

**Biology /
Psychology
352-001**



**Neuroscience II
Spring 2008**

Instructors: Drs. Ruscio, Milliken, Hurd,
Ross, and Widholm

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PREREQUISITES FOR THE COURSE:

Psychology 103 – Introduction to Psychology
Biology 111 – Introduction to Cell and Molecular Biology
Biology 112 – Evolution, Form and Function of Organisms
Biology/ Psychology 351 – Neuroscience I

COURSE OVERVIEW:

Neuroscience II will incorporate much of what you learned in Neuroscience I to provide a basis for understanding how the nervous system produces simple and complex behaviors. This necessarily involves developing an understanding of how the nervous system processes and reacts to a variety of environmental stimuli. The course will be team taught by faculty from the Psychology department.

The principal goal of this course is to provide a rigorous introduction to behavioral neuroscience with an emphasis on the interdisciplinary and comparative nature of neuroscience research.

Class Time & Location: SCIC 218

Tuesday and Thursday from 1:40-2:55 pm

Office Hours:

Dr. Ruscio: TH: 10-11, F: 12-2
Dr. Hurd: TR 8:00-9:15, 1:30-2:30
Dr. Milliken: TR: 8:15-9:15, W: 11-12
Dr. Ross: TH: 11-12
Dr. Widholm: M,W: 10-11, T:10-12

Office Locations:

Dr. Ruscio – 59 Coming #205
Dr. Hurd – 59 Coming #202
Dr. Milliken – 65 Coming #211
Dr. Ross – 59 Coming #200
Dr. Widholm – 57 Coming #204

REQUIRED READING AND MATERIALS:

Textbook:

Neuroscience 4th edition (2008). By D. Purves, G.J. Augustine, D. Fitzpatrick, W.C. Hall, A. LaMantia, J.O. McNamara, L.E. White. Sinauer Associates.

This book covers the material in both Neuroscience I and II.

Additional readings not in the text book will be made available either on library reserve or through a course packet.

COURSE POLICIES AND PROCEDURES:

The class will meet for 75 minutes, **twice** per week. **Class attendance is mandatory.** Students that do not attend regularly will not do well on the exams. **Attendance will be taken on a random basis.** Class time will be used to present lectures, to give demonstrations, to show video clips and to discuss material that is in the text. Discussion in class will be designed to stimulate thought about the material we are covering. It will be important to read the material **BEFORE** it is covered in class. Additionally, it will be extremely difficult to keep up with the amount of information presented in this course if you do not attend class. **You are responsible for all material that is covered in the lectures AND in the text.** If you cannot attend due to an illness or some other emergency, be certain to get a copy of the class notes from a reliable source. Finally, some material and topics will be discussed in class that is not in the textbook.

Evaluation: Grades will be based on **four exams and a comprehensive final.** The exams will consist of multiple-choice, fill-ins, figure completions, and short essay questions. Material will be drawn from the lectures, class discussions and the readings.

- The exams will be given on the dates indicated below. Each student is responsible for knowing when the term exams will be given as well as taking the exams on those dates.
- Students must take exams at the scheduled times; students arriving more than 10 minutes late will **not** be permitted to take the exam under any circumstances.
- **Each student is responsible for bringing one or two Number 2 pencils to each of the exams.**
- If you are an athlete and know that you will be unable to attend an exam, please notify me **at least one week in advance**; I will make arrangements for you to take the exam.
- If you are a student with special needs (i.e. a documented learning disability) and you require special arrangements for the exam, please see me as soon as possible so that I have additional time to accommodate your needs. **You must provide documentation of your special need in writing at the beginning of the semester.**

Grading: Grades will be assigned on the basis of the number of points that you earn at the completion of the course. The number of points and the approximate percentage of the grade are indicated below.

<u>Source</u>	<u>Approx. % of Grade</u>	<u>Approx. Number of Points</u>
Exam #1	15%	90
Exam #2	15%	90
Exam #3	15%	90
Exam #4	15%	90
Final Exam (comprehensive)	30%	180
Attendance	10%	60
Total	100%	600

Grade Assignment:

The combined total for all of the above will be 600 points. Your final grade in the course will be based on a percentage of points based on the College of Charleston grading scheme:

Number of Points	Approx. % of Total Points	Grade
552 and Higher	93-100	A
540-551	90-92.9	A-
522-539	87-89.9	B+
498-521	83-86.9	B
480-497	80-82.9	B-
462-479	77-79.9	C+
438-461	73-76.9	C
420-437	70-72.9	C-
402-419	67-69.9	D+
378-401	63-66.9	D
360-377	60-62.9	D-
359 and lower	59.9% and lower	F
	Failure Due to Academic Dishonesty	XF

Excessive Absences:

Failure to attend class regularly during the course of the semester may result in a grade reduction. **Those students that miss 5 or more classes will be withdrawn from the course** and a transcript notation of **WA** (withdrawn due to excessive absences) will be recorded. **This grade is equivalent to an F on your transcript.** Other grades such as W, I or XF may be given in specific circumstances -- please consult the undergraduate course catalog or the Office of the Registrar's web page (<http://www.cofc.edu/~register/>) for additional specific information on these marks.

Exam Policies:

All students must write all exams in the course.

Make up exams will be given only under the following specific circumstances:

1. A death in the immediate family.
2. An illness or emergency that results in a visit to a hospital emergency room or to a physician.

This death / illness / emergency **must** be documented / confirmed (in writing; i.e. you must provide an obituary or provide a letter from an Emergency Room physician) in order to write a make-up exam.

Students that fail to provide adequate documentation will receive a zero for that exam.

Make-up exams will ONLY be given on Reading Day (Thursday April 24th at 8:00 AM). These exams will consist ENTIRELY of essay questions.

You are **strongly** encouraged to attend the regularly scheduled exam as students that take make up exams generally do not perform well. **Your lowest exam score will not be dropped.**

Early/Late Exam Policy:

Requests to take exams early or late due to other commitments (i.e. not due to an athletic event or due to a very specific special need) will be considered on a case-by-case basis -- however, these requests are strongly discouraged.

OTHER POLICIES, SUGGESTIONS AND COMMENTS:

Late Withdrawal:

If you chose to withdraw from this course after the official withdrawal date (see schedule below), you must obtain the appropriate form from the Office of Undergraduate Studies (Randolph Hall, Room 206).

You must obtain the signature of Dr. Ruscio, Dr. Hurd or Dr. Milliken, the signature of your Department Chair and the signature of the Dean of the your school.

It is your responsibility to get these signatures and process this paperwork in a timely manner. Be prepared to write a letter to the Dean indicating why you want to petition for a late withdrawal from the course. There is no guarantee that the Dean will honor your request.

The instructors have no role in processing the paperwork or in the decision process, but your prompt attention to this process is essential.

If you are not doing well in the course...please see one of the instructors. If you are struggling with the course, please come and talk to one of the instructors **early in the semester** while there is still time to compensate for poor performance on one exam.

Schedule: The following schedule represents a tentative plan for the course. Topics and dates are subject to change.

Tentative Schedule

Section I: Sensory Systems

1/10	Orientation / Introduction to Sensory Systems	Ch. 9
1/15	Somatic Sensory System	Ch. 9
1/17	Pain	Ch. 10
1/22	Vision	Ch. 11
1/24	Vision	Ch. 12
1/29	Audition	Ch. 13
1/31	TEST 1	

Section II: Motor Systems

2/5	Motor System Basics	Ch. 16
2/7	Motor Neurons and Spinal cord	Ch. 17
2/12	Motor Cortex	Ch. 17
2/14	Basal Ganglia/Cerebellum	Ch. 18 & 19
2/19	TEST 2	

2/20 **LAST DAY TO WITHDRAW WITH A GRADE OF W**

Section III: Evolution and Development (Critical Periods)

2/21	Evolution	Kaas & Preuss 2003
2/26	Evolution	Striedter, 2005
2/28	Critical Periods	TBD

3/1- 3/9 -----SPRING BREAK-----

3/11	Critical Periods	TBD
3/13	TEST 3	

Section IV: Regulatory Systems and Behavior

3/18	Neuroendocrinology I	Breedlove et al. 2007
3/20	Neuroendocrinology I	Ch 30
3/25	Neuroendocrinology II	Ch 30
3/27	Neuroendocrinology II	Ch 30
4/1	TEST 4	
4/3	Sleep	TBD

Section V: Applied Neuroscience

4/8	Psychopharmacology	TBD
4/10	Psychopharmacology/Neurotoxicology	TBD
4/15	Neurotoxicology	TBD
4/17	Neuropsychology	Trull, 2005
4/22	Neuropsychology	Gazzaniga et al. 2002

FINAL EXAM is MAY 1, 2008 from 12-3 pm