

Introduction to Biological Psychology (PSY229) / Neuroscience (NEU200)

Fall, 2008 Syllabus, CEDAR CREST COLLEGE

Instructor: Dr. Michael Finley, Sci Ctr 119, mffinley@cedarcrest.edu

Time, place: Tuesday, 7:00 – 9:30 pm (3 credits), Science Center 136
Office Hours: Tuesdays, 6:30 pm – 6:55 PM or by appointment

Prerequisites: PSY 100 or permission of the instructor

Required texts: Neuroscience: Exploring the Brain (3rd ed), Bear et al. 2007; Lippincott, Williams & Wilkins.
In campus bookstore under PSY229

Course Schedule

Date	Tests	Topic	Reading	Assignments and Important Dates
Aug 26		Introduction Neurons and Glia	Ch 1, pp 4-21; Ch 2, pp24-49	
Sept 2	QUIZ 1	Structure of the nervous system; Wiring the brain—neurodevelopment	Ch 7; Ch23	First article provided
Sept 9	QUIZ 2	Language	Ch 20	
Sept 16	QUIZ 3	Emotion Neuronal membrane at rest	Ch 18 Ch 3, 52-59	First article summary due
Sept 23	EXAM 1	Neuronal membrane at rest continued	Ch 3, 59-73	Second article provided
Sept 30	QUIZ 4	Brain function and death	Guest Lecture	
Oct 7	QUIZ 5	Action Potential	Ch 4, 76-100	Second article summary due
Oct 14	QUIZ 6	Somatosensory system and pain	Ch 12, 388-410	Third article provided
Oct 21	QUIZ 7	Spinal and brain control of movement	Ch 13 and Ch14	Fourth article provided
Oct 28	EXAM 2	Sex and the Brain	Ch 17	
Nov 4	QUIZ 8	Synaptic Transmission and Neurotransmitters Circadian Rhythms Brainwaves and Sleep	Ch 5, 102-132; Ch 6, 134-166 Ch 19	Third article summary due
Nov 11	QUIZ 9	Chemical control and Motivation	Ch 15 and Ch 16	
Nov 18	QUIZ 10	Memory systems—guest lecture	Ch 24 and 25	Fourth article summary due
Nov 25		Mental Illness/Neuropathology Course Wrap-up and review	Ch 22	
TBD	FINAL	To be determined		

Course Description

This course is an introduction to the growing and exciting field of neuroscience, which lies at the intersection of biological and psychological science. This broad overview will address topics ranging from the cellular function of neurons to issues of language, cognition and mental illness.

Objectives

The objectives for students in this course are to: Learn the fundamental principles of the anatomy, development, and physiology of the nervous system

- Understand the structure and function of brain systems, including motor and neuroendocrine systems
- Understand neurochemical influences on behavior and sex differences in the brain
- Understand the neural basis of cognitive functions, including language and memory
- Understand several forms of psychiatric and neurological illness
- Learn to interpret experimental approaches and data in neuroscience

Course Outcomes

Upon successful completion of the course, students will:

- Demonstrate the ability to engage in scientific and quantitative reasoning by interpreting and applying the concepts of nervous system function
- Demonstrate the ability to communicate these concepts

Assessment

The outcomes described above will be assessed through:

- Written exams, quizzes, and assignments: scientific / quantitative reasoning, written communication ability
- Discussion and class participation: scientific / quantitative reasoning, oral communication ability, information literacy

Student Responsibilities

Readings: Except for the first week's reading, assigned text readings should be read BEFORE class. Weekly quizzes are intended to encourage this practice. Additional required reading material, including articles for Writing Assignments (see below), will be provided by the instructor.

Psychology Department Attendance Policy: The Psychology Department is committed to the principle that regular and punctual class attendance is essential to the students' optimum learning and successful academic achievement. Regular class attendance is a student obligation, and students are responsible for all work, tests and written assignments. Therefore, students are expected to be present for all class sessions. The Psychology Department's attendance policy recognizes that there will be times when attendance at class is not possible. You may think of the policy as being similar to the type used in the corporate world where each employee is given a certain number of "personal/sick days." Based on the number of regularly scheduled class meetings, you will be allowed a certain number of absences (see below) with no consequences, no questions asked. In other words, there is no distinction between excused and unexcused absences. You are of course responsible for anything covered during those missed classes, and for submitting assignments on time, regardless of whether or not you attend. Beyond the allowable number of absences, there are consequences that will adversely impact your grade, much as missing too many days of

work can adversely impact your employment status. Above all else, you should carefully consider each decision to not attend class, as once your allotted absences have been used, they are gone. *It is important that students arrive for class on time. Late arrivals are very distracting, not only to the instructor, but also to fellow students. Repeated late arrivals are not acceptable and will be addressed on an individual basis.* It is each student's responsibility to understand this policy and to keep track of absences throughout the semester.

Application to this Class: Formal attendance will be taken during all class sessions. This class meets once per week (14 class meetings). As such, you may miss 2 classes without penalty. If you miss 3 classes, your final grade (cumulative percentage of points) will be lowered by 5%. That means that if you have earned 84% of the available points in the class, which is a B grade, you would be lowered to 79%, which is a C+. Likewise, if you have earned 77% of the points available, the penalty would take you down to 72%, which is a C-. As a reminder, a C grade (73%) is required in all Psychology courses. If you miss 4 classes, you will receive a failing grade for the course. If you miss four classes, you have missed approximately 25% of the class meetings.

In addition, there are quizzes almost every week (see below). You are responsible for class material even if you are absent. **CLASS NOTES AND SLIDES WILL NOT BE PROVIDED BY THE INSTRUCTOR**, although occasional handouts will be distributed. If you miss an exam due to illness or emergency documented by the Dean of Students, you must contact the instructor as soon as possible to arrange a make-up exam. Make-up exams will not be given for any other reason. Quizzes cannot be made up, and a missed quiz will count for zero points. However, the lowest two quiz grades will not be counted in the final grade calculation.

Only registered students may attend and participate in the course. In rare circumstances, a guest of a registered student may attend a lecture, but only with **prior permission** from the instructor and only if the guest maintains respect for other students and the learning environment.

Classroom protocol: The Honor Code states, "Appropriate classroom behavior is implicit in the Cedar Crest Honor Code. Such behavior is defined and guided by complete protection for the rights of all students and faculty to a courteous, respectful classroom environment. That environment is free from distractions such as late arrivals, early departures, inappropriate conversations and any other behaviors that might disrupt instruction and/or compromise students' access to their Cedar Crest College education."

Scholarship and Integrity: I fully support the Cedar Crest College Honor Code and the Classroom Protocol code as stated in the Customs Book. You are required to abide by the accepted practices of scholarship and integrity. All writing and other material that you submit must be your own, original work, unless otherwise acknowledged.

- Material that is quoted from another source must be clearly indicated as a quotation and must be followed immediately by a citation to the original source.
- Paraphrasing should be avoided; changing a few words in someone else's writing does not make it your own work.

Cheating or plagiarism will result in a grade of F for the assignment or the course, at the instructor's discretion. If you have any questions about these issues, please discuss them with the instructor.

Students with Disabilities: Students with documented disabilities who may need academic accommodations should discuss these needs with their professors during the first two weeks of class. Students with disabilities who wish to request accommodations should contact the Advising Center.

Assignments and Evaluation

Weekly quizzes, 20%: There will be 10 brief quizzes (2-3 questions, 5-10 minutes) at the beginning of class (dates indicated in syllabus), which will be based on the reading assigned. The lowest 2 quiz grades will be dropped (this will include quizzes missed due to absence or late arrival).

Exams, 60%: Two midterm exams (20% each) will cover reading and lecture material since the previous exam. Each exam will last about 1 hour. The remaining class time on exam days will be devoted to lecture material. The final exam (20%) will be comprehensive. **Your obligations for this course include attendance at the final exam, on the day and time scheduled by the Registrar's Office (To be determined). You should not make travel arrangements that conflict with the scheduled exam time.**

Scientific articles, 15%: Four articles will be assigned for extra reading. Each article will touch on topics discussed in class but will come from popular scientific journals (such as Scientific American). A questionnaire will accompany the article. The questionnaire will test your understanding of the article as it relates to the course material. The article will be provided by the instructor at least two weeks in advance of the questionnaire due date (see syllabus). Late assignments will incur a 5% penalty for each day late. The three best scores for this assignment will count towards the final grade; however, completion of all four articles (and accompanying questionnaires) will earn a bonus.

Participation (+/- 5%): Class participation and adherence to the classroom protocol may raise or lower your course grade by up to 5%. The participation grade will be determined solely at the discretion of the instructor.

Subject Pool: The Psychology Department occasionally recruits students for participation in psychological testing. It is Psychology Department policy to give extra credit points for this participation. Consistent with this policy, I will grant up to 5 extra credit points on one of the midterm exams. The student must clearly indicate that she is using the points on a given exam and have proper documentation of participation in the study. **THESE ARE EXAM POINTS, NOT OVERALL COURSE GRADE PERCENTAGE POINTS.** Points must be submitted prior to the final exam date.

Course Grade: The course grade will be calculated to the nearest 0.1%, and the letter grade determined by the table below. In compliance with confidentiality policies, information regarding an individual student's grade(s) will only be communicated to the student in person or through the student's Cedar Crest College email (not through commercial email sources such as Yahoo or Hotmail, nor over the phone). Note: students must earn a C or better in courses counted towards the Psychology major.

A	A-	B+	B	B-	C+	C	C-	D+	D	F
93-100%	90-92.9%	87-89.9%	83-86.9%	80-82.9%	77-79.9%	73-76.9%	70-72.9%	67-69.9%	60-66.9%	<60%