

נוירובלשנות: שפה ומח (2 ש"ס)
קורס מספר: 0627-4077-01, תשע"ז, סמסטר ב'

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שעות קבלה: יש לתאם מראש באמצעות אימייל.
דרישות קדם: שיטות מחקר בפסיכובלשנות (או קורס דומה). אפשר גם במקביל

תיאור הקורס: נוירובלשנות הוא תחום מחקר בין-תחומי שמשלב נושאים מבלשנות, פסיכולוגיה ומדעי המוח הקוגניטיביים. הקורס מספק בסיס ללימודים מתקדמים בתחום הנוירובלשנות וכולל התמקדות במושגי יסוד, תיאור כללי של שיטות מחקר בתחום ושל גישות תיאורטיות ומחקריות שונות לשאלות בלשניות ופסיכובלשניות.

דרישות הקורס:

הצגת מאמרים בכיתה + הגשת שאלה לגבי המאמר: 15%
יש להגיש את השאלות לגבי המאמר המוצג בכיתה באותו השבוע עד שעה לפני השיעור.

מטלת טרום-ניסוי: 15%
בחינה סופית: 70%

מבנה הקורס:

שיעור 1-4: מבוא כללי למוח ושיטות מחקר בנוירובלשנות
שיעור 5: נושאים כלליים בנוירובלשנות: מודולריות ולטרליזציה
שיעור 6-7: אפזיה
שיעור 8-10: fMRI: הקרב על אזור ברוקה, אזורים שפתיים אחרים, מודל תפיסת דיבור
שיעור 11-13: ERP: P600, N400, אילוזיות סמנטיות

ייתכן ויחולו שינויים במבנה הקורס, בהתאם לקצב ההתקדמות בכיתה.

חומר הקריאה:

עבור חלק המבוא:

ניתן להעזר בפרקים 1-5 בספר: Ward, Jamie. The student's guide to cognitive neuroscience. Psychology Press

עבור השיעורים האחרים- להלן רשימת מאמרים לדוגמא. כל המאמרים הרלוונטים ידונו בכיתה ויופיעו באתר הקורס.

Topics in modularity and lateralization:

Apperly, I. A., Samson, D., Carroll, N., Hussain, S., & Humphreys, G. (2006). Intact first-and second-order false belief reasoning in a patient with severely impaired grammar. *Social Neuroscience*, 1, 334-348.

Balaban, N. (2010). *The linguistic consequences of acquired damage to Theory of Mind* (Doctoral dissertation, Tel Aviv University).

Dehaene, S., & Cohen, L. (1997). Cerebral pathways for calculation: double dissociations between Gerstmann's acalculia and subcortical acalculia. *Cortex*, 33, 219-250.

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- Takaya, S., Kuperberg, G. R., Liu, H., Greve, D. N., Makris, N., & Stufflebeam, S. M. (2015). Asymmetric projections of the arcuate fasciculus to the temporal cortex underlie lateralized language function in the human brain. *Frontiers in neuroanatomy*
- Varley, R. A., Klessinger, N. J., Romanowski, C. A., & Siegal, M. (2005). Agrammatic but numerate. *Proceedings of the National Academy of Sciences of the United States of America*, 102(9), 3519-3524.
- Vigneau, M., Beaucousin, V., Hervé, P. Y., Jobard, G., Petit, L., Crivello, F., ... & Tzourio-Mazoyer, N. (2011). What is right-hemisphere contribution to phonological, lexico-semantic, and sentence processing?: Insights from a meta-analysis. *Neuroimage*, 54(1), 577-593.

Topics in aphasia:

- Caplan, D., & Waters, G. (2003). On-line syntactic processing in aphasia: Studies with auditory moving window presentation. *Brain and Language*, 84(2), 222-249.
- Caramazza, A., & Zurif, E. B. (1976). Dissociation of algorithmic and heuristic processes in sentence comprehension: Evidence from aphasia. *Brain and Language*, 3, 572-582.
- Dronkers, N.F., Redfern, B.B. & Knight, R.T. (2000). The neural architecture of language disorders. In M.S. Gazzaniga (Ed.), *The New Cognitive Neurosciences*, Cambridge: The MIT Press, pgs. 949-958.
- Friedmann, N., & Gvion, A. (2003). Sentence comprehension and working memory limitation in aphasia: A dissociation between semantic-syntactic and phonological reactivation. *Brain and Language*, 86(1), 23-39.
- Linebarger, M. C., Schwartz, M., & Saffran, E. (1983). Sensitivity to grammatical structure in so-called agrammatic aphasics. *Cognition*, 13, 361-393.
- Zurif, E., Swinney, D., Prather, P., Solomon, J., & Bushell, C. (1993). An on-line analysis of syntactic processing in Broca's and Wernicke's aphasia. *Brain and language*, 45(3), 448-464.

Topics in fMRI:

- Bedny, M., Pascual-Leone, A., Dravida, S., & Saxe, R. (2012). A sensitive period for language in the visual cortex: distinct patterns of plasticity in congenitally versus late blind adults. *Brain and language*, 122(3), 162-170.
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- Binder, J. R., Desai, R. H., Graves, W. W., & Conant, L. L. (2009). Where is the semantic system? A critical review and meta-analysis of 120 functional neuroimaging studies. *Cerebral Cortex*, 19(12), 2767-2796.
- Caplan, D., Stanczak, L., & Waters, G. (2008). Syntactic and thematic constraint effects on blood oxygenation level dependent signal correlates of comprehension of relative clauses. *Journal of Cognitive Neuroscience*, 20, 643-656.
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Topics in ERP:

- Brouwer, H., Fitz, H., & Hoeks, J. (2012). Getting real about semantic illusions: rethinking the functional role of the P600 in language comprehension. *Brain research*, 1446, 127-143.
- Fischler, I., Bloom, P. A., Childers, D. G., Roucos, S. E., & Perry, N. W. (1983). Brain potentials related to stages of sentence verification. *Psychophysiology*, 20(4), 400-409.
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- Hahne, A., & Friederici, A. D. (1999). Electrophysiological evidence for two steps in syntactic analysis: Early automatic and late controlled processes. *Journal of Cognitive Neuroscience*, 11(2), 194-205.
- Halgren, E., Dhond, R. P., Christensen, N., Van Petten, C., Marinkovic, K., Lewine, J. D., & Dale, A. M. (2002). N400-like magnetoencephalography responses modulated by semantic context, word frequency, and lexical class in sentences. *Neuroimage*, 17(3), 1101-1116.
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