

**CLP 6307 HUMAN HIGHER CORTICAL FUNCTION**  
**Syllabus**

Spring Semester 2016  
Tuesdays, 3:00 – 6:00 PM  
HPNP Building  
Room G-301

**Instructor/Organizer**

Dr. Dawn Bowers, Ph.D., ABPP/cn  
Professor, CHP & Neurology

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**Appointments:** Schedule via email

**Co-Instructors:**

Seema Pandya, Ph.D.  
Neuropsychology Post-doc  
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Shellie- Anne Levy, Ph.D.  
Neuropsychology Post-doc  
[stlevy@php.ufl.edu](mailto:stlevy@php.ufl.edu)

**Class Location:** All classes will be held in the HPNP building, Room G-301. This is on ground floor.

**Assigned Text:** Clinical Neuropsychology, 5<sup>th</sup> edition (2012), K.M. Heilman & E. Valenstein (Eds), Oxford University Press, New York. Note: In the syllabus, this text is referred to as *H&V*.

**General Overview and Purpose**

This course will introduce the student to human brain-behavior relationships and other topics relevant to the biological basis of complex behavior. The course consists of topical lectures given by faculty of the University of Florida Center for Neuropsychological Studies, the Center for Movement Disorders and Neurorestoration, the Brain Research and Rehabilitation Center, and the McKnight Brain Institute. This course is designed to provide a survey of normal and abnormal brain functioning from a systems perspective. Classical syndromes in neuropsychology and behavioral neurology will be presented. Cognitive, sensory, motor, and emotional signs, symptoms, and syndromes that arise from various forms of central nervous system disease will be examined and the functional anatomy underlying complex behavior will be described.

**Course Objectives**

Successful completion of the course should allow students to (a) learn about basic structural and functional systems of the brain; (b) recognize and identify the functional brain systems involved in complex behaviors such as language, memory, spatial ability, and attention; (c) develop the ability to recognize the major signs and symptoms of CNS impairment; and (d) develop an appreciation of the complexity of higher brain functions.

**Course Materials**

The syllabus and assigned readings are available on the class share drive: **S:\CLP 6307 2016 Human Higher Cortical**. Readings will consist of chapters from the assigned text, Clinical Neuropsychology (5<sup>th</sup> edition, 2012) and from other assigned articles/chapters. These *other articles/chapters* will be available electronically in pdf form and located on the class share drive. Make sure that you have a working email address. If your email address changes or you miss the first day of class, it will be your responsibility to contact Dr. Bowers with your desired email address in order to receive notification about changes in course readings.

The content of the course includes assigned readings and lectures by UF Faculty. *If available*, powerpoints will be provided in advance or after the lecture given by a faculty presenter. However, depending on nature of presentation, some faculty may prefer not to share their personal work products and others do not use

powerpoint for teaching purposes. You are responsible for learning the course materials, regardless of whether a handout is available from an individual lecturer.

### **Course Requirements, Evaluation, and Grading**

Enrolled students are expected to attend weekly classes, complete weekly assigned readings **prior to class** and participate in integrative discussions that conclude each class. The exception is class 1. Students will be pre-assigned to lead or co-lead one integrative discussion which will be facilitated by Dr. Bowers and the course co-instructors, Drs. Pandya and Levy. There will be a take home midterm exam (due Monday March 7, 2016) and a final exam (TBD). The midterm will assess knowledge of material discussed through the February 23<sup>rd</sup> class meeting, and the final exam will assess knowledge of material discussed between the midterm and the end of the course. At the beginning of each class will be a weekly quiz that is based on assigned readings for that class.

*Weekly Quizzes based on readings.* A brief 5-10 question quiz will occur at the beginning of each class. Questions are short-answer or multiple choice/true-false and based solely on assigned readings. There will be total of 12 quizzes starting with Class 2 (i.e., Classes 2-13), with students having option of dropping two quizzes of their choice for any reason (i.e., inability to attend class due to traveling, illness, low grade). This will account for 20% of your grade. (i.e., each quiz = 2%).

*Mid-Term and Final Exams:* The midterm and final exams will be a combination of multiple choice, odd-man out, short essays and other types of short-answer formats. The content of these exams is based on lectures, readings, and class discussion.

*Guidelines for Integrative Discussions* - Students will be assigned in groups of 1-2 to lead one of the integrative discussion sessions during the final ½ hour of each class. The group will be responsible for identifying 3 or more key points from the readings and presentations to discuss.

*Extra Credit Opportunities (up to 3% of Final Grade)* There are a variety of excellent multidisciplinary opportunities that students may avail themselves in order to enrich their exposure and provide contemporary context to the topics covered in this course. You are welcome to attend these meeting. You may also receive up to 3% extra credit if you attend *at least 3 different meetings* from any of the list below and write up a brief reaction paper for each meeting you attend (i.e., 3 reaction papers). The reaction paper must be typed and include in the header the date, meeting, presenter, and topic. The body of the paper will be your intellectual reaction to the content of the presentation. It should range in length from 1-2 pages max, single spaced. ***All reaction papers are due on the Tuesday that most immediately follows the particular meeting you attend (i.e., if you attend a CNS meeting on a Friday, then reaction paper is due the following Tuesday by 3:00 PM).*** To receive maximum extra credit, attend up to 3 different meetings below and write up reaction paper as described in this paragraph.

- *Center for Neuropsychological Studies* (Fridays, 1:15-2:30), This weekly meeting is held on the Third Floor Educational Conference Room at the Malcolm Randall Veterans' Administration Medical Center. Because this meeting occurs in a hospital setting, attendees should observe appropriate dress code.
- *Neurology Grand Rounds* (Tuesdays, 11:30 AM – 1:00 pm) This is a weekly meeting held in the Deweese Auditorium of the MBI. Occasionally, these meetings involve a direct interview and presentation of a live patient, and thus attendees dress as if they were seeing patients themselves
- *Movement Disorders Center Weekly Rounds* (Tuesdays 8:00 AM – 9:00 AM): This weekly meeting typically alternates between clinical and research presentations. During clinical presentations, videos of interesting and unique cases are presented. Research meetings vary. It is held in the Deweese Auditorium of the MBI or the 4<sup>th</sup> floor conference room of the CMDNR (located at the Orthopedics Institute).
- *Dementia Case Conference:* (Tuesdays, 1:30-3:00). This meeting is generally held biweekly in the Radiology Conference room on the ground floor of Shands (around the corner from the psychology Clinic). During this meeting, interesting cases with potential dementia or unusual neurocognitive complaints are presented and discussed in an interdisciplinary context (neurology, neuroradiology, neuropsychology).
- *Other.* We will keep you informed about other opportunities.

### Summary of Grading

In summary, the final grade will be determined according to the students' scores on the weekly quizzes (20%), Midterm exam (worth 35% of the total grade), the Final exam (worth 40% of the final grade) and Participation (worth 10% of the final grade) and expressing that average as the percentage of the total possible points. Extra credit, up to 3%, may also be obtained.

Weekly Quizzes (based on readings)	20%
Midterm Exam	30%
Final Exam	40%
Integrative Discussion	10%
<i>Extra Credit</i>	<i>3% max</i>

Scores will be rounded to the nearest percent (rounded up or down, whichever is closest) for grade determination in accordance with the grading table below:

% of points earned	93%- 100%	90%- 92%	87%- 89%	83%- 86%	80%- 82%	77%- 79%	73%- 76%	70%- 72%	67%- 69%	63%- 66%	60%- 62%	Below 60%
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Include the table linking letter grades to grade points, along with the link that accompanies it, as below.

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	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://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

### Policy Related to Class Attendance

Attendance and class participation is **required**. Students are expected to complete assigned readings prior to coming to class. Students needing to miss class for personal or professional reasons should consult with the instructor prior to the date on which they will be unable to attend. It is the student's responsibility to acquire any handouts or notes from a colleague in the class for any sessions missed.

### Policy Related to Cell Phones and Other Media (i.e., roaming internet, checking emails, etc.)

All cell phones and other distracting media are to remain off during the duration of class. Please focus your attention on the class, lectures and class discussion as this makes for more optimal learning. Indeed, there is evidence that multi-tasking during class (i.e., checking emails, roaming the internet, etc.) results in reduced learning and conceptualization and lower grades. Per Dr. Price, there is at least one study showing direct brain-related structural changes (in bad way).

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

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 this web site for more details: [www.dso.ufl.edu/judicial/procedures/academicguide.php](http://www.dso.ufl.edu/judicial/procedures/academicguide.php)). 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.*

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

Students are expected to complete assigned readings prior to coming to class. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. Students must make *prior* arrangements with Dr. Bowers if they must miss any in-class examination, and an alternative test time must be arranged.

### 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://oss.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 University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

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.

*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.*

## Class Schedule

<u>Date</u>	<u>Topic</u>	<u>Speaker</u>	<u>Assigned Readings</u>
<b>January 12: Class 1</b>			
3:00-3:30	Course Introduction	Bowers	<u>Introduction, H&amp;V Chapter 1</u>
3:30-5:30	Functional Neuroanatomy	Bauer	Lezak (2012), Chp 3
<b>January 19: Class 2 Amnesia</b>			
3:00-3:15	Quiz		
3:15-4:15	Animal Models of Memory Loss	Burke	Burke et al, 2014; Hernandez et al, 2015
4:30-4:5:30	The Human Amnesias	Bauer	<b><u>H&amp;V, Chapter 16, Amnesic Disorders;</u></b> Squire, 2009; Smith, 2010; Kim, 2015
5:30-6:00	Discussion: <i>Asken, Chardon</i>		
<b>January 26: Class 3 Agnosia &amp; Neglect</b>			
3:00-3:15	Quiz		
3:15-4:15	Visual Agnosia	Bauer	<b><u>H&amp;V, Chapter 11, Agnosia,</u></b> <b><u>H&amp;V, Chapter 7, Visuospatial Perception</u></b>
4:30-5:30	Hemispatial Neglect	Heilman	<b><u>H&amp;V Chapter 12, Neglect &amp; Related Dis.</u></b>
5:30-6:00	Discussion: <i>Seider, Clark</i>		
<b>February 2:</b>	<b>No Class</b>		
<b>February 9: Class 4 Aphasia</b>			
3:00-3:15	Quiz		
3:15- 4:15	The Classic Aphasias	Bowers	<u>H&amp;V, Chapter 2, Aphasic Syndromes,</u> Bowers handout, utube video
4:30-5:30	Aphasia Treatment Approaches	Garcia	Meinzer et al. (2011)
5:30-6:00	Discussion: <i>Bryant, Lawless</i>		
<b>February 16: Class 5 - Language and Apraxia</b>			
3:00-3:15	Quiz		
3:15-4:15	Semantics, phonology & more	Nadeau	<u>H&amp;V, Chapter 3, Semantics, Phonology;</u> Binder et al., 2009
4:30-5:30	Apraxia- a disorder of tool use	Heilman	<u>H&amp;V, Chapter 10, Apraxia</u>
5:30- 6:00	Discussion: <i>Hizel, Esperza-Duran</i>		
<b>February 23: Class 6- Epilepsy</b>			
3:00-3:15	Quiz		
3:15-4:15	Epilepsy Syndromes	Eisenschenk	Arcardi: Chapter 1-2; Adams (1996)
4:30-5:30	Wada, laterality, and beyond	Mangal/Seider	Jones-Gotman (2010); Hermann (2009); Hamberger (2011), Chelune (1995)
5:30-6:00	Discussion: <i>Sullan, Stromberg</i>		
<b>TAKE HOME EXAM (covers first six classes), Due March 7, 5:00 PM</b>			
<b>March 1:</b>	<b>No Class – Spring Break</b>		
<b>March 8: Class 7 – Alzheimer’s disease: Preclinical, MCI, and Dementia</b>			
3:00-3:15	Quiz		
3:15 -4:15	Alzheimers Disease & Dementia	Wicklund	2011 Dx criteria [Sperling; Albert, McKhan]; MCI- Peterson, 2010; Bondi, 2014; Edmonds, 2015 Querfurth, 2010; Williamson, 2009; Khan; 2014; Cooper, 2014
4:30-5:30	Alzheimer’s Research update	Golde	Golde (2013, 2014)
5:30-6:00	Discussion: <i>Crowley, Kacel, Bailey</i>		
<u>Date</u>	<u>Topic</u>	<u>Speaker</u>	<u>Assigned Readings</u>

**March 15: Class 8 - Frontal Lobe Disorders**

3:00-3:15	Quiz		
3:15-4:15	Frontal Lobe Syndromes: Models & Mechanisms	Pandya & Levy	<u>H&amp;V, Chapter 14, Frontal Lobes</u> , Miller & Cummings (2007) Ch 1 & 2; Fuster (2012); Stuss (2011); Prosje (2009)
4:30-5:30	Creativity & Brain	Heilman	<u>H&amp;V Chapter 18, Creativity</u> ; Heilman (1993)
5:30-6:00	Discussion: <i>Chambers, Ding</i>		

**March 22: Class 9 Frontal Type Dementias**

3:00-3:15	Quiz		
3:15-4:15	The Fronto-Temporal Dementias	Wicklund	Overview from UCSF; Reilly (2010); <i>bvFTD</i> : [Grossman, 2009; Eslinger, 2011; Rascovsky, 2012] <i>PPA</i> : [Bonner, 2010; Gorno-Tempini, 2011]
4:30-5:30	Vascular Dementia & POCD	Price	<i>Vas Dementia/MCI</i> : [Libon, 2004; Seidle, 2011; Vedelho, 2010; Wu & Brickman, 2010; Nyquist, 2012; Jones, 2014;] <i>POCD</i> : [Price, 2014]
5:30-6:00	Discussion: <i>McLaren, Mannes, Henderson</i>		

**March 29: Class 10 Subcortical Disorders**

3:00-3:15	Quiz		
3:15-4:15	Research update	Vaillancourt	Planetta, 2015, Burciu, 2015
4:30-5:30	Parkinson disease & Parkinsonism	McFarland	Troster, 2006; Halliday, 2011; Lang, 2011 <i>CBD</i> : Armstrong, 2013; <i>MSA</i> : Stankovic, 2014; <i>DLB vs PDD</i> : Lippa, 2007; Klein, 2010
5:30-6:00	Discussion: <i>Houck, Crew, Snyder</i>		

**April 5: Class 11 Emotion**

3:00-3:15	Quiz		
3:15-4:15	Emotion & Brain	Bowers	<u>H&amp;V, Chapter 15, Emotional Disorders</u> ; Bowers 2014; Bowers, 1993
4:30-5:30	Neuroimaging updates on depression	Dotson	TBD
5:30-6:00	Discussion: <i>Scott, Diggins, Degener</i>		

**April 12: Class 12 Head Injury/TBI**

3:00-3:15	Quiz		
3:15-4:15	Basics of TBI/head injury	Heaton ?	TBD
4:30-5:30	Current Issues	Jaffe	TBD
5:30-6:00	Discussion: <i>Dunne, Ariel, Maye</i>		

**April 19: Class 13 Neuroplasticity & Neural Change**

3:00-3:15	Quiz		
3:15-4:15	Neuroplasticit	Gonzalez-Roth?	Kleim & Jones (2008); Rodriguez & Gonzalez Rothi (2008); D-Esposito & Chen, 2012; Crosson, 2015
4:30-5:30	Intervention -Compensation	Smith	TBD
5:30-6:00	Discussion: <i>Trifilio, Krietsch</i>		

**FINAL EXAM: April 25-29/ TBD**