

## **Cognitive Neuroscience: NSC/PSY/CGS 4359**

Fall Term 2016

Tuesday & Thursday 11:30 am-12:45 pm

1.202 CR Building

---

### **Professor Contact Information**

Dr. Karen M. Rodrigue, PhD

Email: krodrigue@utdallas.edu

Office: Jonsson Hall 3.308

Phone: (972) 883-3738

Office Hours: Tuesdays by appointment

### **Teaching Assistant Contact Information**

Marci Horn

Email: marci.horn@utdallas.edu

Office: Green Hall 4.608

Office Hours: Thurs 10:00am-11:00am

& by appointment

---

Prerequisites: Introduction to Psychology PSY 2301

---

**Course Description:** In this course we will examine how modern cognitive neuroscientists are exploring the neural underpinnings of basic and higher cognitive functions (including perception, memory, attention, language, and emotion). We will investigate how the brain-bases of these functions are being uncovered by ingenious observation of clinical populations (including brain-damaged and schizophrenic patients), animal and human electrophysiological techniques, and the powerful new tools of functional neuroimaging.

### **Course Objectives:**

- To identify the intellectual underpinnings and history of the concepts of cognitive neuroscience
- To develop a working knowledge of the central nervous system and the basic functions which underlie human behavior
- To understand the behavioral and neuroscientific methods that are applied to the study of cognition and brain function.
- To explain the major theories and models of fundamental cognitive processes and explore current thinking on how such models guide the study of the functioning human brain.

### **Required Materials:**

**Text:** Gazzaniga, M.S., Ivry, R.B., Mangun, G.R. (2013). *Cognitive Neuroscience: The biology of the mind (4<sup>th</sup> Edition)*. NY: W.W. Norton and Co.

**Clicker:** This course will require the use of a clicker. A clicker is an audience response device that resembles a small calculator. This allows you to provide real-time feedback to your instructor during class. Class summary results are displayed graphically, providing students and the instructor a gauge as to how well the class is grasping the material. You can purchase (and sell back) your clicker at the UTD Bookstore.

**Attendance:** Attendance is highly encouraged, as you will be missing out on important information if you do not attend class regularly. You will be responsible for material presented both in class and in the text, so it is in your best interest to attend class. Weekly quizzes will be administered, which require attendance for completion and will help boost your final grade.

**Class Policies:** Be respectful to others: The classroom should be a comfortable environment for everyone. Individuals who disrupt class will be asked to leave. Come to class prepared: Read the material before coming to class and arrive on time.

**Grading Policy:** Grades will be based on your performance across 3 of the 4 exams over the semester. The three highest grades for each student will be averaged to calculate the final grade. Exams will include a combination of multiple choice and short answer questions and will total 100 maximum points. The final exam is not cumulative. Overall class performance will be taken into consideration and if appropriate, exams may be graded on a curve.

### **Grading Scale**

A: 100-90%    B: 89-80%    C: 79-70%    D: 69-60%    F: 59% or below

Final grades that fall at .45 or higher will be rounded up to the next point (e.g., 89.45 = A).

**DO NOT MISS AN EXAM!** In general, make-up exams will NOT be allowed in the class. The purpose of calculating final grades based on the three highest scores is to offset the impact of missed exams due to minor illnesses, scheduling issues, multiple exams on this same day, etc. Make-up exams will only be considered in *truly exceptional* circumstances (e.g., surgery, detainment, funerals, etc.) and verifiable documentation must be presented.

***Faulty Exam Questions:*** Occasionally, we write faulty exam questions. If you encounter such a question, let me know immediately after the exam period. I will consider arguments before grading the exams and, if necessary, throw out the question for everyone. As a regular practice, I conduct item analysis of class performance on all exams and may throw out questions when there is clear evidence of a problem with an exam question.

***Extra Credit.*** Every student has an opportunity to earn extra credit in the class. Bonus points towards final grades can be earned from participation in the in-class quizzes. Over the course of the semester, roughly 10 of the quizzes will be designated as extra credit opportunities. Each quiz will be worth 1 bonus point towards an exam grade. As these are bonus points, they cannot be awarded in the case of absenteeism, regardless of reason. No additional extra credit options will be considered. Please note that these 10 points are applied to your cumulative exam points, not your final grade. Participation in all 10 quizzes over the semester will round up a final class grade approximately 3.3 points, which would be more than sufficient to bump up any student close to a higher letter grade.

## COURSE OUTLINE

<u>Date</u>	<u>Topic</u>
8/23	Overview of Course
8/25	Chapter 1: Historical Perspectives
8/30	Chapter 2: Structure and Function of the Nervous System I
9/1	Chapter 2: Structure and Function of the Nervous System II
9/6	Chapter 3: Methods of Cognitive Neuroscience I
9/8	Chapter 3: Methods of Cognitive Neuroscience II
<b>9/13</b>	<b>Exam 1</b>
9/15	Chapter 4: Hemispheric Specialization I
9/20	Chapter 4: Hemispheric Specialization II
9/22	Chapter 5: Sensation and Perception I
9/27	Chapter 5: Sensation and Perception II
9/29	Chapter 6: Object Recognition I
10/4	Chapter 6: Object Recognition II
10/6	Review Day/Catch-up
<b>10/11</b>	<b>Exam 2</b>
10/13	Chapter 7: Attention and Consciousness I
10/18	Chapter 7: Attention and Consciousness II
10/20	Chapter 8: Action I
10/25	Chapter 9: Memory I
10/27	Chapter 9: Memory II
11/1	Review Day/Catch-up
<b>11/3</b>	<b>Exam 3</b>
11/8	Chapter 10: Emotion I
11/10	Chapter 10: Emotion II
11/15	Chapter 12: Cognitive Control I
11/17	Chapter 12: Cognitive Control II
<b>11/22</b>	<b>No Class: Fall Break</b>
<b>11/24</b>	<b>No Class: Thanksgiving</b>
11/29	Chapter 13: Social Cognition I
12/1	Chapter 13: Social Cognition II
12/6	Review Day/Catch-up

**Exam 4:** Date to be announced in accordance with the UTD exam schedule

### **Sharing Confidential Information**

Students considering sharing personal information in email, in person, or within assignments or exams should be aware that faculty members and teaching/research assistants are required by UT Dallas policy to report information about sexual misconduct to the UT Dallas Title IX Coordinator. Per university policy, faculty have been informed that they must identify the student to the UT Dallas Title IX Coordinator. Students who wish to have confidential discussions of incidents related to sexual harassment or sexual misconduct should contact the Student Counseling Center (972-883-2527 or after hours 972-UTD-TALK or 972-883-8255), the Women's Center (972-883-8255), a health care provider in the Student Health Center (972-883-2747), the clergyperson (or other legally recognized religious advisor) of their choice, or an off-campus resource (i.e., rape crisis center, doctor, psychologist). Students who are sexually assaulted, harassed, or victims of sexual misconduct, domestic violence, or stalking, are encouraged to directly report these incidents to the UT Dallas Police Department at 972-883-2222 or to the Title IX Coordinator at 972-883-2218. Additional information and resources may be found at <http://www.utdallas.edu/oiec/title-ix/resources>.

### **Student Conduct & Discipline**

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UT Dallas online catalogs (<http://catalog.utdallas.edu>).

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the Student Discipline and Conduct, UTDS5003 (<http://policy.utdallas.edu/utdsp5003>). Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SSB 4.400, 972-883-6391) and online at <http://www.utdallas.edu/deanofstudents>.

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

### **Academic Integrity**

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Academic dishonesty can occur in relation to any type of work submitted for academic credit or as a requirement for a class. It can include individual work or a group project. Academic dishonesty includes, plagiarism, cheating, fabrication and collaboration/collusion. In order to avoid academic dishonesty, it is important for students to fully understand the expectations of their professors. This is best accomplished through asking clarifying questions if an individual does not completely understand the requirements of an assignment. Additional information related to academic dishonesty and tips on how to avoid dishonesty may be found here: <http://www.utdallas.edu/deanofstudents/maintain>.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

### **Email Use**

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. All official student email correspondence will be sent only to a student's UT Dallas email address and UT Dallas will only consider email requests originating from an official UT Dallas student email account. This allows the University to maintain a high degree of confidence in the identity of each individual's corresponding via email and the security of the transmitted information. The University of Texas at Dallas furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources provides a method for students to have their UT Dallas mail forwarded to other email accounts. To activate a student UT Dallas computer account and forward email to another account, go to <http://netid.utdallas.edu>.

### **Withdrawal from Class**

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

### **Student Grievance Procedures**

Procedures for student grievances are found in university policy UTDS5005 (<http://policy.utdallas.edu/utdsp5005>).

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student

may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

### **Incomplete Grade Policy**

As per university policy, incomplete grades may be given, at the discretion of the instructor of record for a course, when a student has completed at least 70% of the required course material but cannot complete all requirements by the end of the semester. An incomplete course grade (grade of 'I') must be resolved completed within the time period specified by the instructor, not to exceed eight (8) weeks from the first day of the subsequent long semester. Upon completion of the required work, the symbol 'I' may be converted into a letter grade (A through F). If the grade of Incomplete is not removed by the end of the specified period, it will automatically be changed to F.

### **AccessAbility Services**

It is the policy and practice of The University of Texas at Dallas to make reasonable disability-related accommodations and/or services for students with documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required (see <http://www.utdallas.edu/studentaccess>). If you are eligible to receive disability-related accommodations and/or services and to ensure accommodations will be in place when the academic semester begins, students are encouraged to submit documentation four to six weeks in advance. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion.

The Office of Student AccessAbility provides:

1. Academic accommodations for eligible students with a documented permanent physical, mental or sensory disability
2. Facilitation of non-academic and environmental accommodations and services
3. Resources and referral information, and advocacy support as necessary and appropriate.

OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at 972-883-2098, or by email at [studentaccess@utdallas.edu](mailto:studentaccess@utdallas.edu).

### **Religious Holy Days**

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. Excused students will be allowed to take missed exams or complete assignments within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the President of UT Dallas or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

***The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.***