and a deeper understanding of communities in Cleveland. Some classes are held outside and off campus. Offered as COGS 377 and COGS 477 and HUMN 377 and HUMN 477. Counts as a Full-Semester Wellness/Non-movement course. Counts as a Local & Global Engagement course.

COGS 490. Signs and Symbols: Semiotics in Cognition, Culture, and Communication. 3 Units.

What is "semiotics"? Greek for "sign," it is the study of meaning as conveyed through types of signs: symbols, pictures, pointing gestures, writing systems, etc. – anything used to construct and communicate meaningful thought and action. The cognitive sciences invariably deal with human meaning-making, and thus, "doing" cognitive science is also a form of "doing" semiotics. The same holds for just about all the social sciences and humanities, and some would argue that all forms of knowledge generation are semiotic. The purpose of this course is to introduce students to the systematic study of signals, signs, and sign systems that give rise to meaning. Students will become familiar with theories and methods in semiotics, learning about sign types and their interactions, as well as competing theories and methods. Offered as COGS 390 and COGS 490.

COGS 499. Independent Studies. 1 - 3 Units.

This course is a face-to-face seminar between students and instructor, aiming at letting and helping the students independently develop original research on well-defined topics in the field of cognitive linguistics. Themes can vary within the wide area of cognition and culture.

COGS 651. Thesis M.A.. 1 - 6 Units.

Conduct independent research and writing in Cognitive Linguistics under the guidance of a faculty adviser from Cognitive Science. The precise requirements of the course are to be determined by the faculty advisor. Prereq: COGS 406 and COGS 407 and COGS 408. Coreq: COGS 409.