Syllabus:

University Unit:
Center for Biological and Health Sciences

Graduate Program:
Developmental Disorders

Degree:
☒ Master degree ☐ Professional Master degree ☒ Doctoral degree

Subject
New neuroscientific tools on the study of Developmental Disorders

Professor:
Paulo Sérgio Boggio

Observation:

Workload:	**Credits:**	
48 h/a	04	☐ Required ☒ Optative ☐ Elective

Syllabus:

The discipline deepens the study of the cognitive processes and their anatomofunctional correlates of different pathologies that fit the developmental disorders.
The focus of the discipline is on the different techniques in neuroscience that have been used to understand the cognitive, social and affective processes on both typical and atypical populations. We will presente techniques such as noninvasive brain stimulation, high-density electroencephalography, functional magnetic resonance imaging, functional near-infrared, psychophysiological measures (skin conductance and pupillary diameter) and eyetracking. We will also discuss the development of research protocols in neuroscience.

Program Content:

1) Transcranial direct current stimulation
2) Transcranial Magnetic Stimulation
3) High-density electroencephalography
4) Functional magnetic resonance imaging
5) Functional near-infrared imaging
6) Psychophysiological (skin conductance and pupillary diameter)
7) Eye-tracking

Evaluation Criteria

Evaluation:
According to the General Regulation of Stricto Sensu Post-Graduation, Art. 98:
A - excellent: corresponds to scores in the interval between 9 and 10;
B - good: corresponds to scores in the interval between 8 and 8.9;
C - regular: corresponds to scores in the interval between 7 and 7.9;
R - reproved: corresponds to scores in the interval between 0 and 6.9.

References

Senior, C., Russell, T., & Gazzaniga, M. S. (2006). Methods in Mind. Cambridge: The MIT Press.

Handy, T. C. (2004). Event-Related Potentials A Methods Handbook. Cambridge: The MIT Press.

Cabeza, R., & Kingstone, A. (2006). Handbook of Functional Neuroimaging of Cognition, (2nd Edition). Cambridge: The MIT Press.

Berger, T. W., & Glanzman, D. L. (2005). Toward Replacement Parts for the Brain Implantable Biomimetic Electronics as Neural Prostheses. Cambridge: The MIT Press.

Nicolson, R. I., & Fawcett, A. (2008). Dyslexia, Learning, and the Brain. Cambridge: The MIT Press.

Underwood, G. (2005). Cognitive Processes in Eye Guidance. Oxford: Oxford University Press.