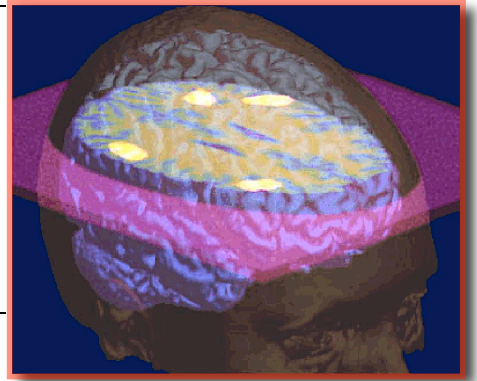


College of Public Health & Health Professions  
Department of Clinical & Health Psychology  
CLP 7934, Section 073D, Cognitive Bases of  
Behavior  
Fall 2014

Thursdays 12:50-3:50, HPNP G316  
Materials at UF Sakai: <http://ls.at.ufl.edu>

(Note: Access by Safari may be problematic; best if accessed  
using Internet Explorer, Firefox, and/or Chrome)



### **Instructor Information**

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Office Hours: By appointment

### **Course Overview or Purpose**

The purpose of this course is to familiarize the student with the current body of knowledge in the cognitive and neuroscientific bases of behavior. Historical developments and recent trends in cognitive psychology, cognitive neuropsychology, and cognitive neuroscience will be reviewed and applications of findings to research in clinical and health psychology will be explored. Coverage of the topical areas described below will emphasize the study of normal cognition, though some review of cognitive and psychological disorders will be undertaken, particularly when relevant findings inform or constrain theories of cognitive processes.

The course will be conducted in the form of a graduate seminar, meaning students are expected to be *active participants*. Class will meet Thursdays from 12:50pm - 3:50pm. The majority of each class will consist of lectures or demonstrations given by the course instructor and/or guest speakers. Three debates/discussions organized and presented by students will be undertaken throughout the term. Students will also present their research proposal ideas for input from the class. Student participation is expected, and will comprise a portion (10%) of the final course grade.

### **Course Objectives and/or Goals**

Upon successful completion of the course should enable the student to: (a) understand and critically evaluate theory and research in cognitive psychology/neuroscience, (b) develop technical and conceptual expertise in evaluating cognitive research methods, (c) apply recent developments in cognitive psychology and neuroscience to their own work, and (d) identify and understand sources of individual differences and diversity in cognitive abilities and processes. Students should also be able to understand the relevance of developments in cognitive psychology/neuroscience for basic and applied work in counseling and clinical psychology, health and human performance, and other health professions fields including rehabilitation science and speech, language and hearing sciences.

## **Course Materials**

The required text for the course is Ward, J. (2010). *The Student's Guide to Cognitive Neuroscience (2<sup>nd</sup> Edition)*. New York: Psychology Press. **Chapters from other books and journal papers will be provided as pdf documents and made available in the course "resources" in Sakai; download by clicking on the link listed under readings for the week of the class.** Lecture notes will be available by noon the day of class will also be available through Sakai (<http://lss.at.ufl.edu>). To access assigned *readings and lectures*, once in Sakai for the course, click "Resource" link and you will see separate folders for "Class Readings (pdf)" and "Class Lectures (pptx)."

## **Text-Related Student Online-Resources**

The publisher provides online resources that can be accessed at <http://psychology-textbooks.com/login/index.php>. Use "*florida1*" as your password when logging into the publisher's site. The student resources available on this site include: interactive exercises, reference links to journal articles, multiple choice and fill-in-the-blank questions for practice, key term definitions, case studies, research activities, and links to related websites. You may find this useful!

## **Course Requirements/Evaluation/Grading**

Course grading will be determined by two take-home exams (20% each), a topical debate (15%), a brief Research Topic Description (5%), a Research Topic Presentation (15%), a Research Proposal (15%) and class participation (10%). The schedule for these events and deadlines for paper submissions can be found in the course plan below.

EXAMINATIONS will consist of both objective and short answer portions covering topics discussed in class and in readings. Study questions *may* be provided periodically during the semester to assist in learning and in exam preparation. Plus, additional study guides can be found on the link to the text-related resources provided above. Examinations will be take-home and distributed via Sakai 1 week prior to due date. **Please return exams by 5PM on the due date listed via email, using the subject heading <Last name>"CBB Exam 1" or <Last name> CBB Final Exam" on the due dates listed by 5PM.**

RESEARCH TOPIC DESCRIPTION will consist of a 1-page single-spaced description of your preliminary ideas for the research presentation and proposal. Though brief, please make it comprehensible enough to express your ideas, including primary aims/questions, significance of the questions, and research approach. That is, please include *what* question(s) you will be addressing, *why* this question(s) is important, and *how* you will address the question(s)—i.e., *what, why, and how*. Knowing that we will not have covered all topical areas by the due date of the research topic description, it is understood that your chosen topic might change as you encounter new course material. Please let me know if you plan to change your topic substantively following this due date so I can provide necessary guidance. **Please send to me by 5PM on **October 16** via email, using the subject heading <Last name>"CBB Research Topic.**

RESEARCH TOPIC DESCRIPTION. Students will submit a 1-page research topic description describing the work to be done in their research proposals (see below). Essentially, what you want to get across in these description is the *What, Why, and How* of your research idea. I will be available after class for students to discuss challenges/questions associated with their research ideas/descriptions before and after its due date. The timing of the presentations in the

schedule is to enable students to incorporate instructor feedback into the final proposals, due December 11.

RESEARCH PROPOSAL assignment is an opportunity for the student to perform further research on a topic of their choice and should be in the form of an “NRSA-style” research proposal (see Parent F31: <http://grants.nih.gov/grants/guide/pa-files/PA-11-111.html>). Proposals should not exceed 6 pages in length (excluding references), using single-spacing and at least an 11-point font with 1” margins. This should include: 1) *Specific Aims*, 2) *Background and Significance*, 3) *Research Design and Methods*, and 4) *Reference sections*. Students will choose an area of interest, pose a specific research question with hypotheses, and describe in the proposal how they would address this question using one or more of the methods and/or cognitive concepts discussed in class. No budget will be required, but students should be mindful of budgetary limitations to keep their proposed project realistic. **Please send to me by 5PM on December 11 via email, using the subject heading <Last name>”CBB Research Proposal.**

DEBATES. Each student will also take part in one of three debates scheduled throughout the semester. In these debates, students are required to advocate a position and support their arguments with theory and/or data. More specific information on the format of the debates will be given at some point during the first three class meetings. Students are expected to participate actively in class sessions, especially the debates, by expressing ideas, asking questions, and discussing relevant issues, readings, and experiences.

Debate format: Students will form 2 groups of 2-4 students each (dependent on class size) and sign up or be assigned after providing their preferences after the 2<sup>nd</sup> week for the affirmative (“pro”) or negative (“con”) side of the debate (e.g., there is/is no emotion without cognition). You will be encouraged to sign up for the opposite of what you believe (where possible). 60 minutes will be allotted for the entire debate; the affirmative group will present for 10-15 minutes, the negative will then present for 10-15 minutes. Each side will then have 5 minutes for rebuttal, then the class will join in for a larger discussion for 15-20 minutes (longer if needed). You will be asked to base your arguments on findings in the literature and to *provide Dr. Perlstein pdfs of the 2-4 references you use outside of those listed under course readings so he can make them available to the class through Sakai by one week in advance of each debate. Please provide pdfs of these readings via email to Dr. Perlstein at least 1 week prior to the date of the debate.* Once received the debate-related pdfs will be placed in resource folders available through Sakai accessible to all students. These readings will be provided also in the updated reading reference list below as they are received. All students will be expected to read all debate-related articles and play an active role in discussion. Preparation for the debates will require group cooperation to compose supporting arguments for your position.

The three debates will be:

*Debate 1: “Functional neuroimaging can (Pro)/cannot (Con) completely replace lesion methods for informing theories of cognition.” Held on 9/25/14*

*Debate 2: “Repressed memories are more likely to represent memory distortions rather than true, unearthed recollections of past experience.” Held on 11/13/14*

*Debate 3: “There is no emotion without cognition (or emotion is not dependent upon cognition).” Pro = Emotion is dependent on cognition (there is no emotion without cognition); Con = Emotion is independent of cognition (Emotion and cognition are independent/there is no emotion without cognition). Held on 12/04/14*

Requirement	Distribution date	Due date	% of final grade
Exam 1 (mid-term)	October 16	October 23	25%
Exam 2 (final)	December 11	December 18	25%

<i>Debate</i>	---	<i>Variable</i>	<i>15%</i>
<i>Research Topic Description Due</i>	---	<i>October 16</i>	<i>5%</i>
<i>Research Proposals Due</i>	---	<i>December 11</i>	<i>20%</i>
<i>Participation</i>	---	---	<i>10%</i>

The grading scale will be as follows: Grades will be weighted according to the number of points available for each component. Decimals will be rounded to the nearest whole number (up or down). Final grades will be calculated as a percentage of the highest score as follows:

<b>% of points earned in class</b>	<b>93%</b> - <b>100%</b>	<b>90%</b> - <b>92%</b>	<b>87%</b> - <b>89%</b>	<b>83%</b> - <b>86%</b>	<b>80%</b> - <b>82%</b>	<b>77%</b> - <b>79%</b>	<b>73%</b> - <b>76%</b>	<b>70%</b> - <b>72%</b>	<b>67%</b> - <b>69%</b>	<b>63%</b> - <b>66%</b>	<b>60%</b> - <b>62%</b>	<b>Below 60%</b>
<b>Letter Grade equivalent</b>	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
<b>GPA equivalent</b>	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:

<http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Incomplete grades: An incomplete grade may be assigned at the discretion of the instructor as an interim grade for a course in which the student has 1) completed a major portion of the course with a passing grade, 2) been unable to complete course requirements prior to the end of the term because of extenuating circumstances, and 3) obtained agreement from the instructor and arranged for resolution (contract) of the incomplete grade. Instructors assign incomplete grades following consultation with Department Chairs.

### Topical Outline

Listed below is a moderately flexible schedule of classes and accompanying reading assignments. Readings as listed are subject to change, no later than two weeks prior to the class date. Students are asked to complete readings prior to class so they can maximally benefit from presentations and to facilitate participation in discussions. I will pop quiz the class if it is detectably lethargic.

<b>Class #</b>	<b>Date</b>	<b>Topic</b>	<b>Reading</b>
1	Aug 28	<ul style="list-style-type: none"> <li>■ <i>Course Orientation</i></li> <li>■ <i>Introduction to Cognitive Psychology &amp; Cognitive Neuroscience</i></li> <li>■ <i>Methods in Cognitive Psychology/Neuroscience &amp; Experimental Neuropsychology (part 1)</i></li> </ul>	Ward—Ch 1, 3 Feinberg & Farah (2005) Perves (2008)—Ch 2 <b>Optional readings:</b> Drew et al. (2013) Perves (2008)—Ch 3 Rorden (2004) Tsay (2013)
2	Sept 4	<ul style="list-style-type: none"> <li>■ <i>Methods in Cognitive</i></li> </ul>	<i>Readings from last week</i>

		<i>Psychology/Neuroscience &amp; Experimental Neuropsychology (part 2)</i>	<i>plus:</i> Ward—Ch 4 Banich (2011)—Ch 3 (pp. 59-88) <b><i>Optional readings:</i></b> Banich (2011)—Ch 4 Luck (2005)—Ch 1 Walsh & Cowey (2000)
3	Sept 11	■ <i>Gross &amp; Functional Anatomy of Cognition</i>	Ward—Ch 2 Banich (2011)—Ch 1 <b><i>Optional readings:</i></b> Banich (2011)—Ch 2 Gazzaniga (2002)—Ch 3
4	Sept 18	■ <i>“The lesion method in cognitive neuropsychology”</i> ■ <i>Principles of Sensory Processing &amp; Encoding</i> ■ <i>Basic Processes in Visual Perception/Cognition</i>	Ward (2010)—Ch 5 Banich (2011)—Ch 3 (pp. 52-59) <b><i>Optional readings:</i></b> Banich (2011)—Chs 1, 2, 6 Gazzaniga (2002)—Chs 3, 5 Perves (2008)—Chs 4 & 5 Pessig & Targ (2007) Quiroga et al. (2005)
5	Sept 25	■ <i>Spatial Cognition &amp; Attention</i>  <b><i>Debate/Discussion I: “Functional neuroimaging can/cannot completely replace lesion methods for informing theories of cognition.” (See description of debate format above.)</i></b>	Ward—Ch 7 Banich (2011)—Ch 11 Rorden & Karmath (2004) <b><i>Debate Readings:</i></b> Burns et al. (2010) Cacioppo et al. (2002) Hellbrun et al. (2001) Mather et al. (2013) Naito et al. (2014) Sarter et al. (1996) Squire (2009) <b><i>Optional readings:</i></b> Knight & Stuss (2002) Knudsen (2007) Posner (2012) Posner & Rothbart (2007) Umiltà (2001)
6	Oct 2	■ <i>Spatial Cognition &amp; Attention (cont.)</i>	Readings from last week: Ward (2010)-Ch 7 Banich (2011)-Ch 11 <b><i>Optional readings:</i></b> Knight & Stuss (2002) Knudsen (2007) Posner (2012) Posner & Rothbart (2007)
7	Oct 9	■ <i>Attention, Effort, Performance &amp; Executive Functions (cont.)</i>	<i>Readings from previous 2 weeks plus:</i>

		<u>Guest Speaker: Dr. Mingzhou Ding (12:50-1:40)</u>	Baddeley (2000) pp. 83-88 (section on working memory) Banich (2011)-Ch 12 Stuss (2011) <b>Optional readings:</b> Cohen et al. (1997) Corbetta & Shulman (2002) Kimberg et al. (2000) Larson et al. (2006) Miller & Cohen (2001) Miyake et al. (2000) Perlstein et al. (2003)
8	Oct 16  <b>Research Topic Description due</b>  <b>Exam 1 Distributed by email through Sakai</b>	<p>■ <i>Language Comprehension &amp; Production</i></p> <p><u>Guest Speakers: Drs. Lori Altmann &amp; Wind Cowles</u></p> <p>Research Topic Description Due. Please email to me by 5PM (use subject heading "&lt;Last Name&gt;-CBB Research Topic")</p> <p>Take-home exam 1 to be distributed by email through Sakai (<b>Due 10/23</b>)</p>	Ward (2010)—Chs 11 & 12 <b>Optional readings:</b> Banich (2011)-Ch 9 Gazzaniga (2002)-Ch 9
9	Oct 23  <b>Exam 1 Due</b>	<p>■ <i>Reasoning, Problem Solving &amp; Decision Making</i></p> <p>Exam 1 Due. Please email to me by 5PM (use subject heading "&lt;Last Name&gt;-CBB Exam 1")</p>	Purves (2008)-Chs 24 & 25 <b>Optional reading:</b> Tsay (2013) Loken (2006) Weber & Johnson (2009)
	Oct 30	No Class— <i>Perlstein out of town</i>	
10	Nov 6	<p>■ <i>Memory</i></p> <p><u>Guest Speaker: Dr. Russell Bauer</u></p>	Ward—Ch 9 Banich (2011)-Ch 10 Baddeley (2000) pp. 77-83  <b>Optional readings:</b> Brown & Craik (2000) Cabeza & St. Jacques (2007) Dodson & Schacter (2001) Johnson (2006) Moscovitch et al. (2006) Parkin (2001) Ryan & Cohen (2003)
12	Nov 13	<u>Debate/Discussion II: "Repressed memories are more likely to represent memory distortions rather than true, unearthed recollections of past experience."</u>	<b>Debate Readings:</b> Axmacher et al. (2010) Clancy et al. (2000) Loftus (1993) Magnussen et al. (2012)



			<p>McNally (2003)  McNally (2013)  Porter et al. (2000)  Alpert et al. (1998)  <b>Also, see the link weblink listed under Debate 2, below.</b></p>
13	Nov 20	<i>Emotion and Social Cognition, Psychopathology</i>	<p>Ward—Ch 15  Dolcos et al. (2011)  Storbeck &amp; Clore (2007)  <b>Optional readings:</b>  Allen et al. (2011)—see <i>entire</i> special issue  Banich (2011)-Ch 13  Banich (2011)-Ch 14  Cacioppo &amp; Gardner (1999)  Duncan &amp; Feldman-Barrett (2007)  Izard (2009)  Levine (2009)  Oschner &amp; Gross (2005)  Perlstein et al. (2002)  Pham (2007)  Phelps &amp; LeDoux (2005)  Taylor et al. (2005)</p>
	Nov 27	<i>No Class—UF Holiday; Thanksgiving</i>	
14	Dec 4	<p><i>Catch up as needed</i>  <u>Debate/Discussion III</u>: “There is no emotion without cognition (or, emotion is not dependent upon cognition).”</p>	<p><b>Debate Readings:</b>  Damasio (1998)  Lai et al (2012)  Zajonc (1984)  Zajonc (1980)  Storbeck &amp; Clore (2007)</p>
	Dec 11	<p><i>No Class – UF “Reading Days”</i></p> <p><b>Exam 2 Distributed by email through Sakai</b></p> <p><b>Research Proposals Due</b></p>	<p><b>**Research Proposals Due** Please email to me by 5PM (use subject heading “&lt;Last Name&gt;-CBB Proposal”)</b></p> <p><i>I will email the final exam to you by 10AM – please email back to me by 5PM on Monday, DEC 18</i></p>
	Dec 18	<p><i>No Class – UF “Finals Week”</i></p> <p><b>Exam 2 Due</b></p>	<p><b>*Take-Home Final Examination Due*</b>; please email to me by 5PM on Dec 9 (use subject heading “&lt;Last Name&gt;-CBB Final exam”)</p>

**Assigned and Optional Readings**

**(Under construction—references will be revised/added as the course progresses). All readings should be completed prior to the class date.**

- Allen, P.A., Lien, M-C, Ruthruff, E. (2011). Cognition and emotion: Neuroscience and behavioral perspectives. *Journal of Cognitive Psychology*, 23(6), 667-668. Recommend you read the entire volume of all relevant papers in this special issue on cognition and emotion.
- Baddeley, A. (2000). Short-term and working memory. In E. Tulving & F.I.M. Craik (Eds.), *The Oxford Handbook of Memory*, pp. 77-92. New York: Oxford University Press.
- Brown, S.C., & Craik, F.M. (2000). Encoding and retrieval of information. In E. Tulving & F.I.M. Craik (Eds.), *The Oxford Handbook of Memory*, pp. 93-107. New York: Oxford University Press.
- Cabeza, R., & St. Jacques, P. (2007). Functional neuroimaging of autobiographical memory. *Trends in Cognitive Neuroscience*, 11(5), 219-227.
- Cacioppo, J.T., & Gardner, W.L. (1999). Emotion. *Ann. Rev. Psychol.*, 50, 191-214.
- Corbetta, M., & Shulman, G.L. (2002). Control of goal-directed and stimulus-driven attention in the brain. *Nature Reviews Neuroscience*, 3, 201-215.
- Cohen, J.D., Perlstein, W.M., Braver, T.S., Nystrom, L.E., Noll, D.C., Jonides, J., & Smith, E.E. (1997). Temporal dynamics of brain activation during a working memory task. *Nature*, 386, 604-608.
- Dodson, C.L., & Schacter, D.L. (2001). Memory distortion. In B. Rapp (Ed.), *The Handbook of Cognitive Neuropsychology: What deficits reveal about the human mind* (pp. 445-461). Baltimore: Johns Hopkins University Press.
- Dolcos, F., Iordan, A.D., & Dolcos, S. (2011). Neural correlates of emotion-cognition interactions: A review of evidence from brain imaging investigations. *Journal of Cognitive Psychology*, 23(6), 669-694.
- Drew, T., Võ, M.L., & Wolfe, J.M. (2013). The invisible gorilla strikes again: Sustained inattentive blindness in expert observers. *Psychological Science* [epub ahead of print].
- Duncan, S., & Feldman-Barrett, L. (2007). Affect is a form of cognition: A neurobiological analysis. *Cognition and Emotion*, 21(6), 1184-1211.
- Eysenck, M.W. (2012). General knowledge. In M.W. Eysenck, *Fundamentals of Cognition* (2<sup>nd</sup> Ed.), Chapter 7, pp. 214-241. NY: Psychology Press.
- Eysenck, M.W., & Keane, M.T. (2005). Concepts and categories. In M.W. Eysenck & M.T. Keane, *Cognitive Psychology: A Student's Handbook* (5<sup>th</sup> Ed.), Chapter 9, pp. 293-313. NY: Psychology Press.
- Eysenck, M.W., & Keane, M.T. (2000). Cognition and emotion. In M.W. Eysenck & M.T. Keane (Eds.), *Cognitive Psychology: A Student's Handbook* (4<sup>th</sup> Ed.), Chapter 18, pp. 489-512. Philadelphia, PA: Psychology Press.



- Feinberg, T.E., & Farah, M.J. (2005). A historical perspective on cognitive neuroscience. In M.J. Farah & T.E. Feinberg (Eds.), *Patient-based approaches to cognitive neuroscience*, 2<sup>nd</sup> Ed., pp. 3-20. Cambridge MA: MIT Press.
- Gazzaniga, M.S., Ivry, R.B., & Mangun, G.R. (2002). *Cognitive Neuroscience: The Biology of the Mind* (2<sup>nd</sup> Edition). NY: W.W. Norton. (selected chapters)
- Goldstone, R.L. & Kersten, A. (2003). Concepts and categorization. In A.F. Healy & R.W. Proctor (Eds.), *Handbook of Psychology, Vol. 4: Experimental Psychology*, pp. 599-621. Hoboken, NJ: John Wiley & Sons.
- Izard, C.E. (2009). Emotion theory and research: Highlights, unanswered questions, and emerging issues. *Ann. Rev. Psychol.*, 60, 1-25.
- Johnson, M.K. (2006). Memory and reality. *American Psychologist*, 61, 760-771.
- Kimberg, D.Y., D'Esposito, M., & Farah, M.J. (2000). Frontal lobes II: Cognitive issues. In M.J. Farah and T.E. Feinberg (Eds.), *Patient-Based Approaches to Cognitive Neuroscience*. (pp. 317-326). MA: MIT Press. (unfortunately I do not have a copy of this pdf that you can print).
- Knight, R.T., & Stuss, D.T. (2002). Prefrontal cortex: The present and future. In *Principles of Frontal Lobe Function*, D.T. Stuss and R.T. Knight (Eds.), New York: Oxford University Press, pp. 573-597.
- Knudsen, E.I. (2007). Fundamental components of attention. *Annual Review of Neuroscience*, 30, 57-78.
- Larson, M.J., Perlstein, W.M., Demery, J.A., & Stigge-Kaufman, D.A. (2006). Cognitive control impairments in traumatic brain injury. *Journal of Clinical and Experimental Neuropsychology*, 28, 968-986.
- Larson, M.J., Perlstein, W.M., Stigge-Kaufman, D., Kelley, K.G., & Dotson, V.M. (2006). Affective context-induced modulation of the error-related negativity. *Neuroreport*, 17, 329-333.
- Lazarus, R.S. (1982). Thoughts on the relations between emotion and cognition. *American Psychologist*, 37, 1019-1024.
- Levine, D.S. (2009). Brain pathways for cognitive-emotional decision making in the human animal. *Neural Networks*, 22, 286-293.
- Loken, B. (2006). Consumer psychology: Categorization, affect, and persuasion. *Annual Review of Psychology*, 57, 453-485.
- Luck, S.J. (2005). *An Introduction to the Event-Related Potential Technique*. Cambridge: MA: MIT Press. (selected chapters)
- Mahon, B.Z., & Caramazza, A. (2009). Concepts and categories: A cognitive neuropsychological perspective. *Annual Review of Psychology*, 60, 27-51.

- Miller, E.K., & Cohen, J.D. (2001). An integrative theory of prefrontal cortex function. *Annual Review of Neuroscience*, 24, 167-202.
- Miyake, A., Friedman, N.P., Emerson, M.J., Witzki, A.H., & Howerter, A. (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology*, 41, 49-100.
- Moscovitch, M., Nadel, L., Winocur, G., Gilboa, A., & Rosenbaum, R.S. (2006). The cognitive neuroscience of remote episodic, semantic, and spatial memory. *Current Opinion in Neurobiology*, 16, 179-190.
- Ochsner, K., & Gross, J.J. (2005). The cognitive control of emotion. *Trends in Cognitive Sciences*, 9(5), 242-249.
- Parkin, A.J. (2001). The structure and mechanisms of memory. In B. Rapp (Ed.), *The Handbook of Cognitive Neuropsychology: What deficits reveal about the human mind* (pp. 445-461). Baltimore: Johns Hopkins University Press.
- Pham, M.T. (2007). Emotion and rationality: A critical review and interpretation of empirical evidence. *Review of General Psychology*, 11(2), 155-178.
- Perlstein, W.M., Cole, M.A., Larson, Kelly, K.G., Seignourel, P., & Keil, A. (2003). Steady-state visual evoked potentials reveal frontally-mediated working memory activity in humans. *Neuroscience Letters*, 342, 191-195.
- Perlstein, W.M., Elbert, T., & V.A. Stenger (2002). Dissociation in human prefrontal cortex of affective influences on working memory-related activity. *PNAS*, 99(3), 1736-1741.
- Phelps, E.A., & LeDoux, J.E. (2005). Contributions of the amygdala to emotion processing: From animal models to human behavior. *Neuron*, 48, 175-187.
- Pessig, J.J., & Tarr, M.J. (2007). Visual object recognition: Do we know more now than we did 20 years ago? *Annual Review of Psychology*, 58, 75-96.
- Posner, M.I. (2012). Imaging attentional networks. *Neuroimage*, 61, 450-456.
- Posner, M.I., & Rothbart, M.K. (2007). Research on attention networks as a model for the integration of psychological science. *Annual Review of Psychology*, 58, 1-23.
- Purves, D., Brannon, E.M., Cabeza, R., Huttel, S.A., LaBar, K.S., Platt, M.L. & Worldorff, M.G. (2008). *Principles of Cognitive Neuroscience*. Sunderland, MA: Sinauer Assoc. (selected chapters)
- Quiroga, R.Q., Reddy, L., Kreiman, G., Koch, C., & Fried, I. (2005). Invariant visual representation by single neurons in the human brain. *Nature*, 435, 1102-1107.
- Rorden, C., & Karnath, H-O. (2004). Using human brain lesions to infer function: A relic from a past era in the fMRI age? *Nature Reviews Neuroscience*, 5, 813-819.

- Ryan, J.D., & Cohen, N.J. (2003). Evaluating the neuropsychological dissociation evidence for multiple memory systems. *Cognitive, Affective, and Behavioral Neuroscience*, 3, 168-185.
- Storbeck, J. & Clore, G.L. (2007). On the interdependence between cognition and emotion. *Cognition and Emotion*, 21, 1212-1237.
- Stuss, D.T. (2011). Functions of the frontal lobes: Relation to executive functions. *Journal of the International Neuropsychological Society*. 17, 1-17.
- Taylor, J.G. & Fragopanagos, N.F. (2005). The interaction of attention and emotion. *Neural Networks*, 18, 353-369.
- Tsay, C-J. (2013). Sight over sound in the judgment of music performance. *PNAS* [epub ahead of print]. <http://www.pnas.org/content/early/2013/08/16/1221454110.full.pdf+html?withds=yes>
- Umiltà, C. (2001). Mechanisms of attention. In Rapp, B. (Ed.), *The Handbook of Cognitive Neuropsychology: What deficits reveal about the human mind*, pp. 135-158. Baltimore: Johns Hopkins University Press.
- Walsh, V., & Cowey, A. (2000). Transcranial magnetic stimulation and cognitive neuroscience. *Nature Reviews: Neuroscience*, 1, 73-79.
- Ward, J. (2010). *The Student's Guide to Cognitive Neuroscience*, 2<sup>nd</sup> Ed. New York: Psychology Press. (selected chapters)
- Weber, E., & Johnson, E.J. (2009). Mindful judgment and decision making. *Annual Review of Psychology*, 60, 53-85.

**Student-provided DEBATE-RELATED READINGS – to be ASSIGNED WITHIN 1 WEEK  
PRIOR TO THE RELEVANT DEBATE CLASS**

**Debate 1 / Sept. 25:** "Functional neuroimaging can/cannot completely replace lesion methods for informing theories of cognition"

**Readings: PRO**

- 1) Heilbrun, M.P., Lee, J.N., & Alvord, L. (2001). Practical application of fMRI for surgical planning. *Stereotactic and Functional Neurosurgery*, 76, 168-174.
- 2) Mather, M., Caccioppo, J.T., & Kanwisher, N. (2013). How fMRI can inform cognitive theories. *Perspectives on Psychological Science*, 8, 108-113.
- 3) Sarter, M., Berntson, G.G., & Cacioppo, J.T. (1996). Brain imaging and cognitive neuroscience: Toward strong inference in attributing function to structure. *American Psychologist*, 51(1), 13-21.

**Readings: CON**

- 1) Burns, M.S., & Fahy, J. (2010). Broca's area: Rethinking classical concepts from a neuroscience perspective. *Topics in Stroke Rehabilitation*, 17(6), 401-410.
- 2) Squire, L.R. (2009). The legacy of Patient H.M. for neuroscience. *Neuron*, 61(1), 6-9.
- 3) Cacioppo, J.T., Berntson, G.G., Lorig, T.S., Norris, C.J., Rickett, E., & Nusbaum, H. (2003). Just because you're imaging the brain doesn't mean you can stop using your

- head: A primer and set of first principles. *Journal of Personality and Social Psychology*, 85(4), 650-661.
- 4) Naito, E., & Hirose, S. (2014). Efficient foot motor control by Neymar's brain. *Frontiers in Human Neuroscience*, 8, 1-7.
  - 5) Naito, E., & Hirose, S. (2014). Functional neuroimaging's Neymar problem. *Discover Magazine blog*:  
<http://blogs.discovermagazine.com/neuroskeptic/2014/07/31/neymar-zombie-footballer/#more-5326>

**Debate 2 / Nov. 13:** "Repressed memories are more likely to represent memory distortions rather than true, unearthed recollections of past experience."

See weblink: [http://www.ted.com/talks/elizabeth\\_loftus\\_the\\_fiction\\_of\\_memory.html](http://www.ted.com/talks/elizabeth_loftus_the_fiction_of_memory.html).

**Readings: PRO**

- 1) Loftus, E.F. (1993). The reality of repressed memories. *American Psychologist*, 48(5), 518-537.
- 2) Axmacher, N., Do Lam, A.T.A., Kessler, H., & Fell, J. (2010). Natural memory beyond the storage model: Repression, trauma, and the construction of a personal past. *Frontiers in Human Neuroscience*, 4, 1-11.
- 3) Clancy, S.A., Schacter, D.L., McNally, R.J., & Pitman, R.K. (2000). False recognition in women reporting recovered memories of sexual abuse. *Psychological Science*, 11 (1), 26-31.
- 4) Magnussen, S., & Melinder, A. (2012). What psychologists know and believe about memory: A survey of practitioners. *Applied Cognitive Psychology*, 26, 54-60.
- 5) McNally, R.J. (2003). Recovering memories of trauma: A view from the laboratory. *Current Directions in Psychological Science*, 12, 32-35.
- 6) McNally, R.J. (2012). Searching for repressed memory. In R.F. Belli (ed.), *True and False Recovered Memories: Toward a Reconciliation of the Debate*. Nebraska Symposium on Motivation, 58, 121-147.
- 7) Porter, S., Birt, A.R., Yuille, J.C., & Lehman, D.R. (2000). Negotiating false memories: Interviewer and rememberer characteristics relate to memory distortion. *Psychological Science*, 11 (6), 507-510.

**Readings: CON**

- 1) Alpert, J.L., Brown, L.S., & Courtois, C.A. (1998). Symptomatic clients and memories of childhood abuse: What the trauma and child sexual abuse literature tells us. *Psychology, Public Policy, and Law*, 4(4), 941-995.

**Debate 3 / Dec. 4:** "There is no emotion without cognition (or, emotion is not dependent upon cognition.)"

**Readings: PRO**

- 1) Damasio, A.R. (1998). Emotion in the perspective of an integrated nervous system. *Brain Research Reviews*, 26, 83-86.
- 2) Storbek, J., & Clore, G.L. (2007). On the interdependence of cognition and emotion. *Cognition & Emotion*, 21(6), 1212-1237.

**Readings: CON**

- 1) Winkielman, P., & Berridge, K.C. (2014). Unconscious emotion. *Current Directions in Psychological Science*, 13(3), 120-123.
- 2) Zajonc, R.B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist*, 35(2), 151-175.
- 3) Zajonc, R.B. (1984). The primacy of affect. *American Psychologist*, 39(2), 117-123.

**Statement of University's Honesty Policy (cheating and use of copyrighted materials)**

## Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity (see Student Conduct Code, the Graduate Student Handbook or these web sites for more details:

<http://www.dso.ufl.edu/sccr/honorcodes/conductcode.php>

<http://www.dso.ufl.edu/studenthandbook/studentrights.php>

<http://gradschool.ufl.edu/students/introduction.html>

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

*We, the members of the University of Florida community,  
pledge to hold ourselves and our peers  
to the highest standards of honesty and integrity.*

On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

***"On my honor, I have neither given nor received unauthorized aid in doing this assignment."***

It is desirable and expected that take home assignments will stimulate conversation among classmates, and that classmates may actually mentor one another in the work. Students are also likely to discuss elements of the assignment with the instructor. **It is expected that submitted work will solely reflect the student's own efforts. Students are expected not to collaborate** in running analyses, writing answers, or interpreting results. The instructor will regularly check for "unusual congruence" in answers, and will discuss concerning instances with students involved. Where collaboration has been found, a zero grade will be assigned. **For further clarification, please see the "Acceptable Collaboration" appendix to this syllabus! Rules will be strictly enforced.**

**Copyright policy** - The University of Florida policy on copyright states: "Copyright permission should not be required of instructors in the following circumstances:

- 1) A single copy of an article, chapter, or poem is on reserve for only *one semester*.
- 2) A reasonable number of copies of an article, chapter, or poem are placed on reserve for only *one semester*. "Reasonable" is determined by an assessment of the number of students assigned the reading, the difficulty of the reading, and the time frame allowed for completion of the reading. This should normally not exceed 6 copies, although up to one copy for every 15 students may be accepted if space is available in the reserve area and the above criteria are met."

Single-use copies, for exclusive use in class, which are not to be further duplicated or distributed, will be made available in Sakai. All articles are also available via the University of

Florida library system, and may be accessed by the student using that portal as well.

### **Policy Related to Class Attendance**

Attendance is expected. Students needing to miss class should make prior arrangements with the instructor. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. *All cell phones must be turned off during class.*

### **Policy Related to Make-up Exams or Other Work**

Students who miss an examination or paper deadline because of a conflicting professional or personal commitment must make prior arrangements with the instructor. If an examination must be missed because of illness, a physician's note not is required. I expect you to attend and be prepared to participate in all class sessions. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis.

### **Accommodations for Students with Disabilities**

If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (<http://www.dso.ufl.edu/>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

### **Counseling and Student Health**

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the UF Counseling & Wellness Center, 352-392-1575. Visit their web site for more information: <http://www.counseling.ufl.edu/>.

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: [www.health.ufl.edu/shcc](http://www.health.ufl.edu/shcc)

Crisis intervention is always available 24/7 from:

Alachua County Crisis Center:

(352) 264-6789

<http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

BUT – Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.