

**COURSE DATA****Data Subject**

<b>Code</b>	33009
<b>Name</b>	Nervous system diseases and therapeutic focus on the nervous system
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2023 - 2024

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1202 - Degree in Physiotherapy	Faculty of Physiotherapy	2	Second term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1202 - Degree in Physiotherapy	7 - Medical conditions and surgical conditions and their treatments	Basic Training

**Coordination**

<b>Name</b>	<b>Department</b>
ARNAL GOMEZ, ANNA	191 - Physiotherapy
CORTES AMADOR, SARA ISABEL	191 - Physiotherapy

**SUMMARY**

- Physiopathology of the nervous system illnesses
- Clinical manifestations of the different illnesses that affect the nervous system.
- Medical and surgical treatments of the nervous systems illnesses.
- Recognition and measurement of the symptoms of the different illnesses.
- Recognition of the time course of the illness.

**PREVIOUS KNOWLEDGE**



### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

## OUTCOMES

### 1202 - Degree in Physiotherapy

- Students must have acquired knowledge and understanding in a specific field of study, on the basis of general secondary education and at a level that includes mainly knowledge drawn from advanced textbooks, but also some cutting-edge knowledge in their field of study.
- Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.
- Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.
- Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.
- Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.
- Know and understand people's morphology, physiology, pathology and behaviour under health and sickness in the natural and social environments
- Recognise vital risk situations and be able to execute basic and advanced life support manoeuvres.
- Respect fundamental rights and equality between men and women.
- Recognise diversity, multiculturalism, democratic values and peace culture.
- Work in teams.
- Have the ability to organise and plan work.
- Know the general aspects of the endogenous and exogenous aetiology pathology of the locomotor, respiratory, cardiovascular and nervous systems.
- Know the structural, physiologic and functional changes that occur as a consequence of physiotherapy intervention.
- Know how to recognise and assess the symptoms of the diseases.
- Recognise the evolution momentum of the learnt diseases.
- Know the diverse medical and surgical treatments of the studied diseases.
- Promote the participation of the users and their families in the recovering process.



## LEARNING OUTCOMES

The student will know the characteristic features of the pathology of the nervous system, the time course of the same and medical treatments that are applied in each case.

## DESCRIPTION OF CONTENTS

### 1. Unit 1. General concepts of the nervous system

Lesson 1 Introduction to the Nervous System and advances in Neuroscience

Lesson 2 Multidisciplinary Study of the Patient with neurological diseases

Lesson 3 Psychomotor development

Lesson 4 Imaging studies in neurological diseases: neuroimaging, neuro-radiological studies and electrophysiological studies

### 2. Unit 2. Nervous system and childhood

Lesson 5. Spina Bifida

Lesson 6. Multiple Arthrogryposis

Lesson 7. Obstetric Brachial Paralysis

Lesson 8. Upper Motor Neuron Diseases: Cerebral Palsy

Lesson 9. Lower Motor Neuron Diseases

Lesson 10. Epilepsy and Epileptic Syndromes

Lesson 11. Developmental Coordination Disorder

Lesson 12. Meningitis, encephalitis, brain abscess, and empyema

Lesson 13. Muscular dystrophies and other muscle diseases

### 3. Unit 3 Nervous system and young adult

Lesson 14 Cerebellar and Vestibular Syndromes

Lesson 15 Amyotrophic Lateral Sclerosis

Lesson 16 Multiple Sclerosis and other demyelinating diseases

Lesson 17 Spinal cord injury

Lesson 18 Traumatic brain injury

Lesson 19 Primary and metastatic tumors of the nervous system

Lesson 20 Peripheral neuropathy

Lesson 21 Guillain-Barré syndrome

Lesson 22 Trigeminal neuralgia, Bell's palsy and disorders of the cranial nerves disorders of the cranial nerves

Lesson 23 Autonomic nervous system disorders

Lesson 24 Chronic Fatigue Syndrome

**4. Unit 4. Nervous system and older adult**

Lesson 25. Cerebrovascular Diseases

Lesson 26. Parkinson's disease and other extrapyramidal movement disorders

Lesson 27. Hyperkinetic movement disorders

Lesson 28. Severe myasthenia gravis and other neuromuscular junction diseases

Lesson 29. -Alzheimer Disease and Dementia

**5. PRACTICAL PROGRAM**

Practice 1. General concepts of the nervous system

Practice 2. Exploration: Pyramidal and extrapyramidal motor pathways

Practice 3. Exploration: of the somatosensory pathway and autonomic nervous system

Practice 4. Pathologies of childhood

Practice 5. Pathologies of the young adult

Practice 6. Pathologies of the older adult

Practice 7. Exhibition of works

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	45,00	100
Classroom practices	15,00	100
Study and independent work	11,00	0
Preparation of evaluation activities	34,00	0
Preparing lectures	25,00	0
Resolution of case studies	20,00	0
<b>TOTAL</b>	<b>150,00</b>	

**TEACHING METHODOLOGY**

The contents of the theory classes will be done by lectures, participative activities and cooperative learning.

The different activities of the practice classes have the object of making the student recognize and evaluate the symptoms of the nervous system illnesses, recognize their time course, and to get to know the medical and surgical treatments of practical cases which will enable the students to gain greater fluency in their critical ability.

The activities will be done in groups to promote teamwork, cooperation and understanding



“The teaching program may be modified during the development of the course if the teacher under teacher quality criteria and assimilation of knowledge by the student, it deems appropriate”.

## EVALUATION

### 1. Theory program

Multiple choice objective test	<ul style="list-style-type: none"><li>50 questions: 45 questions from the topics and 5 questions related to a clinical case.</li><li>4 options 1 valid</li><li>SCORE= [successes-(failures/options - 1)] x (highest score/number of quesgtions)</li></ul>	<b>70%</b>
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### 2. Practice program

Written test	<ul style="list-style-type: none"><li>- Delivery of Practice Report with class activities (10%)</li><li>- Exhibition of group work poster type (20%)</li></ul>	<b>30%</b>
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The final result of the subject will be averaged if the student has at least obtained a minimum of 5 out of 10 in each one of the theory and practice programs.

In all written tests orthographic errors will be penalized



The note of the approved part will be kept from first to second call of that academic year in case both parts do not pass.

## REFERENCES

### Basic

- Gómez Tolón, J.: "Rehabilitación Psicomotriz en los trastornos del aprendizaje". Mira Editores. Zaragoza. 1997.
- Rigal, R.: "Motricidad humana" Ed. Pila Teleña. Madrid 1987.
- Toledo González, M: "Fundamentos de Neurología para educadores" I.O.E.O. Sevilla. 1994.
- Xhardez, Y.: "Vademécum de Kinesioterapia y de Reeducción Funcional". El Ateneo. Barcelona. 1993.
- Harrison . Principios de medicina interna. Vol. III. Ed. McGraw-Hill Interamericana de España. SAU. Madrid. 2012.
- Stokes M. Fisioterapia en la rehabilitación neurológica. Ed. Elsevier. Madrid. 2006.
- Young P, Young PH. Neuroanatomía clínica funcional. Ed Masson- Willians & Wilkins. Barcelona. 1998.
- Macias L: Fisioterapia en Pediatría. Ed.Panamericana.Madrid.2019
- Seco,J: Sistema Nervioso:Métodos, fisioterapia clínica y afecciones para fisioterapeutas Ed.Panamericana.Madrid.2020
- Sermef: Rehabilitación InfantilEd Panamericana.Madrid.2012
- García-Alix A, Arnáez J. Los movimientos generales del neonato y del lactante. Fundación Nene, EDISIBEN, 2022.
- Oownie, P.A.: "Cash - Neurología para Fisioterapeutas". 4a Edición. Panamericana. Buenos Aires 1989.