1. BASIC DATA

Subject	ORTHOPEDIC MANUAL THERAPY: CLINICAL REASONING
Titration	BACHELOR'S DEGREE IN PHYSIOTHERAPY
School/ Faculty	PHYSICAL ACTIVITY SCIENCES, SPORTS AND PHYSIOTHERAPY
Course	2024-2025
ECTS	6 ETCS (150 HOURS)
Character	OPTIONAL
Language/s	SPANISH AND ENGLISH
Modality	FACE
Semester	S1
Academic year	2024-2025
Coordinating Teacher	ALBERTO CARLOS MUÑOZ FERNÁNDEZ
Teacher	

2. PRESENTATION

"Orthopaedic Manual Therapy I" is a subject in the second year of the Bachelor's Degree in Physiotherapy and is taught in the first semester. It has a value of 6 ECTS and is an optional subject within the Degree. This course focuses on the foundations and development of clinical reasoning within this field of knowledge, and explores the usefulness of anamnesis and physical examination by regions within clinical decision-making aimed at treating patients with manual therapies.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CB2: Students must know how to apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and problem solving within their area of study
- CB3: Students must have the ability to gather and interpret relevant data (usually within their area of study) in order to make judgments that include reflection on relevant social, scientific or ethical issues.
- CB4: Students should be able to transmit information, ideas, problems and solutions to both a specialised and non-specialised audience.

Transversal competences:

- CT3: Organizational and planning skills.
- CT4: Ability to analyse and synthesize.
- TC 6: Information management capacity.
- TC 9: Ethical commitment.
- TC 10: Work in a team.
- TC 13: Critical reasoning.

Specific competencies:

- CE 2: Ability to design the Physiotherapy Intervention or Treatment Plan.
- CE 3: Ability to determine the diagnosis of Physiotherapy.
- CE 4: Ability to provide effective and comprehensive care.
- CE 7: Ability to execute, direct and coordinate the intervention plan in physiotherapy.
- CE 9: Ability to apply quality assurance mechanisms in the practice of physiotherapy, according to recognised and validated criteria.
- CE 10: Ability to intervene in health promotion and disease prevention.
- CE 14: Ability to incorporate the ethical and legal principles of the profession into the professional culture.

Learning outcomes:

- RA1: Understanding of the fundamental contents related to the contents of the subject.
- RA2: Knowledge of the basic use of scientifically validated scales and tests
- RA3: Ability to develop subjective and objective clinical reasoning.
- RA4: Ability to plan the specific objectives of clinical diagnosis.
- RA5: Ability to plan specific goals for a specific treatment.
- RA6: Ability to apply research methodology on clinical reasoning in musculoskeletal pain and motor control.
- RA7: Ability to act based on compliance with the deontological obligations of the profession and criteria of normo praxis.

The table below shows the relationship between the competencies developed in the subject and the learning outcomes that are pursued:

Competences	Learning Outcomes
CB2, CB3, CB4, CT3, CT4, CT6, CT9, CT10, CT13, CE2, CE3, CE4, CE7, CE9, CE10, CE14	RA1: Understanding of the fundamental contents related to the contents of the subject.
CB2, CB3, CB4, CT3, CT4, CT6, CT9, CT10, CT13, CE2, CE3, CE4, CE7, CE9, CE10, CE14	RA2: Knowledge of the basic use of scientifically validated scales and tests

CB2, CB3, CB4, CT3, CT4, CT6, CT9, CT10, CT13, CE2, CE3, CE4, CE7, CE9, CE10, CE14	RA3: Ability to develop subjective and objective clinical reasoning
CB2, CB3, CB4, CT3, CT4, CT6, CT9, CT10, CT13, CE2, CE3, CE4, CE7, CE9, CE10, CE14	RA4: Ability to plan for specific clinical diagnostic goals
CB2, CB3, CB4, CT3, CT4, CT6, CT9, CT10, CT13, CE2, CE3, CE4, CE7, CE9, CE10, CE14	RA5: Ability to plan specific goals for a specific treatment.
CB2, CB3, CB4, CT6, CT13, CE2, CE3, CE4, CE10, CE14	RA6: Ability to apply research methodology on clinical reasoning in musculoskeletal pain and motor control
CB2, CB3, CB4, CT9, CE9, CE14	RA7: Ability to act based on compliance with the deontological obligations of the profession and criteria of normo praxis

4. CONTENTS

This section indicates the content of each of the topics contained in the learning units.

- UA1: Introduction to the concept of manual orthopedic therapy - clinical reasoning in the diagnosis and treatment of musculoskeletal pain and motor control.

- Topic 1. Scientific basis
- Topic 2. Evolution

- UA2: Principles of Assessment in Manual Orthopedic Therapy

- Item 3. Subjective evaluation

- UA3: Establishing a scientific basis for clinical reasoning

- Item 4. Objective assessment

- UA4: Acquisition of diagnostic skills with clinical cases, Critical Reading of the different articles of clinical reasoning with scientific evidence.

- Ítem 5. Columna Cervical
- On 6 April, the Sheriff's Office announced that Columna Dorsal
- On July 7, 2019, the Senate Judici Columna Lumbar

To develop the competencies and achieve the indicated learning outcomes, they must carry out the activities indicated in the table below:

Results of learning	Activity learning	Type of training activity	Contents
RA1	Activity 1	Master class Scientific papers Case study analysis Practice in class Self-study	UA1: Introduction to the concept of orthopedic manual therapy. Clinical reasoning in the diagnosis and treatment of musculoskeletal pain and motor control Topic1. Scientific basis Topic 2. Evolution
RA1, RA2, RA3, RA4, RA5, RA6, RA7	Activity 2	Master class Scientific papers Case study analysis Practice in class Self-study	UA2: Principles of assessment in orthopaedic manual therapy. Topic 3. Subjective evaluation
RA1, RA2, RA3, RA4, RA5, RA6, RA7	Activity 3	Master class Scientific papers Analysis of practical cases Practice in class Self-study	UA3: Establishment of a scientific basis in clinical reasoning. Topic 4. Objective assessment
RA1, RA2, RA3, RA4, RA5, RA6, RA7	Activity 4	Master class Scientific Papers Case Analysis Classroom Practice Self-Learning	UA4: Acquisition of diagnostic skills with clinical cases. Critical reading of the different articles of clinical reasoning with scientific evidence. Ítem 5. Columna cervical On 6 April, the Sheriff's Office announced that Dorsal Spine On July 7, 2019, the Senate Judici Columna Lumbar

5. TEACHING-LEARNING METHODOLOGIES

The following are the types of teaching-learning methodologies that will be applied:

- Simulation environments
- Masterclass
- Cooperative Learning
- Case Method

6. TRAINING ACTIVITIES

The types of training activities that will be carried out and the student's dedication in hours to each of them are identified below:

Face-to-face modality:

Training activity	Number of hours
Case Study Analysis	20
Master Class	20
Autoaprendizajae	50
Scientific papers	20
Practice in class	30
Tutorials	10
TOTAL	**150**

Specific recommendations:

It is important to note that the content of this subject will be of vital importance to successfully treat patients with neuromusculoskeletal dysfunctions, so the expected quality of learning will be high, in order to ensure the knowledge and practice that will be handled in the context of manual orthopedic therapy.

It is advisable to review the contents of the previous subjects that you think you have not mastered adequately, since this subject is based on the knowledge of the Basic Manual Therapy subjects.

7. EVALUATION

This subject will be continuously evaluated through theoretical tests, with the realization of clinical simulation practices and teaching methodologies that will be carried out in the classroom and in the traditional and advanced Simulator Room during the first semester.

The evaluation system will be continuous, so that the different learning activities will be grouped into two general types of tests:

- Objective tests: 60%.
- Student Portfolios: 40%

The final grade of the course will be obtained from the sum of the marks obtained in the two previous sections, provided that a minimum of 5.0 is obtained in each of the subsections of the two groups of tests.

Face-to-face modality:

Evaluation system	Weight
Theory	20%
Practice	20%+20%
Portfolio	10%+10%
Clinic	20%

On the Virtual Campus, when you access the subject, you will be able to consult in detail the evaluation activities you must carry out, as well as the delivery dates and evaluation procedures for each of them.

The final grade of the subject will be obtained from the sum of the grades obtained in the two sections mentioned above, as long as a minimum of 5.0 is obtained in each of the subsections of the two groups of tests them.

* Evaluation of objective tests: These may be multiple-choice tests, short questions, clinical cases, practical tests, OSCE or any other objective test that serves to assess theoretical and practical knowledge of the subject. The subject included in this test must be passed with a grade equal to or greater than 5.0. If the grade obtained is less than 5.0, the student will have to take another objective test in the extraordinary call in July. Likewise, this extraordinary test must be passed with a grade equal to or greater than 5.0 in order to pass the subject.

* Evaluation of the activities in the student's portfolio: These may be a portfolio of clinical cases, clinical patterns, summaries of practical tests or OSCE, reflective notebooks, preparation of artifacts and materials, critical reading of articles or any other activity that serves to assess the theoretical and practical knowledge of the subject. The subject included in this test must be passed with a grade equal to or greater than 5.0. If the grade obtained is less than 5.0, the student will have to take another objective test in the extraordinary call in July.

Likewise, this extraordinary test must be passed with a grade equal to or greater than 5.0 in order to pass the subject

7.1. Ordinary call

To pass the subject in the ordinary call, it is necessary to obtain a final grade equal to or greater than 5.0, which will result from the sum of the grades obtained in the different assessable activities, as long as the grade is greater than or equal to 5.0 out of 10.0 in each of the assessable activities of the subject.

7.2. Extraordinary call

To pass the subject in the extraordinary call, it is necessary to obtain a grade greater than or equal to 5.0 out of 10.0 in the final grade of the subject. In the event that there are deliverable activities that are not presented or not passed in the ordinary call, they must be submitted after having received the corresponding corrections from the teacher.

8. SCHEDULE

This section indicates the schedule with delivery dates of assessable activities of the subject:

Assessable activities	Date

Activity 1. Portfolio of Theoretical Tests and Patterns Clinical	Weeks 15 & 16
Activity 2. Role play and Theoretical test	Week 4 & 15
Activity 3. ECOE Practical Test	Week 9 & 14
Activity 4. Portfolio of OSCE Practice Tests and Clinical Patterns	Weeks 9, 14 and 16

This schedule may be modified for logistical reasons of the activities. Any modification will be notified to the student in a timely manner.

9. BIBLIOGRAPHY

Recommended bibliography is indicated below:

- Atkins, S. and S. J. Ersser (2008). "Clinical reasoning and patient-centred care." Clinical reasoning in the health professions: 77-88.
- Banks, K 2010, Maitland's clinical companion: an essential guide for students, Churchill Livingstone/Elsevier, Edinburgh.
- Banks, K & Henveld, E 2005, Maitland's peripheral manipulation, 4th ed., Elsevier/Butterworth Heinemann, Edinburgh.
- Banks, K & Henveld, E 2005, Maitland's vertebral manipulation, 4th ed., Elsevier/Butterworth Heinemann, Edinburgh.
- Boshuizen, H. P. A. and H. G. Schmidt (2008). "The development of clinical reasoning expertise." Clinical reasoning in the health professions.
- Boyling, J and Jull G, (2005). Grieve's Modern Manual Therapy. The Vertebral Column 1st ed. Churchil Livingstone
- Cleland, J (2011), Netter's orthopedic clinical examination: an evidence-based approach, 2nd ed. / edn, Saunders/Elsevier, Philadelphia, Pa
- Edwards, I. (2007). The role of clinical reasoning in understanding and applying the International Classification of Functioning, Disability and Health (ICF).
- Edwards, I., M. Jones, et al. (2004). "Clinical reasoning strategies in physical therapy." Physical Therapy 84(4): 312-330.
- Higgs, J. and M. Jones (2008). "Clinical decision making and multiple problem spaces." Clinical reasoning in the health professions: 3-17.
- Jensen, G., L. Resnik, et al. (2008). "Expertise and clinical reasoning." Clinical

reasoning in the health professions: 123-136.

- Jones, M (2011). “CR Theory & Practice.” Practical notes from MPTP, ICPY, UniSA, Adelaide
- Jones, M and Magarey, M (2011). “Subjective Assessment.” Practical notes from MPTP, ICPY, UniSA, Adelaide
- Jones, M. and D. A. Rivett (2004). “Introduction to clinical reasoning.” Clinical reasoning for manual therapists: 3-24.
- Jones, M. A. (1992). “Clinical reasoning in manual therapy.” Physical Therapy 72(1

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit (ODI) we offer support to our students throughout their university life to help them achieve their academic achievements. Other pillars of our action are the inclusion of students with specific educational support needs, universal accessibility on the different campuses of the university and equal opportunities.
This Unit offers students:

1. Accompaniment and follow-up through the realization of personalized counseling and plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made, that is, at the level of methodology and evaluation, in those students with specific educational support needs, thus pursuing equality of opportunities for all students.
3. We offer students different extracurricular training resources to develop various skills that will enrich them in their personal and professional development.
4. Vocational guidance through the provision of tools and advice to students with vocational doubts or who believe that they have made a mistake in the choice of degree.

Students who need educational support can write to us at:
orientacioneducativa@universidadeuropea.es

11. SATISFACTION SURVEYS

Your opinion matters!

The European University encourages you to participate in satisfaction surveys to detect strengths and areas for improvement in the teaching staff, the degree and the teaching-learning process.

The surveys will be available in the survey space of your virtual campus or through your email.

Your assessment is necessary to improve the quality of the degree.

Thank you very much for your participation.

WORK PLAN OF THE SUBJECT

HOW TO COMMUNICATE WITH YOUR TEACHER

When you have a question about the content or activities, don't forget to write it in the forums of your subject so that all your classmates can read it.

It's possible that someone has the same doubt as you!

If you have any questions exclusively addressed to the teacher, you can send them a private message from the Virtual Campus. In addition, in case you need to delve into a topic, you can arrange a tutorial.

It is advisable that you regularly read the messages sent by students and teachers, as they constitute another way of learning.

SCHEDULE OF ACTIVITIES

This section indicates the schedule of training activities, as well as the delivery dates of the assessable activities of the subject:

Week	Contents	Training/assessable activities	Weight in the evaluation of the assessable activity
5	Clinical reasoning Subjective Exploration	Role Playing	10
11	Practical 1	Objective Exploration Objective Cervical Examination Objective dorsal examination	20
16	Practical 2	Objective lumbar examination Test Ortopédicos Raquis	20
17	Theoretical exam	Introduction to BMT Clinical reasoning Subjective Exploration Objective Cervical Examination Objective dorsal examination Objective lumbar examination	20
18	Clinical Pattern	Clinical reasoning	10

This schedule may undergo modifications that will be notified to the student in a timely manner.

DESCRIPTION OF EVALUATION ACTIVITIES

Theoretical exam: this test will be TEST type, consisting of 30 questions with 4 possible answers. Each incorrect answer will subtract 1/3 from a correct answer. It will be necessary to obtain a 5.0 or higher in order to pass the test.

Practical 1 and 2: In this test, the practical knowledge that has been acquired during the development of the practical classes will be evaluated. A clinical case will be presented, and the student will have to carry out a complete objective examination, arguing their decisions based on the clinical case presented. In the case of Practical 2, they will also be asked about one of the orthopaedic tests that have been seen in class.

STUDENT PRACTICE (100 PTS)	**FEEDBACK**
Communication: (10 pts) • Presentation • Request for consent • Clarify doubts at the beginning and during execution • Explain what is going to be done before each event.	
Patient position: (10 pts) • General • Technique-specific	
Physiotherapist position: (10 pts) • Close to the patient • Use a chair, fulcrum, or towel if necessary. • Hand position to ensure patient safety at all times.	

Subjective + Objective: (35 + 35 marks) / Treatment: (70 pts)
Subjective:
• Ask questions about symptoms:
  ○ Rest, EVA
  ○ Ask where the symptoms go after each action.
• Add exam components
  ○ Order
  ○ Once per movement.
  ○ Is aware of previous findings and values new ones
• Evaluated Features
  ○ Interpretation
  ○ Questions to the student
Objective:
• Ask about symptoms:
  ○ Rest during, after, and between sets
• Components of the scan (movements)
  ○ Order
  ○ Precision
  ○ Dosage
  ○ Using Plugins
  ○ Progression
  ○ Safety	

Security: (pass/fail) • Clothes, hands • Communication and orders. • General or patient-specific position • Management	

Role Playing: In this activity, the student will be asked to carry out a subjective examination (anamnesis) of a classmate who will play the role of patient. The logic, order and coherence with which the student carries out this exploration will be assessed.

	FROM 0 TO 5	5 TO 7.5	FROM 7.5 TO 10	Assessment
Communication with the patient.	The student does not maintain correct communication with the patient	The student maintains an educated relationship with the patient, but does not favor the patient's trust.	The student maintains an educated relationship with the patient or promotes the patient's trust	
Logical order in which the questions are asked	The student does not maintain a logical order in the questions asked	The student arranges the questions, but in a way that is too closed and hermetic	The student manages to order the questions in a coherent way according to the development of the interview	
Correct data collection	The student does not manage time well and does not obtain information on all relevant aspects	The student obtains information on several aspects but not in a complete way	The student is able to manage time correctly and obtains complete information	

Clinical Pattern: The student will have to carry out an internet search about a certain pathology and will have to describe the specific clinical pattern characteristic of that pathology.

	FROM 0 TO 5	5 TO 7.5	FROM 7.5 TO 10	Assessment
Teamwork	Your presence and contributions in the team are irrelevant	He is active at times, and tends to intervene at the request of others.	He is active in group meetings and his contributions are fundamental, improving the results of the group.	
Oral Presentation	The student does not communicate correctly. He does not demonstrate knowledge of the subject he is dealing with.	The student communicates well, but does not show knowledge of what is exposed and needs to read the presentation	The student communicates well and demonstrates in-depth knowledge of the subject of presentation	
Bibliographic references	The student does not refer to any source of scientific quality	The student only refers to half of the sources of scientific quality	The student refers only to sources of scientific quality	

Clinical: This assessment is aimed at continuously evaluating the development of the student's attitude during the practical classes, the interest shown in learning, repetition of the techniques taught, etc.

	FROM 0 TO 5	5 TO 7.5	FROM 7.5 TO 10	Assessment
Technical and manual skills in the application of therapies	Is not able to carry out a large part of the techniques indicated in the process, due to lack of knowledge and/or skill	Perform most of the techniques proposed with skill and ergonomics.	Carry out all the techniques proposed with great skill, autonomy and ergonomics. Show interest in those they don't know.	
Class participation	He has no interest in applying and training the techniques shown in class.	He shows interest in the teacher's presentations, but does not make an effort to repeat the techniques correctly.	Shows interest in the teacher's presentations and strives to repeat the techniques correctly.	
Attendance	The student attends only the minimum required for the subject.	The student attends only 75% of the practical classes.	The student attends 100% of the practical classes.	

REGLAMENTO PLAGIO

In accordance with the Disciplinary Regulations for students of the European University:

- Plagiarism, in whole or in part, of intellectual works of any kind is considered a very serious offence.
- Very serious faults related to plagiarism and the use of fraudulent means to pass the assessment tests will result in the loss of the corresponding call, as well as the reflection of the fault and its reason, in the academic record.