LIN 6932-2272: SECOND LANGUAGE ACQUISITION AND THE BRAIN
SYLLABUS, FALL 2007

CLASSROOM: AND 134
TIME: W 8-10th period

Instructor: Dr. Edith Kaan
Office: 4127 Turlington Hall.
Office Hours: T8 (3.00-3.50pm); R6 (12.50-1.40pm) and by appointment
Phone: (352) 392-6039 x 229
E-mail: kaan@ufl.edu

Prereqs:
LIN graduate core course, or equivalent in other disciplines. Please contact the instructor for permission.

Description:
This course deals with basic issues in second language acquisition, and how psycholinguistic and brain imaging techniques can be applied to address these issues. Topics include: introduction to brain imaging methods, anatomical and neural changes related to (language) learning, bilingual lexicon, second language sentence processing, learning sounds in L2, controlling multiple languages, and code switching. Also the issue of proficiency versus age of acquisition will be addressed.

Aims of this course:
- To learn the basic questions and terminology related to the neuro/psycholinguistics of second language acquisition
- To learn to evaluate psycho/neurolinguistic studies of second language acquisition in terms of their scientific and methodological aspects
- To improve oral presentation skills

Assignments:
Your grades will be based on: active participation in the class (5%), on paper summaries (15 %), on paper presentations (35 %), a final written assignment (40 %), and on participation in a planned group discussion on November 7 (5%).

Paper presentations:
- Approximately 25 minutes; 1 paper per presenter
- Powerpoint (mail to kaan@ufl.edu the night before; or bring a memory key or your own computer)
- Last slide has points for discussion, including questions from classmates (see below)
- Will be followed by a 15 minute group discussion
- Please don't hesitate to contact Dr. Kaan if you have questions when preparing your presentation

Paper summaries:
- Submitted by people **who are not presenting anything** in class
- Main purpose is to show that you have read the papers assigned for that week.

- Brief summary of what papers are about
- 1-2 pages long (for each paper)
- To be handed in in class, on the day of the presentation of those papers.
- At least 1 critical question/discussion point for each paper should be emailed to the class mailing list fall-2272-l@lists.ufl.edu the night before class (preferably sooner).
- Graded: 100 (ok), 50 (insufficient or incomplete), 0 (missing)

Final written assignment:

- About 10-15 pages long
- Structured like a journal article
- Contains an overview of the literature on a selected psycho/neurolinguistic topic
- Contains a proposal for a new, original experiment using the brain imaging methods discussed in class or patients with brain damage to investigate SLA.
- Topic should be chosen before November 14 (each will meet with Dr. Kaan around that time)
- Draft handed in before November 28 (email).
- Final version due: December 12, 2007 (both email and hardcopy)
- Students will give a brief presentation of their proposals in the last class

Grading:

91-100 = A	86-90.9 = B+	80-85.9 = B	75-79.9 = C+
70-74.9 = C	65-69.9 = D+	60-64.9 = D	Below 60 = E

Policies:

For academic honesty guidelines, see http://regulations.ufl.edu/chapter4/4017.pdf. Students are required to hand in all assignments. Please contact the instructor **in advance** if you need to skip a class, or cannot make a deadline. There will be no make-up presentations or extensions of homework and paper deadlines without a documented excuse.

Accomodations for students with disabilities:

Students requesting classroom accommodation must first register with the Dean of Students Office: http://www.dso.ufl.edu/drc. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

Course website

Class lectures and other useful information will be made available on the course website (vista.courses.ufl.edu). An interactive atlas for brain anatomy can be found at: http://www9.biostr.washington.edu/da.html. For other links, see the course website on Vista, and click “brain anatomy”.

Readings:

The list of readings can be found below. Readings can be obtained from the UF library website (e-journals). Where indicated, the reading is available through the course website on Vista (vista.courses.ufl.edu) or other electronic sites. In some cases, a hardcopy will be made available for you to xerox. Background readings pertain to the lecture and are optional; Discussion readings are required. NOTE: READINGS AND SCHEDULE BELOW ARE SUBJECT TO CHANGE!

Overview of the course (subject to change)

Week/date	**Discussions and required readings**	**Lecture**	**Background readings** * highly recommended
1 – *Aug 29*	*Syllabus*	Introduction	
2 – *Sept 5*		What happens in the brain when we learn? – *Guest lecture L. Vasquez 3-3.50pm*	*Ullman (2001) The neural basis of lexicon and grammar in first and second language: the declarative/procedural model. *Bilingualism: Language and Cognition* 4 (1), 105-122. Golestani, G., N. Molko, S. Dehaene, D. LeBihan and C. Pallier (2007) Brain structure predicts the learning of foreign speech sounds. *Cerebral Cortex*, 17(3): 575-582. Mechelli, A., Crinion, J. T., Noppeney, U., O'Doherty, J., Ashburner, J., Frackowiack, R.S., & Price, C.J. (2004). Structural plasticity in the bilingual brain. *Nature*, 431, 757.
3 – *Sept 12*		Where-techniques (fMRI)	*Stowe, Laurie A. and Laura Sabourin (2005) Imaging the processing of a second language: Effects of maturation and proficiency on the neural processes involved. *International Review of Applied Linguistics*, 43, 329-353. (until p 339) Caplan, D. (2007) Functional Neuroimaging Studies of Syntactic Processing in Sentence Comprehension: A Critical Selective Review. *Language and Linguistics Compass* 1/1–2 (2007): 32–47, 10.1111/j.1749-818x.2007.00005.x Indefrey, Peter (2006) A Meta-analysis of Hemodynamic Studies on First and Second Language Processing. *Language Learning* 56 supp1ement, 279-304. Perani, Daniela, and Abutalebi, Jubin (2005) The neural basis of first and second language processing, *Current Opinion in Neurobiology*, 15, 202-206. Fabbro, F. (2001). The bilingual brain: Cerebral representation of languages. *Brain & Language*, 79(2), 211-222.
4 – *Sept 19*	*Discussion: fMRI* 1: Kim, KHS, Relkin, NR, Kyoung-Min, L, Hirsch, J. (1997). Distinct cortical areas associated with native and second languages. *Nature*, 388, 171-174.	When-techniques (ERPs)	*Kaan, E. (In prep.) 'Event related potentials and language processing. A brief overview.' (Vista) *Stowe, Laurie A. and Laura Sabourin (2005) Imaging the processing of a second language: Effects of maturation and proficiency on the neural

			processes involved. *International Review of Applied Linguistics,* 43, 329-353. (p 339 onwards)
5 – *Sept 26*	*Discussion: ERPs* 1: Hahne, A. 2001. What's different in second language processing? Evidence from event-related brain potentials. *Journal of Psycholinguistic Research* 30:251-266.	On how to present L2 lexicon–*Guest lecture L. Edmonds*	Desmet, T. and Duyck, W. (2007) Bilingual Language Processing. Language and Linguistics Compass 1/3: 168–194, 10.1111/j.1749-818x.2007.00008.x Kroll, J.F. and Stewart, E. 1994. Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations. *Journal of Memory and Language*, 33, 149-74. Marian, V, Spivey. M. and Hirsch J. (2003) Shared and separate systems in bilingual language processing: Converging evidence from eyetracking and brain imaging. *Brain and Language* 86 (1) 70-82. *McLaughlin, J., Osterhout, L. and Kim, A. (2004), Neural correlates of second language word learning: minimal instruction produces rapid change. *Nature Neuroscience*, 7 (7), 703-704
6 – *Oct 3*	*Discussion: Lexicon* 1: Alvarez, R.P., P.J. Holcomb and J. Grainger (2003).Accessing word meaning in two languages: An event-related brain potential study of beginning bilinguals, *Brain and Language* 87, 290-304. 2: Klein, D. et al. (2006) Bilingual brain organization: a functional magnetic resonance adaptation study. *Neuroimage* 31, 366–375	Morpho-syntax	
7 – *Oct 10*	*Discussion: Morphosyntax* 1: Hahne, A. et al. (2006) Morphological processing in a second language:behavioral and event-related brain potential evidence for storage and decomposition. *Journal of Cognitive Neuroscience.* 18, 121–134 2: Sabourin, L. and M. Haverkort (2003).	Syntax-1	*Clahsen, H. and Felser, C. (2006) How native-like is non-native language processing? *Trends in Cognitive Science*, 10 (12), 564-570. Clahsen, H. and Felser, C. (2006) Grammatical processing in language learners. *Applied Psycholinguistics* 27, 3-42 Ferreira, F., and Patson, N.D. (2007) The 'Good Enough' Approach to

	Neural Substrates of representation and processing of a second language. In Van Hout, Hulk, Kuiken and Towell (eds.) The lexicon-syntax interface in second language acquisition. Amsterdam: John Benjamins, pages 175-195. (hardcopy only)		Language Comprehension *Language and Linguistics Compass* 1/1–2 (2007): 71–83 *Osterhout, L., McLaughlin, J. et al. (2006) Novice Learners, Longitudinal Designs, and Event-Related Potentials. *Language Learning* 56 supp1, 199-230
8 – *Oct 17*	*Discussion: Syntax-1* 1: Rossi, S., Gugler, M.F., Friederici, A.D., & Hahne, A. (2006). The impact of proficiency on syntactic second-language processing of German and Italian: evidence from event-related potentials. *Journal of Cognitive Neuroscience*, 18, 2030-2048. 2: Tokowicz., D. and B. McWhinney (2005).Explicit and Implicit measures of sensitivity to violations in second language grammar. *SSLA*, 27, 173-204.	Syntax-2	Felser, C., Roberts, L., and Marinis, Th., (2003). The processing of ambiguous sentences by first and second language learners of English. *Applied Psycholinguistics* 23:453-489. Desmet, T, and Declerq, M (2006) Cross-linguistic priming of syntactic hierarchical configuration information, *Journal of Memory and Language*, 54 (4), 610-632.
9 – *Oct 24*	*Discussion: Syntax-2* 1: Rüschemeyer, S-A., Fiebach, C.J., Kempe, V. & Friederici, A.D. (2005) Processing lexical semantic and syntactic information in first and second language: fMRI evidence from German and Russian. *Human Brain Mapping* 25, 266-286 2: Hasegawa M, Carpenter PA, Just MA (2002).An fMRI study of bilingual sentence comprehension and workload. *NeuroImage* 15 (3): 647-660.	Sounds	Näätänen, R. (2001). The perception of speech sounds by the human brain as reflected by the mismatch negativity (MMN) and its magnetic equivalent. *Psychophysiology*, *38* (1), 1-21.
10 – *Oct 31*	*Discussion: Sounds* 1: Winkler, I. Kujala, T., Tiitinen, H., Sivonen, P., Alku, P., Lehtokoski, CA., Czigler, I., Csépe, V., Ilmoniemi, RI, Näätänen, R. (1999) Brain responses reveal	Code Switching	Rodriguez-Fornells, A., R. De Diego Balaguer, and T.F. Munte (2006) Executive Control in Bilingual Language Processing, *Language Learning* 56 supp1, 133-90.

	the learning of foreign language phonemes *Psychophysiology, 36*, 638–642. 2*:* Wang, Y., Sereno, J.A., Jongman, A and Hirsh, J. (2003). fMRI Evidence for Cortical Modification during learning of Mandarin Lexical tone. *Journal of Cognitive Neuroscience*, 15 (7), 1019-1027.		
11– *Nov 7*	*Group discussion*	Proficiency versus critical period	Birdsong, David, and Molis, Michelle. 2001. On the evidence for maturational constraints in second-language acquisition. *Journal of Memory and Language* 44:235-249. Weber-Fox, Christine M., and Neville, Helen J. 1996. Maturational constraints on functional specializations for language processing: ERP and behavioral evidence in bilingual speakers. *Journal of Cognitive Neuroscience* 8:231-256. Weber-Fox, Christine M., and Neville, Helen J. 2001. Sensitive periods differentiate processing of open- and closed-class words: An ERP study of bilinguals. *Journal of Speech, Language, and Hearing Research* 44:1338-1353.
12– *Nov 14*	*Discussion: code switching* 1: Rodriguez-Fornells, A. et al. (2002) Brain potential and functional MRI evidence for how to handle two languages with one brain. *Nature* 415,1026–1029 2: Crinion, J, R. Turner, A. Grogan, T. Hanakawa, U. Noppeney, J.T. Devlin, T.Aso, S.Urayama, H. Fukuyama, K. Stockton, K. Usui, D.W. Green and C.J. Price (2006). Language Control in the Bilingual Brain. *Science*, 312, p. 1537-1540.	Lecture: TBA	Background: TBA
13– *No class*	*No class*	*No class*	*No class*
14 – *Nov 28*	*Draft of paper due* *Discussion:TBA*	Instructor evaluations	

	1: *2:* *3:*		
15 –*Dec 5*	Project presentations	Project presentations	
Dec 12	*Final version of paper due*		