

PSYCH 361 NEUROPSYCHOLOGY

Instructor: Dr. Amanda Price E-mail: pricea@etown.edu
Office: Esbenshade 265E Phone: 361-1271
Office hours: T/Th: 10-12 and by appointment

Required Readings and Film:

- *Texts*
 - Zillmer, E. & Spiers, M. (2001). *Principles of Neuropsychology*. Belmont, CA: Wadsworth /Thompson Learning.
 - Ramachandran, V.S. & Blakeslee, S. (1999). *Phantoms in the Brain: Probing the Mysteries of the Mind*. New York, NY: William Morrow and Company, Inc. [listed as 'Rama' in schedule]
- *On Reserve*
 - Baron-Cohen, S. (1997). *Mindblindness*. (pp.59-84). Cambridge, MA: The MIT Press.
 - Lambert, K. & Kinsley, C. (2005). *Clinical Neuroscience*. (pp.146-183). New York: NY: Worth Publishers.
 - Le Doux, J. (2002). *The Synaptic Self*. (pp. 301-324). New York, NY: Penguin Books.
 - Kandel, E., Schwartz, J. & Jessell, T. (1996). *Essentials of Neural Science*. (pp. 667-694). Stamford: CT: Appleton & Lange.
 - Woodruff-Pak, D. (1997). *The Neuropsychology of Aging* (pp. 86-108; 271-283). Malden, MA: Blackwell Publishers.

Course website: <http://users.etown.edu/p/pricea/neuropsych/home.htm>

- Any pertinent class information will be available on the internet. This includes the class syllabus, a general overview of lecture notes, quizzes, study guides, test answers and grades. Lecture overviews will be available by each night prior to class.

Course objectives:

The guiding force behind this course is the notion that all behaviors, whether adaptive or maladaptive, are grounded in neuropsychological function. This course is designed to be a follow-up for the Introduction to Neuroscience course. In the Introductory course, material is presented according to function (hunger, reproduction; emotion). The present course is designed to build on this information by integrating functions according to the structural and chemical processes supporting them. Further, this understanding of brain function will be elaborated with a discussion of the interaction between brain function and behaviors in healthy and patient populations. Since a major method of studying human brain function is to examine people with specific types of damage, the course will be oriented around particular neurological and psychological disorders. This approach demonstrates the manner in which various neurological mechanisms are themselves interconnected and how they connect with a variety of everyday or abnormal behaviors. The course is designed both to develop students' interest and understanding in the field of neuropsychology and to better prepare interested students for graduate study in this and related fields.

Course Requirements

- *Class participation and homework*
 - Class sessions will consist of lecture, discussion and group activities and I expect active participation from each member of the class. To help facilitate class preparation and participation, students will be provided with a set of questions to consider for each reading.

By preparing answers to these questions you not only prepare yourself for class discussion but will inevitably remember more from your reading.

- Additionally, I may periodically ask you to complete some homework assignment to prepare or follow-up on a particularly complex topic. While these homework assignments will not be specifically graded, your written responses will be collected at random points during the semester and students will be evaluated on a pass/fail basis. As long as you have given some thought to each question you will be assigned credit. Their completion will contribute to your overall participation grade.
 - Participation is worth 20% of your final grade. Your grade will reflect homework completion, attendance, and involvement in class discussion. A willingness to pose questions, either regarding material you didn't understand or issues you disagree with, will also be considered in the final participation grade.
- Patient case studies
- To help facilitate interest and understanding of neuropsychological conditions and methods of assessment, you will complete 3 assignments, over the course of the semester, which center on case studies of neuropsychological patients.
 - For the first assignment, each group will be provided with a particular neuropsychological condition, which they must research and develop into a realistic case study (8-12 pages). Writing as if you are the patient's neurologist, discuss the behavior changes that the patient or his/her family have noticed in the patient's behavior. This should be as thorough as possible to address the complete range of behavior changes that would be expected following your assigned damage. All together, the report should be as complete as possible regarding the changes (major and minor) that the patient is experiencing. To give your patient a bit of individuality, it would be reasonable to state that some specific behavior changes might be expected with this type of damage but that your patient is not necessarily showing them. Or, you could make your patient suffer every possible cognitive dysfunction that could conceivably result from his/her type of damage. This assignment will be graded by me and your group will need to make the changes I have requested because this report will be used for the second part of the assignment.
 - For the second assignment, you will receive a patient case study that another group developed as part of assignment 1. Based on this information and your own research, your group will then determine which neuropsychological tests would be most appropriate to specifically diagnose the damage. In your report, (8-10 pages) you must address at least 5 tests that are appropriate given your new patient's symptoms. In your report you should indicate why you chose these tests, how the patient deviated from normal (if they deviated) and what you can learn from the patient's performance on these tests. This report will reflect both your understanding of the neuropsychological condition under study and the particular neuropsychological measures that you chose. This assignment will be graded by me and your group will need to make the changes I have requested because this report will be used for the second part of the assignment.
 - For the third assignment, you will receive the case study and neuropsychological test results for a 3rd patient. The goal of the 3rd assignment is to develop a presentation for the class that summarizes the findings reported by the previous groups and provides this information in an interesting and creative fashion. Grades for this assignment will reflect the accuracy, completeness, and creativity of the presentation. Each presentation will be roughly 20 minutes.
 - All together, the case study project is worth 20% of your grade.

- Research paper: Controversies in Neuropsychology
 - Currently, the field of neuropsychology is seeing an explosion of research, owing much to the increased sophistication of relevant technology and increased contact between researchers trained in a variety of fields (computer science, clinical psychology, psychiatry, philosophy, neuroscience). Given this dramatic increase in research, it is not surprising that a number of scientific controversies are currently under great debate in the neuroscience area.
 - For your research paper, you will either generate a research question (you must get approval from me) or choose one from a list I have developed. To address this question you will use recent scholarly sources (published within the last 8 years); this includes peer-reviewed journals, scholarly books and websites (I will provide a list of acceptable websites; other websites must be approved before inclusion into your research paper).
 - The focus of your paper is to introduce each side of the debate, present a balanced discussion of the relevant research for then discuss which side you find most compelling and support your argument.
 - Your grade will reflect the accuracy of your research, the degree to which your presentation is balanced and the sophistication of your arguments and writing. The paper is worth 15% of your final grade

- *Exams*
 - Three exams (including the final) will test your knowledge of the information we cover in class and in the readings/film and your ability to critically evaluate related material. A review sheet will be posed on-line at least 1 week in advance of the test.
 - If you will not be in class on the day a test is scheduled, you must let me know at least 3 days in advance in order to schedule a make up time. Without advance notice, tests cannot be made up. Any changes to the test dates will be announced both in class and on the class web site two weeks in advance. Tests can be taken before the official test date if necessary.
 - Each exam is worth 15% of your grade.

General Course Policies

- Active attendance of class is expected. You are responsible for all assignments, announced schedule changes and material that is covered by the lectures, readings and group presentations. I will not be able to discuss all of the assigned reading during class. I will work to cover particularly difficult material but if you have questions on topics I do not cover, feel free to address them in class.
- You are expected to read the assignments prior to class. The schedule of topics below provides a general schedule. The specific reading assignments will be posted on the website to insure you are prepared both for class and the in-class quizzes.
- **Late assignments will not be accepted.** If you will miss class on the day an assignment is due, must turn it in prior to the due date. I will not accept e-mailed assignments unless I have given you special permission (not being able to print a paper is not a reasonable request for special consideration). If you will miss class on the day a test is scheduled, you must notify me at least two days in advance.
- If you have a documented disability and need reasonable accommodations to fully participate in course activities or meet course requirements, you must
 - Contact the Director of Disability Services, Shirley Deichert, in the Center of Student Success, BSC 288, (717) 361-1227, deichesa@etown.edu, AND

- Meet with me, the instructor, within two weeks of receiving a copy of the accommodation letter from Disability Services to discuss your accommodation needs and their implementation.

Schedule of Topics

Class	Topic	Z & S reading	Add'l Reading/Film
T Jan. 18 th	Introduction		
Th Jan. 20 th	History	4-35	
T Jan. 25 th	Macroanatomy	64-79	Rama 1
Th Jan. 27 th		80-109	
T Feb. 1 st	Microanatomy	40-63	
Th Feb. 3 rd	Psychopharmacology		Lambert & Kinsley 149-183
T Feb. 8 th	Methods of investigating the brain	190-223	
Th Feb. 10 th	Neuropsychological assessment	440-446	
T Feb. 15 th		468-491	
Th Feb. 17 th	Exam 1		
T Feb. 22 nd	Learning & neuroplasticity		Kandel et al. pp. 667-694
Th Feb. 24 th	Tactile and chemical sensation	111-119	Rama 2, 3
T Mar. 1 st	Motor processing	148-155	
Th Mar. 3 rd	Visual processing	129-139	Rama 4
T Mar. 15 th			Rama 5 & 6
Th Mar. 17 th	Auditory & language processing	139-148	
T Mar. 22 nd	Memory	157-170	
Th Mar. 24 th	Emotions	184-189	Rama 8, 10
Th Mar. 31 st	Personality		Le Doux, pp. 301-324
T Apr. 5 th	Exam 2		
Th Apr. 7 th	Consciousness	170-184	Rama 11, 12
T Apr. 12 th	Alterations of consciousness	406-435	
Th Apr. 14 th	Development	228-259	
T Apr. 19 th	Learning disability	260-272	
Th Apr. 21 st	Autism	272-282	Baron-Cohen, pp. 59-84
T Apr. 26 th	Normal aging		Woodruff-Pak, 1997 (p. 86-108; 271-283)
Th Apr. 28 th	Alzheimer's	356-381	
T May 3 rd	Parkinson's	382-398	
Th May 5 th			
Exam			