LING492 | LING792
Introduction to Neurolinguistics
Fall 2020

Jonathan R. Brennan

This course is **fully online**. Every week this term, you will:

- Read *book chapters* and *original research articles*
- View short *lecture videos* posted on Canvas
  - Chat with your classmates about all things neurolinguistics on the *Yellowdig forum*
- and attend *class discussions* via this zoom link.
- Office hours are held on Tues 1-2 and Fri 9:30 - 10:30 by appointment (feel free to email me if these slots doesn't work for you); connect with this zoom link

---

Course Description

This course introduces the neural machinery behind our ability to speak and understand language. Topics discussed include the brain bases of speech perception and reading, lexical processing, syntax, and semantics. We will draw on a range of state-of-the-art functional neuroimaging techniques, as well as the study of neurological and developmental language disorders. Special attention will be given to how theories of linguistic computations and representations can inform, and be informed by, our understanding of the brain.

Course Goals

To introduce the basic principles of the cognitive neuroscience of language, and to develop skills to connect neural data with linguistic theory and analysis.

Expectations

To do well in this course you need to *participate throughtfully* in class discussions and *apply the knowledge* that we develop through the course.

Knowledge is applied through two exams and one original research paper due at the end of the term. Participation comes in the form of both an online discussion board and a once-weekly synchronous class meeting. Students are expected to come to class having done the readings so they can be active participants.

Course Readings

I'm in the middle of writing an introductory textbook to Neurolinguistics, called **A Slim Guide to Neurolinguistics**. Most weeks will involve a selection from this *manuscript draft*, abbreivated SGN, along-side two original research papers that go into more depth on the topic.

All readings can be downloaded from Canvas

Please keep in mind that the readings, class lecture, and my comments in class will suggest a particular **point of view**. This perspective is my own and does not have to be yours! I encourage you to disagree with the ideas in the readings and lectures as well as the perspectives of your colleagues in the course. Please express yourself!! A significant part of a college education is learning about the complexity of various issues; therefore, it is important that we listen and respect one another but we do not have to agree. A richer discussion will occur when a variety of perspectives are presented in class for discussion.

Assignments, Exams, & Grading

Before reading about coursework, remember: this semester, more than any other, **unexpected things may come up**. We will try to be as flexible as possible as we balance the needs of everyone in the class. **Please communicate with us if you require special accommodations**

All assignments are posted and submitted via Canvas

(30%) Readings & Yellowdig Forum

There are two types of readings assigned most weeks: short excerpts from a textbook that gives an overview of a particular issue, and then two representative research articles from that domain. Another overview perspective is given by the video letures which are designed to complement the readings. The readings are chosen to prompt discussion and further inquiry. Write down your questions and points of confusion! These will be great jumping off points for further discussion.

Post your questions and comments on our **YellowDig forum**). Our real-time meetings are short! (And, they may suffer from technical or other glitches that can get in the way of fluent conversation). I'm really looking forward to having a robust discussion forum for questioning and discussing the material this semester. *Please try to make your contributions before the end of the day on Wednesday, so that they can inform our class discussion on Thursday.*

There is a point system on yellowdig that is designed to encourage participation. This gives credit for making at least a few meaningful contributions (posts, replies) each week, but also to allow flexibility for weeks where we can contribute more or less.

(30%) Research Paper

Students will write a short *Research Proposal* (about 6 pages, or 3000 words) in which they design an original experiment. Students are encouraged to start thinking about topics as soon as possible. A successful proposal will have a clear research question backed by suitable background literature and well-motivated hypotheses and predictions. The proposal should provide detailed methods and procedures which address the target question and will include a discussion of possible outcomes and how they might be interpreted.

A **rough draft** will be due on Oct 29 and a **final draft** will be due on December 14.

(20%) Exams

There will be two exams throughout the term. The first will test technical knowledge about brain anatomy and neuroimaging tools. These will address technical knowledge about brain anatomy and neuroimaging tools, as well as critical skills encaging with the theories, data, and conclusions discussed in class. Exams are "take-home": they are completed via Canvas within the indicated 24-hour window.

(20%) Participation

Participation is a big part of this class. In addition to our yellowdig discussion board, we will meet for a real-time discussion on Thursdays from 11-12:30 via zoom. Showing up means a lot to me, as does hearing your contributions via voice or chat.

I know technical glitches can get in the way of a fluent conversation when we are online, so I'll work hard to make sure that credit for participation is fair. You can miss at least one class meeting, no questions asked. If you think you may miss more than one, please communicate with me!

Absences due to representing the university in an official capacity, or due to conflicts with religious holidays, are accommodated without penalty so long as appropriate documentation is provided. More details are available by the Newnan Academic Advising Center.

Grading Scale

	A	B	C	NRC	NRC
+	97-99	87-89	77-79	67-69	

	A	B	C	NRC	NRC
	93-96	83-86	73-76	63-67	<60
-	90-92	80-82	70-72	60-62	

Course Schedule

This course is organized week-by-week. Each week follows roughly the same pattern:

- Lecture recordings are posted by the *previous Friday*
- You should watch lectures and post on the discussion board by *Wednesday* end-of-day
- We meet synchronously on *Thursdays* from 11-12:30

Wk	Date	Lectures & Discussions	Readings
1	Aug 31	Introduction	Marr *Introduction*
		A little history	Marr *Chapter 1*
	Sep 3	*Discussion*	
	.		
2	Sep 7	Brain anatomy	SGN 2:7–17
		Deficits & lesions	
		MRI	
	Sep 10	*Discussion*	
	.		
3	Sep 14	fMRI	SGN 2:17–25
		EEG & MEG	
	Sep 17	*Discussion*	
	.		
4	Sep 21	The neurogram	SGN 3:27–41
		Brain waves	Barton et al. 2012
		Analysis-by synthesis	Saoud et al. 2007
	Sep 24	*Discussion*	
	.		
5	Sep 28	Neuro-phonology	SGN 3:41–48
			Mesgarani et al. 2014
			Scharinger et al. 2012
	Oct 1	*Discussion*	
	.		
6	Oct 5	Is speech special?	SGN 3:48–55
			Poeppel 2001
	Oct 8	*Discussion*	Rogalky & Hickok 2011
		Exam 1 10/9	

Wk	Date	Lectures & Discussions	Readings
7	Oct 12	Words in space & time	SGN 4:57–66
			Leonard et al. 2012
	Oct 15	*Discussion*	Dikker et al. 2010
8	Oct 19	Lexical grains	SGN 4:66–71
			An Ullman paper
			Gwilliams & Marantz 2015
	Oct 22	*Discussion*	
9	Oct 26	Mapping meanings	SGN 4:71–83
		Are concepts	Patterson et al. 2007
		embodied?	
			Rumiati et al. 2001
	Oct 29	*Discussion*	
		Rough draft due	
10	Nov 2	The N400 & P600	SGN 5:85–103
		On predictions	van Berkium et al. 2007
			Klimovich-Gray et al. 2019
	Nov 5	*Discussion*	
11	Nov 9	On composition	SGN 5:103–116
		Naturalistic methods	Zaccarella et al. 2017
			Zhang & Pylkkanen 2015
	Nov 12	*Discussion*	
12	Nov 16	Dependencies	SGN 5:116–112
		Broca's Area	Matchin et al. 2014
			Amici et al. 2007
	Nov 19	*Discussion*	
		Exam 2 Nov 20	
13	Nov 23	**No Class**	
		Thanksgiving	
14	Nov 30	Bonus lecture videos	TBD
	Dec 3	*Class presentations*	
15	Dec 7	*Class presentations?*	
		Paper due 12/14	

Frequently Asked Questinos

What's the e-mail policy?

E-mail should only be used for personal concerns that cannot be addressed via the discussion board, in class meetings, or in office hours.

The best place to ask questions is via the **Discussion Forum** where the instructor and fellow students may all engage with the question. Posting your questions on the forum allows for easy follow-up discussion and makes your contribution available to other students who may have similar questions. The instructors will monitor the forum to ensure answers are clear and accurate.

I will aim to respond to emails within 24 hours on weekdays. We are generally not available on e-mail after business hours or on weekends.

I did the assignment, but it didn't get submitted on Canvas. Can you fix it?

Please make sure to double-check that your assignments are submitted prior to the deadline indicated on the syllabus. Students are responsible for ensuring that their assignments are properly submitted.

Can I record class and/or post class notes or recordings online?

Students are not permitted to post course materials without the express written consent of the lead instructor.

Accessibility and Accommodations

If you think you need an accommodation for a disability, please let us know at your earliest convenience. Some aspects of this course, such as the assignments, online activities, or the way we teach may be modified to facilitate your participation and progress. As soon as you make us aware of your needs, we can work with you, the Office of Services for Students with Disabilities, or the Adaptive Technologies Computing Site to help determine appropriate accommodations. We will treat any information about your disability with the utmost discretion.

Mental Health and Wellbeing

The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at 734.764.8312 and https://caps.umich.edu during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at 734.764.8320 and https://www.uhs.umich.edu/mentalhealthsvcs, or for alcohol or drug concerns, see https://www.uhs.umich.edu/aodresources.

For a listing of other mental health resources available on and off campus, visit http://umich.edu/~mhealth/.

Sexual Misconduct Policy

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here:

- UM Sexual Assault and Prevention Center (SAPAC) 24-hour confidential crisis line (734) 936-3333 http://sapac.umich.edu/
- UM Counseling and Psychological Services (CAPS) (734) 764-8312 http://caps.umich.edu/
- University of Michigan Police (DPSS) (734) 763-1131 (or 911 for emergency) http://www.dpss.umich.edu/
- UM Office of Student Conflict Resolution (724) 936-6308 http://oscr.umich.edu
- UM Newnan Academic Advising Center (734) 764-0332 https://lsa.umich.edu/advising

Academic Misconduct

The University of Michigan community functions best when its members treat one another with honesty, fairness, respect, and trust. The college promotes the assumption of personal responsibility and integrity, and prohibits all forms of academic dishonesty and misconduct. All cases of academic misconduct will be referred to the LSA Office of the Assistant Dean for Undergraduate Education. Being found responsible for academic misconduct will usually result in a grade sanction, in addition to any sanction from the college. For more information, including examples of behaviors that are considered academic misconduct and potential sanctions, please see <lsa.umich.edu/lsa/academics/academic-integrity.html>

Plagiarism

The LSA Office of Academic Affairs defines plagiarism as "representing someone else's ideas, words, statements or other work as one's own without proper acknowledgment or citation" (see https://lsa.umich.edu/lsa/academics/academic-integrity/academic-misconduct.html). New writing challenges can tax your writing fluency, and entering new academic discourses can test your abilities to synthesize and take ownership over source texts and concepts. My job as instructor in this course is to help you through these obstacles so that you can find your footing as a writer in new domains. Your job as a student is to keep the faith, so to speak, and work through these new domains until you regain confidence. This work requires patience, planning, and focus.

Much plagiarism occurs as a result of a lack of care in regard to reading, note taking, and citation practices, or from procrastination, and/or panic. Care, timeliness, and communication will eliminate most of the risk. If you have questions about whether or not you should give credit to a source in your work, you may clarify it with me. In general, though, I recommend always the citing sources you have consulted as well as those you borrow from directly. If you are having difficulty with an essay, please contact me right away! That's what my email address and office hours are for.