

PSYCH 490.001

Rich Carlson

### **Human Failures: Plans, intentions, errors, and mistakes**

We are constantly carrying out plans to fulfill our goals. But often our actions result in failures. In this course, we will consider theories from cognitive psychology about how we control our actions, and how that control sometimes fails. We apply incorrect rules, we lack the knowledge we think we have, or we have lapses in attention or working memory. We leave out steps or repeat steps, for example, forgetting to put water in the coffee maker, or putting coffee in twice. We walk into the kitchen intending to do something but do something else instead and forget the original intention or find ourselves wondering why we came into the room. Sometimes cognitive errors have major consequences: a pharmacist fills a prescription with the wrong dosage, or a pilot fails to put down the landing gear before landing a plane. We will look at the research on the causes of error and how errors can be reduced. We will focus primarily on individual cognitive failures but will also consider how design and institutional failures can result in errors. It is recommended but not required that students have a prior course in cognitive psychology.

Schedule and assignments are subject to change. All changes will be announced in class and posted on Canvas. There will be mix of lecture and discussion.

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PSYCH 490.002

PSYCH 490.003

Stephen Wilson

### **The Phenomenology and Science of Drug Addiction**

Drug addiction is a fascinating example of behavior gone awry. We do not have to look very hard to find reality shows and news stories chronicling individuals whose lives have been derailed by excessive drug use. Such tragic tales raise a host of important questions. What exactly is drug addiction? Why do people become addicted to drugs in the first place? Is it the result of personal vulnerability, something about the drugs themselves, or both? Why can't people just stop using drugs, especially when the costs are so high? What should society do about addiction? Is an attempt at treatment and rehabilitation the answer, or is some form of punishment more appropriate? The goal of this seminar is to approach questions such as these from two perspectives. From one point of view, we will explore the phenomenology of addiction by turning to some of the compelling personal accounts offered by those who have struggled with drug use. From a broader perspective, we will investigate how psychologists have attempted to develop a better understanding of addiction through research and theory. Along the way, we will think critically about the relationship between the individual experience and scientific explanation of addiction. As this is a seminar course, emphasis will be placed upon discussion of material by the class as a whole. The course also will include presentations by individuals and small groups of students.

PSYCH 490.004

Aaron Pincus

### **Emerging Alternatives to DSM-5**

The Diagnostic and Statistical Manual of Mental Disorders (DSM) is currently the dominant system for classification and diagnosis of psychopathology in the United States, with the 5<sup>th</sup> edition published in 2013. The DSM outlines a categorical model of mental disorders and a polythetic diagnostic system following the medical model of descriptive psychiatry. This capstone seminar will briefly review the empirical and practical limitations of the DSM system for classification and diagnosis of psychopathology and then focus on 3 emerging alternatives. First, the Hierarchical Taxonomy of Psychopathology (HiTOP) is a contemporary quantitative hierarchical dimensional model based on the empirical covariation of signs and symptoms of mental illness. Second, the NIMH Research Domain Criteria (RDoC) investigates the nature of mental health and illness in terms of varying degrees of dysfunction in general psychological, biological, and neurobiological systems. Third, the DSM-5 Alternative Model for Personality Disorders (AMPD) integrates impairments in regulatory and relational personality processes with an empirically derived personality trait structure to classify and diagnose personality pathology and individual differences in its expression. This seminar will be informative for students in psychology and the broader social and health sciences whose research and/or applied interests include psychopathology.

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PSYCH 490.005

Joyce Furfaro

### **Healthy Brain is a Happy Brain**

This capstone seminar will explore current research on maintaining a healthy brain. We will explore ways to cope with stress better, and how to strengthen your neuronal connections through meditation and continued learning. Students will be encouraged to practice healthy brain activities and report their experiences to their classmates. Your critical thinking skills will be tested as we also find and discuss related news items from popular press sources - what do they get right, and what do they get wrong? Some core topics will include cognitive reserve, mindfulness, creativity, and the effects of stress on the brain. This course is best suited for psychology majors who have taken courses relating to the neurobiological aspects of psychology.

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PSYCH 490.007

Roger Beaty

### **The Creative Brain**

This course is designed for students who are interested in the psychology and neuroscience of creativity. It surveys scientific research on a broad range of topics, including the nature and measurement of creative thinking, the right vs. left brain controversy, the roles of memory and attention in creative problem solving, the relationship between creativity and intelligence, and the neural basis of musical improvisation, among others. The course will include diverse examples from the fine arts and humanities (visual art, literature, music), the sciences, and other relevant domains, largely from the perspectives of cognitive psychology and neuroscience.

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PSYCH 490.008  
Stephen Wilson

### **The Phenomenology and Science of Drug Addiction**

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PSYCH 490.009  
Elisabeth Karuza

### **Networks in Cognitive Science**

In this course we will explore the rich history of networks in cognitive science and discuss the recent surge in applying tools from network science to understand the inner workings of the mind. We will focus on two distinct, but related content areas: (1) *the human brain as a network* of regions constantly communicating with one another to support learning, memory, attention, and sensory processing; and (2) *the world around us as a network* of inter-connected elements, and how complex patterns in our environment influence our behavior.

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PSYCH 490.011  
Daniel Weiss

### **What Makes Us Human**

A longstanding effort in science and philosophy has been determining the qualities and abilities that separate humankind from other animal species. Intuitively, we feel that humans must be special; an assertion supported by unrivaled achievements and innovations. Yet, pinpointing the source of our differences has been difficult and contentious. In this course, we will explore many issues that have been thought to separate our species from others, including language, mindreading, self-awareness, and mental time travel, among many others. The course will draw heavily from comparative psychology, exploring whether these characteristics are unique by contrasting our abilities with those found in animals. Further, we will touch on topics related to artificial intelligence and philosophy. The course will be highly interactive, with some lecture interwoven with student-led discussions

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PSYCH 490.012

Michele Diaz

### **Cognitive Aging**

We're all getting older. But what are the effects of aging on the body and mind? What is the difference between "normal" aging and age-related diseases like Alzheimer's or Parkinson's disease? What can we do to age better? Cognitive Aging is the study of how the mind and cognitive abilities change across the lifespan. Cognitive aging is a complex process. Some abilities like vocabulary, comprehension, and general knowledge are stable and even grow throughout adulthood, while others like memory and processing speed may show decline from middle age onwards. In this course, we'll focus on the cognitive changes that happen in adulthood. We'll consider behavioral and neuroscience research, reading from a textbook, as well as primary sources (i.e., journal articles). We will discuss the experimental techniques and the ways in which we can study aging and the brain bases of cognition. We will consider evidence from healthy adults, as well as from patients with neurological diseases such as Alzheimer's disease, Parkinson's disease, amnesia, and stroke.

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PSYCH 490.013

Terri Vescio

### **Gender, Violence, and Trauma**

Given the persistent and striking gender inequalities worldwide, the goal of this seminar is to both elaborate the relation of sexism and the maintenance of the status quo. To fully understand this relation, analysis must occur at varied levels of analysis – intrapersonal, interpersonal, intergroup, and cultural – and considering contributions across discipline. Across psychological theories, masculinity theories, and feminist theories, scholars have examined how people respond to, internalize, and consensually engage in gendered roles and relations defined by culturally valued and idealized notions of gender. In this seminar we will examine quests embody culturally valued forms as facilitated by threats of subtle and open acts of violence. Discussions will focus on what we learn about the importance of gender roles by examining how bad women and bad men are perceived and (mis)treated. To do so we will read popular press materials, social critiques, watch movies, and read empirical articles.