### Spring, 2016 Depth Courses

**Psychology 501 – lec. 2**  
**Cognitive Neuroscience**  
Professor Tim Rogers  

Cognitive science is the study of how minds work; neuroscience is the study of how brains work. This course focuses on how brains give rise to minds. It will include a concise overview of neural anatomy and physiology at macro and micro scales; will consider how large systems of neurons encode and process information; will review state of the art methods for investigating neuro-cognitive function, including brain imaging, recording, stimulation, and computer modeling; and will consider current theories about the neural underpinnings of major elements of cognition, including perception, attention, memory, knowledge, language, action, cognitive control, and consciousness. Pre-requisites include one of Introduction to Cognition, Introduction to Perception, or Introduction to Brain and Behavior.

**Pre-Reqs:** Psych 201, 202, 281 or equiv; and Psych 413 or Psych 414, or Psych 454

**Psychology 501 – lec. 3**  
**Hormones, Brain, and Behavior**  

This course is an introduction to the effects of hormones (endo) on brain (neuro) and behavior in nonhuman and human models. We will discuss topics related to how hormones and the environment interact to influence brain development and ultimately behavior. Additional topics include neuroendocrine control of female and male sexual behavior, epigenetics, sexual orientation, juvenile play behavior, eating disorders, parental behavior, affiliative (pair bonding) and aggressive behavior, communication (bird song), and stress. Overall, this course will emphasize how hormones act in the brain to influence both juvenile and adult social behavior.

**Pre-Reqs:** Completion of the Psych Bio requirement: Zoo 101/102 OR Zoo 151 OR BIOCORE

**Psychology 520**  
**How We Read: Science of Reading and Educational Implications**  
Professor Mark Seidenberg  

Reading is one of the highest achievements of human intelligence, a capacity we share with no other species. This course provides an in-depth introduction to the science of reading, which focuses on the nature of the reading process, how children acquire this skill, the brain bases of reading, and the causes of reading impairments (dyslexia). The class examines how reading works in English but also other languages and writing systems. We also consider the implications of this research for education practices, including the design of reading curricula, what teachers are taught about reading, how reading is taught in schools, and the identification and response to children at risk for reading failure.

**Pre-Reqs:** Intro Psych 201, 202, or 281 and one of the following courses: Psych 406, Psych 413, Psych 414, Psych 560. Students who have completed Psych 402 or 482 are not eligible to enroll for this course
Psychology 521

Structure of Human Thought
Professor Gary Lupyan

This class will take students on a tour of how humans conceptualize the world, focusing on the role of language in thought. We will begin by discussing the evolution of language and proceed to discuss how abilities that humans share with non-human animals (e.g. perception, categorization, memory) are influenced by the learning and use of language. We will discuss the relationship between language, culture, and cognition in domains as varied as mathematics, visual perception, spatial navigation, and theory of mind. In the process, we will tackle questions such as: In what ways does language change what humans can think about? What is the role of language in making us human? Can speaking a particular language allow the speakers to better adapt to their environment? Can we create new languages to improve human thought? We will also address such issues as metaphors in political discourse and propaganda, and the role of information technologies in the spread of ideas. This class will draw heavily on empirical research in cognitive/developmental psychology and neuroscience.

Pre-Reqs: Psych 201, 202, 281, or equiv; and must have completed either Psych 402 OR 413 OR 414 OR 560
Psychology 526 – lec. 1

Criminal Mind; Forensics and Psychobiology Perspectives
Professors Patricia Coffey

Criminal behavior is an extremely common and costly problem for society. The problem reflects diverse origins ranging from constitutional factors, such as psychopathy, to social factors, such as the consequences of living in impoverished neighborhoods. The problem also presents diverse challenges, including the assessment of culpability and the treatment/prevention of criminal behavior. Using a mix of lectures and experiential exercises, this course will cover a range of theoretical, empirical, and applied material and provide a foundation for conceptualizing key issues related to the criminal mind and behavior.

This course will involve a collaborative co-teaching approach. Dr. Newman is actively engaged in significant scientific research in the field and Dr. Coffey is working as a forensic psychologist engaged in the practical applications of psychological science in the criminal justice system. This collaboration will provide students with a strong scientific understanding of the field as well as an understanding of the practical implications of this scientific knowledge. It is our goal for students to complete this course with an in-depth understanding of criminal psychology and the relevant forensic and psychobiological processes in this field. In order to accomplish this goal, we will meet as a large group two times a week for lectures and also provide weekly discussion section meetings. The aim of the discussion sections is to allow for more individual discussion of the lecture material and primary source readings, hands-on experience with assessment materials, and opportunities to debate some of the key issues faced by clinical psychologists, forensic psychologists, and legal scholars.

Pre-Reqs: One of the following courses, Psych 507, Psych 509, Psych 511, Psych 512, or Psych/Soc 530

Psychology 532 –

Psychological Effects of the Internet
Professor Morton Gernsbacher

Google the question, “How is the Internet changing the way we think?,” and you will find no shortage of opinions – or fears. In this course, students will examine empirical evidence for whether the Internet is changing the way we think, communicate, socialize, play, and learn. The course will enroll 96 students, divided into eight learning sections of 12. Students will be expected to read and synthesize original research literature, which will be augmented with readings and videos from the popular press (Wired magazine, Edge, TED talks). Assessment will be based on the quality and timeliness of completing multiple assignments per week, including interactive discussions (conducted asynchronously, through a discussion board, and synchronously, through text-based chat). Therefore, students will be expected to engage with the course multiple times per week. At the end of the course, each student will produce a term project, which can be a research-based essay. There will be no textbooks to buy or timed exams to take. IMPORTANT NOTE: This is a completely online course; STUDENTS ARE REQUIRED TO HAVE DAILY ACCESS TO HIGH-SPEED INTERNET and MUST READ http://go.wisc.edu/kuehca PRIOR to registering for the course.

Pre-Reqs: Psych 201, 202, 281 or equiv; and any Psychology Breadth level course
## Psychology 581 – lec. 1

### HONORS Structure of Human Thought

**Professor Gary Lupyan**

This class will take students on a tour of how humans conceptualize the world, focusing on the role of language in thought. We will begin by discussing the evolution of language and proceed to discuss how abilities that humans share with non-human animals (e.g. perception, categorization, memory) are influenced by the learning and use of language. We will discuss the relationship between language, culture, and cognition in domains as varied as mathematics, visual perception, spatial navigation, and theory of mind. In the process, we will tackle questions such as: In what ways does language change what humans can think about? What is the role of language in making us human? Can speaking a particular language allow the speakers to better adapt to their environment? Can we create new languages to improve human thought? We will also address such issues as metaphors in political discourse and propaganda, and the role of information technologies in the spread of ideas. This class will draw heavily on empirical research in cognitive/developmental psychology and neuroscience.

*Pre-Req*: Psych 201, 202, 281, or equiv; and must have completed either Psych 402 OR 413 OR 414 OR 560

## Psychology 581 – lec. 2

### HONORS Cognitive Neuroscience

**Professor Tim Rogers**

This course explores how infants and children perceive, think about, and interact with the social world. For example: When and how do children come to appreciate the contents of others’ minds? How do early social relationships influence later ones? What are the origins of prejudice and stereotyping? Why do some children act aggressively toward others, and what policies reduce bullying behaviors in school? How do peers and parents contribute to personality development? We will consider these questions and others with an eye toward understanding the mechanisms that underlie various aspects of children’s social development.

We will meet as a large group two times a week for lectures, and break into smaller groups once a week for discussion sections. The goal of lectures is to teach you about questions, theories, and empirical findings in the field of social development. The aim of discussion sections is to provide you with an opportunity to talk about the lecture material, engage with primary sources, and debate “hot topics” in social development.

*Pre-Req*: Intro Psych 201, 202, or 281 & one of the following: Psych 414, Psych 449, Psych 450, Psych 560, Psych 528, or Psych 530.

## Psychology 581 – lec. 3

### HONORS Hormones, Brain, and Behavior

**Professors Anthony Auger and Cathy Marler**

This course is an introduction to the effects of hormones (endo) on brain (neuro) and behavior in nonhuman and human models. We will discuss topics related to how hormones and the environment interact to influence brain development and ultimately behavior. Additional topics include neuroendocrine control of female and male sexual behavior, epigenetics, sexual orientation, juvenile play behavior, eating disorders, parental behavior, affiliative (pair bonding) and aggressive behavior, communication (bird song), and stress. Overall, this course will emphasize how hormones act in the brain to influence both juvenile and adult social behavior.

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