

PSY 355 - Human Brain Function - Spring 2011
 Tuesday & Thursday 9:50 AM - 11:10 AM
 Javits Lecture Hall, Rm. 111
Course Information: <http://blackboard.stonybrook.edu/>

INSTRUCTOR: Dr. Hoi-Chung Leung **OFFICE:** Psych B, Rm. 314
OFFICE HOURS: Tuesday/Thursday 11:20-12:20 p.m. or by appointment.

TAs and Office hours: Franco Amati Tuesday 2-4 p.m., Psych B, Rm. 327.
 Email addresses office hours are on blackboard under Staff Information.

Course Materials: Principles of Cognitive Neuroscience by Purves, Brannon, Cabeza, Huettel, LaBar, Platt and Woldorff
 (Copies of the book & cdrom are placed on reserve in Psych B, rm 120.)
1 package of 3x5 index cards (mandatory).

Course Overview:

Cognitive neuroscience is a rapidly evolving field. The goal of the field is to elucidate how the brain provides a foundation for cognitive processes in humans (and animals). The main focus of this course is on understanding some of the key empirical findings and current theories regarding human brain function. We will first go over some basics on neuroanatomy, cognitive psychology and current approaches/methodologies, and then the following areas: (1) visual perception, (2) learning and memory, (3) emotion and social cognition, and (4) cognitive control. Much of the lectures will be devoted to recent research using functional magnetical resonance imaging (fMRI), transcranial magnetic stimulation (TMS) and electrophysiology recordings to examine brain structures and measure neural activity. The reading load is heavy for this course. Psych 250, Biopsychology is a required prerequisite.

GENERAL TOPIC: **CLASS:** **DATE:** **LECTURE TOPIC:** **READING:**

(NOTE: This schedule is subject to change. Revisions will be announced in class)

I. Introduction to cognitive neuroscience **Chapters 1, 2, 3**

1	Feb. 1	(Course organization and Introduction) The human nervous system
2	Feb. 3	Cognitive terms
3	Feb. 8	Cognitive neuroscience methods and approaches
4	Feb. 10	BOLD & neural activity (Logothetis)
5	Feb. 15 (Tues)	Exam 1

II. Perception and attention **Chapters 4,5,11**

6	Feb. 17	Sensory systems
7	Feb. 22	Perception of visual stimuli
8	Feb. 24	Perception of visual stimuli
9	Mar. 1	Effects of attention on stimulus processing
10	Mar. 3	Effects of attention on stimulus processing
11	Mar. 8 (Tues)	Exam 2

III. Learning and Memory **Chapter 13-16**

12	Mar. 10	Memory at the cellular and systems level
13	Mar. 15	LTM (Medial temporal areas)
14	Mar. 17	LTM (Frontal and parietal areas)
15	Mar. 22	Skill learning (basal ganglia)
16	Mar. 24	Working memory (prefrontal areas)
17	Mar. 29 (Tues)	Exam 3

IV. Executive Control**Chapter 12, 23-24**

18	Mar. 31	Executive control systems
19	Apr. 5	Executive control systems
20	Apr. 7	Attentional control
21	Apr. 12	Decision making
22	Apr. 14 (Thurs)	Exam 4

V. Emotion and Social Cognition**Chapter 17-19**

April 18 – 24	NO CLASS – SPRING BREAK
23 Apr. 26	What is emotion and how to study it?
24 Apr. 28	Emotional influences on cognitive functions
25 May. 3	Perception of social cues
26 May. 5	Understanding the actions and emotions of others
27 May. 10 (Tues)	Exam 5
28 May. 12	TBA

FINALS PERIOD**May 19 (Thursday) 11:15 – 12:50 Final Exam (comprehensive)****EXAMS**

Format: Each EXAM will cover the corresponding section of material. Students are responsible for all material presented in class and for material contained in the assigned readings. *Exams are not cumulative, EXCEPT the final exam.* Each exam will contain about 40 multiple-choice questions. Remember to bring your own pencil.

THERE WILL BE ABSOLUTELY NO MAKE-UP EXAMS

Show up on time for the exams. No one leaves the exam for the first 15 minutes. After the first person that leaves the classroom, no one else will be admitted to take the exam.

Do not cheat and do not take part in any activity resembling cheating. Do not speak to friends or classmates during the exam. Doing so will bring about an automatic 0 score on the exam. Cell phones off at all times.

Grading Criteria

Exams (5 best scores)	200 points
<i>*Class activity</i>	<i>up to 6 extra credit points</i>
TOTAL possible points:	200 points (+ 6 extra credit points)
(* See below for Extra Credit Policies on class activity.)	

GRADING: Your total number of accumulative points will be based on the sum of **FIVE** best exam scores plus extra credit points. Your final grade will be given according to the scale below. If you take all six exams, your poorest exam score will be thrown out. If you take only five or fewer exams, your total exam score will be based on the total points you have earned.

Table for Final Grade:

<u>SUM OF</u>	<u>GRADE:</u>	<u>SUM OF</u>	<u>GRADE:</u>
181 – 200 or higher	A	121 – 130	C
171 – 180	A-	111 – 120	C-
161 – 170	B+	101 – 110	D+
151 – 160	B	91 – 99	D
141 – 150	B-	90 or lower	F
131 – 140	C+		

THE FOLLOWING CLASS POLICIES ARE IN PLACE TO ENSURE FAIRNESS THAT NO STUDENT RECEIVES SPECIAL CONSIDERATION IN DETERMINING THEIR GRADES.

General Comment:

In order to do well in the course, you should attend class regularly, complete the readings carefully, and seek help from the instructor and/or TAs as needed. It is presumed that you will treat your classmates, your teaching assistants, and your instructor with respect and sensitivity at all times. It is hoped that your efforts will pay off and that the course will be an enjoyable and rewarding learning experience for you.

University policy on personal integrity: It is important to know that Stony Brook University expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

Remember to turn off cellular telephones and beepers when you enter the classroom.

University policy on academic integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at

<http://www.stonybrook.edu/uaa/academicjudiciary/>

Attendance:

Regular attendance is highly recommended. You need to be prepared (read the chapter or any other background material) before coming to class. Regular attendance means that you can learn how your instructor interprets the study material, what is important in the field of neuroscience, and how to approach studying neuroscience. Regular attendance also means that we can build a strong intellectual community in the class.

Missing classes and exams:

Obviously, there are times when nearly everyone must miss class for some *ordinary* reason: a cold or headache, a transportation problem (e.g., flat tire, train delay), a pressing deadline in another class, an interview for a job, a missed flight back to campus after Thanksgiving, attending an academic conference. The policy allows for 1 missed exam without penalty. You should do your best, however, not to miss a class or exam even once! (Scholar-athletes or anyone who anticipates missing classes need to inform the instructor within the first week of class.)

IF YOU ANTICIPATE ANY SCHEDULE CONFLICTS FOR THE UPCOMING SEMESTER THAT MIGHT PREVENT YOU FROM REGULARLY ATTENDING CLASS AND EXAMS, PLEASE ANTICIPATE THIS NEGATIVELY IMPACTING ON YOUR GRADE.

Special Needs:

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following web site. <http://studentaffairs.stonybrook.edu/dss/about.shtml>

Specific Class Polices

1. We would be delighted to meet with you in office hours to discuss better ways to prepare for and take the exams, or any other class related issues. However, **we will not discuss anything pertaining to**

grades outside of office hours or through email. Do NOT approach us in the classroom or anywhere else to discuss your performance on an exam or class activity.

2. If you are absent for some *extraordinary* reason (e.g., serious accident or illness), you need to inform the instructor immediately (**within one week**) and provide the appropriate documents (e.g., a signed doctor's note) or any other appropriate explanation in writing of why you missed the class. (**Notices later than a week will not be considered.**) This will be taken into account at the time of final grade assignment, but the ultimate decision to any adjustments rests upon the instructor.

Extra Credit Polices

1. Extra credit points are given based on your participation in class activities. Class activity is in the format of thought questions on the current topic. It will be given randomly throughout the semester during a lecture. You will receive 0.5 points for a good attempt and 1 point for a correct answer. You may receive a maximum of 6 extra credit points for the whole semester. If you participated during a class but have a problem (e.g., forgotten to bring your own index card), inform your instructor/TAs **immediately** at the end of the class. Any other problems about missing class activity have to be reported **within one week**. **Late notices will not be considered and will be disregarded without notification.**
2. The answers should be in full sentences and not exceeding the space of a 3' x 5' index card. It is important that the answers should be your **original** thought. **DO NOT copy or let someone copy your answer. Doing so will bring about a 0 for both parties.** Plagiarism is a serious academic dishonesty. See <http://naples.cc.sunysb.edu/CAS/ajc.nsf/pages/info> for CAS policy and see above for university policy on academic integrity.
3. The class activity may compensate some misfortune in exams. (However, it must never be viewed an opportunity to "earn replacement credits".) It is also to encourage attendance so that you can learn actively during class.
4. Any issues with these extra credits outside of the given time window stated above will be disregarded. There are absolutely NO make-ups and NO adjustments for ANY reason. Any requests of such kind will be not granted and inquiries will be automatically disregarded.
5. With the extra-credit policy in place, any questions regarding adjustments of the final grade due to ordinary reasons will not be considered and such inquiry will be disregarded.

Ancillary Material for the course:

The following materials are not required reading or assignment, but you may find them helpful.

- Study Guide for BIOPSYCHOLGY prepared by Michael Mana
- CDrom accompanied with the text book
- Additional reading materials and links to useful websites can be found on *blackboard* (click on *COURSE DOCUMENTS*). Some of them are very interesting and informative!

Blackboard:

Remember to change your e-mail address on blackboard to the one you actually use.

If you are not familiar with using blackboard, read the following information.

You can access class information on-line at: <http://blackboard.stonybrook.edu>

In order to log into this website, you will need your blackboard user name and password. If you have used Blackboard in the past, your login information (Username and Password) has not changed. If you have never used Stony Brook's Blackboard system, your initial password is your SOLAR ID# and your username is the same as your Stony Brook (sparky) username, which is generally your first initial and the first 7 letters of your last name. *For help or more information see:*

<https://tlt.stonybrook.edu/StudentServices/BbStudents/Pages/default.aspx>

For problems logging in, go to the helpdesk in the Main Library SINC Site or the Union SINC Site, you can also call: 631-632-9602 or e-mail: helpme@stonybrook.edu