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: Occupational Sciences

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

OPT02	Francesc Antoni Bañuls Lapuerta **(Responsible Lecturer)**	francesc.banuls@ucv.es

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

Assessment is continuous and evidence of attendance/participation, practical activities, and individual and/or group work will be collected/submitted throughout the semester. All individual and group work must be submitted via the UCV VIRTUAL CAMPUS within the deadlines and in the manner established by the course instructor. Under no circumstances will late submissions be accepted. Any tasks that have not been submitted will be submitted and assessed on the official date of the second exam session.
In addition, a final theoretical-practical exam will be held during the official exam period. The official exam dates will be set by the Faculty Dean's Team in accordance with the periods established in the academic calendar. For CHANGES TO EXAM DATES, please consult the reasons justifying such changes and the procedure in Article 12 of the Examination Regulations.
https://www.ucv.es/Portals/0/documentos/normativa/20170526144309926.pdf
Criteria for awarding honors: demonstrate excellence in all competencies and learning outcomes.
Note: To pass the course, students must separately pass the different assessment systems (attendance and active participation, practical work/assignments, and exam). Failure to comply with the rules and deadlines established for academic activities will invalidate the grade.

Attendance and assessment methods

Students may choose between two assessment methods for the course: continuous assessment and single assessment.

1. Continuous assessment:

A minimum attendance of 75% of face-to-face classes is required to qualify for this method.

2. Single assessment:

This is intended for students who, for justified and documented reasons, are unable to meet the minimum attendance requirement. The request must be made in writing to the professor responsible for the course, who will respond by the same means.
The single assessment does not consist of a single test, but rather a set of tests and/or activities necessary to demonstrate and measure all the learning outcomes defined for the course.
The structure of the single assessment in this course will be as follows:
· **Theoretical exam (40%)**
· Practical exam and additional assignments (60%): this part will include a practical test, which may be oral or written, and, if necessary, extraordinary independent work activities that allow for the demonstration of learning outcomes that cannot be assessed by means of an exam.
In both modalities, students will have to pass all parts in order to pass the course.
Considerations for the use of Artificial Intelligence (AI):- Within the framework of this course, AI may be used for:
- Consulting questions about educational activities.
- Assisted learning (alternative explanations or self-assessment exercises).
- Searching for alternative resources and references for study.
- **Within the framework of this course, AI may NOT be used for:**
- Recording or transcribing, in whole or in part, any activity carried out in the classroom, for the purpose of obtaining summaries or notes made by AI.
- Presenting work generated exclusively by AI as your own.
Students must explicitly declare any use of AI tools in any document submitted (for example, in a footnote or appendix).
Translated with DeepL.com (free version)

In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded.
Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

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, eadings, 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
TOTAL		**60,00**	**2,40**

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 (www.plataforma.ucv.es) 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 (www.plataforma.ucv.es) M8	R1, R2	50,00	2,00
TOTAL		**90,00**	**3,60**

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 inmobilization 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 Williamns & Wilkins.

·Wilton J. (2013). Hand splinting, orthotic intervention. Vivid publising.

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.