

Academic Year/course: 2021/22

## 26710 - Physical diagnostic and therapeutic procedures I

### Syllabus Information

**Academic Year:** 2021/22

**Subject:** 26710 - Physical diagnostic and therapeutic procedures I

**Faculty / School:** 104 - Facultad de Medicina

229 - Facultad de Ciencias de la Salud y del Deporte

**Degree:** 304 - Degree in Medicine

305 - Degree in Medicine

**ECTS:** 6.0

**Year:** 2

**Semester:** First semester

**Subject Type:** Compulsory

**Module:**

### 1. General information

### 2. Learning goals

### 3. Assessment (1st and 2nd call)

### 4. Methodology, learning tasks, syllabus and resources

#### 4.1. Methodological overview

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

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.

#### 4.2. Learning tasks

This is a 6 ECTS course which includes the following learning tasks:

- **Lectures** (33 sessions) Whole group sessions of 50 minutes each one. The professor will explain the theoretical contents, which are mostly available in advance on the virtual platform Moodle
- **Seminars** (7 sessions) Small groups sessions of 90-120 minutes each one.
- **Practical sessions** (4 sessions)
- **Assignments** (1) In small groups, students will prepare an work and will do an oral presentation.
- **Intermediate evaluation sessions** (3)
- **Autonomous work and study:** time devoted to study the course contents and prepare the sessions and assignments.
- In FCCSD,

Given the exceptional situation of the Academic Year 2021-2022, the large group teaching system could be online, that is to say, in a synchronic telematic system, by which teachers and students will be connected through

technologies that allow interaction, such as Google Meet.

### 4.3. Syllabus

The course will address the following topics:

- Section 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
    - 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.
- Section 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.
    - Anatomy of the peritoneum and retroperitoneum.
    - Anatomy of the male urinary and genital apparatus.
    - Anatomy of the female urinary and genital apparatus.
- Section 3.
  - Topic 5: PHYSICAL MEDICINE AND REHABILITATION
    - Definition and scope of Physical Medicine and Rehabilitation. Concept. Competencies.
    - Deficiency, disability, handicapping, dependency. Laboral inability. Assessment of bodily harm.
    - Evaluation of joint and muscle balance. General and specific assessment scales, indications and uses thereof. Diagnostic systems in rehabilitation.
    - Human movement: Motor Control. Biomechanical bases of normal and pathological movement. Evaluation of movement. Analysis of posture, balance and gait.
    - Physical therapy techniques: Electrotherapy, thermotherapy, phototherapy, magnetotherapy, hydrological physical means. Applications and contraindications.
    - Therapeutic means in Rehabilitation: Physiotherapy, Occupational Therapy and Speech Therapy. Technical help. Neuromuscular bandage, functional bandages. Interventional rehabilitation.
    - Common and general syndromes on which physical medicine and rehabilitation can act: Pathology of immobilization.

### 4.4. Course planning and calendar

Practice sessions: Each student is assigned four weeks of practice sessions dedicated to workshops and activities of radiological protection, radiological anatomy and rehabilitation.

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

Further information concerning the timetable, classroom, office hours, assessment dates, evaluation dates, and other details regarding this course will be provided on the first day of class or please refer to the " Facultad de Medicina" website and the Degree website (<http://medicina.unizar.es>, <http://medicina.unizar.es/horarios/>, <http://moodle2.unizar.es>)

#### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26710>

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