

2.00 credits

22.5 h

Q2

Teacher(s)	Duque Julie (coordinator) ;Hardwick Robert ;Liberati Giulia ;
Language :	French > English-friendly
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	<ul style="list-style-type: none"> <li>• Nociception and pain</li> <li>• Motor learning and brain plasticity</li> <li>• Sleep</li> <li>• Frontoparietal associative areas and complex brain functions</li> </ul> <ol style="list-style-type: none"> <li>1. Visual-motor coordination</li> <li>2. Intention of the movement</li> <li>3. Representation of gestures</li> <li>4. Representation of space</li> <li>5. Decision</li> <li>6. Action planning</li> <li>7. Action selection</li> </ol> <ul style="list-style-type: none"> <li>• Motivation</li> <li>• Reward</li> <li>• Dopamine</li> </ul>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <ul style="list-style-type: none"> <li>• Demonstrate knowledge and understanding of nociception and pain mechanisms. (2.1, 11.1,11.3)</li> <li>• Demonstrate knowledge and understanding of the mechanisms relating to motor learning and brain plasticity. (2.1, 5.1, 5.3, 11.1, 11.2,11.3)</li> <li>• Demonstrate knowledge and understanding of the associative functions supported by the frontoparietal cortex. (2.1, 5.1, 11.1, 11.2, 11.3)</li> <li>• Demonstrate knowledge and understanding of motivational mechanisms and their impact on motor behavior. (2.1, 11.1, 11.2, 11.3)</li> <li>• Demonstrate knowledge and understanding of the neurobiology and functions of sleep (2.1, 5.1, 5.3, 11.1, 11.2,11.3)</li> </ul>
Bibliography	<p><b>Neurosciences</b></p> <p><a href="#">Dale Purves</a>, <a href="#">George J Augustine</a>, <a href="#">Jennifer M. Groh</a>, <a href="#">Scott A. Huettel</a> , <a href="#">Anthony-Samuel LaMantia</a>, <a href="#">Léonard White</a>  Traducteur : <a href="#">Philippe Gailly</a>, <a href="#">Nicolas Tajeddine</a>, <a href="#">Jean-Marie Coquery</a>  De Boeck Supérieur  7e édition - juillet 2025 - 912 pages - ISBN 978-2-8073-4831-8</p>
Other infos	This course is strictly reserved for FSM students. It is not open to other UCLouvain students.
Faculty or entity in charge	FSM

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Physiotherapy and Rehabilitation	KINE1BA	2	LFSM1101 AND LFSM1104 AND LFSM1105	