

# Learning from Language (Psych 711)

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Office Hours: By appt. Everyone should make use of it.

Office: Psych 419

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Class Hours: Thurs 9:00am-11:30am

Class Room: Psych 624

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## Course Description

This graduate seminar will focus on the question of what types of semantic knowledge might we be learning from being exposed to natural language. Consider two thought experiments: (1) Imagine if everything humans knew, they learned from personally doing things and from observing others do things. (2) Now imagine if the only source of information was language: we can talk to others, read, but not experience things for ourselves. The actual case is that people learn from their own experiences, from observing others, and also from language in its various forms. This brings us to the question: What aspects of semantic knowledge, if any, do we learn exclusively from language? Which semantic domains are especially impacted by our experiences with language? What kind of information is especially well-represented in language, and what kind is absent? Do some languages “teach” their speakers things that other languages don’t?

## Course Learning Outcomes

Students will...

1. become familiar with a diverse literature linking language, cognition, and perception
2. be able to think critically about correlational vs. causal claims
3. understand the basics of word embedding models and the core principles of natural language processing
4. design an experiment to test hypotheses about relationships between language and semantic knowledge

## Expectations

Students are expected to read the 2-5 readings assigned for each class. I expect students to critically engage with each reading. Be on the lookout for ideas that challenge your intuitions, and that provoke you into thinking differently. To help you engage with the readings, each student will be randomly assigned to a group of 2-3 for each week. After reading the papers individually, the group should get together to discuss the readings and – working together – fill out a *Response Sheet* (see [Template](#)). Each group should upload the completed template to Canvas by 9pm Tuesday. I will grade each response sheet on a 1-5 scale and will use your responses to organize the discussion.

for the following class. Please note that some weeks have more/longer readings than other weeks. Plan your schedule accordingly. Final projects will also be completed in groups. Each group has the option of choosing to write a review/synthesis paper, or an empirical paper. Empirical papers can take the form of an experimental paper in which you collect your own data (either in the lab or online)<sup>1</sup>, a paper introducing new computational model or a series of simulations, or a paper based on corpus analyses.

## How credit hours are met by the course

(Times are estimates)

- 28 hrs class-time
- 50 hrs reading
- 10 hrs weekly assignments
- 30 hrs final project
- = 118 hrs total

## Grading Policy

- 35% Attendance / in-class participation
- 25% Reading responses
- 10% Final project presentation
- 30% Final project paper

## Class Schedule<sup>2</sup>

The order in which the readings are listed is the recommended reading order.

### Week 01, Thurs, 01/27

*Introduction. Human evolution and the cultural niche*

- **Readings:** Pagel & Mace (2004); Boyd et al. (2011)

### Week 02, Thurs, 02/03

*Cultural learning, conceptual and semantic knowledge*

- **Readings:** Legare (2019); Yee et al. (2018); Levinson (1997)

### Week 03, Thurs, 02/10

*Language of thought*

**Special guest** - Hayley Clatterbuck

- **Readings:** Bermudez (2003) Chapt. 2; Gomila et al. (2012); Lupyan (2016)

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<sup>1</sup>I may be able to add you to one of my IRB protocols so you wouldn't need to write your own.

<sup>2</sup>Subject to revision

## **Week 04, Thurs, 02/17**

*No class*

- See assignment on Canvas

## **Week 05, Thurs, 02/24**

*Language and relational learning*

- **Readings:** Hofstadter (2001); Gentner & Boroditsky (2001); Loewenstein & Gentner (2005); Gentner et al. (2013)

## **Week 06, Thurs, 03/03**

*Learning from generics*

- **Readings:** Leslie (2014); Hollander et al. (2009); Rhodes et al. (2012); Horowitz & Frank (2016);

## **Week 07, Thurs, 03/10**

*Language and the reading of minds*

- **Readings:** Heyes & Frith (2014); Gagne & Coppola (2017); Samuel et al. (2019)

## **Week 08, Thurs, 03/17**

*The distributional hypothesis: Overview and controversies*

- **Readings:** TBA

## **Week 09, Thurs, 03/24**

*Distributional semantics: Implications for learning*

- **Readings:** TBA

## **Week 10, Thurs, 03/31**

*Distributional semantics: Implications for learning*

- **Readings:** TBA

## **Week 11, Thurs, 04/07**

*Effects of language on perception*

- **Readings:** TBA

## **Week 12, Thurs, 04/14**

*Inner Speech*

- **Readings:** TBA

## **Week 13, Thurs, 04/21**

*Conceptual Alignment*

- **Readings:** TBA

## **Week 14, Thurs, 04/28**

*Writing workshop*

*Workshopping your group papers.*

- **Readings:** TBA

## **Week 15, Thurs, 05/05**

*Final presentations*

*Group paper presentations [20 min presentations + 10 min Q&A].*

## **STUDENTS' RULES, RIGHTS & RESPONSIBILITIES**

During the global COVID-19 pandemic, we must prioritize our collective health and safety to keep ourselves, our campus, and our community safe. As a university community, we must work together to prevent the spread of the virus and to promote the collective health and welfare of our campus and surrounding community.

## **UW-MADISON BADGER PLEDGE**

### **COURSE EVALUATIONS**

Students will be provided with an opportunity to evaluate this course and your learning experience. Student participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

#### **Digital Course Evaluation (AEFIS)**

UW-Madison now uses an online course evaluation survey tool, [AEFIS](#). In most instances, you will receive an official email two weeks prior to the end of the semester when your course evaluation is available. You will receive a link to log into the course evaluation with your NetID where you can complete the evaluation and submit it, anonymously. Your participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

#### **ACADEMIC CALENDAR & RELIGIOUS OBSERVANCES**

- See: <https://secfac.wisc.edu/academic-calendar/#religious-observances>

## **Ethics of Being a Student in the Department of Psychology**

The members of the faculty of the Department of Psychology at UW-Madison uphold the highest ethical standards of teaching and research. They expect their students to uphold the same standards of ethical conduct. By registering for this course, you are implicitly agreeing to conduct yourself with the utmost integrity throughout the semester.

In the Department of Psychology, acts of academic misconduct are taken very seriously. Such acts diminish the educational experience for all involved – students who commit the acts, classmates who would never consider engaging in such behaviors, and instructors. Academic misconduct includes, but is not limited to, cheating on assignments and exams, stealing exams, sabotaging the work of classmates, submitting fraudulent data, plagiarizing the work of classmates or published and/or online sources, acquiring previously written papers and submitting them (altered or unaltered) for course assignments, collaborating with classmates when such collaboration is not authorized, and assisting fellow students in acts of misconduct. Students who have knowledge that classmates have engaged in academic misconduct should report this to the instructor.

## **Academic Integrity**

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation,

or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to [studentconduct.wiscweb.wisc.edu/academic-integrity/](http://studentconduct.wiscweb.wisc.edu/academic-integrity/).

## Accommodations Policy

*McBurney Disability Resource Center syllabus statement:* “The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student’s educational record, is confidential and protected under FERPA.” <http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php>

UW-Madison students who have experienced sexual misconduct (which can include sexual harassment, sexual assault, dating violence and/or stalking) also have the right to request academic accommodations. This right is afforded them under Federal legislation (Title IX). Information about services and resources (including information about how to request accommodations) is available through Survivor Services, a part of University Health Services: <https://www.uhs.wisc.edu/survivor-services/>

## Diversity and Inclusion

*Institutional statement on diversity:* “Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.” <https://diversity.wisc.edu/>

## Complaints

Occasionally, a student may have a complaint about a TA or course instructor. If that happens, you should feel free to discuss the matter directly with the TA or instructor. If the complaint is about the TA and you do not feel comfortable discussing it with the individual, you should discuss it with the course instructor. Complaints about mistakes in grading should be resolved with the TA and/or instructor in the great majority of cases. If the complaint is about the instructor (other than ordinary grading questions) and you do not feel comfortable discussing it with the individual, make an appointment to speak to the Associate Chair for Graduate Studies, Professor Paula Niedenthal, [niedenthal@wisc.edu](mailto:niedenthal@wisc.edu).

If you have concerns about climate or bias in this class, or if you wish to report an incident of bias or hate that has occurred in class, you may contact the Chair of the Department, Pro-

fessor Craig Berridge ([berridge@wisc.edu](mailto:berridge@wisc.edu)) or the Chair of the Psychology Department Climate & Diversity Committee, Professor Catherine Marler ([catherine.marler@wisc.edu](mailto:catherine.marler@wisc.edu)). You may also use the University's bias incident reporting system, which you can reach at the following link: <https://doso.students.wisc.edu/services/bias-reporting-process/>.

## Concerns about Sexual Misconduct

All students deserve to be safe and respected at UW-Madison. Unfortunately, we know that sexual and relationship violence do happen here. Free, confidential resources are available on and off campus for students impacted by sexual assault, sexual harassment, dating violence, and stalking (regardless of when the violence occurred). You don't have to label your experience to seek help. Friends of survivors can reach out for support too. A list of resources can be found at <https://www.uhs.wisc.edu/survivor-resources/>

If you wish to speak to someone in the Department of Psychology about your concerns, you may contact the Chair or any of the Associate Chairs (<https://psych.wisc.edu/people/staff-2/>). Please note that all of these individuals are Responsible Employees (<https://compliance.wisc.edu/titleix/mandatory-reporting/#responsible-employees>).

## References

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