

## 26710 - Physical diagnostic and therapeutic procedures I

### Información del Plan Docente

<b>Academic Year</b>	2017/18
<b>Faculty / School</b>	104 - Facultad de Medicina 229 - Facultad de Ciencias de la Salud y del Deporte
<b>Degree</b>	304 - Degree in Medicine 305 - Degree in Medicine
<b>ECTS</b>	6.0
<b>Year</b>	2
<b>Semester</b>	First semester
<b>Subject Type</b>	Compulsory
<b>Module</b>	---

### **1.General information**

#### **1.1.Introduction**

#### **1.2.Recommendations to take this course**

#### **1.3.Context and importance of this course in the degree**

#### **1.4.Activities and key dates**

### **2.Learning goals**

#### **2.1.Learning goals**

#### **2.2.Importance of learning goals**

### **3.Aims of the course and competences**

#### **3.1.Aims of the course**

#### **3.2.Competences**

### **4.Assessment (1st and 2nd call)**

#### **4.1.Assessment tasks (description of tasks, marking system and assessment criteria)**

### **5.Methodology, learning tasks, syllabus and resources**

#### **5.1.Methodological overview**

The methodology followed in this course is oriented towards the achievement of learning objectives.

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The programmed activities include lectures, seminars, practical workshops, works in group and public presentation of them, and practice sessions at the hospital medical services related to concepts explained during the course.

Most of the classroom materials will be available via Moodle.

All the complementary information will be given to the students on the first day of class, during the presentation of the subject.

### **5.2.Learning tasks**

The course includes 6 ECTS.

Each student has:

33 Lectures

7 Seminars

4 Practical sessions in hospital

1 Group work / Public presentation

3 intermediate evaluation sessions

### **5.3.Syllabus**

The course will address the following topics:

Block 1:

Topic 1. PHYSICAL BASIS OF THE USE OF IONIZING RADIATIONS IN MEDICINE

Ionizing radiations.

Radiotherapy.

Radiodiagnosis.

Nuclear medicine.

Topic 2. PHYSICAL BASIS OF THE USE OF NON IONIZING RADIATIONS IN MEDICINE

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Ultrasounds.

Magnetic resonance.

### Topic 3. RADIATION PROTECTION

Risks of ionizing radiations. Radioprotection.

Basic criteria for Radiation Protection in Hospitals.

Monitoring and control methods.

### RADIOTHERAPY

Biological Bases of Radiation Therapy.

Treatment techniques.

### NUCLEAR MEDICINE

Diagnostic aspects of Nuclear Medicine.

Therapeutic aspects of Nuclear Medicine.

Block 2.

### Topic 4: RADIOLOGICAL ANATOMY. SEMIOLOGY

Radiological anatomy of the Brain and Spine.

Radiological anatomy of the eye and the ear.

Radiological anatomy of nasal and paranasal sinuses, larynx and pharynx.

Radiological anatomy of the tórax. Bronchial endoscopy

Radiological anatomy of the digestive tract (Esophagus, stomach and duodenum, small intestine and colon).

Radiological anatomy of the liver, spleen, biliary tract and pancreas.

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Anatomy of the peritoneum and retroperitoneum.

Anatomy of the male urinary and genital apparatus.

Anatomy of the female urinary and genital apparatus.

Block 3.

Topic 5: PHYSICAL MEDICINE AND REHABILITATION

Concept. Competences.

Impairment, disability, handicap, dependency.

Diagnostic systems in rehabilitation

Human movement: Motor Control. Biomechanical Bases of the normal and pathological movement. Evaluation of movement.

Analysis of posture, balance and gait.

Therapeutic exercise I: Prevention and treatment of disease through exercise. Benefits and risks of physical exercise. Medical assessment prior to prescription exercise.

Therapeutic exercise II: Evaluation of aerobic capacity and aerobic exercise prescription. Evaluation of force muscle and exercise prescription to improve it.

Main physical means in physical medicine and rehabilitation.

Common and general syndromes that can act on the physical medicine and rehabilitation: pathology of immobilization.

### **5.4.Course planning and calendar**

Presentation of the subject on the first day of the course

Lectures of block 1: First 12 sessions from the beginning of the course

Lectures of block 3: Next 9 sessions

Lectures of Block 2: Next 12 sessions

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Partial examination of subjects in each block: upon completion of the block

Practice sessions:

Each student is assigned four weeks of practice sessions. Three of them will be dedicated to workshops and activities of radiological protection, radiological anatomy and rehabilitation. One week will be dedicated to activities in the University Hospitals Lozano Blesa and Miguel Servet, in the various medical services related to the subjects taught.

Complete information about all the activities will be communicated to the students at the beginning of the course.

Tutorials: After requesting appointment through the electronic mail of the chosen professor

### **5.5. Bibliography and recommended resources**

The updated bibliography of the subject is consulted through the web page of the library:

<http://psfunizar7.unizar.es/br13/eBuscar.php?tipo=a>