

**Neural Basis of Communication  
Communication Sciences and Disorders 210  
CS&D 210**

**Instructor**

Michelle Ciucci, Ph.D., CCC-SLP  
Assistant Professor  
Department of Communication Sciences & Disorders  
Department of Surgery-Otolaryngology  
Neuroscience Training Program  
608 262-6122 (emergency only)  
Email: ciucci@surgery.wisc.edu  
Office hours: Mondays 11-12 (362 Goodnight Hall), by appointment

**Teaching Assistant**

Tanvi Thakkar, BS  
Doctoral Student  
Communication Sciences and Disorders  
Email: tthakkar@wisc.edu  
Office hours: Mondays 5-7pm, by  
appointment (location TBD)

**Course**

Tuesdays and Thursdays: 9:30 -10:45 (attendance required)  
212 Animal Sciences

**Text/Assigned Readings**

- Bhatnagar, Neuroscience for the Study of Communicative Disorders, Lippincot, Williams & Wilkins  
ISBN-10: **1609138716** | ISBN-13: **978-1609138714** | Edition: Fourth
- iClicker: ISBN: **0-7167-7939-0**
- Journal Articles (posted per relevant lecture on Learn@UW)

**How to contact us:** Due to the large number of students in the class, please follow these guidelines for contacting your instructor or TA (in this order). To make an appointment outside of office hours, please contact your instructor or TA immediately before or after class.

1. Ask the question during the lecture.
2. Ask the instructor or TA immediately before or after class.
3. Attend office hours.
4. Post question on Piazza Q&A\*-available through Learn@UW (monitored weekdays by instructors, make sure to subscribe to email updates).

\*The system is highly catered to getting you help fast and efficiently from classmates, the TA, and the professor. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. I also encourage the students to try and answer other students' questions, post helpful links and tutorials, and use this as an online community. If you have any problems or feedback for the developers, email [team@piazza.com](mailto:team@piazza.com). Find our class page at: [piazza.com/wisc/spring2015/csd210\\_001\\_sp15](http://piazza.com/wisc/spring2015/csd210_001_sp15)

**Course Requirements**

There will be 10 online quizzes during the semester, one course project (assignment on Learn@UW for details), 3 examinations (in class) and a comprehensive final examination. The quizzes are online and open note. You will have 2 opportunities to take these quizzes within a 48-72 hour period (see schedule below). They are designed to test your understanding of the material and prepare you for the exams. There are 3 in-class examinations, however, only your two highest scores will count toward your final grade. In other words, your lowest test score will be dropped. As such, there are no excused absences for quizzes or tests.

<b>Online Quizzes</b> 10 at 10 points	100
<b>Course Project</b> 50 points	50
<b>Exams</b> 3 at 100 points (drop lowest score)	200
<b>Comprehensive Final Exam</b>	<u>100</u>
<b>Total</b>	<b>450</b>

**Scale:** 94-100%=A    88-93% =AB    82-87% =B    76-81% =BC    70-75%=C    60-69%=D    >60%= F

**Course Description:** This course is designed to cover the neural basis for communicative behaviors. It is intended to provide the student with a beginner-level understanding of the anatomy, physiology, and physiopathology of the central and peripheral nervous systems as they relate to normal and disordered communication.

**COURSE OBJECTIVES:** Upon completion of this course, you will be expected to do the following:

1. Use appropriate terminology related to the study of neuroanatomy and neurophysiology.
2. Identify key structures of the central and peripheral nervous systems.
3. Describe the basic development of the nervous system.
4. Describe the major components of the vascular and cerebral spinal fluid systems to the brain and spinal cord.
5. Describe the parts of a neuron, as well as the basic neurophysiology of how neurons conduct electrical and chemical signaling within the nervous system.
6. Differentiate between the following in terms of function and impairment: upper motoneurons, lower motoneurons, corticobulbar tract, corticospinal tract.
7. Describe the basic components of the sensorimotor system, including the basal ganglia, cerebellum, thalamus, primary and association cortices, and ascending and descending pathways.
8. Perform a basic cranial nerve exam.
9. Identify the basic neural components of the visual and auditory systems.
10. Describe the major neural components that contribute to speech motor control and how damage to these contributes to motor speech disorders.
11. Identify the major language areas of the brain and describe how patterns of damage contribute to the various manifestations of language disorders.
12. Define higher order functions of the brain and explain how deficits manifest in patients.
13. Understand the basic findings from a neurological and neuropsychological examination.
13. Define neuroplasticity and relate how the basic principles of neuroplasticity apply to rehabilitation and brain function.

## Course Schedule

<b>Date</b>	<b>Topic</b>	<b>Readings (from Bhatnagar)</b>
01/20/2015	Introduction to course, syllabus, review basic terms	Chapter 1
01/22/2015	Parts of the nervous system, gross anatomy of NS	Chapters 2 (pp. 35-76), 3 (95-100)
01/27/2015	Development of the Nervous System	Chapter 4
<b>01/30/2015</b>	<b>Self-paced learning-reading for course project</b>	<b>No class meeting</b>
02/03/2015	Ventricles, meninges, blood supply	Chapters 2 (pp. 76-84), 7,8
02/05/2015	parts of a neuron, neurophysiology, neurotransmitters, chemical signaling	Chapter 5
02/10/2015	Action potential, AP propagation	Chapter 5
02/12/2015	Catch-up, Exam Review	
<b>02/17/2015</b>	<b>Exam I</b>	
02/19/2015	Visual System, Review Exam I	Chapter 12
02/24/2015	Auditory System	Chapter 9
02/26/2015	Limbic System	Chapter 18
03/03/2015	Motor system part I	Chapters 13, 14, 15, 16
03/05/2015	Motor system part 2	Chapters 11, 13, 14, 15, 16
03/10/2015	Gross Anatomy of the Brainstem, Cranial Nerves	Chapter 3 (100-110), Chapter 17
<b>03/12/2015</b>	<b>Cranial Nerve Exam (Self-paced learning)</b>	<b>Chapter 17, No class meeting</b>
03/17/2015	Finish cranial nerves, review for exam	Chapter 17
<b>03/19/2015</b>	<b>Exam 2</b>	
03/24/2015	Review Exam, Speech motor control, motor speech disorders Part 1	
03/26/2015	Speech motor control, motor speech disorders Part 2	
<b>04/01/2015</b>	<b>Spring break</b>	
<b>04/03/2015</b>	<b>Spring break</b>	
04/07/2015	Motor speech disorders, Part 2, Language Part 1	Chapter 19
04/09/2015	Language Part 1, Language Part 2	Chapter 19
04/14/2015	Language Part 2, Higher Order function part 1	Chapter 19
04/16/2015	Higher Order Function Part 1, Higher Order function part 2	Chapter 19
04/21/2015	Higher Order Function Part 2 continued	Chapter 19
04/23/2015	Higher Order Function catch-up	
04/28/2015	Catch up/Review for exam	
04/30/2015	<b>Exam 3</b>	
<b>05/06/2015</b>	<b>No class (self-paced learning-finish project)</b>	
05/08/2015	Neuroplasticity, Rehabilitation Review Course	<b>(Course project due)</b>
<b>05/10/2015</b>	<b>FINAL CUMULATIVE EXAM 10:05AM- 12:05PM</b>	<b>Location TBD</b>

## Quiz Schedule

Quiz	General Content	Date open 8am	Date Closed 12pm
1	Introduction, Gross anatomy	01/25/2015	01/27/2015
2	Development of Nervous System, Blood supply, Meninges	02/04/2015	02/06/2015
3	Action potential	02/07/2015	02/09/2015
4	Neuron signaling, Neurotransmitters	02/11/2015	02/14/2015
5	Auditory, Visual systems	02/24/2015	02/27/2015
6	Sensorimotor system	03/05/2015	03/08/2015
7	Cranial nerves, brainstem	03/16/2015	03/18/2015
8	Motor speech disorders	04/07/2015	04/10/2015
9	Language	04/14/2015	04/17/2015
10	Higher order	04/23/2015	04/28/2015

### How to succeed in this course:

1. Come prepared to lecture by reading the book chapter. The book will provide you a broader perspective and introduce you to important concepts and terminology. By reading in preparation, you can absorb information at your own pace. This makes lectures easier to follow and facilitates discussion of topics in class.
2. Study using the learning objectives. The learning objectives have been written for you in order to help you focus on what you need to memorize, synthesize, and integrate. Yes, between the book readings and lectures there is a lot of material. The objectives help you focus so you will succeed with your quizzes and tests.
3. Study with a friend/peer. Discussing the material and quizzing each other are excellent ways to make sure you have *learned* the material.
4. Take the quizzes on time and seriously. There are no excuses for missing a quiz and they help you to prepare for the exam.
5. Keep up with the material and frequently re-review previous material as the final exam is comprehensive.
6. Find a meaningful connection to what we are learning. The assignment is designed to prompt you into this. But, chances are that you know someone or know of someone who has one of the diseases and conditions that we will discuss. Or, you may be going into a profession where you will be working with someone with a communication/cognitive disorder. Developing a passion about what you are learning is a way to find deep personal satisfaction in your career.

### Course Accessibility and Academic Conduct

- I wish to fully include persons with disabilities in this course. Please let me know if you need accommodations in the curriculum, instruction, or assessments in this course to enable you to fully participate. I will attempt to maintain confidentiality of the information you share with me.
- Your success in this class is important to me. If there are circumstances that may affect your performance in this class, please let me know as soon as possible so that we may work together to develop strategies for adapting assignments to meet both your needs and the requirements of the course. The McBurney Disability Resource Center (608-263-2741) provides resources for students with disabilities. You will need to provide documentation of disability to them in order to receive official university services and accommodations.

- Please don't hesitate to let me know if you require assistance or accommodations for any reason. I look forward to working with you to meet your learning goals.
- The University of Wisconsin-Madison provides reasonable accommodations for students with documented disabilities. Students with documented disabilities who are requesting classroom accommodations need to contact me as soon as possible and provide a copy of their McBurney service plan (VISA). I look forward to working with you on classroom access.
  - Access and Accommodation Resource Coordinators  
<http://www.wisc.edu/adac/aarc2> htm
  - Equity & Diversity Resource Center  
<http://www.wisc.edu/edrc/disability/>
  - Facilities Access  
<http://www.fpm.wisc.edu/accessibility/>
  - McBurney Disability Resource Center  
<http://www.dcs.wisc.edu/mcb/>
  - Madison ADA Policies  
<http://www.wisc.edu/adac/>

### **ACADEMIC MISCONDUCT**

This information is taken from "Academic Misconduct Rules and Procedures Guide for Students" prepared by the Office of the Dean of Students, 75 Bascom Hall (August 1998). "UWS 14.03 Academic Misconduct Subject to Disciplinary Action

(I) Academic misconduct is an act in which a student:

- (a) seeks to claim credit for the work or efforts of another without authorization or citation;
- (b) uses unauthorized materials or fabricated data in any academic exercise;
- (c) forges or falsifies academic documents or records;
- (d) intentionally impedes or damages the academic work of others;
- (e) engages in conduct aimed at making false representation of a student's academic performance
- (f) assists other students in any of these acts."

*"Plagiarism means presenting the words or ideas of others without giving credit. You should know the principles of plagiarism and the correct rules for citing sources....If you are unsure about the proper ways to give credit to sources...consult the Writing Center."*

### **On Line Information:**

- Student Conduct and Disciplinary Rules (Home)  
<http://www.wisc.edu/students/conduct.htm>
- Academic Misconduct: Guide for Students  
<http://www.wisc.edu/students.amsun.htm>
- UWS14, Regent Rule on Academic Misconduct  
<http://www.wisc.edu/students/uws14.htm>
- Student Academic Misconduct Campus Procedures  
<http://www.wisc.edu/student/14proce.html>

### **WRITING CENTER**

The Writing Center is located in 6171 Helen C. White Hall; Hours: Monday – Thursday 9:00 a.m. to 8:30 p.m. Friday 9:00 a.m. to 3:00 p.m.; Telephone 263-1992. The Writing Center has thirty-three experienced instructors available to help students develop and organize ideas, offer constructive criticism and advice for revisions. The major purpose of The Writing Center is to teach students to be more effective writers. The writing Center also offers information on how to accurately site resources.

### **COURSE ACCESSIBILITY & ACCOMMODATION**

We wish to fully include persons with disabilities in this course. Please let us know, within the first two weeks of the course, if you need any special accommodations in the curriculum, instruction, or assessments of this course to enable you to fully participate. We will maintain the confidentiality of the information you share. On Line Information:

### **RELIGIOUS OBSERVANCES & PERSONAL EMERGENCIES**

This information is taken from a memo date 7/22/05 written by Peter Spear, Provost and Vice Chancellor for Academic Affairs, David Musolf, Secretary of the Faculty, and Lori Berquam, Interim Dean of Students. "A listing, though not exhaustive, of religious holidays is available on the website: <http://www.terfaithcalendar.org>. A student's claim of a

*religious conflict should be accepted at face value. A great variety of valid claims exist for religious groups and there is no practical, dignified, and legal means to assess the validity of individual claims. State law mandates that any student with a conflict between an academic requirement and any religious observance must be given an alternative means of meeting the academic requirement. The law also stipulates that students be given a means by which they can conveniently and confidentially notify an instructor of the conflict... Three guidelines that have been developed to provide clarity for both students and instructors: (1) Announce early in the semester that students may notify the instructor within the first two weeks of class of the specific days or dates on which he or she requests relief. Including this information on your course syllabus is another appropriate method to make sure your students are informed of the policy' (2) Make-ups may be scheduled before or after the regularly scheduled requirement; and (3) It is understood that instructors may set reasonable limits on the total number of days claimed by any one student."*