

COGS 298 55: Attention

INSTRUCTOR INFORMATION

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Office Hours: SSM 253A, Wednesdays 2-3 p.m. or by appointment

COURSE DESCRIPTION AND GOALS

This course will explore the concept of attention through various disciplines within cognitive science, including philosophy, psychology, and neuroscience. The course aims to supply students with the skills and knowledge to accurately discuss the latest developments in research on attention.

GRADING PROCEDURES

All students will be expected to turn in a final paper of around twenty pages in the form of a grant proposal by 5 p.m. on May 9th, which will be worth the full grade. The format of this proposal should match the requirements of a chosen grant-funding agency, which should be specified in the proposal. Students may elect to turn in a draft version of the final paper for edits two weeks before the final paper is due.

COURSE SCHEDULE

Jan 22: Foundations of Attention Research I

1. James, W. (1981). *Attention. The Principles of Psychology*. Harvard University Press.

Jan 29: Foundations of Attention Research II

1. Posner, M. I. (1980). Orienting of attention. *The Quarterly Journal of Experimental Psychology*.
2. Yantis, S. (1998). Control of visual attention. In Pashler, H., editor, *Attention*. Psychology Press.

Feb 5: Attention and the Brain I

1. Nobre, A. C. et al. (1997). Functional localization of the system for visuospatial attention using Positron Emission Tomography. *Brain*.
2. Rosen, A. C. et al. (1999). Neural basis of endogenous and exogenous spatial orienting: A functional MRI study. *Journal of Cognitive Neuroscience*.
3. Corbetta, M., and Shulman, G. (2002). Control of goal-directed and stimulus-driven attention in the brain. *Nature Reviews Neuroscience*.
4. Peelen, M. V., Heslenfeld, D. J., and Theeuwes, J. (2004). Endogenous and exogenous attention shifts are mediated by the same large-scale neural network. *Neuroimage*.

Feb 12: Attention and the Brain II

1. Knudsen, E. I. (2007). Fundamental components of attention. *Annual Review of Neuroscience*.
2. Desimone, R. and Duncan, J. (1995). Neural mechanisms of selective visual attention. *Annual Review of Neuroscience*.
3. Gregoriou, G., Gotts, S., Zhou, H., and Desimone, R. (2009). High-frequency, long-range coupling between prefrontal and visual cortex during attention. *Science*.
4. Noudoost, B., and Moore, T. (2011). The role of neuromodulators in selective attention. *TICS*.

Feb 19: Disorders of Attention

1. Bush, G. (2010). "Attention-Deficit/Hyperactivity Disorder and Attention Networks" Neuropsychopharmacology.
2. Cubillo, A. et al. (2011). A review of fronto-striatal and fronto-cortical brain abnormalities in children and adults with Attention Deficit Hyperactivity Disorder (ADHD) and new evidence for dysfunction in adults with ADHD during motivation and attention Cortex.
3. Ogden, J. (2005) Fractured Minds, Chapter 7.
4. Posner, M. and Raichle, M. (1994) Images of Mind, Chapter 7.

Feb 26: Models of Attention

1. Reynolds, J. H. and Heeger, D. J. (2009). The normalization model of attention. Neuron.
2. Spratling, M. W. and Johnson, M. H. (2004). A feedback model of visual attention. Journal of Cognitive Neuroscience.

Mar 5: Attention, Working Memory, and Consciousness

1. Baars, B. J. (1997). Some essential differences between consciousness and attention, perception, and working memory. Consciousness and Cognition.
2. Dehaene, S. and Naccache, L. (2001). Towards a cognitive neuroscience of consciousness: basic evidence and a workspace framework. Cognition.
3. Koch, C. and Tsuchiya, N. (2007). Attention and consciousness: two distinct brain processes. Trends in Cognitive Sciences.

Mar 12: Joint Attention

1. Carpenter, M. et al. (1998) "Social Cognition, Joint Attention, and Communicative Competence from 9 to 15 Months of Age" Monographs of the Society for Research in Child Development.

Mar 19: Cultural Influences on Attention

1. Hedden, T. et al. (2008) "Cultural Influences on Neural Substrates of Attentional Control." Psychological Science.
2. Nisbett, R. et al. (2001) "Culture and Systems of Thought." Psychological Review.

Spring Recess**Apr 2: Attention and Behavior**

1. Allport, D. A. (1992). Attention and control: Have we been asking the wrong questions? A critical review of twenty-five years. Attention and Performance XIV.
2. Schneider, W., and Chein, J. M. (2003). Controlled and automatic processing: behavior, theory, and biological mechanisms. Cognitive Science.

Apr 16: Student Topic

Apr 23 Class Cancelled, Drafts Due on April 25th

Apr 30: Student Topic**May 7: Student Topic****May 9: Final Paper Due**