Psychology 642: Psycholinguistics
Spring 2003

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This course deals with three fundamental and interrelated questions about language: **Acquisition** or how first and second languages are acquired; **Comprehension** or how words, sentences, and discourses are understood; and **Production** or how words, sentences and discourses are produced. In examining these questions, both the psychological mechanisms and the linguistic and nonlinguistic representations underlying both normal and disordered acquisition, comprehension, and production will be considered. The required texts for this course are Gleason, J.B. & Ratner, N.B. (Eds.) (1998). *Psycholinguistics*, 2nd Edition. Harcourt College Publishers. and Harley, Trevor A. (1995). *The psychology of Language: From data to theory, 2nd Edition*. Erlbaum (UK) Taylor & Francis. There will also be primary source readings for most topics. Although it is highly unlikely that I will do so, I reserve the right to substitute, add or delete readings and topics based on course needs. If changes are made, they will be done so that there is ample time for access to readings and class preparation.

Evaluation: There will be two written exercises, each of which will comprise 1/3 of your grade. The first written exercise will be an essay examination covering roughly the first half of the course. The second written exercise, which is due *on the last day of class,* is an extended essay in which you are expected to explicate and evaluate two opposing positions of a central issue in the field. In doing so, you will be required to draw on and integrate the findings from at least three domains within psycholinguistics. You will have all semester to work on this exercise. The remaining third of your grade will be based on class participation. Participation for each class meeting will be evaluated on a 5-point scale. You can earn up to 5 points for each of the 13 class periods during which there will be opportunities for participation. However, because it may not always be possible to contribute to every discussion, only your 10 highest participation scores will be used in computing your grade. Participation will be evaluated on the quality and not the quantity of your discussion. Examples of quality participation include, but are not limited to, thoughtful questions about readings/lectures/discussion, counterexamples to points brought up in readings, lectures, or class discussion, well-articulated/argued alternative perspectives to those presented in readings/lecture/discussions, and experiment ideas that might address some theoretical point. If class discussion flags or it is clear that students are coming to class unprepared, an alternative evaluation scheme will be invoked, i.e., there will be an assigned essay question on the weekly readings. Weekly essays will be evaluated on the same 5-point scale as class participation. In addition to sampling your mastery of the course material, these written and oral exercises are designed to help you develop your skills in analyzing and constructing

sound arguments and evaluating the soundness of theories; to foster your ability to both integrate information across domains, and to help you to learn to think on your feet. Assessment of participation and all written exercises will be based on Bloom's taxonomy (see appendix below). In short, evidence of analysis, evaluation and synthesis, will be weighed more heavily than evidence of knowledge, comprehension, and application.

Course grades will be determined as follows:

A	95-100%	B-	75-79.9%	D+	55-59.9%
A-	90-94.9%	C+	70-74.9%	D	50-54.9%
B+	85-89.9%	C	65-69.9%	F	Below 50%
B	80-84.9%	C-	60-64.9%		

For exams (and if need be essays), there will be a specified day and time at which they are due. Late work will be decremented a grade for each day they are late (e.g., one day late: A ==> A-).

Credits: If you are taking this course for 3 credits, your grade will be based on your performance on the midterm essay, the extended essay and on your participation. If you are taking this course for 2 credits, your grade will be based on the extended essay and on your participation. If you are taking this course for 1 credit, your grade will be based on your participation.

Special needs: If you have a disability (physical, learning, or psychological) which may make it difficult to carry out the course work as outlined, and/or requires accommodations such as recruiting note takers, readers, or extended time on exams and assignments, please contact the Office of Disability Services, 25 Capen Hall, 645-260 and let me know about you during the first two weeks of class. ODS will provide you with information and review appropriate arrangements for reasonable accommodation.

Academic Honesty and Student Comportment: Students are expected to conform to the University's stated policies on academic honesty, plagiarism, and behavior.

Readings: Readings for this course fall into two categories. In the first category are assigned weekly readings. These consist of chapters from your texts and from other books, and primary source articles. In the second category are readings that go into each week's topic in greater depth. You will need to read the in-depth readings for at least three topics in order to complete the second written exercise. (see the instructions for the second exam before selecting these topics).

Week/ Date	Schedule of Topics, assigned readings, and activities
1	**Overview: Issues and Methodologies; Word level representations**
1/5	1. Gleason & Ratner: Chapter 1 (pp. 1-49) 2. Harley: Chapter 1 (pp. 3-26) ***Activity: Categorical Perception (download worksheet)***
2	**Speech Perception**
1/21	1. Gleason & Ratner: Chapter 3 (pp. 107-156) 2. Nygaard, L. & Pisoni, D. (1995). Speech perception: new directions in research and theory *(pp. 63-96)*. In J. Miller & P. Eimas (Eds.) *Speech, Language, and Communication*. ***Activity: McGurk effect***
3	**Spoken Word Recognition**
1/29	1. Harley: Chapter 8 (pp. 219-242) 2. Tyler, L., & Frauenfelder, U. (1989). The process of spoken word recognition; an introduction (pp. 1-20). In U. Frauenelder & L. Tyler (Eds.) *Spoken Word Recognition*. Cambridge, MA: MIT Press. ***Activity: Gating***
4	**Visual Word Recognition**
2/5	1. Harley: Chapter 6 (pp. 141-177); Chapter 7 (pp. 179-218) 2. Seidenberg, M. (1995). Visual Word Recognition: An Overview (137-179). In J. Miller & P. Eimas (Eds.) Speech, Language and Communication, New York: Academic Press.
5	**Sentence Level Representations**
2/12	1. Whitney, P. (1997). What language users must know (pp. 45-71). *The psychology of language*. New York: Houghton Mifflin College. 2. Crocker, M. (1999). Mechanisms for sentence processing. In S. Garrod & M. Pickering (Eds.) *Language Processing* (pp. 191-232). East Sussex, UK: Psychology Press. ***Activity: PSR, c-command, and binding (download worksheet)*** ***Reading is light this week so you can get a head start on next week's readings.***
6	**Sentence Processing: Parsing and structural ambiguity resolution**
2/19	1. Harley: Chapter 9 (pp. 245-274) 2. Tanenhaus, M. & Trueswell, J. (1995). Sentence Comprehension (pp. 217-262). In J. Miller & P. Eimas (Eds.) Speech, Language and Communication, New York: Academic Press. 3. Pickering, M. (1999). Sentence Comprehension (pp. 125-153). In S. Garrod & M. Pickering (Eds.) *Language Processing* Hove, UK: Psychology Press. ***Video: head-mounted eye-tracking***
7	**.. Sentence Processing: Interpretation of participant information**
2/26	1. Schutze, C., & Gibson, E. (1999). Argumenthood and English prepositional phrase attachment. *Journal of Memory & Language, 40,* 409-431. 2. Mauner, G. Koenig, J.-P., Melinger, A. & Bienvenue, B. (2002). The lexical source of unexpressed participants and their role in sentence and discourse understanding (pp. 233-254). In P. Merlo & S. Stevenson (Eds.) *The lexical basis of sentence processing Formal, computational, and experimental issues*. Philadelphia: John Benjamins. 3. McRae, K., Ferretti, T., & Amyote, L. (1997). Thematic roles as verb-specific concepts. *Language & Cognitive Processes, 12,* 137-176.
8	
3/5	**Mid Term Exam**
9	
3/12	**Spring Recess**
10	**Discourse Processing: Situation models, anaphora, and inference**

3/19	1. Harley: Chapter 11 (pp. 311-345) 2. Whitney, P. (1998). Understanding and remembering discourse. *The psychology of language* (pp. 234-268). New York: Houghton Mifflin 3. Zwaan, R. & Radvansky, G. (1998). Situation models in language comprehension. *Psychological Bulletin, 123*, 162-185. OVID 4. Keenan, J.M., Potts, G.R., Golding, J.M. & Jennings, T.M. (1990). Which elaborative inferences are drawn during reading? A question of methodologies. In D. A. Balota, G.B. Flores d'Arcais & K. Rayner (Eds.) *Comprehension Processes in Reading*. Hillsdale, NJ: Erlbaum. pp. 377-402.
11	**Production: Conversation**
3/26	1. Clark, H. & Bly, B. (1995). Pragmatics and Discourse (pp. 371-410). In J. Miller & P. Eimas (Eds.) *Speech, Language and Communication*, New York: Academic Press. 2. Clark, H. & Schober, M. (1992). Understanding by addressees and overhearers (176-203). In H. Clark, *Arenas of language use. Chicago University of Chicago Press.* ***Activity: Krause Task***
12	**Production: Speech errors and syntactic priming**
4/2	1. Gleason & Ratner: Chapter 7 (pp. 309-346) 2. Bock, K. (1995). Sentence Production: From mind to mouth (pp. 181-216). In J. Miller & P. Eimas (Eds.) *Speech, Language and Communication*, New York: Academic Press. ***Activity: Silent slips of the tongue***
13	**Biological Bases of language: Critical period and language disorders**
4/9	1. Gazzaniga, M., Ivry, R., Mangun, G., & Swaab, T. (2002). Language and the brain (pp. 351-399). In M. Gazzaniga, R. Ivry, G. Mangun (Eds.) Cognitive neuroscience: The biology of the mind., 2nd ed. 2. Hoff, E. (2001). Biological bases of language development (pp. 37-74). *Language development, 2nd ed.* Stamford, CT: Wadsworth/Thomspon Learning. ***video: Genie***
14	**First and second language acquisition. bilingualism**
4/16	1. Harley: Chapter 4 (91-130); Chapter 5 (131-138) 2. Bloom, P. (1993). Overview: Controversies in language acquisition. In P. Bloom (Ed.) (1993) *Language acquisition Core readings* (pp. 5-48). Cambridge, MA: MIT Press.

15	**Is language uniquely human?**
4/23	1. Harley 47-59 2. Savage-Rumbaugh, S, McDonald, K, Sevcik, R.A., Hopkins, W.D., Rubert, E. (1986). Spontaneous Symbol Acquisition and Communicative Use by Pygmy Chimpanzees (Pan paniscus). *Journal of Experimental Psychology: General, 115*, 211-235. 2. Seidenberg, M.S. & Petitto, L.A. (1979). Signing Behavior in apes: A Critical Review. *Cognition, 2*, 177-215. 3. Seidenberg, M.S. & Petitto, L.A. (1987). Communication, Symbolic Communication, and Language: Comment on Savage-Rumbaugh, McDonald, Sevcik, Hopkins, Rubert (1986). *Journal of Experimental Psychology: General, 116,* 279-287. 4. Kako, E. (1999). elements of syntax in the systems of three language-trained animals. *Animal learning and Behavior, 27, 1-14.*
Finals	
	Extended essay due---Date & Time TBA

Week/ Date	In-depth readings for selected topics
1	**Overview: Issues and Methodologies; Word level representations**
1/5	---
2	**Speech Perception**
1/21	*1. Goldinger, S.D., Pisoni, D.B., Luce, P.A. (1996). Speech Perception and Spoken Word Recognition: Research and Theory (pp. 277-327). In N.J. Lass (Ed.) *Principles of Experimental Phonetics*. New York: Mosby. 2. *Liberman, A,. & Mattingly, I. (1985)*. The motor theory of speech perception revised. *Cognition, 21, 1-36*. *3. McClelland, J. & Elman, J, (1986). Interactive Processes in Speech Perception: The Trace Model (pp. 58-121). In J. McClelland, D. Rumelhart, et al. (Eds.) Parallel Distributed Processing, Vol 2. Cambridge, MA: MIT Press.
3	**Spoken Word Recognition**
1/29	1. Marslen-Wilson, W. (1989). Access and Integration: Projecting Sound onto Meaning. In W. Marslen-Wilson (Ed.) *Lexical Representation and Process* (pp. 3-24). Cambridge, MA: MIT Press. *2. Luce, P. & Pisoni, D. (1998). Recognizing spoken words: The neighborhood activation model. *Ear and Hearing, 19(1)*, 1-36.
4	**Visual Word Recognition**
2/5	1. Coltheart, M., Curtis, B., Atkins, P., & Haller, M. (1993). Models of reading aloud: Dual route and parallel-distributed-processing approaches. *Psychological Review, 100*, 586-608. OVID *2. Plaut, D., McClelland, J.L., Seidenberg, M.S., Patterson, K. (1996). Understanding Normal and Impaired Word Reading: Computational Principles in Quasi-Regular Domains. *Psychological Review, 103*, 56-115. OVID
5	**Sentence Level Representations**
2/12	**---**
6	**Sentence Processing: Parsing and structural ambiguity resolution**
2/19	1. Ferreira, F. & Clifton, C. (1986). The independence of syntactic processing. *Journal of memory and language, 25,* 348-368. 2. Frazier, L. & Rayner, K. (1982). Making and correcting errors during sentence comprehension: Eye movements in the analysis of structurally ambiguous sentences. *Cognitive Psychology, 14*, 178-210.1. 3. MacDonald, M.C., Pearlmutter, N.J., & Seidenberg, M.S. (1994). Syntactic ambiguity resolution as lexical ambiguity resolution (pp. 123-153). In C. Clifton, Jr., L. Frazier, K. Rayner (Eds.) *Perspectives on Sentence Processing*. Hillsdale, NJ: Erlbaum. 4. Trueswell, J. & Tanenhaus, M. (1994). Toward a lexicalist framework for constraint-based syntactic ambiguity resolution (155-179). In C. Clifton, Jr., L. Frazier, K. Rayner (Eds.) *Perspectives on Sentence Processing*. Hillsdale, NJ: Erlbaum.
7	**Sentence Processing: Interpretation of participant information**
2/26	**---**
8	**Mid Term Exam**
3/5	**---**
9	**Spring Recess**
3/12	**---**
10	**Discourse Processing: Situation models, anaphora, and inference**
3/19	**---**
11	**Production: Conversation**
3/26	**---**

12	**Production: Speech errors and syntactic priming**
4/2	1. Bock, K. & Huitema, J. (1999). Language Production. In S. Garrod & M. Pickering (Eds.) *Language Processing* (pp. 365-388). East Sussex, UK: Psychology Press. *2. Dell, G. (1986). A spreading Activation theory of retrieval in sentence production. *Psychological Review, 93*, 282-321.3. 3. Bock, J.K. & Lobell, H. (1990). Framing Sentences. *Cognition, 35*, 1-39.
13	**Biological Bases of language: Critical period, language disorders**
4/9	1. Bates, E., & Goodman, J. (1997). On the inseparability of grammar and the lexicon: Evidence from acquisition, aphasia and real-time processing. In G. Altmann (Ed.), Special issue on the lexicon, *Language and Cognitive Processes, 12*, 507-586. Download from:http://crl.ucsd.edu/~bates/papers.html 2. Saffran, E., Dell, G., & Schwartz, M. (2000). Computational Modeling of language disorders (pp. 933-948). In M. Gazzaniga (Ed.) The new cognitive neurosciences, 2nd ed. Cambridge, MA: MIT Press.
14	**First and second language acquisition, bilingualism**
4/16	*1. Rumelhart, D. & McClelland, J. (1986). On the learning the past tense of English verbs (pp. 216-271). In In J. McClelland, D. Rumelhart, et al. (Eds.) Parallel Distributed Processing, Vol 2. Cambridge, MA: MIT Press. 2. Pinker, S. (1991). Rules of language. Science, 253, 530-5. Reprinted in P. Bloom (Ed.) (1993) *Language acquisition Core readings* (pp. 5-48). Cambridge, MA: MIT Press, pp. 472-484). 3. Daugherty, K. & Seidenberg, M. (1992). Rules or connections? The past tense revisited (pp. 259-264). In *Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society*. Hillsdale, NJ: Erlbaum. 4. Saffran, J. Aslin, R., & Newport, E. (1996). Statistical learning by 8-month-old infants. Science, 274, 1926-1928. download from: www.bcs.rochester.edu/people/newport/saffran1996.pdf
15	**Is language uniquely human?**
4/23	**---**

Week/ Date	Internet Resources
1	**General Sources on the Study of Language**
1/5	http://www.emich.edu/~linguist/ is a site contains a lot of very useful and interesting information about the study of language. You might find particularly interesting the links to learning second languages under the category of Pedagogy and the Language Resources links which include dictionaries, and information about language families and endangered languages. You can get the Klingon language page if you click on Language Novelties http://www.psyc.memphis.edu/POL/POL.htm is a psycholinguistics megasite. It contains links to Psychology of Language Researchers , Language Labs and Programs, Organizations, Software, Corpora, Databases, Questionnaires, and Tests, and much more. http://www.utexas.edu/courses/linguistics/resources/psych contains short essays on topics we will be covering this semester. The runword site at http://www.cnbc.cmu.edu/~kello/runword.html contains software tools for running psycholinguistics experiments. This lexicographic site http://titania.cobuild.collins.co.uk/ has a number of interesting and useful features. You might enjoy the idiom of the day, enter the win a dictionary contest, or check out the wordwatch page which provides commentary on current English. Rhymezone, at http://www.rhymezone.com/, in addition to providing an electonic rhyming dictionary also has vocabulary quizzes, quotations, etc. http://psych.rice.edu/mmtbn/ contains brief discussions and demonstrations for most of the topics covered in class. The demonstrations do not appear to be Mac compatible. Interesting site on the Stroop Effect with Stroop demonstrations: http://faculty.washington.edu/chudler/words.html
2	**Speech Perception**
1/21	http://mambo.ucsc.edu/psl/speech.html is a megasite on speech perception. Here you find links to labs, conferences, organizations, journals, archives and much more. If you want to to hear samples of syntheitic speech and look at their corresponding speech spectograms, click on http://www.haskins.yale.edu/haskins/inside.html and go to the tools area. At http://www.psy.cmu.edu/~lholt/gallery.html you can experience various speech perception effects (Phonetic context, lexical context, and Semantic context) for yourself. At the Haskins Lab site at http://www.haskins.yale.edu/haskins/MISC/facilities.html, you can sample a VOT demonstration (Categorical Perception) and read more about motor theory (Gestural Model), or listen to sine wave synthesis demonstrations. http://mick.murraystate.edu/cdi615/Categrcl.htm provides a clear description of categorical perception

	A PCs only categorical perception demonstration can be found at http://www.ling.umu.se/~rand/KatPer/index.eng.html. A demonstration of the McGurk Effect with synthesized speech can be experienced at: http://mambo.ucsc.edu/demos.html. At http://www.media.uio.no/personer/arntm/McGurk_english.html you can experience the McGurk effect with natural speech. http://www.ling.su.se/staff/hartmut/i.htm allows you to explore the role of F0 in vowel perception.
3	**Spoken Word Recognition**
1/29	Get word frequency and lots of other types of norms at http://www.psy.uwa.edu.au/MRCDataBase/uwa_mrc.htm.
4	**Visual Word Recognition**
2/5	If you are interested in learning more about dyslexia, the following two URLs should be helpful: http://www.greenwood.org/resources/restea.html and http://www.greenwoord.org/roadmap/rdindex.html. The latter includes an extensive bibliography.
5	**Sentence Level Representations**
2/12	http://psych.rice.edu/mmtbn/
6	**Sentence Processing: Parsing and structural ambiguity resolution**
2/19	At this site http://www.cis.upenn.edu/~ircs/Trueswellabs/video.html you can find out about eye-tracking and view videos of head mounted eye-tracking while people are listening to ambiguous sentences.
7	**Sentence Processing: Interpretation of participant information**
2/26	You can read about some of the research that is done in my laboratory at http://psychling.buffalo.edu
10	**Discourse Processing: Situation models, anaphora, and inference**
3/19	**---**
11	**Production: Conversation**
3/26	**---**

12	**Production: Speech errors and syntactic priming**
4/2	http://www.utexas.edu/courses/linguistics/resources/psych contains classic short papers on topics such as slips of the tongue, language acquisition, critical periods, transcripts from Genie, neurolinguistics (including what handedness has to do with language) and animal communication (including an internet chat with Koko the Gorilla).
13	**Biological Bases of language: Critical period, language disorders**
4/9	http://www.utexas.edu/courses/linguistics/resources/psych contains classic short papers on topics such as slips of the tongue, language acquisition, critical periods, transcripts from Genie, neurolinguistics (including what handedness has to do with language) and animal communication (including an internet chat with Koko the Gorilla). Conversations with Neil's brain: information on aphasia, sturge-weber syndrome, dyslexia, bilingualism, language acquisition, critical periods in an engaging and accessible format. http://www.williamcalvin.com/bk7/bk7.htm

	http://www.bu.edu/aphasia/index.html links you to one of the major aphaisa research centers in the country.
14	**First and second language acquisition, bilingualism**
4/16	The Childes database contains transcribed language samples of children's language: http://childes.psy.cmu.edu/ http://www.utexas.edu/courses/linguistics/resources/psych contains classic short papers on topics such as slips of the tongue, language acquisition, critical periods, transcripts from Genie, neurolinguistics (including what handedness has to do with language) and animal communication (including an internet chat with Koko the Gorilla).
15	**Is language uniquely human?**
4/23	http://www.gsu.edu/~wwwlrc/index.html leads you to The Language Research Center for Primates. The site includes biographies of many primates who have participated in language studies. Click on the link to the apes to get to their biographies. http://www.utexas.edu/courses/linguistics/resources/psych contains classic short papers on topics such as slips of the tongue, language acquisition, critical periods, transcripts from Genie, neurolinguistics (including what handedness has to do with language) and animal communication (including an internet chat with Koko the Gorilla).

Bloom's Taxonomy

B. S. Bloom and his colleagues formulated a classification of "the goals of the educational process". They established a hierarchy of cognitive educational objectives, generally referred to as Bloom's Taxonomy, which divides these cognitive objectives into categories that range from the cognitively simplest behaviours to the most complex. In a way, these categories correspond to the degree to which material is learned or mastered.

Competence	**Knowledge**
Definition	ability to remember previously learned material
Behavior	recognizing previously learned facts or theories
Concrete example(s)	recognize common terms, specific facts, methods and procedures, basic concepts, principles when they are mentioned
Competence	**Comprehension**
Definition	ability to grasp the meaning of material
Behavior	**translating material from one form to another**, interpreting material, estimate future trends.
Concrete example(s)	convert tree sentence structure to labeled bracketing; restate or summarize theory; describe how an experimental outcome would be translated into a pattern of data
Competence	**Application**
Definition	ability to use learned material in new and concrete situations
Behaviors	may apply rules, methods, concepts, principles, laws, and theories to phenomena or data
Concrete example(s)	generate a sentence using phrase structure rules, predict recognition point for a nonword based on cohort model principles
Competence	**Analysis**
Definition	ability to break down material into component parts to understand its organizational structure
Behavior	identifying parts, analysis of relationship between parts; recognition of organizational principles underlying phenomena or domain
Concrete example(s)	identify unstated assumptions or logical fallacies in arguments; distinguish between facts and inferences; evaluate the relevancy of data to hypothesis, analyze the linguistic structure of a word, sentence, or text
Competence	**Synthesis**
Definition	ability to put parts together to form a new whole
Associated Behaviors	judge the adequacy with which conclusions are supported by data
Concrete example(s)	write an essay in which a set of abstract underlying relations across different domains is revealed
Competence	**Evaluation**
Definition	**judge the value of material for a certain purpose**
Behavior	evaluate argument, data, or theory using specified criteria
Concrete example(s)	judge the adequacy with which hypothesis, theory, or conclusions are supported by data; judge the adequacy of a model for explaining a set of phenomena

Extended Essay Question:

Is the human language processing system best described as being modular/autonomous or nonmodular/interactive?

To answer this question, you must construct your essay by drawing upon evidence from at least one topic in each of the following three domains. For each selected topic, you will be expected to have completed the more in-depth readings provided in your reading list. You may also find the following article useful in thinking through this question.

Boland, J. and Cutler, A. (1996). Interaction with autonomy: Multiple output models and the inadequacy of the Great Divide. *Cognition, 58*, 309-320.
Available from UB's on-line journal holdings.

Domain 1: Speech perception; Spoken word recognition; Visual Word Recognition

Domain 2: Sentence Processing; Production (Speech errors, Priming)

Domain 3:; Biological Bases of Language, First and Second Language Acquisition

Your essay may not exceed 15 double-spaced pages with 1-inch margins and a font no smaller than Times 10 pt. You are expected to use APA format for citations. References are not included in the page limit.