

# Psychology of Language (PSY 357), Fall 2019

## Syllabus and Lab Manual

1-1:50 pm, MWF, 2310 Au Sable Hall

**Instructor:** Jennifer Gross, Ph.D.

*Office:* Rm. 2319 Au Sable Hall (ASH)

*Office Hours:* 2-2:50 PM on Monday & Wednesday, 12:15-12:45 on Friday; and by appointment.

Students with appointments have priority over walk-ins.

*Office Phone:* 616-331-3511

*Email Address:* [grossj@gvsu.edu](mailto:grossj@gvsu.edu)

### **Course Description:**

Language plays a central role in our lives. We chat with friends, read novels, enjoy the lyrics of music, convey our feelings, teach our children, and transmit scientific discoveries to future generations via language. Your ability to read these words is just one example of language in action. Most of us, however, don't stop to ponder our linguistic prowess. In this course, we shall scientifically investigate our linguistic feats and foibles by exploring these topics and more:

- What distinguishes language from mere communication?
- How are gestural (sign) languages similar to, and different from, spoken languages?
- How did the human mind develop the capacity for language?
- Is language uniquely human, or do non-human animals or insects have language?
- How do children learn to speak and read their mother tongue?
- Why do children say funny things like 'she giggled me' and 'I broke the toy'?
- Where does language reside in the brain, and is there such a thing as being "right-brained" or "left-brained"?
- What interventions might help the 21 percent of U.S. adults (per the U.S. Dept. of Education) who read below a 5<sup>th</sup> grade level?
- What do *tips* of the *slongue* (oops—slips of the tongue) reveal about the mind?
- Can leading questions compromise the accuracy of eyewitness testimony?
- Can subliminal communication influence buying preferences?
- Although equipped with voice activation, why can't our cell phones reliably converse with us?
- Are there risks associated with simultaneously driving and talking on a cell phone?
- Is 'WUG' an entry in your mental dictionary? What about 'WAG'? How can you make these decisions within fractions of seconds considering the vast number of words you know?
- Why do we hear discrete words even though speakers do not pause between words when speaking (a phenomenon best observed by listening to someone who speaks a language foreign to the listener)?
- Do Eskimos really have several hundred words to describe snow? Do skiers?
- Can we think independently of language, or does language constrain our reality?
- Can language be 'loaded'? For example, should words like 'chairman' and 'freshman' be replaced respectively with gender-free terms such as 'chairperson' and 'freshperson'? What is a 'freshperson' anyway?
- Are there gender differences in mental aptitude?

Indeed, such fascinating questions deserve compelling, scientific explanations—the highest standard of evidence available. Although we may take our language-savvy minds for granted, we shall explore how language dominates our social and cognitive processes. Simply stated, language may be the essence of humanity.

Please note: This course is subject to the GVSU policies listed at <http://www.gvsu.edu/coursepolicies/>

**Objectives:** Upon successful completion of this course, students will be able to:

1. Describe theories and research on the linguistic representation of language.
2. Describe theories and research concerning the cognitive processes that foster language acquisition and enable skilled language production and comprehension.
3. Evaluate and explain the scientific study of human language, including critically evaluating psycholinguistic theories and experimental results.
4. Explain the biological, social, and cultural influences on language processes.

**Recommended prerequisite:** PSY 101

**Course homepage on Blackboard ([mybb.gvsu.edu](http://mybb.gvsu.edu)):**

Class information (e.g., syllabus, announcements, laboratory assignments, required readings, lecture slides, & grades) will be available on Blackboard.

**Required eBook (available for free via the GVSU Library):**

Trevor A. Harley (2017/2010). *Talking the Talk: Language, Psychology, and Science (Second Edition)*. New York, NY: Psychology Press (ISBN 978-1138800458)

**Required Software License:** Francis, G. & Neath, I. (2015). *CogLab (5<sup>th</sup> Edition)*, Instant Access (for one semester; ISBN 9781285461137). **Purchase new license only.**

Purchase via GVSU bookstore or online: <https://coglab.cengage.com/info/purchase.shtml>

**Required Readings:** See “course documents” on Blackboard.

**Weekly laboratory participation via:**

- 1) CogLab 5 <https://coglab.cengage.com/>
- 3) Project Implicit (<https://implicit.harvard.edu/implicit/>)

**Course Grade Formula:** Course grades will be based on scores from the following, weighted activities:

Attendance and Participation	Leverage to round up/down borderline grade
Exam #1	22%
Exam #2	22%
(Final) Exam #3	22%
Weekly laboratory participation	34%

**Letter Grades** will be calculated according to the following scale:

A	93-100%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	60-66%
B-	80-82%	F	Below 60
C+	77-79%		

### ***Forms of Evaluation:***

1. **Attendance:** You are expected to attend class. Students who attend regularly do well in the class. By attending class, you benefit by hearing content presented exclusively in lecture.
2. **Exams:** To formally assess your understanding of course material, there will be three exams, including a noncumulative final exam. Questions on the exam will be based on the material covered in the: 1) lectures, 2) assigned readings, and 3) laboratory assignments. See ***Weekly Schedule*** for exam dates. ***Make-up exams*** will be given for the following circumstances: Official university activities (e.g., participating in sporting events), illnesses, and extenuating circumstances. Please email the professor as soon as possible to explain the situation and request permission for an alternate exam date.
3. **Laboratory Reports:** The primary goal of the laboratory component is to foster your understanding of the scientific process in Psychology. Outside of class time, you will participate in web-based, experimental investigations of classic experiments in Cognitive Science via **CogLab 5** (license fee) and **Project Implicit** (free). You may complete these weekly experiments by using the GVSU computer labs or your own computer. Take the time to read the background material for each lab at the host site. For all assigned experiments, you are expected to understand the theoretical underpinnings motivating the investigation; the procedures and methods of investigation, including the independent and dependent variables; the predicted experimental outcome (i.e., hypothesis); the results of the experiment expressed in statistics and graphs; potential limitations of the investigation; and how each experiment is related to material covered in class and the assigned readings.

**Laboratory Report Format:** Answer the following questions, numbering your responses. Choose your words carefully. Write clearly, concisely, and with complete sentences. Check your grammar and spelling. I recommend preparing your responses in Word or other word processing program. Submit your **Lab Reports** to Blackboard via assignments.

1. State the **name of the lab** and the **date of your participation**
2. Find, copy, and paste your **summary data**.
  - a. CogLab automatically provides your summary data upon completion of the experiment.
  - b. Project implicit typically provides a statement (“your data suggest...”).
3. Identify and explain how the **independent and/or predictor variable(s)** were measured.
4. Identify and explain how the **dependent variable(s)** were measured.
5. State the experimental **hypothesis**.
6. Determine if your data are consistent with the **predicted outcomes**.
7. **Critique** the experiment. Offer potential, alternative explanations for the phenomenon observed that the researchers may have failed to consider. Consider the role of methodological limitations, variables not taken into consideration, or other weaknesses of the experiment. Be careful not to suggest the same “critique” for every lab.
8. Suggest **future directions**, such as how the experiment might be modified to improve the investigation. Future directions arise out of the research limitations identified for a specific lab and may include building on a finding; addressing a conceptual flaw in the design; or examining the theory in a new context, location, or culture. Be careful not to suggest the same “future direction” for every lab.

**Submit your laboratory reports to Blackboard by midnight on the due date to earn full credit.** Late labs automatically receive ½ credit. No email submissions will be accepted. You are encouraged to submit proof of completion up to two weeks early. You are also encouraged to keep a copy of the laboratory assignment for your personal records (backup proof of completion; helpful when preparing for exams). Participation in all assigned labs is expected. Thus, failure to complete any lab report results in a corresponding grade deduction (as shown in the **Laboratory Report Grade**).

**Laboratory Report Grade** will be awarded, according to the following schedule:

Lab Points	Lab Grade	Lab Points	Lab Grade
20	100%	14	70%
19	95%	13	65%
18	90%	12	60%
17	85%	11	55%
16	80%	10...	50%...

***Instructions for getting started with, and obtaining proof of completion from, CogLab 5:***

1. Open your Web browser and go to <http://coglab.cengage.com/help/register.shtml>
2. Look towards the bottom of the page for a form that asks for three pieces of information. If you do not see the form, your Web browser probably has JavaScript disabled. Please enable JavaScript and re-load the page to continue.
3. Enter the requested information:
  - o In the Group Name text field, enter the Group ID: **PsyLangF19**
  - o In the Group Password text field, enter: **noamchomsky**
  - o In the Registration Code text field, enter your **registration code**. The registration code could be in one of several formats. It may be on a sticker on the inside front cover of your CogLab Student Manual. It may have been bundled with your textbook on a postcard. Or, you may have purchased a registration code electronically (sometimes this is also called an e-Pin). There are two types of codes:
    - A CogLab2 code: This is made up of 11 letters and numbers, and will look something like this: yij2d9v6fu0
    - A CogLab5 code: This is made up of 16 letters and numbers, and will look something like this: sjkq8b632dvhd4u0

Both are valid on this website. However, do not purchase used CogLab registration codes! If the registration code has already been used, it will not work for you. Each valid registration code can be used only once.

4. After filling in all the text fields, click or tap on the Start Registration button.
5. Your Web browser will connect with the CogLab server to verify your information. If the information is correct, a new window will appear. The first line, highlighted in yellow, is your User ID. You should write this down because you will need to access CogLab.
6. The second line is your registration code.
7. The next two lines ask for your first name and your last (family) name.

8. Next, enter a password. You'll use this when you login. The password must be at least 8 characters long. It is best not to enter a password you use on other web sites. The next line asks you to re-enter the password.
9. The next two lines ask for your email address and then confirmation of this address. This email address will be used if you forget your password.
10. Next, enter a security question and answer. Make sure to use an question that only you can answer correctly. Also, remember whether you use uppercase or lowercase letters in your answer: you'll need to enter your answer exactly the same if you forget your password.
11. If necessary, select your keyboard layout (for keyboard help, see <http://coglab.cengage.com/info/keyboards.shtml>).
12. Finally, decide if you want CogLab to remember you so that you don't need to login each time. If not, uncheck the box next to Remember Me.
13. After filling in all the text fields, click or tap on the Complete Registration button. Done!
14. To **start doing labs**, just click or tap on the Labs menu and select the lab. Please see “Weekly Schedule” for lab assignment due dates.

***Instructions for getting started with, and obtaining proof of completion from, Project Implicit:***

1. Open your Web browser and go to <https://implicit.harvard.edu/implicit/>
2. You have the option of [registering for research at Project Implicit](#) “to gain access to dozens of studies and tests on a wide variety of topics.” If you prefer, you can participate as a guest in a limited array of demonstration studies on social attitudes.
3. Your “data” is typically a statement provided upon completion of an experiment.

***Weekly Schedule:***

**Week 1: The nature of language and metacognition.**

**Lab #1: Memory Judgment (due no later than Wednesday, 9/4)**

**Required readings (approx. 37 pages):**

Harley, Chapter 1, Language, pp. 1-26 (pp. 1-29 in 2010)

Putnam, A. L., Sungkhasettee, V. W., & Roediger, H. L. (2016). Optimizing learning in college: Tips from cognitive psychology. *Perspectives on Psychological Science*, 11(5), 652–660.

Fenn, K. M., Nusbaum, H. C., & Margoliash, D. (2003). Consolidation during sleep of perceptual learning of spoken language. *Nature*, 425, 614-616.

**Labor Day Recess, Sept. 1-2**

**Week 2: Is language innate?**

**Lab #2: Statistical Learning (due Friday, 9/6)**

**Required readings (approx. 16 pages):**

- Aslin, R. N., & Newport, E. L. (2012). Statistical learning: From acquiring specific items to forming general rules. *Current Directions in Psychological Science*, 21(3), 170-176.
- Goldin-Meadow, S. & Mylander, C. (1998). Spontaneous sign systems created by deaf children in two cultures. *Nature*, 391, 279-281.
- Petitto, L. A., Holowka, S., Sergio, L. E., & Ostry, D. (2001). Language rhythms in baby hand movements. *Nature*, 413(6851), 35-36.
- Senghas, A., Kita, S., Ozyurek, A. (2004). Children creating core properties of language: Evidence from an emerging sign language in Nicaragua. *Science*, 305, 1779-1782.

**Week 3: Smart, albeit alingual animals and insects.****Lab #3: Monty Hall (due Friday, 9/13)****Required readings (approx. 37 pages):**

- Harley, Chapter 2, Animals, pp. 26-42 (pp. 31-48 in 2010)
- Herbranson, W. T. (2012). Pigeons, humans, and the Monty Hall dilemma. *Current Directions in Psychological Science*, 21(5), 297-301.
- Ladewig, J. (2007). Clever Hans is still whinnying with us. *Behavioural Processes*, 76(1), 20-21
- Pepperberg, I. M. (2002). Cognitive and communicative abilities of grey parrots. *Current Directions in Psychological Science*, 11(3), 83-87.
- Ramus, F., Hauser, M. D., Miller, C., Morris, D., Mehler, J. (2000). Language discrimination by human newborns and by cotton-top Tamarin Monkeys. *Science*, 288, 349-351.
- Riley, J. R., Greggers, U., Smith, A. D., Reynolds, D. R., & Menzel, R. (2005). The flight paths of honeybees recruited by the waggle dance. *Nature*, 435(7039), 205-207.
- To watch a live “bee dance,” check out the following link compliments of NOVA and PBS: <http://www.pbs.org/wgbh/nova/bees/dances.html>
- Wynne, C. D. L. (2007). What the ape said. *Ethology*, 113(4), 411-413.

**Week 4: No formal instruction necessary in early language acquisition**

**Lab #4:** Categorical Perception – Identification (Requires headphones/earbuds; due Friday, 9/20)

**Lab #5:** Categorical Perception – Discrimination (Requires headphones/earbuds; due Friday, 9/20)

**Required readings (approx. 35 pages):**

Harley, Chapter 3, Children, pp. 42-67 (pp. 49-76 in 2010) up to “Is there a critical period for language acquisition”.

Kuhl, P. K. (2004). Early language acquisition: Cracking the speech code. *Nature Neuroscience*, 5, pp. **831-833 only**.

**Week 5: My teacher ‘holded’ the rabbits.**

**Exam 1, Friday, September 27**

**Lab #6:** Memory Span (due Friday, 9/27)

**Required readings (approx. 19 pages):**

Kuhl, P. K. (2004). Early language acquisition: Cracking the speech code. *Nature Neuroscience*, 5, pp. **834-843 only**.

Jusczyk, P. W. (1997). Finding and remembering words: Some beginnings by English-learning infants. *Current Directions in Psychological Science*, 6(6), 170-174.

Marcus, G. F. (1996). Why do children say “brokeed?” *Current Directions in Psychological Science*, 5(3), 81-85.

**Week 6: Role of working memory in language.**

**Lab #7:** Word Length Effect (due Friday, 10/4)

**Lab #8:** Phonological Similarity Effect (due Friday, 10/4)

**Required readings (approx. 24 pages):**

Baddeley, A. (2003). Working memory and language: An overview. *Journal of Communication Disorders*, 36(3), 189-208.

Boutla, M., Supalla, T., Newport, E. L., & Bavelier, D. (2004). Short-term memory span: Insights from sign language. *Nature Neuroscience*, 7(9), 997-1002.

**Week 7: The ‘bottleneck’ of information processing.**

**Lab #9: Modality Effect (due Friday, 10/11)**

**Lab #10: Mental Rotation (due Friday, 10/11)**

**Required readings (approx. 43 pages):**

Harley, Chapter 6, Words, pp. 129-164 (pp. 145-185 in 2010)

Treiman, R. (2000). The foundations of literacy. *Current Directions in Psychological Science*, 9(3), 89-92.

Anthony, J. L., & Francis, D. J. (2005). Development of phonological awareness. *Current Directions in Psychological Science*, 14(5), 255-259.

**Week 8: The science of reading.**

**Lab #11: Stroop (due Friday, 10/18)**

**Lab #12: Word Superiority Effect (due Friday, 10/18)**

**Required readings (approx. 11 pages):**

Grainger, J., Bouttevin, S., Truc, C., Bastien, M., & Ziegler, J. (2003). Word superiority, pseudoword superiority, and learning to read: A comparison of dyslexic and normal readers. *Brain and Language*, 87, 432-440.

Grainger, J. & Whitney, C. (2004). Does the human mind read words as a whole? *TRENDS in Cognitive Sciences*, 8(2), 58-59.

**Fall Break on October 20-22—Consider practicing the three “R”s: Relax. Restore. Reinvigorate.**

**Week 9: Meaning in network theories.**

**Drop Deadline - grade W, October 25**

**Lab #13: Lexical Decision (due Friday, 10/25)**

**Lab #14: Age of Acquisition (due Friday, 10/25)**

**Required readings (approx. 30 pages):**

Harley, Chapter 5, Meaning, pp. 103-129 (pp. 117-143 in 2010)

Landauer, T. K. (1998). Learning and representing verbal meaning: The Latent Semantic Analysis Theory. *Current Directions in Psychological Science*, 7(5), 161-164.



**Week 10: Connotation, denotation, and false memory.**

**Exam 2, Friday, November 1**

**Lab #15: False Memory (due Friday, 11/1)**

**Required readings (approx. 33 pages):**

Harley, Chapter 7, Understanding, pp. 164-193 (pp. 187-220 in 2010)

Zaragoza, M. S., Payment, K. E., Ackil, J. K., Drivdahl, S. B., & Beck, M. (2001). Interviewing witnesses: Forced confabulation and confirmatory feedback increases false memories. *Psychological Science*, 12(6), 473-477.

**Week 11: The relationship between language and thought.**

**Lab #16: Implicit Association Test (IAT) of your choice at Project Implicit**  
(<https://implicit.harvard.edu/implicit/>; due Friday, 11/8).

**Your summary data (#2 on lab report):** A one-sentence summary of your attitudes

**Required readings (approx. 36 pages):**

Harley, Chapter 4, Thought, pp. 79-103 (pp. 89-116 in 2010)

Davidoff, J, Davies, I, Roberson, D. (1999). Color categories in a stone-age tribe. *Nature*, 398, 203-204.

Thibodeau PH, Boroditsky L (2011). Metaphors We Think With: The Role of Metaphor in Reasoning. *PLoS ONE* 6(2), 1-11.

**Week 12: Speaking and inattention blindness.**

**Lab #17: Operation Span (due Friday, 11/15)**

**Lab #18: Change Detection (due Friday, 11/15)**

**Required readings (approx. 35 pages):**

Harley, Chapter 8, Speaking, pp. 191-221 (pp. 221-253 in 2010)

Strayer, D. L., & Drews, F. A. (2007). Cell-phone-induced driver distraction. *Current Directions in Psychological Science*, 16(3), 128-131.

Wagner, L. (2001). Acquiring languages—two for the price of one? *TRENDS in Cognitive Sciences*, 5(12), 509.

### **Week 13: Asymmetry, plasticity and critical periods in language acquisition**

#### **Required readings (approx. 15 pages):**

Harley, Chapter 3, Children, pp. 67-78 (pp. 77-87 in 2010), begin at “Is there a critical period for language acquisition”

Mayberry, R. I, Lock, E., & Kazmi, H. (2002). Linguistic ability and early language exposure. *Nature*, 417, 38.

Newman, A. J., Bavelier, D., Corina, D., Jezzard, P., & Neville, H. J. (2001). A critical period for right hemisphere recruitment in American Sign Language processing. *Nature Neuroscience*, 5(1), 76-80.

#### **Thanksgiving Break, November 21 – 25.**

### **Week 14: Language’s influence on the brain**

#### **Lab #19: Brain Asymmetry (due Friday, 11/29)**

#### **Required readings (approx. 6 pages):**

Marcus, G. F., Vouloumanos, A., & Sag, I. A. (2003). Does broca's play by the rules? *Nature Neuroscience*, 6(7), 651-2.

Nicholls, E. R., Searle, D. A., Bradshaw, J. L. (2004). Read my lips: Asymmetries in the visual expression and perception of speech revealed through the McGurk Effect. *Psychological Science*, 15(2), 138-141.

### **Week 15: Assorted language facts and fallacies**

#### **Lab #20: Risky Decisions (due Friday, 12/6)**

#### **Required readings (approx. 23 pages):**

Harley, Chapter 9, End, pp. 221-229 (pp. 255-264 in 2010)

Gerend, M. A., Shepherd, J. E., & Monday, K. A. (2008). Behavioral frequency moderates the effects of message framing on HPV vaccine acceptability. *Annals of Behavioral Medicine*, 35(2), 221-229.

Halpern, D.F. (2004). A cognitive-process taxonomy for sex differences in cognitive abilities. *Current Directions in Psychological Science*, 13, 135–139.

#### **Final Exam, Monday, December 9, Noon-1:50 PM**

**“Talk is cheap, but understanding how and why is priceless.”**

Brian Bartek, Psychology Major, Honors College, Grand Valley State University, ‘04