



## Information about the subject

**Degree:** Bachelor of Science Degree in Occupational Therapy

**Faculty:** Faculty of Psychology

**Code:** 1120201 **Name:** Orthoprosthetic technical aids

**Credits:** 6,00 **ECTS Year:** 4 **Semester:** 2

**Module:** OPTATIVITY

**Subject Matter:** Therapeutic Applications **Type:** Elective

**Field of knowledge:** Health Sciences

**Department:** -

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

**Lecturer/-s:**

OPT02 Cesar Rubio Belmonte (**Responsible Lecturer**)

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## Module organization

### OPTATIVITY

Subject Matter	ECTS	Subject	ECTS	Year/semester
Therapeutic Applications	12,00	Ergonomics, accessibility and new technologies	6,00	2/1
		Orthoprosthetic technical aids	6,00	4/2

## Recommended knowledge

There are no prerequisites. It is advisable to have studied and passed: -Structure and Function of the human body 1 and 2 -Kinesiology -Functional Rehabilitation in Physical Disability

## Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 To integrate anatomical and biomechanical concepts as well as theoretical knowledge of orthosis design and prescription, and apply it to orthosis design/manufacture.
- R2 To handle different types of materials and tools used in orthotics.
- R3 To learn about the application of a wide variety of orthoses for various upper limb pathologies, as well as the fundamental criteria and considerations for their design and manufacture.



## Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

GENERAL		Weighting			
		1	2	3	4
CG4	To recognise one's own limitations and the need to maintain and keep up to date one's professional competence, focusing specially on the importance of autonomous learning of knowledge and techniques and the desire for quality.		X		
CG13	To determine occupational dysfunctions and needs, to define the planning and to establish Occupational Therapy interventions, using the therapeutic potential of meaningful occupation through the use of activities, with the consent and the participation of individuals and populations.			X	
CG16	To understand the fundamentals of action, indications and efficiency of Occupational Therapy interventions, based on the available scientific evidence				X
SPECIFIC		Weighting			
		1	2	3	4
CE33	To promote health and prevent disability, acquire or recover the occupational activity needed in each part of the life cycle in order to achieve independence and autonomy in the areas of occupational activity of those persons who are at risk, those with organ deficiency, activity limitation and participation and/or social exclusion.		X		
CE37	To know, understand and apply the fundamentals of personal autonomy in everyday life activities with and without adaptations and/or technical help in the life cycle.			X	
CE40	To apply significant activity, ergonomic study, new technologies and assisted technology in Occupational Therapy in the cycle of life.				X
CE48	To use ethical and professional reasoning in an efficient way through the process of Occupational Therapy.			X	



## Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3	40,00%	Written tests: Summative and final theoretical-practical test (open questions, objective test questions, truncated test, etc.) Preparation of field work memoranda, practical case solutions, single cases.
R1, R3	40,00%	Presentation of group and individual works.
R1, R2, R3	20,00%	Individual monitoring of attendance at face-to-face sessions and active participation in theoretical and practical classes, seminars and tutorials.

### Observations

Note: In order to add up the percentages, it is essential to pass each and every one of the evaluation instruments. Failure to comply with the rules and deadlines established for the performance of academic activities will invalidate the grade. The official exam dates will be set by the Faculty Dean's Team according to the periods established in the academic calendar. For MODIFICATIONS OF DATES OF EXAMS consult the reasons that justify such modifications and the procedure in article 12 of the Examination Regulations.

<https://www.ucv.es/Portals/0/documentos/normativa/20170526144309926.pdf> All submissions of individual and group assignments will be through the VIRTUAL CAMPUS of the UCV in the terms and forms established by the teacher of the course. Under no circumstances will late submissions be accepted. Tasks pending delivery will be submitted and assessed on the official date of the second call. A minimum of 75% of the attendance is required for the course grade to be computed. The attendance will be controlled through the VIRTUAL CAMPUS, only, at the beginning of each lesson. Absences must be justified by means of an official document scanned and sent through the VIRTUAL CAMPUS to the course teacher. Criteria to grant the honorific mention: -The honorific mention will be granted to the student who obtains a grade higher than 9 in the first call. -Attendance to classroom sessions, active participation and involvement in the theoretical and practical classes, as well as in the rest of the training activities by the student, candidate to receive the mention of honor, must reach the levels of excellence. -The honorific mention will be granted to students who have obtained a grade equal to or higher than 9.0. The number of mentions will not exceed 5% of enrolled students in a module in the academic year unless the number of enrolled students is below 20, in which case only one mention can be granted (Royal Decree 1125/2003).



## Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1 ON-CAMPUS CLASS
- M2 PRACTICAL CLASSES
- M3 SEMINAR
- M4 GROUP PRESENTATION OF PAPERS
- M5 OFFICE ASSISTANCE
- M6 ASSESSMENT
- M7 GROUP WORK
- M8 INDEPENDENT WORK



## IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
ON-CAMPUS CLASS: Teacher presentation of contents, analysis of competences, explanation and in-class display of skills, abilities and knowledge. M1	R1, R2, R3	29,00	1,16
PRACTICAL CLASSES: Group work sessions supervised by the professor. Case studies, diagnostic tests, problems, field work, computer room, visits, data search, libraries, on-line, Internet, etc. Meaningful construction of knowledge through interaction and student activity. M2	R1, R2, R3	10,00	0,40
SEMINAR: Supervised monographic sessions with shared participation M3	R2, R3	7,50	0,30
GROUP PRESENTATION OF PAPERS: Application of multidisciplinary knowledge M4	R2, R3	7,50	0,30
OFFICE ASSISTANCE: Personalized and small group attention. Period of instruction and /or orientation carried out by a tutor to review and discuss materials and topics presented in classes, seminars, readings, papers, etc. M5	R1, R2, R3	3,00	0,12
ASSESSMENT: Set of oral and/or written tests used in initial, formative or additive assessment of the student M6	R1, R2, R3	3,00	0,12
<b>TOTAL</b>		<b>60,00</b>	<b>2,40</b>



## LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK: Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform ( <a href="http://www.plataforma.ucv.es">www.plataforma.ucv.es</a> ) M7	R3	40,00	1,60
INDEPENDENT WORK: Student study: Group Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform ( <a href="http://www.plataforma.ucv.es">www.plataforma.ucv.es</a> ) M8	R1, R2	50,00	2,00
<b>TOTAL</b>		<b>90,00</b>	<b>3,60</b>



## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

### Theoretical contents:

Content block	Contents
UNIT 1: Anatomical, physiological and histological basics in orthotic construction.	TOPIC 1: Basics of orthotic treatment. TOPIC 2: The Basics of anatomy and architecture of the hand for making orthoses TOPIC 3: Tissue and joint biomechanics applied to the manufacture of orthotics. SEMINAR 1: Review anatomy / kinesiology of the upper limb. PRACTICE 1: Anatomy and architecture of the hand
UNIT 2: Fundamentals of design and construction of orthoses.	TOPIC 4: Systems of nomenclature and classification of orthoses TOPIC 5: Materials and tools for the construction of orthotic TOPIC 6: Principles of design and manufacture of orthoses PRACTICE 2: Nomenclature and classification of orthotic PRACTICE 3: Materials for making orthotics PRACTICE 4: Preparation of patterns as orthotics PRACTICE 5: Precut patterns adaptation
UNIT 3: Orthotics design and manufacture	PRACTICE 6. Digits immobilization splints 1. PRACTICE 7. Digits immobilization splints 2. PRACTICE 8. Immobilization and positioning splints of the thumb. PRACTICE 9. Short spica thumb splint. PRACTICE 10. Intercommissural immobilizing splint and 4th and 5th digit immobilization splint. PRACTICE 11. MTCPF mobilization splint. PRACTICE 12. Tenodesis splint. PRACTICE 13. DIP mobilization splint. PRACTICE 14. MTCPF, PIP and DIP mobilization splint. PRACTICE 15. PIP mobilization splints PRACTICE 16. Case 1: ulnar nerve palsy. PRACTICE 17. Pediatric splints 1: Immobilization of ankle / foot (AFO).





## Temporary organization of learning:

Block of content	Number of sessions	Hours
UNIT 1: Anatomical, physiological and histological basics in orthotic construction.	6,00	12,00
UNIT 2: Fundamentals of design and construction of orthoses.	7,00	14,00
UNIT 3: Orthotics design and manufacture	17,00	34,00

## References

### Basic bibliography

The materials for the preparation of the written test will be provided by the professor through the virtual UCV Campus.

- Coppard, B. & Lohman, H. (2014). Introduction to splinting. Mosby.
- Jacobs, M.L. & Austin N. (2013). Splinting the hand and upper extremity. Lippincott Williams & Wilkins.
- Wilton J. (2013). Hand splinting, orthotic intervention. Vivid publishing.

### Further reading

- Cantero, R. (2020). Terapia de mano basada en el razonamiento y la práctica clínica. Universidad Internacional de Andalucía.
- Cooper, C. (2007). Fundamentals of Hand Therapy. Clinical Reasoning and Treatment Guidelines for Common Diagnoses of the Upper Extremity. Mosby Elsevier.
- Cromwell, F.S. & Bear-Lehman J. (2007). Hand rehabilitation in occupational therapy. Routledge.
- De Herder E. (2015). Evidenced Based Hand and Upper Extremity Protocols: a practical guide for therapists and Physicians.
- Shirven, Osterman, Fedorczyk & Amadio (2001). Rehabilitation of the hand and upper extremity. Elsevier Mosby. Vol I y II.



## Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

**Situation 1: Teaching without limited capacity** (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

**Situation 2: Teaching with limited capacity** (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

### 1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

☒ Microsoft Teams

☒ Kaltura



## **Situation 3: Confinement due to a new State of Alarm.**

In this case, the following changes are made:

### **1. Educational Activities of Onsite Work:**

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

☒ Microsoft Teams

☒ Kaltura

Explanation about the practical sessions:



## 2. System for Assessing the Acquisition of the competences and Assessment System

### ONSITE WORK

#### Regarding the Assessment Tools:

☒ The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

☐ The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

#### Comments to the Assessment System: