COURSE DATA

DATA SUBJECT

Code: 33014
Name: General proceedings for Intervention in physiotherapy I
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1202 - Degree in Physiotherapy	Facultat de Fisioteràpia	2	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1202 - Degree in Physiotherapy	General procedures in physiotherapy intervention	COMPULSORY

COORDINATION

INGLES DE LA TORRE MARTA

MUÑOZ GOMEZ ELENA

SUMMARY

In the subject General Intervention Procedures in Physiotherapy I the student is expected to acquire the knowledge related to specific procedures related to electrotherapy and related areas, as well as its practical application in specific clinical cases.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

COMPETENCES / LEARNING OUTCOMES

1202 - Degree in Physiotherapy

Acquire knowledge related to the information and communication technologies.

Apply, direct and coordinate the physiotherapy intervention plan using the own therapeutic tools and considering the patient's individuality.

Encourage the participation of the user in the recovering process.

Have the ability to organise and plan work.

Know, design and apply other therapies related to the physiotherapy field.

Know about general physiotherapy procedures: Masotherapy, Electrotherapy, Magnetotherapy, Ergotherapy, Hydrotherapy, Balneotherapy, Climatotherapy, Thalassotherapy, Thermotherapy, Cryotherapy, Vibrotherapy, Phototherapy, Pressotherapy, and those derived from other physical agents.

Know and understand the physiotherapy methods, procedures and interventions applied in clinical settings for both, functional recovering or re-education and in activities aimed at health promotion and maintenance

Know how to use general physiotherapy procedures: Masotherapy, Electrotherapy, Magnetotherapy, Ergotherapy, Hydrotherapy, Balneotherapy, Climatotherapy, Thalassotherapy, Thermotherapy, Cryotherapy, Vibrotherapy, Phototherapy, Pressotherapy, and those derived from other physical agents.

Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.

Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.

Students must have acquired knowledge and understanding in a specific field of study, on the basis of general secondary education and at a level that includes mainly knowledge drawn from advanced textbooks, but also some cutting-edge knowledge in their field of study.

Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.

Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.

Work in teams.

DESCRIPTION OF CONTENTS

1. DIDACTIC UNIT I. INTRODUCTION TO ELECTROTHERAPY

1. Electrotherapy: concept and historical evolution. General physicochemical effects and mechanisms.

Classification of currents. Patient safety.

2. DIDACTIC UNIT II. GALVANIC CURRENT. IONTOPHORESIS

2. Galvanic current.
3. Techniques based on galvanic current: iontophoresis percutaneous electrolysis and transcranial direct current stimulation.

3. DIDACTIC UNIT III. LOW AND MEDIUM-FREQUENCY CURRENTS

4. Electrostimulation I. Concept. Application parameters. Types of low- and medium-frequency currents with an excitomotor effect. Faradic and exponential currents.

5. Electrostimulation II. Electrical muscle stimulation (EMS).Technical application of variable currents.

6. Other electrostimulation techniques. Kotz currents. Functional electrical stimulation.

7. Electroanalgesia I. Introduction to Analgesic Currents. Träbert currents.

7. Electroanalgesia II. Diadynamic currents: types, application techniques and uses.

8. Electroanalgesia II. Transcutaneous electrical nerve stimulation (TENS): concept, characteristics and types of stimulation.

9. Medium-frequency currents: Interferential currents: concept and application procedures

4. DIDACTIC UNIT IV. HIGH-FREQUENCY CURRENTS AND MAGNETOTHERAPY

10. High-frequency currents I. Characteristics. Physiological effects. Dosages. Indications and contraindications.
11. High-frequency currents II. Short wave. Radar. Diathermy by radiofrequency.
12. Magnetotherapy I. Physical principles, action mechanisms, biological effects, devices and parameters, norms of application, indications and contraindications.
13. Magnetotherapy II. Transcranial Magnetic Stimulation.

5. DIDACTIC UNIT V. PHOTOTHERAPY

14. Phototherapy: concept, main laws. Classification of phototherapeutic radiations.

15. Laser radiation. Physical aspects, characteristic and types of laser. Laser therapy.

6. DIDACTIC UNIT VI. VIBROTHERAPY

16. Vibrotherapy I. Ultrasounds.
17. Vibrotherapy II. Shock waves.

7. DIDACTIC UNIT VII. OTHER APPLICATIONS

18. Pressure therapy: techniques and applications.

19. Biofeedback: principles, applications and indications.

20. Other applications in electrotherapy.

8. PRACTICE

P1. Introduction to electrotherapy.
P2. Galvanic current. Iontophoresis
P3. Electrostimulation I. Faradic and exponential currents.
P4 and P5. Electrostimulation II. Electrical Muscle Stimulation (EMS).
P6. Electroanalgesia I. Transcutaneous electrical nerve stimulation (TENS).
P7. Medium-frequency currents. Interferential currents.
P8. High-frequency currents.
P9. Ultrasounds and shock waves
P10. Laser therapy + magnetotherapy.
P11. Biofeedback.
P12. Clinical cases resolution.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	20,00
Laboratory	40,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	25,00
Independent study and work	14,00
Preparation of lessons	25,00
Preparation for assessment activities	26,00
Resolution of case studies	0,00
Total hours	**90,00**

TEACHING METHODOLOGY

Theoretical lessons will be delivered in the form of lectures in the classroom following the contents of the syllabus, and the development of certain activities proposed by the teacher.

Practical lessons will take place in the laboratory. Attendance to 80% of the practical lessons will be mandatory. Students will practise skills and will apply the theoretical knowledge acquired by using adequate apparatuses of different types.

They will also practise the general intervention skills and procedures covered in this subject through simulation practices, case studies and group work.

"The teaching programme can be modified during the course if the lecturer deems it appropriate for the sake of the quality of education and of the acquisition of knowledge by students".

EVALUATION

The practical exam will consist on the resolution of 3 clinical cases using the available equipment, and the students will be asked to demonstrate the skills, attitudes and knowledge acquired in practical sessions. It will be held in the laboratory. Participation and attitude towards practical sessions will also be taken into consideration. Since practical classes are non-recoverable, the non-attendance to practical lessons avoids the possibility of passing the subject in any of the 2 calls.

The theory exam will consist of 40 multiple-choice questions.

Each exam (practice and theory) will be evaluated from 1 to 10 and a minimum mark of 5 will be required in each exam for it to count towards the final mark. Pass marks obtained in one exam can be carried forward for the next examination session. Marks will be not kept between academical courses.Student's participation in the activities proposed by the teacher will be positively valued.

6. 1. Theory exam (40%)

Test with 40 multiple-choice questions with only one correct answer.

Results will be based on this formula:

Mark = [correct answers -(errors/number of choices -1)]x(highest mark possible/number of questions).

6.2. Practical exam (60%)

Resolution of 3 cases proposed by the teacher

Each of the cases will be scored from 0 to 10 by an evaluation rubric, and the mean is then calculated. The student's attitude and skills when using the equipment will be evaluated

REFERENCES

Basics

- Albornoz Cabello, M.; Maya Martín; J. y Toledo Marhuenda, J.V. (2022). Electroterapia Práctica: Avances en Investigación Clínica. 2ª ed. Barcelona: Elsevier.
- Aramburu C, Muñoz E, Igual C (2003). Electroterapia, termoterapia e hidroterapia.Ed.Síntesis. 1ª edición. Madrid: Síntesis.
- Rodríguez Martín JM (2014). Electroterapia en Fisioterapia. Ed.Panamericana 3ª edición.
- Watson T (2021). Modalidades en electroterapia. Práctica basada en la evidencia. 13ª edición. ElSevier.

Addiotional

-Bélanger, A.Y. (2015). Therapeutic electrophysical agents: Evidence behind practice. 3a ed Philadelphia: Wolters Kluwer Health.
- Cameron, M.D. (2009) Agentes físicos en rehabilitación. 3a ed. Barcelona: Elsevier.
-Plaja, J. Analgesia por medios físicos (2003). 1a ed. Madrid: McGraw-Hill Interamericana

- Prentice, W.E. (2017). Therapeutic Modalities in Rehabilitation. 5a ed. New York: Mc Graw-Hill.

Likewise, the books, scientific articles and readings of interest recommended for the preparation of the contents addressed in each topic will be specified.