

Psychology 320: Cognitive Neuroscience  
Fall 2011

<b>Instructor:</b>	Dr. Sarah Johnson	<b>When:</b>	M/W 10:20-11:30am
<b>Phone:</b>	610-625-7013	<b>Where:</b>	235 PPHAC
<b>Office:</b>	224 PPHAC	<b>Office hours:</b>	M & W 11:30am-1pm, R 2:30-4:00pm, or by appt.
<b>Email:</b>	<a href="mailto:skjohnson@moravian.edu">skjohnson@moravian.edu</a>		
<b>Website:</b>	<a href="http://blackboard.moravian.edu/">http://blackboard.moravian.edu/</a>		
	Pwd: braindead		

**Main Course Objective:** We will learn about how the brain serves as the source for what researchers consider “higher function” (e.g., language, planning, complex aspects of perception and memory, social behavior, etc.). There will be an emphasis on looking at first hand research, particularly involving patients and neuroimaging techniques.

**Specific Course Objectives:**

1. Discuss important theories and findings from cognitive neuroscience, including knowing some of the important researchers in these areas, paradigms employed, and learning the locations and functions of distinct neuroanatomical regions.
2. Understand the bases of neuroscience methodologies, with an emphasis on strengths and weaknesses of each and how they can be used in coordination with other types of research to offer *converging evidence*.
3. Look at how information from the domain of cognitive neuroscience is portrayed in public forums and develop a critical eye toward such information, developing/enhancing your skills at determining credible versus questionable depictions of such information.

**Textbook:** *The Student's Guide to Cognitive Neuroscience*, 2<sup>nd</sup> ed., by Jamie Ward. Additional readings will be journal articles, made available in class or via Blackboard, or researched by you in conjunction with specific assignments. Suggested: *A Colorful Introduction to the Anatomy of the Human Brain*, by Pinel (can be borrowed from me to make copies of select portions).

**Attendance:** Attending class will benefit you for multiple reasons: learning how to learn and think critically, discussion of specific tips for learning particular material, participation in activities designed to promote active learning and integration of info, gaining a better idea of my expectations for assignments or exams. With that said, I hold a liberal attendance policy for this class. You will be given **up to 3 allowed absences**, and starting with the fourth absence, your participation grade (see below) will be reduced by 10 pts for each additional absence—exceptions may be made in cases of emergency, as determined on a case by case basis. Apart from this policy, there are some days on which attendance is required (e.g., debate days).

**Lateness:** A legitimate reason for being late can happen to anyone now and then, but repeated lateness is disrespectful to me and to your classmates. Come see me if you have a legitimate reason for repeated lateness or absence.

**Course Evaluation:** Grades will be based on written assignments, a poster project, and exams.

**1. Participation:** In addition to the attendance policy, you will be graded for your participation each week. An average will be taken across the weeks of the semester to determine your final participation grade. Days when there are class activities, discussions about readings, and other opportunities for participation (e.g., questions/comments when other students presenting) will be weighted more heavily in this average.

- A:** Contributes to class discussion by asking questions or making comments about readings, lectures, or in response to other student's comments/questions. Participates actively in class activities.
- C:** Attentive and engaged but no spontaneous contribution to class activities or discussions, or contribution with evidence of poor preparation. Repeated lateness.
- F:** Shows up but disengaged, inattentive, doesn't participate apart from when directly prompted. Disruptive (e.g., table-dancing) or inconsiderate (e.g., snoring loudly, texting or surfing the net during class) behavior.

**2. Exams:** There will be three exams during the course of the semester, and a fourth exam given during finals period. The format of the exams will be a combination of multiple choice, diagram identification, short answer, and essay. Exams can include questions on the assigned text chapters, handouts, and readings, even if not discussed in lecture. Study guides will be posted on Blackboard as each exam approaches and will include important terms to know for the exam as well as sample exam questions.

**Missed exams:** If you miss an exam and have a *legitimate, documentable* excuse, you can schedule a makeup exam. If your excuse is due to a reason that could not be foreseen, I expect you to contact me *as soon as possible* after the exam. If you know in advance that you will be absent during an exam (e.g., because of travel for a sports team, medical excuse, interview, etc.) then you need to let me know as soon as possible before the exam. You may not take a make-up exam if you skipped the exam without legitimate reason for absence.

**3. In-class Debates:** There will be a group debate project involving presenting empirical evidence to support one side of a debate. The debates will take place in class, but the prep work will take place outside of class. You will be given a reading that presents the nature of the debate (both sides) and from there your group must seek out evidence to support your side.

**4. Converging Evidence Paper:** There will be a paper due mid-term incorporating 6+ primary sources reflecting multiple forms of neuroscience evidence (e.g., electrophysiological techniques, neuroimaging, animal lesion studies, human patient studies, etc.) and exploring a neuropsychological condition. The paper will conclude by proposing an experiment/study employing one particular form of evidence to continue investigating the condition, and giving insight into how different forms of evidence contributed to your proposed study.

**5. Creative Assignment:** This assignment will give you the freedom to select material that interests you and interact with it/incorporated it in a unique way. You will use the text and at least one additional scholarly (experimental) source to complete this assignment. I will give you some examples, but you are encouraged to come up with your own ideas.

**Late policy for assignments:** Late assignments (both debate assignments and other assignments) will be accepted for up to four days after the due date and, unless otherwise noted, will result in **a reduction in points equivalent to one letter grade (10%) for every calendar day late** beginning at 5pm on the day the assignment is due. After the four-day period, a paper will not be accepted and a grade of 0 will be applied. No exceptions will be made for minor technical difficulties (printer or email mishaps), but other circumstances may allow for exceptions as determined by me on a case-by-case basis. **I accept assignments by email only if you have arranged with me to do so for a particular assignment.**

Note that it is within my purview to use qualitative judgment in assigning grades for various components of the course (e.g., homework assignments, exam essays, papers, etc.).

**Grading breakdown:**

Participation	100
Exams (3 @ ~100 pts each)	300
Debate	150
Converging evidence paper	100
Creative assignment	100
Total	750

Unless otherwise noted, I will use the following scale for calculating grades:

Letter	Percentage	Grade range	Letter	Percentage	Grade range
A	100	95-100	C	75	73-76
A-	92	90-94	C-	71	70-72
B+	88	87-89	D+	68	67-69
B	85	83-86	D	65	63-66
B-	81	80-82	D-	61	60-62
C+	78	77-79	F	0	0-59

**Extra credit:** Extra credit opportunities will be made available partway through the semester. However, do come and see me at any point during the semester if you feel you could be doing better than you are. We can work together to improve your performance.

Ultimately it is your responsibility to come and see me if you have any questions/concerns about class or about your performance. I'm always happy to meet with students, so please drop on by!

**Disabilities:** The Americans with Disabilities Act (ADA) provides for some accommodations to be made for students with certain disabilities. If you have such a disability and are willing to disclose it, you may take advantage of such accommodations. In order to do so, you are required to meet with Mr. Joseph Kempfer in the Office of Learning Services. Accommodations cannot be provided until I have received authorization from Mr. Kempfer. You should also consider taking advantage of the Learning Services Office if you are having difficulty academically in this (or any other) class. The office is located at 1307 Main St. (phone: 610-861-1510).

**Plagiarism and cheating:** Any work that you turn in for this class must be entirely your own work. Any sources used must be properly documented, and I will ask you not to use any direct quotes in assignments or papers. For more information on plagiarism and cheating, refer to the Student Handbook and the following website regarding academic responsibility at Moravian College: <http://www.moravian.edu/studentLife/handbook/academic2.htm>. As this site clearly explains, the consequences for cheating or plagiarism can range from failing the assignment to receiving an F for the final course grade to expulsion, depending on the severity of the case and prior history of offenses. Although I am not generally opposed to your discussing assignments with fellow students from the class, all of the work you submit to me must be entirely your own, and in some cases I may ask you not to collaborate with fellow students.

For the group debate project, in which collaboration is an important component, I will ask you to provide an indication of the extent to which each member of the group participated. You will have the opportunity to indicate how work was divided between the group members and whether any group member shouldered an unfairly large or small portion of the work.

I will spend class time discussing ways to avoid plagiarizing, but apart from this it is your responsibility to come see me if you have any questions about your use of sources or when/in what way it is okay to collaborate with other students in the class.

**Class Schedule** (This schedule is tentative. I reserve the right to make announced changes.):

<b>Week:</b>	<b>Class topic/activities:</b>	<b>Text Chs/Assignments:</b>
<b>1</b>	Aug 29 M Course overview	
	Aug 31 W Introduction to the field	Ch. 1
<b>2</b>	Sept 5 M <b>Labor Day – No class</b>	
	Sept 7 W Neurons & signal conduction	Ch. 2
<b>3</b>	Sept 12 M Neuroscience methodology: Electrophysiological methods	Ch. 3
	Sept 14 W Neuroanatomy play-doh lab	
<b>4</b>	Sept 19 M Neuroscience methodology: Imaging methods	Ch. 4
	Sept 21 W Methodology cont'd	Ch. 5 (pp. 81-84 only)
<b>5</b>	Sept 26 M <b>Exam 1</b>	
	Sept 28 W Visual perception	Ch. 6
<b>6</b>	Oct 3 M	Synesthesia articles
	Oct 5 W Spatial processing	Ch. 7

<b>Week:</b>	<b>Class topic/activities:</b>	<b>Text Chs/Assignments:</b>
<b>7</b>		
Oct 10 M	<b>Fall Break – No class</b>	
Oct 12 W	<i>Face module debate</i>	
<b>8</b>		
Oct 17 M	Memory	Ch. 9; Taxi drivers article
Oct 19 W		<i>Face debate write-ups</i>
<b>9</b>		
Oct 24 M	Amnesia in Hollywood	Amnesia article
Oct 26 W	<b>Exam 2</b>	
<b>10</b>		
Oct 31 M	Language	Chs. 11-12
Nov 2 W	<i>Reading disabilities debate</i>	
<b>11</b>		
Nov 7-11	<b>Dr. J out of town (back on Thurs)</b>	<i>Converging evidence paper due Fri by 5pm</i>
<b>12</b>		
Nov 14 M		Sign language article; <i>Reading debate write-ups due</i>
Nov 16 W	Executive function	Ch. 14
<b>13</b>		
Nov 21 M	<i>Adolescent risk taking debate</i>	
Nov 23 W	<b>NO CLASS – Thanksgiving Break</b>	
<b>14</b>		
Nov 28 M	Emotion	Ch. 15; <i>Risk taking debate write-ups due</i>
Nov 30 W	Social/Emotional Brain cont'd	
<b>15</b>		
Dec 5 M	Share creative assignments	Phineas Gage article
Dec 7 W	Share creative assignments	<i>Creative assignments due</i>
Finals Wk	<b>Exam 3</b> Tues. Dec 13 <sup>th</sup> at 8:30am	

Exam 1 – Chs. 1-4 & 5 (pp. 81-84)

Exam 2 – Chs. 6-7, 9 & assigned articles

Exam 3 – Chs. 11-12, 14-15, & assigned articles