Clinical neurosciences

Coordinator
Prof. SERVIDEI SERENELLA
Course Code
ML4201
CUIN Code
571700352
Year Course
4
Semester
2
UFC
12

Modules

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<tr>
<th>Course Code</th>
<th>Module Details</th>
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<tr>
<td>ML4260</td>
<td>Clinical physiology I (BIO/09)</td>
<td>1 UFC Di base (A)</td>
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<td>ML4250</td>
<td>Neurology (MED/26)</td>
<td>3 UFC Caratterizzanti (B)</td>
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<td>ML4251</td>
<td>Neurosurgery (MED/27)</td>
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<td>ML4252</td>
<td>General principles of neuroradiology (MED/37)</td>
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<td>Psychiatry (MED/25)</td>
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Lecturers

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Aim

The course is divided in 4 strongly integrated didactic modules with the following objectives:
- to give students basic knowledge of etiology, pathogenesis, diagnosis, management, treatment and prevention of diseases in Neurology, Neurosurgery and Psychiatry
- to teach students to develop a correct approach to diagnosis and management of common and rare disorders, to recognize symptoms and formulate differential diagnosis based on signs and symptoms, to use and interpret common diagnostic exams in Neurophysiology and Neuroradiology and to develop a systematic approach to manage both common and rare diseases
- to provide students with the skills and knowledge to initiate the development of a patient-specific plan of care
- to help students to improve their ability to think, both critically and analytically
- to help students to develop professional responsibility as individuals and as a team member, with other members and with patients and families

Students will have the opportunity to rotate in Neurology and Neurosurgery wards, Stroke unity, outpatient clinics, Neurophysiopathology Unit (EEG, EMG, Evoked Potentials), Neuropsychology Unit and Neuroradiology. Students are required to:
- observe patient interview
- independently obtain and present a complete neurological history
- observe neurological examination
- independently perform neurological examination
- present and document patient case both in neurology and in neurosurgery
- suggest appropriate diagnostic studies to the evaluation of patients
- write patient note
- review and discuss relevant clinical literature to specific neurological problems

**Program**

**Neurology**
- Approach to the patient with neurologic diseases
- Neuropsychology and cognitive functions
- The neurology of aging
- Dementia and related disorders
- Disorders of motility
- Cerebellar syndromes
- Parkinson disease and related disorders
- Chorea and dystonia
- Diseases of spinal cord
- Diseases of motoneurones
- Diseases of peripheral nerves
- Principle of clinical myology
- Muscular dystrophies and related disorders
- Mitochondrial Myopathies
- Inflammatory Myopathies
- Paraneoplastic syndromes
- Myasthenia gravis and related disorders
- Cerebrovascular diseases
- Headache and pain
- Multiple sclerosis and related disorders
- Acquired metabolic disorders of the Nervous System
- Encephalitis
- Neuropsychology of Central Nervous System
- Neuropsychology of Peripheral Nervous System
- Epilepsy and disorders of consciousness

**Neurosurgery**
- Historical aspects of Neurosurgery and Physiopathology of the intracranial system
- Clinical examination of the nervous system and correlative neuroanatomy
- Diagnostic tests: CSF examination, electrodiagnostic test, CT, MRI, DSA, PET
- New tools in Neurosurgery
- Hydrocephalus and its treatment
- Gliomas and metastatic brain tumor
- Cerebellopontine angle tumors and posterior fossa tumors
- Sellar and parasellar tumors
- Meningiomas and tumors of the scalp and skull
- Spinal tumors, epidermoid and dermoid tumors, tumors in the region of pineal gland
- Adjunctive therapy of the CNS tumors
- Intracranial aneurysms
- Vascular malformation and fistulas (cerebral and spinal)
- Trauma (biomechanics, pathophysiology and neurological evaluation)
- Traumatic intracranial hematomas and spinal trauma
- Intervertebral disc disease and other spinal disorders
- Pain and its therapy (trigeminal neuralgia, chronic intractable pain)
- Epilepsy surgery
- Disorders of peripheral nervous system
- Developmental anomalies: cranial and spinal disraphism
- Chiari malformations, intracranial arachnoid cysts, Dandy-Walker Syndrome
- Craniosynostosis and hydrocephalus
- Translational research in Neurosurgery

**Psychiatry**
- General principles of neuroradiology
- General principles of Neuroradiology
- Cerebrovascular diseases
- Dementia and other neurodegenerative disorders
- Multiple sclerosis and related disorders
- Brain tumors
- Trauma

**Psychiatry**
- Principles of general psychopathology
- The psychiatric examination
- Nosology in Psychiatry
- Diagnostic issues in Psychiatry
- Schizophrenia spectrum disorders
- Other psychotic disorders
- Depressive disorders
- Bipolar disorders
- Anxiety disorders
- Somatic symptom and related disorders
Dissociative Disorders
Trauma and stressor-related disorders
Addictive disorders and substance-related disorders
Eating disorders
Obsessive-compulsive and related disorders
Disruptive, impulse control and conduct disorders
Psychosexual and Personality disorders
Pharmacotherapy in Psychiatry
Psychotherapy in Psychiatry
Rehabilitation and community Psychiatry

Clinical Physiology I
The neural correlates of high order brain functions and their alterations in neurological diseases:
- motor control;
- attention and executive functions;
- decision making;
- brain rhythms, sleep and wakefulness;
- learning and memory;
- harnessing neuroplasticity for clinical applications

Course structure
Lectures. Self-learning, problem-based learning, group practical activities.

Evaluation method
The exam is composed of multiple-choice questions (test items) regarding all modules. Items to be administered during the Tests will address issues related to the content of each disciplines (modules) and the number of items for each discipline will be proportional with the number of CFU/hours administered during the course.

Bibliography

Notes
During exams, any portable electronic devices including mobile phones, must be switched off and put over the desk inside an envelope given by the Course Coordinator.
The only exception to this rule is if the Course Coordinator gives specific permission to use any device. Violations will be referred to the Disciplinary Committee.