

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

<b>Code</b>	34339
<b>Name</b>	Orthopodiatry I
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2024 - 2025

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1208 - Degree in Podiatry	Faculty of Nursing and Chiropody	2	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1208 - Degree in Podiatry	12 - Orthopodiatry	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
CAMPOS CAMPOS, JUAN	125 - Nursing
IZQUIERDO RENAU, MARTA	125 - Nursing
LEYDA PINEDA, ROSA MARIA	125 - Nursing

**SUMMARY**

MODULE 3. SUBJECT: PODIATRIC PATHOLOGY, PHYSICAL AND PHARMACOLOGICAL ORTOPODOLÓGICOS TREATMENTS.

MODULE 3 provides knowledge: pathological processes of structure function and impact of the foot at the locomotor apparatus. Knowledge and development of scanning techniques to make a diagnosis, prognosis and to design a treatment plan ortopodológico. Knowledge of instruments, equipment and machinery used for the preparation and implementation of treatment ortopodológicos: requirements, design, production and application. Chiropodist's study of shoes and comprehensive changes to chiropodists associated with sports. Application of physical methods, electric and manual. taping and treatment of pain and inflammation



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

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

### Other requirements

\*ORTOPODOLOGÍA I, II AND III, compulsory taught in 1 st and 2 n semester of 2nd year and 1 semester of 3rd year.

RECOMMENDATIONS: have acquired the skills of raw materials: human anatomy, biochemistry and biophysics and pathology general.

## COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

### 1208 - Degree in Podiatry

- Know and implement the exploration techniques to give a diagnosis and prognosis, and to design the orthopodologic treatment plan of the lower limb pathology. Bone, ligament and muscle injuries. Pathology of the forefoot and hindfoot. Congenital deformities. Neurological damage. Amputations. Asymmetries.
- Develop the skill and dexterity in the use of instruments, equipment and machinery used for the preparation and implementation of orthosis treatments. General concept of orthopedics. The orthosis workshop. Orthosis therapeutic materials technology. Fundamentals and techniques for foot-leg casts.
- Design, procure and implement plantar supports, digital orthoses, prosthesis and splints using different techniques and materials. Plantar and digital orthotics. Study of footwear and shoe therapy. Prescription of lower extremity orthopedic treatments.

## LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

Get the capacity, ability and skill necessary to diagnose, prescribe, specify, implement and / or develop and evaluate any type of podiatry treatment, ortopodológico, quiropodológico surgery, podiatry, physical, pharmacological, preventive and / or education, based on clinical history. acting at all times based on compliance with professional ethical obligations, the law and the criteria norm praxis.

## DESCRIPTION OF CONTENTS



**1. INTRODUCTION TO ORTOPODOLOGÍA**

ITEM 01: HISTORY OF ORTOPODOLOGÍA. DEFINITION OF ORTHOPEDICS. ORTOPODOLOGÍA DEFINITION. INTRODUCTION TO THE SUBJECT. RELACIÓNDE SUBJECT WITH OTHER SUBJECTS OF THE CURRICULUM BASE.

UNIT 02: CLASSIFICATION OF TYPES OF ORTOPODOLOGÍA. PALLIATIVE ORTOPODOLOGÍA, COMPENSATORY, CORRECTIVE AND REPLACEMENT. DEFINITION, CHARACTERISTICS AND RECOMMENDED. PROVISIONAL AND DEFINITIVE TREATMENT ORTOPODOLOGICOS. APPLICATION GUIDELINES AND INSTRUCTIONS FOR USE.

ITEM 03: DEFINITION OF ORTHOTICS AND PROSTHETICS. TYPES, CHARACTERISTICS AND CRITERIA FOR APPLICATION.

**2.**

Topic 04: Description of the orthopedic workshop. Characteristics that the workshop must have. Ergonomic arrangement of furniture and tools. Rules of use. description of the machinery of a workshop of orthopedics.

**3. HYGIENE AND SAFETY STANDARDS IN THE ORTHOPEDIC WORKSHOP**

LESSON 5. Hygiene and safety standards in the orthopedic workshop

**4.**

**5.**

**6.**

M

**7.**



8.

## 9. CHARACTERISTICS OF MATERIALS USED IN ORTHOPODOLOGY

UNIT 11: Physical properties of materials. His interest in orthopedics: density. optical, thermal, electrical, and mechanical properties.

SUBJECT 12: Definition of deformation. Definition of tension. Types of tension. Types of deformation. elastic and permanent deformation. Limit of proportionality and elastic limit. definition of flexibility, hardness and compressibility.

SUBJECT 13: Classification of the materials used in orthopedics.

SUBJECT 14: Materials of vegetal origin and their derivatives. Characteristics physicochemical properties and handling.

SUBJECT 15: Materials of animal origin. furs and leathers. Leather tanning process, parts of a leather and its characteristics. Skin types and their characteristics. handling.

SUBJECT 16: Thermo-adaptable materials, polyethylene foams, Eva. Types of thermoplastic materials: polyethylene, polypropylene, methacrylates. Physicochemical and handling characteristics.

SUBJECT 17: Resins. guys. Resins for making plantar supports. Resins to make molds. Physicochemical and handling characteristics. ilicones. Types: Silicones.

SUBJECT 18: Laminated composites. Physicochemical characteristics. Handling.

## 10. PRACTICAL CONTENTS (Nº 1-2-3-4-5-6--7-8-9-10)(20h)-

### VPRACTICAL CONTENTS (Nº 1-2-3-4-5-6--7-8-9-10)(20h)-

Practice 1: Presentation of the orthopedic workshop.

Practice 2: Provisional orthopedic treatments.

Practice 3: Location of anatomical reference points.

Practice 4: Mold with phenolic foam (I).

Practice 5: Mold with phenolic foam (II).

Practice 6: Negative plantar mold. Adaptation and plaster bandage to the foot. (YO)

Practice 7: Negative plantar mold. Adaptation and correction techniques (II).

Practice 8: Negative plantar cast in prone decubitus. Adaptation and correction techniques (III).

Practice 9: Negative plantar mold. Adaptation and correction techniques (IV).

Practice 10: Elaboration of the different types of negative molds (with foam).

11.



**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	58,00	100
Laboratory practices	20,00	100
Classroom practices	10,00	100
Tutorials	2,00	100
Attendance at events and external activities	2,00	0
Development of group work	2,00	0
Development of individual work	2,00	0
Study and independent work	40,00	0
Readings supplementary material	2,00	0
Preparation of evaluation activities	2,00	0
Preparing lectures	7,00	0
Preparation of practical classes and problem	2,00	0
Resolution of case studies	1,00	0
<b>TOTAL</b>	<b>150,00</b>	

**TEACHING METHODOLOGY**

TO CARRY OUT THE PROCESS OF TEACHING - LEARNING COURSE USING DIFFERENT TEACHING METHODS, SEEK A BALANCE BETWEEN TRADITIONAL AND INNOVATIVE METHODS SHOULD BE ENHANCED AND METHODOLOGIES WHICH PROVIDES, BETTER CONDITIONS, TRAINING AND SKILLS OBJECTIVES OF THE COURSE . BE BASED ON THE FOLLOWING ACTIVITIES:

**8.1. TEACHING METHODS (CLASSROOM) (T) 58 H:**

GROUP THEORETICAL EXPLANATION OF STUDENTS ENROLLED (N), THE CONTENT OF EDUCATIONAL UNITS THROUGH EXPOSITORY SESSIONS, EXPLANATIONS AND / OR DEMONSTRATIONS BY THE PROFESSOR. THE STUDENT MAY ACCESS THE CONTENTS OF MEETINGS CLASS THROUGH THE VIRTUAL CLASSROOM IN THE MODULE "DOCUMENTS". THE PROGRAM WILL BE ESTABLISHED FOR THE GOOSE COURSE.

**8.2. TEACHING METHODS (CLASSROOM PRACTICE: SEMINAR-WORKSHOP (P) 10 H:** SUPERVISED SESSIONS-GRAPHIC MONOGR SHARED WITH PARTICIPATION OF TEACHERS, STUDENTS.

**8.3. TEACHING METHODS (LAB) (L) 20 H:**





THE MAKING OF PRACTICE IS VITAL FOR STUDENTS ACQUIRING SKILLS AND PROCEDURES RELEVANT TO THE SUBJECT. THESE PRACTICES ARE HELD AT THE WORKSHOP LOCATED IN THE CLASSROOM B0. DISTRIBUTION OF PUPILS IN THE GROUPS WILL BE ASSIGNED TO THE CENTER OF THE SECRETARIAT AND ITS TOTAL (N / 4) BY GROUP WILL BE BETWEEN 16-24 STUDENT S. BE ASSIGNED TO RESPECT THE GROUP AND SUPPORT THESE PRACTICES WILL BE MANDATORY. L1-L2-L3-L4

#### **8.4. TEACHING METHODS (TUTORIALS) (U) 2 H:**

TUTORIALS WILL BE SET OF THREE TYPES:

- \* PEER TUTORING (N / 4) BETWEEN 20 TO 25 STUDENTS: THIS IS TO MEET THE CONCERNS AND DIFFICULTIES ENCOUNTERED BY STUDENTS. PERSONAL PROJECT MONITORING OF STUDENTS AND ACADEMIC ACTIVITIES LEADING UP TO THE CLASS.
- \* ONE TUTORING: PERSONAL PROJECT MONITORING OF STUDENTS AND BROADEN OR DEEPEN THE INFORMATION PROVIDED IN OTHER LEARNING SITUATIONS.
- \* VIRTUAL TUTORIALS: AVAILABLE FOR ALL STUDENTS ENROLLED THROUGH THE MAIL FROM THE UNIVERSITY.

TO CARRY OUT THE PROCESS OF TEACHING - LEARNING COURSE USING DIFFERENT TEACHING METHODS, SEEK A BALANCE BETWEEN TRADITIONAL AND INNOVATIVE METHODS SHOULD BE ENHANCED AND METHODOLOGIES WHICH PROVIDES, BETTER CONDITIONS, TRAINING AND SKILLS OBJECTIVES OF THE COURSE . BE BASED ON THE FOLLOWING ACTIVITIES:

8.1. TEACHING METHODS (CLASSROOM) (T) 58 H: GROUP THEORETICAL EXPLANATION OF STUDENTS ENROLLED (N), THE CONTENT OF EDUCATIONAL UNITS THROUGH EXPOSITORY SESSIONS, EXPLANATIONS AND / OR DEMONSTRATIONS BY THE PROFESSOR. THE STUDENT MAY ACCESS THE CONTENTS OF MEETINGS CLASS THROUGH THE VIRTUAL CLASSROOM IN THE MODULE "DOCUMENTS". THE PROGRAM WILL BE ESTABLISHED FOR THE GOOSE COURSE.

8.2. TEACHING METHODS (CLASSROOM PRACTICE: SEMINAR-WORKSHOP (P) 10 H: SUPERVISED SESSIONS-GRAPHIC MONOGR SHARED WITH PARTICIPATION OF TEACHERS, STUDENTS.

8.3. TEACHING METHODS (LAB) (L) 20 H:



THE MAKING OF PRACTICE IS VITAL FOR STUDENTS ACQUIRING SKILLS AND PROCEDURES RELEVANT TO THE SUBJECT. THESE PRACTICES ARE HELD AT THE WORKSHOP LOCATED IN THE CLASSROOM B0. DISTRIBUTION OF PUPILS IN THE GROUPS WILL BE ASSIGNED TO THE CENTER OF THE SECRETARIAT AND ITS TOTAL (N / 4) BY GROUP WILL BE BETWEEN 16-24 STUDENT S. BE ASSIGNED TO RESPECT THE GROUP AND SUPPORT THESE PRACTICES WILL BE MANDATORY.

#### 8.4. TEACHING METHODS (TUTORIALS) (U) 2 H:

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DEEPEN THE INFORMATION PROVIDED IN OTHER LEARNING SITUATIONS.

Ø VIRTUAL TUTORIALS: AVAILABLE FOR ALL STUDENTS ENROLLED THROUGH THE MAIL FROM THE UNIVERSITY. [marta.izquierdorena@uv.es](mailto:marta.izquierdorena@uv.es), [juan.camposcampos@uv.es](mailto:juan.camposcampos@uv.es), [Rosa.Leyda@uv.es](mailto:Rosa.Leyda@uv.es)

## EVALUATION

TECHNICAL ASS

## REFERENCES

### Basic

1. MICHAUD TC (1997). Foot Orthoses and Other Forms of Conservative Foot Case. Ortesis Plantares y Otras Formas de Tratamiento Conservador. (2ª ed.). Michaud, TC, Baltimore.
2. KIRBY KA. (1997). Foot and lower extremity biomechanics: A ten year collection of precision intricast newsletters. Precision Intricast, Inc, Payson, Arizona. Autor-Editor.
3. KIRBY KA. (2002). Foot and lower extremity biomechanics I: precision intricast newsletters, 1997-2002. Precision Intricast, Inc., Payson, Arizona. Autor-Editor.
4. KIRBY KA. (2009). Foot and lower extremity biomechanics II: precision intricast newsletters, 2002-2008. Precision Intricast, Inc, Payson, Arizona. Autor-Editor.
5. KIRBY KA. (2016). Biomecanica del pie y la extremidad inferior. Vol V. Artículos de revisión. Intricast. 2011-2018. Autor-Edito.
6. RAMIRO J, coordinador. Guía de recomendaciones para el diseño de Calzado. Valencia: Instituto de



Biomecánica de Valencia; 1995.

7. ZAMBUDIO PERIAGO R. Prótesis, ortesis y ayudas técnicas. Barcelona: Elsevier Masson;2009

8.NÄDER M, NÄDER HG, editores. OTTO BOCK. Compendio de prótesis. Prótesis para la extremidad inferior. 2ª ed. Berlín: Schiele & Schön; 1993.

9. Viladot R, Cohí O, Clavell S. Ortesis y prótesis del aparato locomotor. Extremidad inferior. Barcelona: Masson; 1991

### Additional

- Revistas científicas:
  - \* Revista Española de Podología: <https://www.revesppod.com/?AspxAutoDetectCookieSupport=1>
  - \* Revista Europea de Podología: <https://revistas.udc.es/index.php/EJP/index>
  - \* Revista de Internacional de Ciencias Podológicas: <https://revistas.ucm.es/index.php/RICP>
  - \* Journal of the American Podiatric Medical Association: <https://meridian.allenpress.com/japma>
  - \* Journal of the Foot and Ankle Research: <https://jfootankleres.biomedcentral.com/>
  - \* Current Pedorthics: <https://www.pedorthics.org/page/CurrentPedorthics>
  - \* Podiatry Today : <https://www.podiatrytoday.com/archive>
- Asociaciones Internacionales:
  - \* American Podiatric Medical Association: <https://www.apma.org/>
  - \* The American College of Foot and Ankle Orthopedics and Medicine: <https://www.acfaom.org/>
  - \* American Academy of Orthopaedic Surgeons: <https://www.aaos.org/>
  - \* American Orthopaedic Society for Sport Medecine: <https://www.sportsmed.org/aossmimis>
- SUBIRANA I CAMPÀ MQ. Manual de Técnicas en Ortopodología. Barcelona: Ediciones Especializadas Europeas; 2004.
- VÁZQUEZ MALDONADO B, editor. Manual de Ortopodología. Barcelona: Ediciones Especializadas Europeas; 2009.
- E Fuller: The Windlass Mechanics of the Foot: A Mechanical Model to Explain Pathology.JAPMA90 (1):35-46,2000.
  - Komelia Kulig et al: Nonsurgical Management of Posterior Tibial Tendon Dysfunction with Ortheses and Resistive Exercise :A Randomized Controlled Trial Phys Ther.2009,89 : 26-37.