



COURSE DATA

DATA SUBJECT

Code: 34341
Name: Orthopodiatry III
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1208 - Degree in Podiatry	Facultat d'Infermeria i Podologia	3	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1208 - Degree in Podiatry	Orthopodiatry	COMPULSORY

COORDINATION

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SUMMARY

CONTEXT WITHIN THE DEGREE:

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

Matter of ORTOPODOLOGIA consists of 18 ECTS and includes 3 subjects: ORTOPODLOGIA I, that is offered in the first quarter of 2nd course, ORTOPODOLOGIA II is offered in the 2nd quarter of 2nd course and ORTOPODLOGIA III appropriate to 1 term of 3 ° course.

The course aims to deepen Ortopodología III and complement the knowledge acquired by students after studying OrtopodologíaOrtopodología I and II.

The subject has a mixed theoretical-experimental, so to unite the theoretical practical content, such as resolution of clinical cases, and the realization of practical laboratory work, which will exercise the



concepts and techniques.

The overall objective of the course is to introduce students / a in the therapeutic area of ¿¿Ortopodología, providing basic training in theoretical knowledge and practical skills in order to initiate the student into the professional skills of the prescription, design and procurement orthotics and prosthetic foot and lower limb rest, most often used.

Therefore, both program content and teaching methodology used are designed according to logical criteria and depending on the complexity of learning to achieve. Thus we want the students interrelate the knowledge acquired in this course with other of the degree with which they share responsibilities and objectives.

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 recommended that students have acquired the skills in the core subjects of Human Anatomy, Biochemistry and Biophysics, and General Pathology. They also have mastered the skills in the compulsory subjects of Orthopodology I, Orthopodology II, Podiatric Biomechanics and Pathomechanics, and Podiatric Pathology.

COMPETENCES / LEARNING OUTCOMES

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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.

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.

DESCRIPTION OF CONTENTS



1. CLINICAL HISTORY IN ORTHOPODOLOGY (6 h) (LESSON 1-2)

LESSON 1

Clinical history in Orthopodology. Static and dynamic examination in adults. Assessment of parameters of orthopodological interest prior to the application of orthopodological treatment.

LESSON 2

Clinical history in Orthopodology in children. Static and dynamic examination in children. Assessment of parameters of orthopodological interest prior to the application of orthopodological treatment. Evolution of the plantar footprint in children, elements of orthopodological interest.

2. ORTHOPODOLOGICAL TREATMENTS WITH PLANTAR SYSTEMS OF DIFFERENT ELEMENTS (4 h) (LESSON 3-4)

LESSON 3: Definition of an element. Alternatives in orthopodological treatments.

LESSON 4. Parameters of interest when making a plantar support. Assessment. Most common errors.

3. ORTHOPODOLOGICAL ALTERNATIVES FOR DYSFUNCTIONS OF THE TIBIO-FIBREAL-TALAR JOINT COMPLEX (8 hours) (LESSONS 5-6-7)

LESSON 5. Orthopedic treatment of valgus foot in adults. Assessment of static and dynamic parameters of orthopedic interest. Biomechanical study of the orthotic elements involved in treatment. Orthopedic reduction of midfoot valgus stress. Proprioceptive action of orthopedic treatment. Assessment of short- and long-term treatment. Modifications to the applied treatment.

LESSON 6. Orthopedic treatment of varus foot in adults. Assessment of static and dynamic parameters of orthopedic interest. Biomechanical study of the orthotic elements involved in treatment. Orthopedic reduction of midfoot varus stress. Proprioceptive action of orthopedic treatment. Short- and long-term treatment assessment. Treatment modifications.

TOPIC 7. Iatrogenic pes cavus. Assessment of parameters of orthopedic interest, both statically and dynamically. Design of a provisional and definitive orthopedic treatment plan. Appropriate footwear.

4. ORTHOPEDIC TREATMENTS FOR MORPHOLOGICAL AND FUNCTIONAL DEFORMITIES OF THE FOREFOOT (8 hours) (TOPICS 8-9-10)

TOPIC 8. Orthopedic treatment of morphological and functional abnormalities of the first ray. Incipient hallux valgus. Unsaturated hallux valgus. Hallux flexus. Insufficiency of the first ray. Assessment of clinical parameters of orthopedic interest. Design of a provisional and definitive treatment plan.

TOPIC 9. Orthopedic treatment of functional abnormalities and deviations of the central rays. Metatarsalgia. Morton's neuroma. Assessment of clinical parameters of orthopedic interest. Radiograph. Design of a provisional and definitive treatment plan.

UNIT 10. Köhler's disease. Central ray insufficiency. Spontaneous Deutchalander fracture. Proximal and distal claw toes. Assessment of clinical parameters of orthopedic interest. Radiograph. Design of a provisional and definitive treatment plan.

5. DISSYMMETRIES (6h) (UNIT 11)

UNIT 11. Definition of dissymmetry. Treatment protocol. Examination and testing in a patient with a



dissymmetry. Assessment of parameters of orthopedic interest, both statically and dynamically. Biomechanical study of the orthotic elements involved in treatment. Compensation of virtual dissymmetry. Compensation of real dissymmetry. Materials. Working methodology. Verification of the compensatory element of the orthotic elements. Footwear modifications.

6. CALCANEO-Achilles-PLANTAR PAIN SYSTEM. ORTHOPODOLOGICAL TREATMENT ALTERNATIVES (8h) (UNIT 12-13-14)

UNIT 12. Haglund's exostosis. Heel spur. Definition. Assessment of clinical parameters of orthopedic interest. Radiography. Design and implementation of a provisional and definitive treatment plan.

UNIT 13. Plantar fasciitis. Ledherhouse's disease. Assessment of clinical parameters of orthopedic interest. Design and implementation of a provisional and definitive treatment plan.

UNIT 14. Sever's disease. Definition. Assessment of clinical parameters of orthopedic interest. Radiography. Design and implementation of a provisional and definitive treatment plan.

7. ORTHOSIOLOGY (10h) (UNIT 15-16-17-18)

UNIT 15. Orthosiology. Definition. Considerations prior to applying digital-metatarsal orthosis treatment. Anatomical and physiological parameters affecting the forefoot. Biomechanical action of functional orthoses. Materials suitable for use in forefoot pathologies. Manufacturing methodology and technique.

UNIT 16. Description of the different types of orthotic elements. Location. Biomechanical effect. Therapeutic application. Types of digital orthoses for certain pathologies. Definition. Treatment alternatives. Hallux valgus, hallux hyperextensus, hallux varus, hallux flexus, claw toes, clinodactyly, quintus varus (tailor's bunion), and metatarsalgia.

TOPIC 17. Orthopedic treatment of congenital forefoot disorders. Clinodactyly. Digital amelia. Syndactyly. Polydactyly. Stracker supraductus.

TOPIC 18. How to assess the effectiveness of an orthosis. Most common errors. Orthosis repair.

8. ORTHOPODOLOGICAL TREATMENT OF INJURIES CAUSED BY SYSTEMIC DISEASES. FOOT AT RISK. PREVENTIVE ACTION PLAN AND EMERGENCY PLAN (6 hours) (TOPIC 19-20-21)

TOPIC 19. Diabetic foot. Vascular foot. Assessment of clinical parameters of orthopedic interest. Design of a provisional and definitive treatment plan.

TOPIC 20. Rheumatic foot. Assessment of clinical parameters of orthopedic interest. Design of a provisional and definitive treatment plan.

TOPIC 21. Epidermolysis Bullosa. Definition. Etiology. Most common lesions. Orthopedic treatment.

9. PRACTICAL CONTENTS. WORKSHOP PRACTICE PROGRAM (L) 26 HOURS (PRACTICE L 1-2-3-4-5-6-7-8-9-10-11-12)

WORKSHOP PRACTICE PROGRAM (L) 26 HOURS:



- PRACTICE 1. MEDICAL HISTORY IN ORTHOPODOLOGY.
- PRACTICE 2: MANUFACTURING DIFFERENT ELEMENTS WITH SYNTHETIC CORK.
- PRACTICE 3: MAKING A PLANTAR SUPPORT FOR A VALGUS FOOT WITH ELEMENTS AND AMERICAN TECHNIQUE
- PRACTICE 4: MAKING A PLANTAR SUPPORT FOR A VARUS FOOT WITH ELEMENTS AND AMERICAN TECHNIQUE.
- PRACTICE 5: MAKING A PLANTAR SUPPORT FOR A DISYMMETRY.
- PRACTICE 6: MAKING A FUNCTIONAL FIRST TOE SPLINT.
- PRACTICE 7: MAKING A PLANTAR SUPPORT FOR A KOEHLER II SHOULDER
- PRACTICE 8: MAKING A PLANTAR SUPPORT FOR A CALCANEAL SPUR.
- PRACTICE 9: MAKING A PLANTAR SUPPORT FOR A DIABETIC FOOT
- PRACTICE 10: SILICONES FOR DIFFERENT TYPES OF PATHOLOGIES
- PRACTICE 11: SILICONES FOR DIFFERENT TYPES OF PATHOLOGIES.
- PRACTICE 12: SILICONES FOR DIFFERENT TYPES OF PATHOLOGIES.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Tutorials	2,00
Theory	58,00
Laboratory	26,00
Classroom practices	4,00
Total hours	90,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	2,00
Individual or group project	9,00
Independent study and work	25,00
Preparation of lessons	17,00
Preparation for assessment activities	2,00
Resolution of case studies	5,00
Total hours	60,00

TEACHING METHODOLOGY

N-PERSON THEORETICAL CLASSES (AT0 - 58 hours):

Different teaching methods will be used to carry out the teaching-learning process of the subject, seeking a balance between traditional and innovative methods. Methodologies that best achieve the training objectives and competencies of the subject will be emphasized.

- Theoretical explanation of the content of the teaching units to the TO group of enrolled students (n) through expository, explanatory, and/or demonstrative sessions led by the professor. A pedigree dossier



prepared by the professor will be used to develop clinical cases.

- Students will be able to access the content of the class sessions through the Virtual Classroom (VC), in the "Documents" module. The schedule will be established in the OCA of the corresponding course.

- Furthermore, in the final units, role-playing techniques may be used (as complementary activities to the lecture), where students will have much more consolidated knowledge to be able to carry them out.

8.2 IN-PERSON PRACTICAL MODALITY (L1, L2, L3, L4) (26 hours x L):

Completing the practical exercises (L) is essential for students to acquire relevant skills and procedures for the subject.

These practical exercises will be carried out in the workshop located in classroom S4, from 10 a.m. to 12 p.m., Monday through Friday (see OCA).

The assigned group must be respected, and attendance at these practical exercises (L) will be MANDATORY for all enrolled students. Only a maximum of 1 justified absence will be allowed.

Failure to attend the practical exercises will result in the subject being considered failed.

The distribution of students into groups L1, L2, L3, and L4 will be determined by the FIP secretariat, along with their total number (n/4) per group.

A workshop is understood as a place where something is worked on, developed, and transformed for use. From a pedagogical perspective, it allows for "learning by doing," with the students at the center of the action, allowing for self-learning through execution.

The L practices represent a basic pillar for teaching podiatry, allowing the development of skills, abilities, and aptitudes necessary to achieve proper professional qualifications. The aim is to consolidate the knowledge acquired in theoretical classes (an effort will be made to coordinate the content of the TO and the development of the L), mastery of specific techniques, and the development of general problem-solving strategies and practical cases.

The teaching methodology used in the L practices will be as follows: the teacher will distribute a script with the content, objectives, and steps to follow in completing the exercises. After this, a demonstration will be given using an example, either on-site or through a video.

Afterwards, the student will develop the content of the PRACTICE. Each session will last two hours; the last half hour of the workshop will be used for students to explain the various difficulties they encountered during the workshop.

These are MANDATORY. Failure to complete the practical sessions may result in the course being considered failed. Punctuality will be highly valued. If the student arrives more than 30 minutes late, the instructor may refuse to allow the student to participate in the practical session.

In some sessions, brainstorming will be very helpful; it serves as a group work tool, facilitating the emergence of new ideas on a specific topic or problem.

On the other hand, indirect and interactive instruction, with situations, cases, and didactic questions where students respond to the what, how, when, where, etc., will be used in some teaching units. The interactive whiteboard system (educlick), which we described in the teaching media and resources section, will be used.

Each student group will choose a representative to act as an interlocutor with the responsible teacher. This representative will assume coordination and teamwork duties.

All students must bring practice materials such as a pencil, eraser, ruler, scissors, kitchen scissors, permanent marker, a plastic container (6 liters), and a signature sheet so the teacher can record the practice.



Regarding attire and appearance, students must follow the SAFETY, UNIFORMITY, and PERSONAL APPEARANCE rules (white gown or pajamas) required by the Faculty of Nursing and Podiatry of Valencia (FIP). In this regard, students must arrive wearing pajamas and/or work gowns and must wear the identification card provided by the FIP in a visible place.

8.3. IN-PERSON SEMINAR MODALITY (P):

Supervised monographic sessions with shared participation of professors, in external guests and students.

- They will be formed by groups (A P1, A P 2) (N/2) of students, where they will practice solving clinical cases, practical actions, and, in short, raise and resolve questions that reflect the reality of the problems that podiatrists must solve in the practice of their profession.

- In the ORTHOPODOLOGY III course, two-hour seminars will be held. The seminars will consist of a first part, lasting 30 minutes, in which the student will be provided with materials, bibliography, and everything necessary to solve the clinical case. Attendance at the seminars is mandatory.

- The remainder will be divided as follows: one hour of completely individual work, where the student will have to put their knowledge of the subject into practice in order to complete the case. The last half hour will be used to solve the clinical case in class with all students using the brainstorming technique mentioned in the previous chapter. Each student will participate, contributing ideas, skills, and knowledge they have acquired throughout the course. The objective is to unify criteria and establish guidelines for determining the solution to the proposed case.

8.4. TEACHING METHOD (TUTORIALS) (U): (U1-U2) 2 hours: THREE TYPES OF TUTORIALS WILL BE ESTABLISHED:

GROUP TUTORIALS (N/4) BETWEEN 20-25 STUDENTS:

The goal will be to resolve any doubts and difficulties encountered by students. Students' personal projects will be supervised and academic activities will be guided in addition to the class.

PERSONALIZED TUTORIALS:

Supervise students' personal projects and expand or deepen the information provided in other learning situations.

VIRTUAL TUTORIALS:

Available to all enrolled students via the university email address.



8.5. NON-FACE-TO-FACE TEACHING METHOD:

Students enrolled in ORTHOPODOLOGY III have 59.2 NON-FACE-TO-FACE hours, which must be distributed between:

- Preparation of a final assessment. Objective test.
- The practical exam.
- Preparation of the practical report and the individual work completed in the different Ls. The report must be a minimum of 10 pages and a maximum of 20 pages in A4 size, typed, double-spaced, single-sided, or in a digital copy. It must be submitted at the end of the course.
- To complete the course, the student must submit all the work (materials) completed during the practical sessions at the end of the course: the various foot supports made, the patterns, and the silicones. This will allow the instructor to assess the student's ability, dexterity, creativity, design, and ability to work independently and perform and/or create any type of orthopaedic treatment.

Final project, in groups of two students. The topics of the projects will be presented in the presentation, and the distribution of topics will be determined by the different groups. The projects will be presented in class by all members of the group for evaluation. Participation by all enrolled students is mandatory. (15-16)

EVALUATION

First, a non-grading assessment will be conducted with two components:

- A) Predictive or diagnostic assessment. In the first class session, a series of short questions will be asked to assess the level of knowledge acquired from the subjects Orthopodology I and Orthopodology II.
- B) Assessment of the learning process. Throughout the subsequent lecture sessions ("T" mode), at the end of each session, a few minutes will be devoted to asking a series of short questions on the most relevant aspects of the content taught.

For grading assessments, the following will be taken into account.

- A) Theoretical exam on the content presented in the lecture sessions.

This exam will consist of an objective test based on four clinical cases. It will account for 70% of the final grade, up to a maximum of 7 points, with a score of 4 or more points required to pass.

- B) Examination of the practical exercises completed in the Orthopodology workshop ("L" practical exercises). (1.5 points)



The exam will consist of a demonstration of skills in making a plantar support using a mold and the preparation of a specific type of silicone to address the treatment of a specific pathology. Both the plantar support exercise and the silicone to be prepared will be randomly assigned to students based on the 12 "L" practical exercises completed during the course.

This part will account for 15% of the final grade, i.e., between 0 and 1.5 points. A rubric available to students in the Virtual Classroom for the course will be used to calculate the score. To pass the practical exam, students must achieve at least 1 point.

To be eligible to take this practical exercise, students must have 100% attendance at the "L" practical exercises. Otherwise, the score obtained in this part will be 0 points.

C) Report and work completed in the Orthopodology workshop (1 point).

The report prepared following the "L" internship will count for a maximum of 0.5 points.

The set of templates created during the "L" internship will be graded with a maximum of 0.5 points.

D) Final Project (0.5 points).

The presentation of the work based on a clinical case and a poster will be graded with a maximum of 0.5 points.

Both the internship report and the final project will be posted on the A.V. in a timely manner. Students who do not upload their report or final project will not receive a grade in this section. Therefore, the theoretical component cannot be averaged. The percentage of plagiarism will be taken into account, with a maximum of 5%. If it is greater than 5%, both the internship report and the "clinical case" presentation will have to be retaken.

To obtain a final grade, students must have obtained at least a 4 on the theoretical exam (A) and a 1 on the practical exam (B). If both parts are passed, the scores from the report and assignments completed in the Orthopodology workshop and the final project will be added together.

If students fail either of the required parts: the theoretical part (A) or the practical exam (B), the failed part will be reflected in the transcript. The grade for the passed part will be retained for the second sitting.

If students fail both the theoretical part (A) and the practical exam (B), the maximum failed grade will be reflected in the transcript.

For the second sitting, the same process will be followed as for the first sitting, provided that students have attended 100% of the "L" practicals throughout the course, as absences cannot be made up.

REFERENCES

- Kevin A. Kirby. Foot and lower extremity biomechanics. (A Ten Year Collection of Precision Intricast Newsletters). Payson: Precision Intricast; 1997-2002. - Ximeno L. Actualizaciones en



técnica ortopédica. Barcelona: Masson; 2001. - Lavigne A, Noviel D. Etude clinique du pied et thérapeutique par orthèse. Paris: Masson; 1992. - Lelievre J, Leliève J.F. Patología del pie. 4ª ed. Barcelona: Toray-Masson; 1982. - Levy AE, Cortes JM. Ortopodología y aparato locomotor. Barcelona: Masson; 2003. - McRae R. Exploración clínica ortopédica. 5ªed. Madrid, Barcelona: Elsevier; 2005. - Moreno de la Fuente JL. Podología general y biomecánica. 2ªed. Barcelona: Masson; 2009. - Pérez Casas A, Bengoechea González ME. Anatomía funcional del aparato locomotor: Teoría de bases anatómicas y biomecánicas de la traumatología y ortopedia. 10ª ed. Madrid: Graficas Summa; 2001. - Philips JW. The functional foot orthosis. Edinburg: Churxhill Lingstone; 1995. - Rodríguez E. Ortopodología aplicada: experiencias. Barcelona: Podoespecial; 1979. - R. L.Valmassy. Clinical biomechanics of the lower extremities. EE.UU; Mosby-Year Book; 1996. - Root ML. Normal and abnormal function of the foot (volume II). Los Angeles: Clinical Biomechanics Corporation; 1997.

- Valenti V. ortesis del pie: tratamiento ortésico de las alteraciones biomecánicas de la marcha. Buenos Aires: Medica Panamericana; 1987. - Viladot Pericé R. Ortesis y prótesis del aparato locomotor. Vol. 1 y 2.1. Barcelona: Masson; 1985-1992. - Viladot Pericé R. Patología del antepié. 4ªed. Barcelona: Springer Ibérica; 2001. - Viladot Pericé A. Quince lecciones sobre patología del pie. 2ªed. Barcelona: Springer Ibérica; 2000.
- Baumgartner Stinus H. Tratamiento ortésico-protésico del pie. Barcelona: Masson; 1997. - Instituto Biomecánico de Valencia. Biomecánica de la marcha humana normal y patológica. Generalitat Valenciana: Conselleria de Sanitat i Consum, 1993. - Michaud TC. Foot orthoses and other forms of conservative foot care. 2ª ed. Williams & Wilkins: Baltimore; 1995. - Pérez Lahuerta C. Ortopedia básica del pie. Elx: Cooperativa Gráfica Fotoimprés; 1984. - Salter RB. Trastornos y lesiones del sistema musculoesquelético: introducción a la ortopedia, fracturas y lesiones. 3ª ed. Barcelona: Masson; 2000. - Vera P, Hoyos J. Biomecánica del aparato locomotor. Madrid: Instituto de Biomecánica de Valencia; 1985. REVISTAS CIENTÍFICAS DE PODOLOGÍA En lengua española: - El Preu. Revista de Podología. Colegio Oficial de Podólogos de Cataluña. - Revista de Biomecánica. Instituto de Biomecánica de Valencia. - Revista Podología Argentina. Internacionales: - Australasian Journal of Podiatric Medicine. - Clinics in Podiatric Medicine and Surgery. - Foot and Ankle. - Foot and Ankle Clinics. - Journal of Biomechanics. - Journal of Foot & Ankle Surgery. - Journal of Prosthetics and Orthotics. - Journal of the American Podiatric Medical Association. - Podiatry Today.
- - Claustre J, Simón L. Pathologie des orteils. París: Masson; 1985. - Céspedes T, Dorca A, Datsira N, Ortega MJ, Rodricio E. Elementos ortésicos en el antepié. Barcelona: Textos docentes U.B; 1994. - Goldcher A. Podologie. Paris: Masson; 1997. - Giannestras NJ. Trastornos del pie. Barcelona: Salvat Editores; 1983. - Kapandji IA. Fisiología articular: esquemas comentados de mecánica humana. T.2: Miembro inferior. 5ª ed. Madrid: Médica Panamericana; 1998. - Hunter S,



Dolan MG, Davis JM. Foot orthotics in therapy and sport. England: Human Kinetics; 1995. - Instituto Biomecánico de Valencia. Biomecánica de la marcha humana normal y patológica. Generalitat Valenciana: Conselleria de Sanitat i consum; 1993.

- Alcántara E, Ferrandis R, Forner A, García Belenguer A. Guía de recomendaciones para el diseño, selección y uso del calzado para personas mayores. Madrid: Ministerio de Asuntos Sociales. Instituto Nacional de Servicios Sociales; 1998. - Berthe A, Dotte P. Les ambulacions et les aides de marche en traumatologie. Paris: Masson; 1987. - Burger-Wagner A. Rééducation en orthopédie pédiatrique. Paris: Masson; 1991.