
Testi del Syllabus

Resp. Did.	BERNARDIS PAOLO	Matricola: 009028
Docenti	BERNARDIS PAOLO, 6 CFU CHIANDETTI CINZIA, 1 CFU	
Anno offerta:	2023/2024	
Insegnamento:	968SV - COGNITIVE NEUROSCIENCE	
Corso di studio:	SM54 - NEUROSCIENZE	
Anno regolamento:	2022	
CFU:	7	
Settore:	M-PSI/02	
Tipo Attività:	C - Affine/Integrativa	
Anno corso:	2	
Periodo:	Primo Semestre	
Sede:	TRIESTE	



Testi in italiano

Lingua insegnamento	English
Contenuti (Dipl.Sup.)	Course arguments: - Introduction to cognitive neuroscience - Methods of cognitive neuroscience (EEG, ERP, fMRI, NIBS)- Vision (early visual processes + object and face recognition)- Attention and Space perception- Motor control (planning of movements and the dorsal stream)- Memory (Amnesia and medial temporal lobes + frontal contributions to memory and false memory)- The semantic system- Mathematical abilities- How to prepare an oral presentation. Prof. CHIANDETTI: Soft modularism: The core knowledge hypothesis.
Testi di riferimento	Main Textbook: Jamie Ward. (2020). The Student's Guide to Cognitive Neuroscience. Psychology Press: NY. 4th edition. Prof. CHIANDETTI: The paper (mandatory): VALLORTIGARA G, CHIANDETTI C, RUGANI R, SOVRANO VA, REGOLIN L (2010). Animal Cognition. Wiley Interdisciplinary Reviews: Cognitive Science (1) 882-893 Further reading (not mandatory) in Italian only: Chapter 2 - CHIANDETTI C, DEGANO E (2017). Animali. Capacità uniche e condivise tra le specie. Mondadori Università.
Obiettivi formativi	The course is intended to provide students with a brain-based account of cognition, and a broad knowledge of the neuroscience methods. 1. Knowledge and understanding. - knowledge of the basic principles and most up-to-date investigative techniques in the field of cognitive neuroscience; - knowledge of cognitive system architecture, and theoretical models.

2. Applying knowledge and understanding.

The students will be encouraged to propose how to apply his/her knowledge of the anatomy and physiology of the brain to models of human cognition. Moreover, he/she will be able to understand the basic functioning principles of the most commonly used techniques in cognitive neuroscience.

3. Making judgements

The student will be able to have a comprehensive understanding of the cognitive system. In particular, he/she will be able to understand how cognitive processes can be plausibly implemented in the nervous system.

4. Communication skills.

During the course the student will improve his knowledge of technical and scientific terms necessary to describe cognitive processes and psychological theories. Appropriateness of language will be assessed during the written examination.

5. Learning abilities.

Learning skills will be fostered by hands-on labs on some of the experimental techniques explained during the course.

Prerequisiti

None

Metodi didattici

Theoretical lectures and workgroups

Altre informazioni

Scientific papers, web links, and pdfs of lectures will be provided during the course and can be downloaded from the course website on MS Teams.

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Any changes, necessary to ensure the application of the safety protocols related to the COVID19 emergency, will be communicated on the Course website.

Modalità di verifica dell'apprendimento

EXAMINATION:

The oral part consists of an oral presentation of a short scientific article to the class. The list of articles and instructions on how to prepare the presentation will be provided during the course. The grade (0 to 2 points) is in addition to the grade for the written part.

The written part consists of 5 open-ended questions to be completed within one hour. Each answer will be scored on a scale of 0 to 6 points, and the total score will be determined by the sum of the individual scores. A minimum score of 18/30 is required to pass the exam.

Programma esteso

An extensive exposition of the cognitive neuroscience methods: electrophysiology, brain imaging, patients' studies, and non-invasive brain stimulation. The main theories and findings in the fields of high- and low-level vision, space perception, memory, mathematical abilities, and the semantic system.

The course will be organized in two parts: 46 Hs of introductory theoretical lectures, 8 of which are conceived as a specific seminar dedicated to comparative cognition, and held by prof. Cinzia Chiandetti. The seminar will focus on the core knowledge hypothesis, showing how studies on non-human animals, infants and tribal populations can shed light on the existence of raw mechanisms predisposed in the brain, shared by species, and at the basis of further learning abilities in the domains of space, number, intuitive physics and psychology.

The second part is devoted to students' presentation (8 hs) of scientific articles. Each student is expected to give an oral presentation to the class of a scientific paper in the journal club format. The article will be chosen from a selection provided by the professor during the course. Students are encouraged to use electronic presentations. The

presentation is mandatory.
The list of papers will be available during the course.

Obiettivi Agenda 2030 per lo sviluppo sostenibile

The course relates to specific objectives of the 2030 Agenda when it informs about the physiological and pathological functioning of the nervous system (3-Salute e benessere) suggesting areas of diagnosis and intervention and when it provides knowledge about cognition and behavior as derived from the study of animal models (14-La vita sott'acqua; 15-La vita sulla terra).

Obiettivi per lo sviluppo sostenibile

Codice	Descrizione
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Testi in inglese

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