

Academic Year/course: 2021/22

## 25657 - Physiotherapy Methods in Neurological Disorders

### Syllabus Information

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**Academic Year:** 2021/22

**Subject:** 25657 - Physiotherapy Methods in Neurological Disorders

**Faculty / School:** 127 - Facultad de Ciencias de la Salud

**Degree:** 605 - Degree in Physiotherapy

**ECTS:** 6.0

**Year:** 3

**Semester:** First semester

**Subject Type:** Compulsory

**Module:**

## 1. General information

### 1.1. Aims of the course

The general objectives of this subject is that the student, from the acquisition of the theoretical and practical knowledge addressed, is able to understand, explain, apply and evaluate the intervention processes in neurological physiotherapy. Aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (in such a way that the acquisition of the learning results <https://www.un.org/sustainabledevelopment/es/>) provides training and competence to contribute to some extent to their achievement, especially of:

Goal 3. Good Health and Well-being

Goal 4. Quality education

Goal 8: Decent work and economic growth

Goal 10: Reduced inequalities

### 1.2. Context and importance of this course in the degree

The acquisition of the skills, knowledge and skills described in the guide for this topic are complemented with those of the subject Physiotherapy in neurology. It allows the acquisition of the necessary competencies to plan, develop and evaluate the physiotherapy intervention plan in people with a neurological process. This subject is planned in the third year of the undergraduate degree, since they have had to acquire prior knowledge of neuroanatomical, neurophysiological and neurological pathology.

### 1.3. Recommendations to take this course

Before starting the course, it is highly recommended to review the knowledge previously acquired in relation to the area of ??neurology in the courses: Human Anatomy II, Human Physiology and Medical-Surgical Conditions.

## 2. Learning goals

### 2.1. Competences

The expected results will emphasize the acquisition of the following competencies:

**General:**

To Know and understand the methods, procedures and physiotherapeutic actions for re-education or recovery functional in neurology, as well as carrying out activities aimed at promoting and maintaining health.

To understand the importance of updating the knowledge, skills, abilities and attitudes that make up the professional competences of the Physiotherapist.

**Specific:**

To know and apply the theoretical bases and the development of physiotherapy methods and procedures.

To understand and perform specific Physiotherapy methods and techniques related to neurological processes.

To analyze, program and apply movement as a therapeutic measure, promoting patient-user participation in his/her process.

To identify the changes produced as a consequence of the physiotherapy intervention.

To know and apply quality mechanisms in physiotherapy practice, adjusting to the criteria, indicators and recognized and validated quality standards for proper professional practice.

**Transversal:**

Ability to apply clinical reasoning  
Ability to assume ethical commitment  
Ability to work based on quality criteria  
Ability to plan and evaluate  
Ability to develop information management skills

## 2.2. Learning goals

Student will be able to accurately explain and execute the most commonly used physiotherapy techniques and methods for evaluation and treatment of neurological processes, especially in adults.

## 2.3. Importance of learning goals

The learning outcomes enable the student to treat neurological motor and sensory disturbances, which have a high incidence and prevalence and carry a great individual and social cost.

# 3. Assessment (1st and 2nd call)

## 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

Final exam and progress tests (Theoretical exam): 35%  
Presentation and defense of papers, reports and reports (portfolio): 20%  
Problem solving, exercises and practical cases (practical exam): 45%  
Evaluation criteria

**Theoretical final exam:** Two topics or practical assumptions will be developed, from among the contents addressed in the lectures, seminars, theory of practice of mandatory bibliography.

**Final practical exam:** It will be asked to execute two contents of those learned in the laboratory practices. They will have to relate to the respective theoretical knowledge. In addition, throughout the semester they will be valued in a way continued the following aspects:

Attendance (no more than 20% of unexcused absences are allowed on the total count of hours practices or group changes. Punctuality).

Attitude: respectful and proactive participation.

Hygienic issues such as: wearing hair up, unpainted and short nails, not wearing rings, bracelets, necklaces or other objects or garments that make it difficult to practice. It will be necessary to go with suitable clothes).

**Portfolio:** It may involve the development of tasks related to:

The resolution of cases and issues of the foundations of the subject.

The development of clinical cases, the elaboration of which will be developed in successive seminars.

The development of current neurological issues in relation to the subject or content that broadens what seen in class.

Failure to pass any of the assessment tests in the final call in January will mean the need to pass said activity / s in the June call (both from the same academic year). In this case, the rating Apt obtained in the first call will be saved only for the second call of the same academic year.

**Students who are not in attendance or who do not reach the attendance criteria:**

The theory and portfolio exam will be carried out as previously stated. The practical exam will consist of at least one question of each of the practical topics of the subject.

**Students of second or successive calls:**

If they have obtained at least 5 points in the portfolio, they will not have the obligation to present it again. The other criteria they will be those of the students face-to-face or not face-to-face, as appropriate.

### EVALUATION CRITERIA

To pass this course, the student should demonstrate that he / she is capable of:

- Differentiate the theoretical and practical bases of the methods and techniques used in neurological physiotherapy.
- Design physiotherapy action plans in the field of neurology.
- Relate concepts and express them with sufficient detail and precision.
- Have adequate ergonomics and properly use the material in the simulation of techniques and methods.
- Simulate the treatment of a person with a neurological disorder based on the given premises.
- Express oneself correctly in Spanish in the different tests or written assignments, both in relation to the use of appropriate terminology, as well as at spelling and grammar checking.

The quantitative and qualitative rating system will be as follows:

0.0 - 4.9: fail

5.0 - 6.9: passed

7.0 - 8.9: Notable

9.0 - 9.4: Outstanding

9.5 - 10: Honor Roll

The evaluation tests will be carried out face-to-face. If instructions received from the authorities academicare in the sense of non-face-to-face evaluation, the tests will be carried out in a non-presential mode, using the online resources of Universidad de Zaragoza, which will be notified in advance.

## 4. Methodology, learning tasks, syllabus and resources

### 4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives: Lectures, Seminars and Practical classes.

Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class.

Further information regarding the course will be provided on the first day of class.

### 4.2. Learning tasks

This is a 6 ECTS course organized as follows:

The learning activities of this course are the following:

1.1. Theoretical classes (1.5 ECTS).

Using PowerPoint presentations as the main resource.

1.2. Seminars (1.5 ECTS).

Using the presentation with Power Point, a theoretical demonstration - practical introduction to each of the methods and techniques that are addressed throughout the course.

1.3. Practical classes (3 ECTS)

After a progressive practical demonstration of each aspect that is part of a treatment technique or method neurological, the student performs the repetition of this demonstration, which is corrected by the teacher until the manages to execute properly.

1.4 Resolution of cases and problems collected in the portfolio

Activities that allow the extension of the theoretical aspects. Done individually and corrected through Moodle.

1.5. Required reading and recommended reading bibliography That complement the personal study of the syllabus.

### 4.3. Syllabus

The course will address the following topics

#### Lectures:

Topic 1. Foundations of neuroplasticity.

Unit 2. Motor Control. Neurophysiological bases. Key aspects for the treatment of neurological processes.

Topic 3. Physiotherapy Methods in neurological processes of central origin involving postural tone and movement disturbances.

Topic 4. Physiotherapy methods in neurological processes of central origin with balance alterations.

Unit 5. Physiotherapy methods in neurological processes of central origin with coordination disorders.

Unit 6. Physiotherapy methods in the processes of the peripheral nervous system.

#### Seminars:

Seminar 1. Treatment of balance disorders. Postural organization. Study of vertigo and balance disturbances. Reeducation of vertigo of peripheral origin.

Seminar 2. Suspension gait for incomplete spinal cord injury and brain damage. Exoskeletons.

Seminar 3. Mirror therapy.

Seminar 4. Neurocognitive problems and the double task method.

Seminar 5. Pediatric neurophysiotherapy.

Seminar 6: Neurorehabilitation Technologies.

Seminar 7: Other methods of neurological physiotherapy.

#### Practical program:

Practice 1. Key issues in the management of the person with a neurological disorder.

Practice 2. Analysis of human movement focused on the evaluation and treatment in neurological physiotherapy.

Practice 3. Neurodevelopment Therapy (Bobath Concept).

Practice 4. Proprioceptive neuromuscular facilitation.

Practice 5. Neurodynamic.

### 4.4. Course planning and calendar

The course is taken in the first semester.

The practical sessions are from 8 a.m. to 9:45 a.m., Monday through Thursday. Each student is assigned to 1 of the four groups of practices. The distribution of students and the assignment of the day of the week that each of the groups has to attend is announced before the start of the course period.

Lectures and seminars are on Fridays, from 8 a.m. to 9:45 a.m.

**Key dates:** start of teaching on September 15, 2021. End of January 11, 2022.

#### Course evaluation:

- First call: end of January 2021

- Second call: early June 2022.

### 4.5. Bibliography and recommended resources

The updated recommended bibliography can be consulted at:

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?id=14379>