UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2020/21/2
Course:	Neurolinguistics of Multilingualism
Code:	PEDITNY017
Responsible department:	
Department code:	DITNY
Responsible instructor:	Valéria Csépe

Course objectives:

This PhD course aims at highlighting the most important theoretical and empirical issues of multilingualism with a special focus on the role and neural representation of language. For this the course participants will get basic knowledge that helps them to understand the neural processes and networks involved in acquisition, maintenance and loss of language or languages as well as the interaction between languages in bi- and multilingual speakers. The course provides a solid background to understand multilingualism from a multidisciplinary perspective as well as to follow the challenging questions of different research areas of neurolinguistics of bi- and multilingualism.

Course content:

TOPICS

I. ESSENTIALS FOR LANGUAGE AND BRAIN STUDIES

Fundamentals of the functioning brain

Methods used in studying language (EEG, MEG, PET, MRI)

Role of imaging technologies in studying language and brain

Neurological underpinnings of bilingualism

Methods used in looking for language areas in the human brain

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Course content:

Multidisciplinary studies of language

II. MAJOR RESEARCH AREAS OF MULTILINGUALISM

Language and brain theories for understanding speech acts

Specific (segmental and suprasegmental) properties of human speech

Memory system and linguistic performance

Executive functions and bilingual “advantage”

Reading acquisition in bilinguals

Neural representation of reading in multilinguals

Major research trends in bi- and multilingualism studies

Requirements, evaluation and grading:

Students have to write an assignment on the topic given at the course that must be submitted before the

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Requirements, evaluation and grading:

deadline. They are evaluated on a three-scale grading system: excellent (5), average (3) and fail (1).

Required and recommended readings:

SUGGESTED READING

Abutalebi, J., Della Rosa, P., Castro Gonzaga, A., Keim, R., Costa, A. and Perani, D. (2013) The role of the left putamen in multilingual language production. *Brain and Language* 125: 307–315.

Abutalebi, J. and Green D. (2007) Bilingual language production: The neurocognition of language representation and control. *Journal of Neurolinguistics* 20: 242–275.

Abutalebi, J. and Green D. (2008) Control mechanisms in bilingual language production: Neural evidence from language switching studies. Language and Cognitive Processes 23: 557–582.

Acheson, D., Ganushchak L., Christoffels I., Hagoort P. (2012) Conflict monitoring in speech production: Physiological evidence from bilingual picture naming. *Brain and Language* 123(2): 131-136.

Andrews, E. (2014) Neuroscience and Multilingualism, Cambridge University Press

Archila-Suerte, P., Zevin, J., Hernandez, A.E. (2015) The effect of age of acquisition, socio-educational status, and proficiency on the neural processing of second language speech sounds, Brain and Language, 141: 35–49.

Bialystok, E. (1999) Cognitive complexity and attentional control in the bilingual mind, Child Development 70(3): 636–644.

Bialystok, E. (2011) Coordination of executive functions in monolingual and bilingual children. Journal of Experimental Child Psychology 110: 461–468.

Bijeljac-Babic, R., Serres, J., Höhle, B., Nazzi, T. (2012) Effect of bilingualism on lexical stress pattern discrimination in French-learning infants, PLOS One DOI: 10.1371/journal.pone.0030843

Bice, K., Kroll, J.F. (2015) Native language change during early stages of second language learning, NeuroReport, 26. 966–971.

Branzi, F., Della Rosa, P., Canini, M., Costa, A., Abutalebi J. (2015) Language Control in Bilinguals: Monitoring and Response Selection. *Cerebral Cortex* 1–14.

Buchweitz, A., Shinkareva, S.V., Mason, R.A., Mitchell, T.M, Just, M.A. (2012) Identifying bilingual semantic neural representations across languages, Brain and Language, 120: 282–289

Cherodath, S., Singh, N.C. (2015) The influence of orthographic depth on reading networks in simultaneous biliterate children Brain and Language, 143: 42–51.

Costa, A., Sebastián-Gallés N. (2014) How does the bilingual experience sculpt the brain? Nature Reviews

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Required and recommended readings:

Neuroscience, 15: 336–345

Csépe Valéria (in press) The multilingual brain – Implications for the future In: Pfenninger S. E. &Navracsics J. (eds) Implications for the Future: Perspectives from Applied Linguistics, Multilingual Matters, Channel View Publications Ltd

García-Pentón, L., Perez Fernandez, A., Iturria-Medina, Y., Gillon-Dowens, M., Carreiras, M. (2014) Anatomical connectivity changes in the bilingual brain, *Neuroimage* 84: 495–504.

Golestani, N. (2014) Brain structural correlates of individual differences at low to high levels of the language processing hierarchy: A review of new approaches to bilingualism research. *The International Journal of Bilingualism* 18(1): 6–34.

Luk, G., Green, D., Abutalebi, J.,Grady, C. (2012) Cognitive control for language switching in bilinguals: a quantitative meta-analysis of functional neuroimaging studies. *Language and Cognitive Processes* 27: 1479–1488.

Miyake, A. and Friedman, N. (2012) The nature and organization of individual differences in executive functions: four general conclusions. *Current Directions in Psychology* 21(1): 8–14.

Mohades, S.G., Struys, E, Van Schuerbeek, P., Mondt, K.,Van Den Craen, P., Luypaert, R. (2012) DTI reveals structural differences in white matter tracts between bilingual and monolingual children, Brain Research, 1435: 72–80

Paap, K., Johnson, H., Sawi, O. (2015) Bilingual advantages in executive functioning either do not exist or are restricted to very specific and undetermined circumstances. *Cortex* 69: 265–278.

Park, H.R., Badzakova-Trajkov, G., K.E. Waldie, K.E. (2012) Language lateralisation in late proficient bilinguals: A lexical decision fMRI study, Neuropsychologia, 50:688–695

Richardson, F., Thomas, M., Filippi, R., Harth, H., Price, C. (2010) Contrasting effects of vocabulary knowledge on temporal and parietal brain structure across lifespan. *Journal of Cognitive Neuroscience* 22: 943–954.

Runnqvist, E., Strijkers, K., Alario, F., Costa, A. (2012) Cumulative semantic interference is blind to language: Implications for models of bilingual speech production. *Journal of Memory and Language* 66(4): 850–869.

Steinhauer, K. (2014) Event-related potentials (ERPs) in second language research: A brief introduction to the technique, a selected review, and an invitation to reconsider critical periods in L2, Applied Linguistics, 35: 393–41.