

Human Neuropsychology (Psy 449/549)

Spring Term 2012, CRN: 37102; University of Oregon

The Meeting Time:

Tuesday and Thursday (TR), 4:00-5:20pm

142 Straub Hall (STB; [Map](#))

The Instructor:

Dr. Peter Sparks (psparks@uoregon.edu)

Office Hours: MW, 2:30-3:45 (Rm. 326 in Straub)

The Teaching Assistant:

Pablo Morales (pablom@uoregon.edu)

Office hours: By Appointment Only

The Textbook:

Gazzaniga, Ivry, and Mangun (et al.) *Cognitive Neuroscience* (3rd Ed., Norton Publishers)

Welcome to the Human Neuropsychology course! This course is designed to examine the neural structures and systems involved in cognition; that is, the mental systems related to beliefs and knowledge. Therefore, we will be discussing the neural mediation of mental processes such as working memory, long term memory and knowledge structures, thinking and executive processes such as motivational control. In addition we will discuss the neural systems involved in Perception and Attention, as they are related to cognition (so to a lesser extent). If time allows, we may also talk about other related topics such as Creativity, Sense of Self, Other minds, Consciousness and Free will.

To achieve these goals, there are a number of topics which I hope we will cover this term. I emphasize the word "hope" since one can never predict the future. What we do cover depends entirely on the time it takes to cover certain topics, the pace of the lectures and the interest of the students. Also, I am very open to discussing something at the spur of the moment. I envision this 400 level course to be one for students who have a broad and deep knowledge of the topics, and I feel free to cover other topics, as long as we get the basic cognitive topics out of the way. There are many topics that could be covered! Covering all of these topics would be great, but may not happen. Thus, the description of the course presented below could change. The best thing is to simply come to class, and pay attention to the announcements in the Blackboard component of class. **The exam dates will not change.** Therefore, the exams will only concern what material we have covered in class since the last exam. Detailed subject outlines will be handed out at the start of a new topic, which will help you follow along with the lecture and keep track of details such as definitions.

Course Website: (accessed via <http://blackboard.uoregon.edu>) All handouts, homework announcements, grades, copies of lecture power points, lecture worksheets, and other materials, will be posted in Blackboard. Nothing will be handed out in class (on paper) except the exams.

Reading List for Psychology 449/549

Most of the assigned reading will come from our textbook, and these are the chapters assigned below. There may be more assigned readings as the term progresses. These will consist of review articles to supplement or broaden the readings from the chapter, and to cover topics not covered within the text

Subject Matter

Week 1 (April 2-7)

Introduction: Who is Dr. Sparks?
What is this course all about?

Review: Background knowledge about the brain

Book Chapter

Chapters 2 and 3

Week 2 (April 8-14)

Review Continued

Background knowledge about the brain
TechniquesChapters 2 and 3
Chapter 4**Week 3 (April 15-21)****~April 17 Exam 1~**

Sensation and Perception

Chapters 5

Week 4 (April 22-28)

Sensation and Perception Continued

Object Recognition

Chapter 6

Week 5 (April 29 – May 5)

Attention

Chapter 12

~May 3rd Exam 2~**Week 6 (May 6-12)**Learning and Memory
(Emotion?)Chapter 8
Chapter 9**Week 7 (May 13-19)**

Cognitive Control

Chapter 13

Week 8 (May 20-26):**~May 22 Exam 3~**

Thinking, Mindwandering and Creativity

Readings will be posted

Week 9 (May 27-June 2): *Monday is Memorial Day*

Language

Chapter 10

Hemispheric Specialization

Chapter 11

Week 10 (June 3-9)

Social Cognition (Other minds)

Chapter 14

Week 11 (June 10-15)**Finals Week! Your last exam (Exam 4) is [scheduled](#) for Thursday, June 14th at 1pm (note the new time)**

Note: During this time, we will take our 4th exam. It will only cover the material covered after the third exam, and therefore is NOT an all comprehensive exam.

Evaluation

Exams (100pts each)

There will be 4 exams this term. Each exam will be worth 100 pts and cover only $\frac{1}{4}$ of the course; that is, the material presented since the previous exam. I will be aiming at keeping the schedule as described above. If this schedule keeps, then I foresee that the exams will cover material as follows:

Exam 1: Review (Chapters 2, 3 and 4)

Exam 2: Perception, Object Recognition, and Attention (Chapters 5, 6 and 12)

Exam 3: Memory, Cognitive control, and Thinking (Chapters 8, 13 and posted readings)

Exam 4: Language, Hemispheric Specialization and Social Cognition (Chapters 10, 11 and 14)

I reserve the right to add, add to or retract any topic at any time during the course. Thus, what actually will end up on any exam is subject to change. There will be announcements made during the course and on Blackboard to clarify the exam contents within plenty of time for you to study. Also, there will be study guides to help clarify as well. All exams will be composed of multiple choice and short answer questions.

In lecture, we will not have time to cover all of the material in the readings, but I expect you to know the material. The material tested will come MOSTLY from my lectures, though, with items not covered only in your assigned readings being less likely to be tested, but some questions will cover that material. The point is that the book is there to help you and guide you, but come to the classes!!!! Those that come to class will do well, and those that do not, will not do well. On test days, the exam will start promptly at the start of class. You should bring a pencil, but exam answer sheets will be provided. Again, study guides will provide detail on what material will be important to study for the exams.

Paper (44 pts)

In addition to the exams, there will be one paper. For this paper, I want you to find a disagreement in the literature. For any of the topics discussed in this class (or any class) there is always disagreement in the theory or function. To find a disagreement, **first**, choose a topic in the course; it could be a mental process (e.g. attention) or a particular brain area (e.g. the hippocampus or the anterior cingulate). **Second**, find an article which does a good job describing a theory or mechanism for that process (as related to the area of the brain which mediates it) or brain area. Then search for a different author who also describes a theory about the same process or brain area. It will likely be that you will find one author specifically referencing the other author and commenting on their ideas. Jackpot!

Once you find the debate, then write your paper:

- Describe the theory of the first author, and provide some of the evidence he or she uses to support their ideas.
- Describe the theory of the second author, and provide some of the evidence he or she uses to support their ideas.
- Explicitly compare the two theories...and their evidence. What is similar? What are the differences? How are they making their argument: are they using the same evidence or are they looking at different studies to support their ideas?
- What do you think?

The format of the paper is pretty open, but I do have some requirements:

- You need a title page
- The margins need to be 1 inch (all around: you better full justify!!)
- The paper should be at least 7 pages. Anything more than 10 pages could earn you extra credit. The title page and bibliography page are not part of the 7 pages.
- You need to have a bibliography page, which includes at least 4 citations. This will likely be an underestimate: since you will need to discuss the support each theory has for their position, these sources also need to be cited.
- The font size should be no more than 12 point, and the paper should be double-spaced (with no extra spaces between paragraphs)
- With your paper, you also need to turn in a representative paper by each author (a review article).

Since the minimum paper size is 7 pages, this requires more than simply summarizing the positions in a couple of paragraphs and then reflecting on the differences (3 page paper?). I really want you to understand the theory and how the evidence supports an idea. It will require much effort to unpackage, understand, and explain a theory; Do not

feel frustrated or incapable...it is simply hard...as it is for all of us. This is what being a research scientist is all about, and it is important to exercise this skill. So choose something that you find inherently interesting.

The best database search engine is Pubmed (if you didn't know). You can access it through the libraries website and get most of the articles in PDF format (for free). Please ask me for help if needed.

This paper is worth 44 pts (10% of your final grade)

If you are a graduate student:

Your paper needs to be more of a review article. In doing so, I would expect that you would discuss at least 3-4 different theories/ideas about a particular brain area or system. In doing so, I expect your paper to be 15 pages, and you should have at somewhere around 20 citations. All of the other format requirements would be the same. Please come to me about your topic.

Also, I would like you to present your findings to the class in a 15 minute presentation. Please track down your topic within the first week or so. Then we can schedule your presentation to fit in with a related topic. If you choose a topic that is covered early in the term, I won't make you present early in the term. We will fit it in near the end either way.

All homework and papers needs to be typed and turned in during class (i.e. A Hardcopy). Submission via email is not desired, but possible with a dire circumstance (it needs to be in DOC or RFT formats).

Any assignment that has excessive spelling errors or very poor grammar will automatically be deducted points. Use your spell and grammar check. I am not perfect myself in this respect, but frankly the work of some of my past students work has become that bad. Take pride in your work, even for the simple reflective essays.

Extra Credit (10 pts)

While many consider science to be rather dry and uncreative, the reality of people I know in the sciences is that they are often very creative. While they do think about and generate theories and mechanisms, they also engage the brain in a very artistic manner as well. Many neuroscientists are also poets, musicians, sculptors, painters and writers and the focus of their endeavors is the brain. If the brain and what we are learning in the class inspire your artistic side, explore that impulse and follow your muse! If many people wish to do this, then I can try and make time to have a celebrative art show where people can present their creations to the class. (not a speech, but it will be more of a gallery show).

One artistic expression can be turned in for extra credit (10 pts).

Final grade

The final grade will be determined by assessing the number of points that you get out of the total number of points possible (there are 444 points total). It is very likely that the exams will constitute 90% of your grade and the other assignments will make up the rest. Letter grades will be applied as follows:

93-100%= A (4.0)	77-79.99%= C+ (2.3-2.5)	60-62.99%= D- (0.7-0.9)
90-92.99%= A- (3.6-3.9)	73-76.99%= C (2.0-2.2)	59.99%-below= F (0.0-0.6)
87-89.99%= B+ (3.3-3.5)	70-72.99%= C- (1.7-1.9)	
83-86.99%= B (3.0-3.2)	67-69.99%= D+ (1.3-1.6)	
80-82.99%= B- (2.6-2.9)	63-66.99%= D (1.0-1.2)	

A grade less than a 60% will be a failing grade. Do not fail this class. I will try to explain the material to the best that I can, but it is up to you to read the text book and to come to me if there is something that doesn't make sense or that you need help with. I can't help you if I don't know there is a problem. The homework assignments are a good assessment. If you do not recognize or understand the homework, come and see me as soon as possible!!!!!!

Summary of Important dates

It is important to understand that there are many Academic deadlines this term. Be aware of them! While I tend to be pretty flexible is someone wants to withdrawal or change from decimal grading to Pass-No Pass, there are deadlines for such actions. [Click here to see the Academic Schedule](#).

Final points

How to study: Let me give some pointers on how to study for this course. The biggest issue for most students is that they do not understand how much effort it takes to do well. I expect my students to not only understand, but to remember the facts, terms, and concepts presented in this course. My tests are fair, but challenging. It takes a lot of effort to do well in this course. Studying a few hours the night before the exam will not work out so well for you. The main reason for this is simply that we will be covering a lot of information; it is not difficult to understand, but it is a lot. Start studying a week in advance! Organize your notes, compare them with the handouts and the book. Re-write them, it really helps. Outline the chapter, don't just read it. Then when you have stumbled on something which you don't understand, you can ask me and I will explain it to you. I am here solely to help you learn the material. If you start studying ahead of time, you will be able to take advantage of me. This really, REALLY helps. Clearly this advice is very brief. I have created an extended in-depth description of techniques that can be used and have posted it on my website. Please look it over. If you are not doing well, come and talk with me as soon as you can. Take responsibility for your efforts and do not expect the same strategy to lead to a better grade on the next exam. If you are not doing well, change your strategy!!!!!!

Late Work/Make up Policy: Homework and other assignments are due at the beginning of class on the due date. If the work is late, a point will automatically be docked for every day late. In the end, missing an assignment will be devastating to your grade, so turn them in! Because of the essay part of the exam, there will be little flexibility in terms of changing your exam date. You will need to have a fantastic excuse to make up an exam or to postpone an exam. I will be even more resistant to letting people take exams early.

Attendance Policy: Come to class! Your attendance will not affect your final grade directly, but I cannot overemphasize the fact that those who miss class WILL NOT do well. If you miss class, do not simply ask what we covered (and to give an impromptu lecture). I am an absent-minded professor and will not remember exactly what we did. Your job is to get the notes from a classmate, and if you need to, bring them to me and I can explain/go over them with you. You should get to know someone in class and get their phone number in case you miss a class.

Cheating and Plagiarism: Do not do these things. Cheating and Plagiarism are serious offenses and will be dealt with severely! This could mean failing the test or assignment, failing the class or being excused from this college. I have little to no patience with cheating and will deal with the issue with the most severe action at my disposal. It is always better to simply work hard and learn the material. If you are having a problem learning the material, come see me. I have plenty of time to help you. Do not resort to cheating!

Students with Disabilities: If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor as soon as possible. Also, please request that the Counselor for Students with Disabilities (Hillary Gerdes, hgerdes@oregon.uoregon.edu, tel. 346-3211, TTY 346-1083) send a letter verifying your disability.

The GTF: It is fantastic that we have a GTF to help with this course. For the most part, he will be helping with the grading. He does not have a regular office hour, but will set up appointments as needed. Just give him an email. If you have questions about how the exam was graded, then set up an appointment with him first to go over the exam. If you have further questions, please come and see me. Also, it is unlikely that he will be available during the final exam week. So make sure that you talk to him about any issue before that time. Any questions during exam week should be presented to me.

The final exam: The final exam has been scheduled by the university. I am extremely resistant to changing the time for the exam; either giving it early or later. If I even get 4-5 students who are given such leeway, it becomes a logistical nightmare. I will only consider giving someone a different time if their situation is an emergency and unexpected. If you need to leave to go home for the summer early because that is when your ride is leaving, or

because it fits in with your families vacation plans or because you have a doctor's appointment back home, then don't take this course. College is important; treat it as such.

Finally: It is important that you do well and learn the material. So feel free to email me anytime with questions. I understand that many questions will come when you are studying at night. Get on the email or phone and leave a message, I will respond. Also, feel free to catch me after class or before class and ask me anything. I am there to help you learn and understand the material as much as I can. So use me!

Finally, Finally: If you are not doing well on the exams (D or less), you MUST come and see me so that we can talk about changing things so that you do better.

Finally, Finally, Finally: There is plenty of time to discuss your grade for the course, or grades for each assignment or exam during the course. When the course is over, do not email me begging for a re-evaluation. It is not going to happen. While I am flexible (to some extent) during the term and independently for each assignment, I try really hard not to second guess the final grade. That grade is the result of a mathematical formula based on 100's of points which you could have earned. Missing at grade level by a percentage point is painful, but I am unlikely to change it. I know this sounds very...well...fascist of me, but when you have a few hundred students in a term, it is amazing how just a few percent becomes quite a large number of students. Essentially, focus on doing your best on each assignment/exam, and your final grade will take care of itself.