

CURSO:	<b>PRÁCTICA CLÍNICA</b>
TRADUCCIÓN:	CLINICAL PRACTICE
SIGLA:	FMD3006
CRÉDITOS:	15 UC
MÓDULOS:	No aplica
REQUISITOS:	FMD3002 o FMD3003
CONECTOR:	Y
RESTRICCIONES:	ALUMNO DE DOCTORADO EN FÍSICA (CURRÍCULO 030501), ALUMNO DE MAGISTER EN FÍSICA (CURRÍCULO 030401), ALUMNO DE MAGISTER EN FÍSICA MÉDICA (CURRÍCULO 030801, 030802 Y 030803).
CARÁCTER:	OPTATIVO
TIPO:	LABORATORIO
CALIFICACIÓN:	ESTÁNDAR
DISCIPLINA:	FÍSICA
PALABRAS CLAVE:	FÍSICA MÉDICA, PRÁCTICA CLÍNICA, IMÁGENES MÉDICAS
NIVEL FORMATIVO:	NIVEL MAGISTER

#### I. DESCRIPTION

Practical course in which the student will be able to know, in a clinical environment, the different techniques related to the implementation of the radiotherapy chain, as well as some special techniques and different medical imaging modalities. The course will be developed in the modality of clinical rotations and will be evaluated at the end of the rotations, through a complete report of the experience and the different techniques reviewed.

#### II. GOALS

- Have a first approach to the clinical implementation of the concepts dictated in the courses of radiation physics and dosimetry, radiobiology, radioprotection and physics of radiation therapy.
- Become familiar with various diagnostic and therapy techniques, as well as physical dosimetry protocols.
- Become familiar with the clinical implementation of quality control protocols.
- Become familiar with a clinical setting.
- Know the obligations, responsibilities and challenges that a clinical medical physicist faces on a daily basis.

#### III. CONTENT

- Treatment plan o Conformal o IMRT o Image Fusion o Commissioning
- Treatment simulation
- Start-up of the treatment or Conformal or IMRT or IGRT / ART

- Acquisition and use of different medical imaging modalities or Ultrasound or CT or Mammography or PET
- Special techniques in radiotherapy or Brachytherapy or Intraoperative or TBI / TSI / SOBRT
- Dosimetry and quality control o Linacs o Simulator / X-ray o Mammographer o CT / MRI / PET

#### IV. METHODOLOGY

Practical sessions to be held in the imaging / radiotherapy departments of the UC Cancer Center and / or collaborating centers, through a rotation system.

#### V. EVALUATION

Guide teacher report (50%) and final report (50%).

#### VI. BIBLIOGRAFÍA

- Dobbs, J. and Barrett, A. Practical Radiotherapy Planning. Arnold, Baltimore; 1985.
- IAEA (International Atomic Energy Agency), Absorbed dose determination in external beam radiotherapy: An international Code of Practice for dosimetry based on standards of absorbed dose to water, Technical Report Series no. 398, IAEA, Vienna, 2000.
- Levitt, S. H. (ed.). Technical Basis of Radiation Therapy: Practical Clinical Applications. Springer, Berlin, 2008.
- Podgorsak, E. B. Radiation Physics for Medical Physicists, Berlin, Springer; 2010.
- Van Dyk, J. The Modern Technology of Radiation Oncology, Volume 2. Medical Physics Publishing, Wisconsin; 2008.
- Webb, S. The physics of three-dimensional radiation therapy: conformal radiotherapy. Medical Physics Publishing, Bristol; 2001.
- Wolbarst, A. B.; Massman, K. L.; Hendee, W. R.; (eds.) Advances in medical physics. Madison, Wisconsin, Medical Physics Publishing; 2008