


Due to the COVID-19 crisis, the information below is subject to change, in particular that concerning the teaching mode (presential, distance or in a comodal or hybrid format).

3 credits	30.0 h	Q1
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Teacher(s)	Mouraux André ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	<i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>
Main themes	<p>This course provides an introduction to the basic concepts of cognitive neuroscience, including recent electrophysiology and functional neuroimaging techniques used in basic and clinical research in psychology.</p> <p>The course is organized into a series of chapters:</p> <ul style="list-style-type: none"> - Introduction to the different methods used in cognitive neuroscience, in particular, electrophysiological techniques and recent techniques of functional neuroimaging. - Study of the neurophysiological mechanisms involved in memory and learning. - Study of the neurophysiological mechanisms involved in attention. - Study of neurophysiological mechanisms involved in language. - Study of the neurophysiological mechanisms underlying the expression and perception of emotions. - Study of the neurophysiology of addictions and motivations. <p>These various chapters will be studied through experimental observations carried out in man or animals. A particular emphasis will be placed on the neurobiological mechanisms of neuroplasticity, underlying our adaptability and individuation.</p>
Aims	<p>At the end of the course, the student</p> <ul style="list-style-type: none"> - Must be able to understand and explain the neurophysiological foundations of memory and learning, attention, expression and perception of emotions, motivations, language. - Must be able to understand the interest and limitations of the different methods of functional exploration of the central nervous system (electrophysiological techniques, functional neuroimaging techniques) and how they are used to study the biological foundations of cognitive functions in humans and animals. - Must have developed a capacity to address scientific literature in the field of cognitive neuroscience. <p>1 In the light of the learning outcomes framework, the course is aimed primarily at getting students to: A1. Master knowledge that allows to explain and understand an individual, a group or an organization, and more specifically to understand and to explain the biological foundations of behaviour and cognition</p> <p>The course aims to bring students to:</p> <p>E1. Master the stages, methodologies and tools of scientific research in psychology and educational sciences, to identify sources of relevant information in relation to a research issue, and to understand the strengths and weaknesses of the methodologies mainly used in contemporary research in the field.</p> <p>E2. Identify the contribution of scientific research in psychology and given situations, making a critical analysis of the existing literature on a research issue in the field</p> <p>-----</p> <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></p>
Content	<p>This course provides an introduction to basic concepts of cognitive neuroscience, including recent techniques in electrophysiology and functional neuroimaging used in basic and clinical research in psychology. Different themes will be addressed through experimental observations. Particular emphasis will be placed on the neurobiological mechanisms of neuroplasticity, underlying our capacity for adaptation and our individuation.</p> <p>Topics</p> <p>(1) Introduction to the different methods used in cognitive neuroscience, in particular, electrophysiological functional neuroimaging techniques. (2) Neurophysiological mechanisms involved in memory and learning. (3) Neurophysiological mechanisms involved in attention. (4) Language and hemispherical lateralization of cognitive functions. (5) Neurophysiological mechanisms underlying the expression and perception of emotions. (6) Neurophysiology of addictions and motivations. (7) Sleep and rhythms.</p>

Other infos	The courses listed below provide an important basis for understanding and integrating the subject matter of this course. LPSP1001 General Psychology LPSP1005 General biology, including elements of human genetics LPSP1006 Human physiology, including elements of neurophysiology
Faculty or entity in charge	EPSY

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Psychology and Education: General	PSP1BA	3	LPSP1005 AND LPSP1006 AND LPSP1001	
Bachelor in Psychology and Education : Speech and Language Therapy	LOGO1BA	3	LPSP1005 AND LPSP1006 AND LPSP1001	