Faculty of Medecine

IEPR1024 — Fundementals of neurophysiology and neuropsychology in motor control and motor learning

[45h+0h exercises] 5 credits

Teacher(s):	Marcus Missal, Etienne Olivier
Language:	French
Level:	First cycle

Aims

- To study the normal function of the sensory systems, especially the visual and somatosensory systems.
- To study the neurophysiological mechanisms responsible for controlling movements, from the simple reflexes to the most sophisticated voluntary hand movements.
- To investigate the neural basis of learning and memory.
- To provide the basic knowledge for further advanced Neuroscience courses.

Main themes

- Introduction to the most important techniques in Neurosciences: recordings, reversible lesions, transcranial magnetic stimulation, functional brain imaging¿
- Receptors and transduction mechanisms
- Central processing of sensory informations: vision, tactile, pain, proprioception and balance.
- Motor control: spinal reflexes, muscle tone, posture, corticospinal system, motor cortical areas, basal ganglia, cerebellum, voluntary movements, locomotion, motor coordination¿
- Sensori-motor integration; role of the posterior parietal cortex in movement control.
- Distinct forms of learning and memory.

Content and teaching methods

- Introduction to the most important techniques in Neurosciences: recordings, reversible lesions, transcranial magnetic stimulation, functional brain imaging¿
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Other credits in programs

KINE12BA	Deuxième année de bachelier en kinésithérapie et réadaptation	(5 credits)	Mandatory
PSY2	Licence en sciences psychologiques	(2 credits)	