

**Introduction to Neuroscience II**  
**NRSC 2110**  
**Spring 2011**  
**Tuesday/Thursday 3:30 – 4:45, HLMS 267**

**GENERAL INFORMATION**

Professor: Ryan Bachtell  
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Office: Muenzinger D446C  
Office phone: 303-735-1012  
Office Hours: Wednesday 1:00 – 3:00 or by appt.

**COURSE MATERIALS**

**Textbook:** Bear, M.F., Connors, B.W. & Paradiso, M.A. (2007) Neuroscience: Exploring the brain. 3<sup>rd</sup> Ed. Philadelphia, PA: Lippincott Williams & Wilkins. ISBN: 0-7817-6003-8

**Outside Reading Assignments:** Several outside reading materials will be distributed throughout the semester. These will pertain to guest lecturer material as well as topics not covered in the text. In the latter portion of the course, additional readings will be provided to supplement in class topics. These will be drawn from scientific journals and will be available on the CULearn site. They will generally be discussed via on-line discussion groups.

**Course website:** Several resources and information are posted on the CULearn course website. There is also a blog designed to enable question/answer forums or organization of study groups. Please utilize this resource appropriately. Any misuse or inappropriate postings will result in the termination of this feature.

**COURSE DESCRIPTION AND GOALS**

The second part of this two-course series aims to review current knowledge about basic systems neuroscience. It will cover select topics in neuroscience to gain an understanding of neurobiological systems that mediate several physiological and behavioral functions and how that information has been discovered and the limitations of current knowledge.

**IMPORTANT DATES**

SEMESTER DATES: **10 January 2011 – 29 April 2011**  
LAST DAY TO DROP WITH A REFUND: **26 January 2011**  
LAST DAY TO WITHDRAW: **23 February 2011**  
HOLIDAYS: **17 January 2011 (MLK Day); 21 – 25 March 2011 (Spring Break)**

**EXAMINATIONS & GRADING**

**Exam format and policies**

Exams will cover lecture material, handouts given in class, material presented in videos/films and material in the textbook. Exams given in class may include a variety of question types: multiple choice, true/false, fill-in and matching.

Make-up exams **WILL NOT BE ADMINISTERED** except under the University, Department and course policies (see below). If you miss an exam, your points accumulated for the next exam will be doubled.

Course grading will be on an absolute scale, not curved. In the event that your final grade falls between any two letter grades, the instructor will determine your final grade.

This course will cover many different topics that do not necessarily build on one another. Therefore, there will **NOT** be a cumulative final exam. The last exam of the semester (Exam 4) will be on the University scheduled Final Exam date for this course (Thursday May 5<sup>th</sup>, 7:30am-10am).

Grades will be determined by the total number of points earned:

|                                     |               |                |
|-------------------------------------|---------------|----------------|
| Lecture Exams                       | 3 x 100 pts = | 300 pts        |
| Assessments and quizzes             | =             | 100 pts        |
| Participation in online discussions | =             | 50 pts         |
| <b>Course Total</b>                 | <b>=</b>      | <b>450 pts</b> |

Final course grades will be determined as follows:

| <u>Letter Grade</u> | <u>Points</u> |         | <u>Percentages</u> |          |
|---------------------|---------------|---------|--------------------|----------|
| A                   | 418           | to 450+ | 92.89              | to 100+  |
| A-                  | 405           | to 417  | 90.00              | to 92.67 |
| B+                  | 389           | to 404  | 86.44              | to 89.78 |
| B                   | 374           | to 388  | 83.11              | to 86.22 |
| B-                  | 360           | to 373  | 80.00              | to 82.89 |
| C+                  | 344           | to 359  | 76.44              | to 79.78 |
| C                   | 329           | to 343  | 73.11              | to 76.22 |
| C-                  | 314           | to 328  | 69.78              | to 72.89 |
| D+                  | 300           | to 313  | 66.67              | to 69.56 |
| D                   | 284           | to 299  | 63.11              | to 66.44 |
| D-                  | 270           | to 283  | 60.00              | to 62.89 |
| F                   | 0             | to 269  | 0.00               | to 59.78 |

## **UNIVERSITY, DEPARTMENT AND COURSE POLICIES**

### **Email communications**

Students choosing to submit papers, questions and other materials to me via email should **NOT** assume your electronic submission has reached me satisfactorily. While email is a convenient way to submit work, it does not always work especially with attachments. I will always acknowledge the receipt of any time-sensitive matters that you submit to me electronically. If you do not receive such a reply within 24-36 hours, assume that I have not received your message and plan to submit the assignment in another way to receive full credit for it.

### **Inclement weather**

If an assignment is due on a day when the campus is closed due to inclement weather or other reason, that assignment will be due at the next class session.

### **Honor code**

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council ([honor@colorado.edu](mailto:honor@colorado.edu); 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and <http://www.colorado.edu/academics/honorcode/>

### **Deferred Grades**

Deferred grades are not likely to be granted. If you anticipate difficulty completing the course, you should see me as soon as the difficulty is apparent to you.

### **Disabilities Accommodation**

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and [www.Colorado.EDU/disabilityservices](http://www.Colorado.EDU/disabilityservices)

### **Religious Observances**

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, if you must miss class or an exam for reasons of religious observance, please inform me **within the first week of class** so that I may make an appropriate accommodation. See full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html)

### **Classroom Behavior**

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at: <http://www.colorado.edu/policies/classbehavior.html>  
[http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student\\_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code)

**Discrimination and Harassment:** The University of Colorado at Boulder policy on Discrimination and Harassment (<http://www.colorado.edu/policies/discrimination.html>), the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

**TENTATIVE COURSE SCHEDULE: Changes will be updated on the CULearn site**

| Week                          | Date   | Chapter | Topic   |
|-------------------------------|--------|---------|---|
| 1                             | 11 Jan |         | Course Overview   |
|                               | 13 Jan | 23      | Neurodevelopment- Cortese                                 |
| 2                             | 18 Jan | 23      | Neurodevelopment- Cortese                                 |
|                               | 20 Jan | 14      | Movement- Basal Ganglia                                   |
| 3                             | 25 Jan | 14      | Movement- Basal Ganglia                                   |
|                               | 27 Jan | 16      | Motivation- Internal drives                               |
| 4                             | 01 Feb | 16      | Motivation- Internal drives                               |
|                               | 03 Feb | 18      | Emotion   |
| 5                             | 08 Feb | 18      | Emotion   |
|                               | 10 Feb |         | <b>Exam #1 (Chap 14, 16, 18, 23)</b>                      |
| 6                             | 15 Feb | 20      | Language- Kim   |
|                               | 17 Feb |         | TBD   |
| 7                             | 22 Feb | 15      | Neuroendocrine- Spencer                                   |
|                               | 24 Feb | 15      | Neuroendocrine- Spencer                                   |
| 8                             | 01 Mar | 22      | Mental Illness- Anxiety                                   |
|                               | 03 Mar | 22      | Mental Illness- Depression                                |
| 9                             | 08 Mar | 19      | Brain Rhythms and Sleep-Wright                            |
|                               | 10 Mar | 19      | Brain Rhythms and Sleep-Wright                            |
| 10                            | 15 Mar | 22      | Schizophrenia- Mittal                                     |
|                               | 17 Mar | 22      | Schizophrenia- Mittal                                     |
| 11                            | 22 Mar |         | <b>SPRING BREAK</b>                                       |
|                               | 24 Mar |         | <b>SPRING BREAK</b>                                       |
| 12                            | 29 Mar |         | <b>Exam #2 (Chap 15, 19, 20, 22)</b>                      |
|                               | 31 Mar |         | Drug Addiction  |
| 13                            | 05 Apr | 24      | Memory Systems- Rudy                                      |
|                               | 07 Apr | 25      | Molecular Mechanisms of L&M- Rudy                         |
| 14                            | 12 Apr |         | Student lectures- TBD                                     |
|                               | 14 Apr |         | Student lectures- TBD                                     |
| 15                            | 19 Apr |         | Student lectures- TBD                                     |
|                               | 21 Apr |         | Student lectures- TBD                                     |
| 16                            | 26 Apr |         | Student lectures- TBD                                     |
|                               | 28 Apr |         | Student lectures- TBD                                     |
| 05 May Thursday 7:30-10:00 am |        |         | <b>Test 3 (Chap 24, 25 &amp; student-selected topics)</b> |