



## SUBJECT OUTLINE

### 1. Programme of study description

1.1.	<b>”CAROL DAVILA” UNIVERSITY OF MEDICINE AND PHARMACY</b>
1.2.	<b>THE FACULTY OF MEDICINE / THE 6<sup>th</sup> CLINICAL DEPARTMENT: CLINICAL NEUROSCIENCES</b>
1.3.	<b>DISCIPLINE: NEUROLOGY</b>
1.4.	<b>DOMAIN OF STUDY – HEALTHCARE – regulated sector within the EU</b>
1.5.	<b>CYCLE OF STUDIES: BACHELOR’S DEGREE</b>
1.6.	<b>PROGRAMME OF STUDY: MEDICINE</b>

### 1. Subject description

2.1.	<b>Name of the subject/compulsory subject/elective subject within the discipline: NEUROLOGY</b>						
2.2.	<b>Location of the discipline:</b>						
2.3.	<b>Course tenured coordinator:</b>						
2.4.	<b>Practicals/clinical rotations tenured coordinator:</b>						
2.5. Year of study	V	2.6. Semester	IX and X	2.7. Type of assessment	Clinical and written exam	2.8. Subject classification	Mandatory Specialty Discipline

### 2. Total estimated time (hours/semester of didactic activity) – teaching module

Number of hours per week	25	Out of which: course	10	Clinical seminar	15
Total number of hours from curriculum	105	Out of which: course	42	Clinical seminar	63
Distribution of the allocated time	5 weeks Neurology (of which 4 hours lectures and 6 hours practical sessions of Neurosurgery)				
Study from textbooks, courses, bibliography, and student notes					<i>individual study with personalized duration besides teaching hours</i>
Additional library study, study on specialized online platforms and field study					<i>same</i>
Preparing seminars / laboratories, assignments, reports, portfolios and essays					<i>same</i>
Tutoring					<i>same</i>
Examinations					<i>3 hours/ student</i>

<b>Other activities</b>		
<b>3.7. Total hours of individual study</b>		- <i>personalized, 2 hours/ day/ student (besides teaching hours)</i>
<b>3.10. Number of credits</b>		<b>8</b>

#### 4. Prerequisites (where applicable)

<b>4.1. of curriculum</b>	Not applicable
<b>4.2. of competence</b>	Not applicable

#### 5. Requirements (where applicable)

<b>5.1. of lectures progress</b>	Not applicable
<b>5.2. of seminar / laboratory progress</b>	Not applicable

#### 6. Acquired specific competencies

<b>Professional competencies (expressed through knowledge and skills)</b>	<ul style="list-style-type: none"> <li>• Description of concepts, theories and fundamental notions regarding the mechanisms of diseases, the signs and symptoms characteristic for each disease, useful for clinical diagnosis in neurology</li> <li>• The correct diagnosis of neurological syndromes, of neurological diseases with increased incidence and prevalence in the general population and of medical emergencies (due to the risk of death and major disability)</li> <li>• The correct management of neurological emergencies in the pre-hospital phase, including addressing them to the nearest neurology department able to provide competent specialized assistance</li> <li>• The description of the mechanisms of action of the main drugs used in neurological conditions, their indications and contraindications, adverse effects and therapeutic resources used in medical practice, as well as the identification of basic life support maneuvers in first aid or emergency conditions in neurology</li> <li>• The correct assessment of the risk of acquiring a disease or the context of the occurrence of an individual/collective illness, followed by the choice and application of appropriate preventive measures</li> </ul>
<b>Transversal competencies (of role, of professional and personal development)</b>	<ul style="list-style-type: none"> <li>• Identifying the objectives to be achieved, the available resources, the conditions for their completion, work stages, working times, related deadlines and related risks in various neurological pathologies</li> <li>• Identifying the roles and responsibilities in a multidisciplinary team, applying effective work techniques within a team and in direct relationship with the neurological patient</li> </ul> <p>The efficient use of information resources and communication resources and assisted professional training (internet portals, specialized software applications, databases, online courses, etc.) both in Romanian and in an international language</p>

#### 7. Subject learning objectives (based on the scale of acquired specific competencies)

<b>7.1. . General learning objectives</b>	Identifying the state of the disease, the degree of medical emergency, as well as establishing the correct diagnosis of the neurological condition(s). Cultivating the principles of medical ethics in neurology
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<b>7.2. Specific learning objectives</b>	<p>Conception and application of a therapeutic plan suitable for the identified neurological condition</p> <p>Establishing solid and effective communication relationships between doctor and patient, developing doctor-patient, doctor-patient's family or relatives relationship</p>
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## 8. Content

<b>8.1. Teaching lectures for English language modules</b>	<b>Teaching methods</b>	<b>Observations</b>
<p>Course 1: Notions of neurobiology and the functional organization of the nervous system. Motility. Upper motor neuron syndrome</p> <p>Course 2: Lower motor neuron syndrome</p> <p>Course 3: Basal ganglia - anatomy and physiopathology. Parkinsonian syndrome and involuntary movements</p> <p>Course 4: Parkinson's disease and parkinsonian syndromes</p> <p>Course 5: Choreic syndromes. Wilson's disease, Huntington's disease and dystonias</p> <p>Course 6: The cerebellum and coordination</p> <p>Course 7: Somesthetic sensitivity. Nociceptive and neuropathic pain</p> <p>Course 8: Cranial nerves I-VI – anatomy, clinical syndromes</p> <p>Course 9: Cranial nerves: VII-XII – anatomy, clinical syndromes</p> <p>Course 10: Consciousness in normal and pathological conditions (sleep, coma, brain death)</p> <p>Course 11: Cortical syndromes: aphasia, apraxia, agnosia, memory disorders</p> <p>Course 12: Vascular system of the brain. Ischemic stroke</p> <p>Course 13: Cerebral and subarachnoid hemorrhage</p> <p>Course 14: Cerebral venous thrombosis. Spinal vascular disease</p> <p>Course 15: Primary and secondary headaches</p> <p>Course 16: Neurocognitive disorders</p> <p>Course 17: Epileptic seizures and adult epilepsy</p>	<p>The courses are held in a room technically equipped for this purpose (PC, video projector, magnetic board). The courses have electronic support.</p>	<p>The courses are updated in terms of information, according to textbooks, national and international practice guidelines, specialized journals, books edited by the teaching staff of the discipline as well as new data on specialized websites</p>

Course 18: Neuroinfections		
Course 19: Multiple sclerosis and other demyelinating diseases		
Course 20: Peripheral nerve disorders		
Course 21: Muscular and neuromuscular junction diseases		
<b>8.2. Clinical seminars</b>	<b>Teaching methods</b>	<b>Observations</b>
1. Anamnesis. Particular clinical attitudes	<i>The teaching methods are aimed at getting familiar with the neurological patient, knowing the ethical principles and communication techniques with the patient and his family, knowing the specific methods of diagnosis and treatment, interpreting the results of imaging and laboratory examinations specific to neurological pathology. Presentations of clinical cases daily, with different degrees of difficulty, in accordance with the study program Encouraging interactive discussions and the active participation of students based on the presented clinical cases, diagnostic algorithms and treatment plans for neurological conditions</i>	
2. Diagnosis of meningeal syndrome		
3. Motor examination		
4. Examination of sensibility		
5. Cranial Nerves Examination		
6. Spinal nerves examination		
7. Autonomic nervous system examination		
8. Language examination Praxia and gnosis examination		
9. Minimal neuropsychological examination		
10. Consciousness state examination		
11. Examination of patients in status of coma		
12. Examination of stroke patients (TIA, ischemic or haemorrhagic stroke, venous)		
13. Examination of patients with epilepsy		
14. Examination of patients with Parkinson's disease and other parkinsonian syndromes		
15. Examination of patients with chorea		
16. Examination of patients with ataxia		
17. Examination of patients with acute and chronic peripheral neuropathies		
18. Examination of patients with muscular disorders		
19. Examination of patients with multiple sclerosis		
20. Examination of patients with medullary syndromes		

21. Examination of patients with brain tumors		
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**Bibliography for course and seminars**

- Harrison's Principles of Internal Medicine (Neurologic Disorders) – any edition starting with the XVII<sup>th</sup>
- Adam Feather, David Randall, Mona Waterhouse: "Kumar și Clark Clinical Medicine" 10<sup>th</sup> Edition, Romanian, Hipocrate Publishing House, Bucharest, 2021, 26<sup>th</sup> chapter Neurology
- Geraint Fuller – "Clinical Neurological Examination", Callisto Publishing, 2007

## 9. Corroboration of the subject content with the expectations of the representatives of the epistemic community, professional associations and major employers in the field of the programme of study

<p>The professional training of the 5<sup>th</sup> year student in the Neurology Discipline follows 3 coordinates:</p> <ul style="list-style-type: none"> <li>• Establishing a correct diagnosis and formulating an appropriate treatment scheme</li> <li>• Development of the future doctor's communication techniques with the patient and his family</li> <li>• Development of the future doctor's communication and negotiation skills with potential employers, starting from the knowledge of basic notions of medical legislation and labor legislation, knowledge that will be developed during further medical training.</li> </ul>
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## 10. Assessment

Type of activity	Assessment criteria:	Assessment methods:	Assessment weighting within the final grade
<b>10.1. Course</b>	- the level of acquired knowledge of diagnosis and treatment of neurological disorders	Written exam with 15 questions with open answers, from the displayed topic: <ul style="list-style-type: none"> <li>- 10 from general and adult neurology (68%)</li> <li>- 4 from pediatric neurology (26%)</li> <li>- 1 from neurosurgery (6%)</li> </ul>	90%
<b>10.2 Clinical Seminar / laboratory</b>	<ul style="list-style-type: none"> <li>- Involvement in the daily activity at the bedside</li> <li>- Involvement in case presentations and interactive discussions</li> <li>- neurological examination skills</li> <li>- seminars attendance</li> </ul>	Practical exam consisting in performing neurological diagnostic maneuvers and their interpretation	Clinical/practical examination: 10 % <i>Obs.: the practical exam takes place before the written exam and is eliminatory</i>

### Minimal performance standards

- The passing grade is grade 5.  
The final grade is determined based on the evaluation criteria taken into account in a weighted manner with the ratio 10% (clinical), 90% (written)
- The practical exam is the eliminatory test, the minimum passing grade being grade 5. Students who do not meet the criteria related to program attendance are not accepted for the practical exam. The grade for the practical exam also takes into account the degree of involvement and participation of the student throughout the internship.
  - The minimum passing grade for the written exam is grade 5.

**Date of filling:**

**20 oct 2022**

**Signature of the course  
tenured coordinator**

**Signature of the seminar  
tenured coordinator**

**Date of approval in the Council of  
the Department:**

**Signature of the Head of the Department**

**Conf Dr Cristina Aura Panea**