

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

<b>Code</b>	33027
<b>Name</b>	Physiotherapy in clinical specialties IV
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2021 - 2022

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1202 - Degree in Physiotherapy	Faculty of Physiotherapy	3	Second term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1202 - Degree in Physiotherapy	14 - Physiotherapy in clinical specialties	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
CEZON SERRANO, NATALIA	191 - Physiotherapy
SANCHEZ SANCHEZ, MARIA LUZ	191 - Physiotherapy

**SUMMARY**

The course Clinical Specialties IV will guide the student to a field of highly specialized physiotherapy. The student will learn to evaluate and treat diseases such frequent and disabling as brain damage and other nervous affections. Also, the student will know the special characteristics of infant physiotherapy.

**PREVIOUS KNOWLEDGE****Relationship to other subjects of the same degree**

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



### Other requirements

It is not necessary previous requirements.

## OUTCOMES

### 1202 - Degree in Physiotherapy

- Respect fundamental rights and equality between men and women.
- Recognise diversity, multiculturality, democratic values and peace culture.
- Have the ability to organise and plan work.
- Know how to plan treatment goals in the different clinical specialities of Primary Care and in the different stages of cognitive-motor development from the Physiotherapy Clinical Records.
- Know how to establish a therapeutic plan to reach the goals from the Physiotherapy Diagnosis, established in accordance with internationally recognised standards and international validation instruments.
- Know how to apply the different physiotherapy techniques of promotion, prevention and health preservation in Primary Care, in the different stages of cognitive-motor development, and the proprioceptive methods, soft tissue techniques and motor re-education methods in nervous system disorders.
- Know how to assess the applied physiotherapy treatment and write the Discharge report.
- Know how to assess the results of the physiotherapy treatment.
- Know and apply good clinical practice guides.

## LEARNING OUTCOMES

At the end of the course the students will be able to:

- 1.Design a physiotherapy intervention plan on disorders of the nervous system and in different stages of cognitive-motor development that incorporates the ability to make decisions and problem solving, all with a critical and inclusive of teamwork and based on scientific evidence.
- 2.Evaluate the evolution of the results obtained with physiotherapy treatment in diseases of the nervous system and the different stages of cognitive-motor development in relation to the objectives and performance criteria established.

## DESCRIPTION OF CONTENTS



### **1. Physiotherapy at different stages of cognitive-motor. 12 Hours.**

- Topic 1.- Assessment and psychomotor development of the baby I.
- Topic 2.- Assessment and psychomotor development of the baby II.
- Topic 3.- Physiotherapy techniques of neurofacilitation in major neurological damage in infancy I.
- Topic 4.- Physiotherapy techniques of neurofacilitation in major neurological damage in infancy II.
- Topic 5.- Physiotherapy in neonatology.
- Topic 6.- Early intervention. Early stimulation.
- Topic 7.- Physiotherapy in Cerebral Palsy.
- Topic 8.- Physiotherapy in the Spina Bifida.
- Topic 9.- Physical Therapy in Down Syndrome.
- Topic 10.- Physiotherapy in Arthrogryposis.
- Topic 11.- Physiotherapy in Obstetrical Brachial Palsy.
- Topic 12.- Physiotherapy in plagiocephaly.

### **2. Physiotherapy in disorders of the nervous system III. 18 Hours.**

- Topic 13.- Physiotherapy assessment in major neurological damage in adults I.
- Topic 14.- Physiotherapy assessment in major neurological damage in adults II.
- Topic 15.- Motor rehabilitation methods in diseases of the nervous system I.
- Topic 16.- Motor rehabilitation methods in diseases of the nervous system II.
- Topic 17.- Motor rehabilitation methods in diseases of the nervous system III.
- Topic 18.- Proprioceptive methods in nervous system disorders.
- Topic 19.- Soft tissue techniques in nervous system disorders.
- Topic 20.- Physiotherapy in the orofacial dysfunction.
- Topic 21.- Virtual Reality and Robotics in neurorehabilitation.
- Topic 22.- Physiotherapy in the minimally conscious state.
- Topic 23.- Physiotherapy in stroke.
- Topic 24.- Physical therapy in traumatic brain injury.
- Topic 25.- Physical therapy in diseases of motor neurons. Physiotherapy in Amyotrophic Lateral Sclerosis.
- Topic 26.- Physiotherapy in Parkinson's disease.
- Topic 27.- Physical Therapy in Multiple Sclerosis.
- Topic 28.- Physiotherapy in cerebellar lesions.
- Topic 29.- Physiotherapy in the lesions of the basal ganglia. Korea. Athetosis.
- Topic 30.- Physiotherapy in dementia. Alzheimer's disease.

### **3. Practical program (30h)**

- Practice 1.- Assessment and psychomotor development of children.
- Practice 2.- Physiotherapy techniques in pediatrics. Clinical cases.
- Practice 3.- Motor rehabilitation methods in diseases of the nervous system I.
- Practice 4.- Motor rehabilitation methods in diseases of the nervous system II.
- Practice 5.- Proprioceptive Methods in nervous system disorders I.
- Practice 6.- Proprioceptive Methods in nervous system disorders II.



Practice 7.- Other physiotherapy techniques in nervous system disorders.

## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Laboratory practices	30,00	100
Development of individual work	20,00	0
Preparation of evaluation activities	31,00	0
Preparing lectures	25,00	0
Preparation of practical classes and problem	14,00	0
<b>TOTAL</b>	<b>150,00</b>	

## TEACHING METHODOLOGY

The theoretical teaching will take place in the classroom with exposure of the agenda (type master class with participatory activities). Students will know in advance the topics in order to answer questions, concepts, and encourage their participation.

In the practical program, students will learn by solving problems and exercises, group activities and case studies, and they will train in skills and procedures used in physical therapy at different stages of cognitive-motor development and the proprioceptive methods, techniques of soft parts and motor re-education methods in diseases of the nervous system, using simulation techniques. Work in small groups will be stimulated.

The teaching program might be modified during the development of the subject if the professor considers it appropriate, in order to guarantee the teaching quality and the learning process.

## EVALUATION

### Theoretical program (50% of the final mark)

1. Written test: a) Multiple choice test of 40 questions (30%),  $\text{Mark} = [\text{hits} - (\text{errors} / \text{n}^\circ \text{ options} - 1)] * (\text{maximal mark} / \text{n}^\circ \text{ questions})$ ; b) 4 short questions of development (20%).

### Practical program (50% of the final mark)

1. Oral examination (35%). Simulation of the techniques exposed in the practices and resolution of practical cases.



2. Self study (10%). Presentation of portfolios. Mandatory.

3. Attendance at practices 100% of the hours (5%). The student shall be deemed to have fulfilled if he/she has attended a minimum of 80% of the practices and has adequately justified the impossibility of attending the remaining sessions due to the concurrence of a force majeure.

The final score for the subject will be averaged provided that the student has obtained at least 5 of 10 in each of the blocks theoretical and practical. All written tests will penalize the incorrect spelling. In order to be able to qualify the tasks of autonomous work they must be submitted within the established term.

## REFERENCES

### Basic

- Bisbe, Santoyo, Segarra. Fisioterapia en Neurología. Procedimientos para restablecer la capacidad funcional. Panamericana, 2012.
- Cano de la Cuerda, Collado Vázquez. Neurorrehabilitación. Métodos específicos de valoración y tratamiento. Panamericana, 2012.
- Carr JH, Shepherd RB. Rehabilitación del paciente en el ictus: recomendaciones de ejercicios y entrenamiento para optimizar las habilidades motoras. Elsevier, 2004.
- Macías Merlo ML & Fagoaga Mata J. Fisioterapia en pediatría. 2ª edición. Editorial Médica Panamericana. 2018.
- Molina Rueda F, Carratalá Tejada M. La marcha humana: biomecánica, evaluación y patología. Editorial Médica Panamericana. 2020.
- Seco Calvo J. Sistema nervioso: métodos, fisioterapia clínica y afecciones para fisioterapeutas. Editorial Médica Panamericana. 2020.
- SERMEF, SERI. Rehabilitación infantil. Panamericana, 2012.
- Shepherd R. Cerebral Palsy in Infancy. Targeted activity to optimize early growth and development. Churchill Livingstone. 2013.
- Shumway-Cook A. Motor control: theory and practical applications. Lippincott Williams & Wilkins. 2001.

### Additional

- Bobath B. Hemiplejía del adulto: evaluación y tratamiento. Panamericana. 1993.
- Castillo Sánchez J & Jiménez Martín I. Reeducción funcional tras un ictus. Elsevier. 2015.
- Carr JH, Shepherd RB. Neurological rehabilitation: optimizing motor performance. Churchill Livingstone/Elsevier. 2010.
- Chae J & Celnik PA. Stroke rehabilitation. Elsevier. 2015.
- Edwards S. Neurological physiotherapy: a problem-solving approach. Churchill Livingstone. 2007.
- Fajardo F. Tratado integral de osteopatía pediátrica. Dilema. 2010.
- Gillen G. Stroke rehabilitation: a function-based approach. 4ª edición. Elsevier. 2016.
- Kandel ER. Principios de neurociencia. McGraw-Hill Interamericana. 2001.
- Linzi SR, Ellerington ML. The Bobath Concept: Theory and Clinical Practice in Neurological





Rehabilitation. Chichester. 2009.

- Paeth B. Experiencias con el concepto Bobath: fundamentos, tratamiento, casos. Panamericana. 2007.
- Ricard F & Martínez Loza E. Osteopatía y pediatría. Medos Editorial. 2015.
- Rodríguez MC. Fisioterapia infantil práctica. Abecedario. 2005.
- Shumway-Cook A & Woollacott M. Motor control: translating research into clinical practice. 5a edición. Wolters Kluwer. 2017.
- Stokes M & Stack E. Fisioterapia en la rehabilitación neurológica. 3a edición. Elsevier. 2013.
- Valls Barberá MA. 35 años de Fisioterapia. Editorial SoldeSol. 2021.
- Vojta, V, Schweizer, E. El descubrimiento de la motricidad ideal. Madrid: Ediciones Morata; 2011.

## **ADDENDUM COVID-19**

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

This addendum will only be activated if the health situation so requires and with the prior agreement of Consell de Govern.

### **1. Contents**

The contents initially included in the teaching guide are maintained.

### **2. Workload and temporary teaching planning**

The proportion of the different activities that add up to the hours of dedication in ECTS credits marked in the original teaching guide has been maintained.

### **3. Teaching methodology**

Depending on the needs, teaching will be adapted to the blended or non-classroom mode, through the implementation of the corresponding teaching strategies (i.e. hybrid teaching, videoconference sessions, voice-over presentations, videos or additional multimedia material).

The tutorials may be conducted virtually, following the guidelines of the Universitat de València, via e-mail or videoconference, through the Blackboard Collaborate or Teams platform.

### **4. Evaluation:**

The final evaluation tests will be presential, and only in case of problems caused by the evolution of the pandemic, final evaluation tests will be done online through Aula Virtual of the Universitat de València.