CEDAR CREST COLLEGE
NEU 200 - Introduction to Neuroscience
PSY 229 - Introduction to Biological Psychology

Spring, 2010 Syllabus

Instructor:	Dr. Kent Fitzgerald, Miller 27, 610-606-4666 x3609, kkfitzge@cedarcrest.edu
Office hours:	Mon, Wed, Fri 9-10 AM; Mon 4-5 PM; Thu 11AM-12 PM
Time, place:	Mon, Wed, Fri, 11:00-11:50 AM (3 credits), Science Center 139
Prerequisites:	BIO 121 and 122, or PSY 100, or permission of the instructor
Required text:	Neuroscience: Exploring the Brain (3rd ed), Bear et al. 2007; Lippincott, Williams & Wilkins.
eCompanion site:	www.cedarcrestonline.net

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 human language, cognition, and mental illness.

Course Themes

Throughout the course, we will strive to remain connected with some of the "big picture" themes of biology and psychology, including (but not limited to):

Evolution	Personality & Individuality	Consciousness
Development	Communication	Human Health

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 orally and in writing
- Demonstrate understanding of the political and social issues surrounding psychiatric illness

Assessment

The outcomes described above will be assessed through:

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

Student Responsibilities

Readings: Assigned text readings should be read BEFORE class. Weekly quizzes are intended to encourage this practice; the quizzes will be simple if you've done the reading, and difficult if you haven't.

Attendance: Attendance is not mandatory except when announced (for example, for exams). However, it is strongly recommended you attend class material may be covered that is not in your text. You are responsible for class material even if you are absent. If you miss an exam or quiz due to documented illness or emergency, you must contact the instructor as soon as possible to arrange a make-up exam.

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.

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."

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) on Mondays, which will be based on the reading assigned for that day. The lowest quiz grade will be dropped.

Exams, 65%: Three exams during the semester (15% each) will cover reading and lecture material since the previous exam. The final exam (20%) will cover the last section of the course and will also include some comprehensive questions.

Written Assignments, 15%: Brief assignments will test your ability to apply course material to problem-solving situations.

Participation, +/- 0 to 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.

Course Grade: The course grade will be calculated to the nearest 0.1%, and the letter grade determined by the table below. Late assignments will be deducted 1% per calendar day.

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

Semester Schedule

Week	Date	Tests		Topic	Reading (subject to updates)
1	Wed, Jan 20		1	Introduction	Ch 1, 4-21 (quick read)
	Fri, Jan 22		2	Neurons and Glia I	Ch 2, 24-38
2	Mon, Jan 25	**QUIZ 1**	3	Neurons and Glia II	Ch 2, 38-49
	Wed, Jan 27		4	Neuronal Membrane at Rest I	Ch 3, 52-61
	Fri, Jan 29		5	Neuronal Membrane at Rest II	Ch 3, 61-73
3	Mon, Feb 1	**QUIZ 2**	6	Action Potential I	Ch 4, 76-89
	Wed, Feb 3		7	Action Potential II	Ch 4, 89-100
	Fri, Feb 5		8	Synaptic Communication I	Ch 5, 102-119
4	Mon, Feb 8		9	Synaptic Communication II	Ch 5, 119-132
	Wed, Feb 10	**EXAM 1**	10		
	Fri, Feb 12		11	Structure of the Nervous System I	Ch 7, 168-187
5	Mon, Feb 15	**QUIZ 3**	12	Structure of the Nervous System II	Ch 7, 187-204
	Wed, Feb 17		13	Structure of the Nervous System III	Ch 7, 206-235
	Fri, Feb 19		14	Visual system I	Ch 10, 310 - 318
6	Mon, Feb 22	**QUIZ 4**	15	Visual system II	Ch 10, 324-333
	Wed, Feb 24		16	Spinal Control of Movement I	Ch 13, 437-449
	Fri, Feb 26		17	Spinal Control of Movement II	
7	Mon, Mar 1		18	Brain Control of Movement I	Ch 14, 449-464
	Wed, Mar 3		19	Brain Control of Movement II	Ch 14, 464-478
	Fri, Mar 5	**EXAM 2**	20		
	Mar 8-12			*Spring Break*	

8	Mon, Mar 15	**QUIZ 5**	21	Chemical Control of Brain and Behavior I	Ch 15, 482-495
	Wed, Mar 17		22	Chemical Control of Brain and Behavior II	Ch 15, 495-508
	Fri, Mar 19		23	Neurotransmitter Systems	
9	Mon, Mar 22	**QUIZ 6**	24	Motivated Behavior	Ch 16, 510-531
	Wed, Mar 24		25	Sex and the Brain	Ch 17, 534-548
	Fri, Mar 26		26	Sex Differences	Ch 17, 548-562
10	Mon, Mar 29	**QUIZ 7**	27	Neurophilosophy	TBA
	Wed, Apr 1		28	Language I	Ch 20, 618-632
	Apr 2-5			*April Break*	
11	Tue, Apr 6		29	Language II	Ch 20, 632-642
	Wed, Apr 7	**EXAM 3**	30		
	Fri, Apr 9		31	~~Brainwaves and Sleep~~	~~Ch 19, 586-607~~
12	Mon, Apr 12		32	~~Circadian Rhythms~~	~~Ch 19, 607-616~~
	Wed, Apr 14		33	Psychiatric Illness	Ch 22, 662-686
	Fri, Apr 16		34	Neuropathology I	19-20, 36-37, 145-146,
13	Mon, Apr 19	**QUIZ 8**	35	Neuropathology II	466-469, 475, 592-594
	Wed, Apr 21		36	States of Brain Function and Death	
	Fri, Apr 23		37	Wiring the Brain	Ch 23, 690-704
14	Mon, Apr 26	**QUIZ 9**	38	Brain Plasticity	Ch 23, 704-723
	Wed, Apr 28		39	Memory Systems I	Ch 24, 726-743
	Fri, Apr 30		40	Memory Systems II	Ch 24, 743-759
15	Mon, May 3	**QUIZ 10**	41	Mechanisms of Memory	Ch 25, 762-776
	Wed, May 5		42	Course Wrap-up	
	Exam week	**FINAL**			

Updated Jan 19, 2010

"Sometimes it's necessary to go a long distance out of the way in order to come back a short distance correctly."

- Edward Albee