

SLPA 981: Neuroimaging & Language Disorders 2018 Fall Semester

Program Affiliation: Special Education and Communication Disorders
Class Meetings: Wednesday 3:00 P.M. – 4:40 PM, in 302 BKC
Credit: 2 hours
Instructor: Yingying Wang, Ph.D.
yingying.wang@unl.edu
Office hours by appointment, schedule via email)
Office: C67 East Stadium, 402-472-0106

Course Description

This is a graduate-level seminar course and is designed to explore special topics in neuroscience, clinical therapeutics, and brain-behavior. Based on the interests of enrolled students, past and current research projects of interests will be discussed in the class.

Course Prerequisites

None.

Course Objectives

This course complies with the ASHA Knowledge and Skills statement regarding the provision of services to individuals with language/reading impairment. This course will cover a variety of topics related to brain research in the field of speech language pathology (SLP). The goal is to broaden SLP graduate students' interest in brain research and encourage students to pursue a doctorate degree in SLP. In addition, this course aims to connect brain research with the current clinical practice in the field of SLP. Upon successful completion of this course, students will be able to understand evidence-based practice and brain research in language/reading impairment, form research questions and generate research plan to address a specific topic. Students will demonstrate knowledge and skills in the areas listed below:

1. Foundation Knowledge, concepts, terminology, and theory in the area of brain research.
2. Understanding different neuroimaging techniques.
3. Analyzing various neuroimaging data.
4. Demonstrating critical thinking about brain-behavior research questions and findings.
5. Analysis of research findings from different manuscripts and resources.
6. Interpreting research data and statistical analyses from results section of published articles.
7. Developing research hypothesis and questions and generating research plans.

Course Format

This course includes lectures, discussion based on assigned readings prior to class meetings, in-class presentations, quizzes, review of case videos and peer-reviewed manuscripts, etc.

Readings Materials

Canvas course website at <http://canvas.unl.edu> for announcements, course materials, and online forums.

The required text is: There is no required text for this seminar course. However, you are encouraged to own some books from the list of the recommended reading materials.

Additional Recommended Reading Materials:

Essentials of neural science and behavior, Ronald Calabrese, Eric R. Kandel, Thomas M. Jessell, Edited by Eric R. Kandel, Thomas M. Jessell, McGraw Hill Professional, 1995, ISBN-13: 978-0838522219

Recommended Professional Journals:

Journal of Speech, Language, and Hearing Research, American Speech-Language Hearing Association (ASHA)
 Reading and Writing, Springer
 Scientific Studies of Reading, Society for the Scientific Study of Reading (SSSR)
 Brain Research
 Brain
 Cerebral Cortex
 Human Brain Mapping

Course Requirements

1. Take-home Assignments (points: 10)
 You will be graded based on your responses to the two take-home assignments.
2. Take-home Mid-term Examination (points: 20)
 An online examination will be given to assess your foundation knowledge learned.
3. Research Project (points: 40)
 Based on student enrollment, small groups will be formed to develop research questions towards to a specific population with disability that will be assigned by instructor. The team will write a research proposal and review other groups' proposal.
4. Class presentation (points: 20)
 The team will present the research proposal together in class. The other teams will judge and make comments, ask questions.
5. Classroom participation (points: 10)
 Classroom participation is not only attendance, but also engagement. Students are expected to attend all classes and participate in-class discussions. Attendance will be taken each week, and attendance records will be considered when assigning a final course grade. Perfect attendance and active participating in class discussion will get 10 points. Absence without 24-hour advance written notice will result in point deduction.

The grading scale is as follows:

A	92.50-100	B-	80.00-82.49	D+	67.50-69.99
A-	90.00-92.49	C+	77.50-79.99	D	62.50-67.49
B+	87.50-89.99	C	72.50-77.49	D-	60.00-62.49
B	82.50-87.49	C-	70.00-72.49	F	< 60.00

Class Expectations

1. Students are responsible for all information presented in class as well as independent analysis of information from the readings directly.
2. Learning outside the classroom is essential to enhance your in-class learning experience. Plan to work four hours per week outside of class to review various literature regarding to language /literacy. You are encouraged to meet with fellow classmates outside of class to study lecture notes, discuss readings, and work on written assignments. However, all assignments must be the work of an individual. DO NOT TURN IN DUPLICATE ANSWERS.
3. Readings will not always be discussed in class. However, you are responsible for knowing information contained in the readings and class lectures. The lecture power point presentation and other course related materials will be in electronic form on Canvas.
4. All written assignments will follow the guidelines contained in the publication manual of the American Psychological Association (APA). This book may be found at the following link: <http://www.apa.org/books/4200061.html>
5. If you need extra help communicating your thoughts in the written form (i.e, writing a paper) you may wish to consult the writing center on campus. The University of Nebraska-Lincoln Writing Center can provide you with meaningful support as you write for this class as well

as for every course in which you enroll. Trained peer consultants are available to talk with you as you plan, draft, and revise your writing. Please check the Writing Center website for locations, hours, and information about scheduling appointments. www.unl.edu/writing.

Tentative Schedule of Course Topics and Readings

Date	#	Topic	Readings	Assignments Due*
8/22	1	Introduction	Syllabus	N/A
8/29	2	MRI and its applications	Assigned Readings in Canvas	N/A
9/5	3	fMRI and its applications	Assigned Readings in Canvas	N/A
9/12	4	MRI/fMRI lab: BKC 317 Ricketts	Assigned Readings in Canvas	Assignment 1
9/19	5	fNIRs and its applications	Assigned Readings in Canvas	N/A
9/26	6	MEG and its applications	Assigned Readings in Canvas	N/A
10/3	7	EEG and its applications	Assigned Readings in Canvas	Assignment 2
10/10	8	fNIRs/MEG/EEG lab: BKC 317	Assigned Readings in Canvas	N/A
10/17	9	Neuroimaging experimental design	Assigned Readings in Canvas	N/A
10/24	10	MRI/EEG/fNIRs live demo: CB3	Assigned Readings in Canvas	N/A
10/31	11	Neuroimaging in language disorders	Assigned Readings in Canvas	N/A
11/7	12	Neuroimaging in autism/dyslexia	Assigned Readings in Canvas	Mid-term 9 p.m.
11/14	13	In-Class Presentation	Assigned Readings in Canvas	N/A
11/21		No Class – Happy Thanksgiving!	Have a good Holiday!	N/A
11/28	14	In-Class Presentation	Assigned Readings in Canvas	N/A
12/5	15	Course Summary and Q & A	N/A	N/A
12/12		Final Project Due	N/A	12/12 9 p.m.

Remediation For Speech-Language-Pathology (SLP) Students

In order to verify mastery of the competencies required for this course, each SLP graduate student must achieve a final grade of 'B' or better for the course. If a student does not earn a final grade of 'B' or better, remedial work will need to be successfully completed, per the discretion of the instructor, in order to meet the competencies aligned with the course and obtain a final grade of 'B' or better.

Professionalism and Civility

You are expected to exhibit professional behavior that demonstrates respect for the learning environment. This includes being on time for class, maintaining attention/alertness during class, and refraining from use of technology except as it relates to instructor-directed in-class activities pertinent to the class in session. Cell phones must be silenced and put away while in the classroom. Net surfing, reading emails, working on assignments for other classes, etc. are not permitted during class time as a courtesy to your fellow students and instructor. It is each student's responsibility to monitor your own behavior and wakefulness. If you find yourself feeling sleepy, it is fine to remove yourself from the classroom, take a few minutes to refresh, and then return to the classroom, though you will be responsible for any missed information.

The nature of the course material may include graphic images and information about medical conditions and surgical procedures. Additionally, course content may touch on a variety of controversial topics including matters of race, gender, culture, religion, morality, sexuality, and violence. If you anticipate discomfort during such content, you should sit near an exit so that, if necessary, you may step out of the room for a few minutes. As with any other self-initiated break, you will be responsible for any missed information. Furthermore, you have a right to

believe whatever you believe about such matters and to express your views (when relevant to the course and in accordance with the principles of professionalism and civility previously described) even when others in the class may disagree or be offended by your views. You also have the right to express disagreement with the views of others, including the instructor, and to decide whether or not to modify your views. Your grade in the class will be based on understanding and reasoning, not on your opinion, though you should be aware that the ASHA Code of Conduct delineates certain professional behaviors that are mandated regardless of one's personal beliefs.

Your work is expected to adhere to professional standards in terms of spelling, grammar, use of first-person language consistent with IDEA standards, appropriate APA-formatted citations of work derived from another source, and timeliness. The grade for any assignment submitted late will be reduced by 5% of its available points for each day overdue, unless the student makes other arrangements with the instructor at least 7 days prior to the assignment due date.

UNL Student Code of Conduct

Download Link: <http://stuafs.unl.edu/DeanofStudents/Student%20Code%20of%20Conduct%20May%20Rev%202014%20a.pdf>

Students are expected to adhere to the UNL Student Code of Conduct. "The community of scholars at the University of Nebraska Lincoln is dedicated to personal growth and academic excellence. By choosing to join the community, each member agrees to comply with certain standards of civilized behavior; and therefore, the University of Nebraska Lincoln adopts this Student Code of Conduct, in order that it might: 1) promote a campus environment that supports its educational, research, and outreach missions; 2) protect the members of the community and its resources from disruption and harm; 3) provide a guide to appropriate individual and group behavior; and 4) foster ethical standards and civic virtues, all in keeping with the STUDENT STATEMENT OF VALUES adopted by the Association of Students of the University of Nebraska Lincoln on January 15, 2014." (page 1)

Academic Integrity (see the UNL Student Code of Conduct)

Students will receive a grade of zero on any assignment where the instructor determines that there is credible evidence of academic dishonesty. Any finding(s) of academic dishonesty and sanction(s) will be reported to the UNL Dean of Students. Acts of academic dishonesty include, but are not limited to, the following: cheating, fabrication or falsification, plagiarism, abuse of academic materials, complicity in academic dishonesty, falsifying grade reports, impermissible collaboration, misrepresentation to avoid academic work. See the UNL Student Code of Conduct for further information.

Requests for Accommodations for Disability (more: <http://www.unl.edu/ssd/home>)

The University of Nebraska-Lincoln is committed to a pluralistic campus community through Affirmative Action and Equal Opportunity. We assure reasonable accommodation under the Americans with Disabilities Act. Students with disabilities are encouraged to contact me for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 232 Canfield Administration, 472-3787 (voice) or 472-0053 (TTY). It is the responsibility of the student requiring accommodation to be proactive in contacting the instructor for a confidential discussion of their individual needs, and to provide relevant documentation from the SSD.

Weather Emergencies (more: <http://emergency.unl.edu/unlalert>)

The decision to close the University because of severe weather or other reasons shall be made by the Chancellor. The Director of University Communications will notify radio and television stations and other appropriate media. Every effort will be made to have closedown information in the news media by 6:00 a.m. for day classes and by 2:00 p.m. for night classes. **During an emergency, the UNL community and public will receive information through the web and news media as well as by email and text through [UNL Alert](#).**

Safety

The safety of all individuals in SECD is of utmost importance to the department. General emergency information can be found on the UNL police department website at <http://www.unl.edu/emergency/>. Faculty and students are strongly encouraged to sign up for the UNL Text Alert system, which provides messages during emergency situations. Sign-up can be completed at: <http://emergency.unl.edu/unlalert> The phone number for UNL police is 402-472-2222. If there is an immediate emergency, dial 911.

The following is a list of topics that may require action. Preparation is the best way to manage emergency situations. Please consider reviewing the policies and procedures for the following possible incidents each semester:

Tornado: <http://emergency.unl.edu/procedure/tornado>

Fire: <http://emergency.unl.edu/procedure/fire>

Active Shooter: <http://emergency.unl.edu/procedure/shooting-incident>

Shots Fired: <http://emergency.unl.edu/shotsfired>

Continuity of Instruction

If face-to-face classes are officially suspended due to a pandemic or other catastrophe, I will strive to continue instruction to those that can participate. If face-to-face classes are suspended, you will receive an email from me and I will post a Canvas Announcement that details how we will communicate and what you can expect during the time that classes are suspended. Students should check these sources regularly for course information.

Caveat

This syllabus represents a written contractual agreement between us. Occasionally, it may be necessary to revise the syllabus to meet students' or university needs. The instructor reserves the right to revise this syllabus if the need arises. Advance notification will be provided to you.