Radiology, diagnostic imaging and radiotherapy techniques

INTEGRATED COURSE: *MEDICAL AND CLINICAL SCIENCES I*
SSD: MED/06, MED/33, MED/28
CFU: 7
COORDINATOR: PROF. SILVIA RIONDINO
E-MAIL: SILVIA.RIONDINO@UNICAMILLUS.ORG

MODULE: Diseases of the locomotive system
SSD: MED 33
CFU: 2
Professor: Franceschi Francesco   e-mail: francesco.franceschi@unicamillus.org
            Moroni Antonio   e-mail: antonio.moroni@unicamillus.org

MODULE: Medical Oncology
SSD: MED/06
CFU: 3
PROFESSOR: Silvia Riondino   e-mail: silvia.riondino@unicamillus.org

MODULE: Elements of odondostomatological diseases
SSD: MED/28
CFU: 2
PROFESSOR: Luca Signorini: email: luca.signorini@unicamillus.org
            Carmen Mortellaro   e-mail: carmen.mortellaro@unicamillus.org

PREREQUISITES

The student must have notions of anatomy and basic concepts of physiology. For the application in the specific field, the student must also know the basics of radiological techniques including the radiological projections of the main osteoarticular districts and the basics of advanced radiology (MRI, CT, etc.). Knowledge of the principles of biology and immunobiology of tumors, of cellular and molecular pathogenetic mechanisms that lead from transformation and neoplastic growth to invasion and metastasis.

LEARNING OBJECTIVES

The educational purposes of the teaching are oriented to provide students with the necessary knowledge of orthopedic and traumatic pathology in adulthood and

developmental age with particular attention to degenerative and traumatic injuries of the joints (shoulder, elbow, hip, knee, and ankle). The student must acquire theoretical knowledge relating to real and radiographic anatomy and to the main pathologies of the jawbones and the stomatognathic system. He must also identify the main diagnostic questions posed by the dental specialist and know the radiographic examinations relevant to this district. For each pathological condition, the classification criteria, the main clinical signs, the necessary radiographic projections as well as the most appropriate radiological techniques for the definition of the pathology will be described. The student will have to know the predisposing conditions and the clinical characteristics of the different solid neoplastic pathologies for the definition of a diagnostic procedure. The knowledge of prognostic and predictive factors according to the characteristics linked to the neoplasm and the patient, will allow to understand the management strategy of the different tumors, taking into account the therapeutic options applicable in the various stages of the disease and their side effects in order to integrate the knowledge of the professional profile with a view to multidisciplinary collaboration. Furthermore, the student, possessing the basic notions relating to Diagnostic Imaging and Interventional Radiology, will be able to further enrich his / her skills with those of other professional healthcare professionals.

LEARNING OUTCOMES

Knowledge and understanding

At the end of this course, the student will have to demonstrate knowledge and understanding in this field of study, which represents a post secondary level, and a level of autonomy of deepening not only of advanced textbooks, but also of research protocols and avant-garde in its field of studies treated during the entire educational path.

Applying knowledge and understanding

At the end of the course, the student will be able to apply their knowledge and understanding skills in order to demonstrate a professional approach to their work, and have adequate skills both to devise and support arguments and to solve problems in their field of study and , in particular, in the study of oncological pathologies through the correct conduct of work procedures and experimental protocols in full autonomy and in collaboration with the medical body. Use the acquired anatomical and stomatological pathologies knowledge to be able to relate to the dental specialist in performing the necessary radiographic examinations. Recognize radiographic artifacts to be able to discern whether the examination has been correctly performed. In addition, the student will possess appropriate skills both to devise and support arguments and to solve problems in his or her field of study and, in particular, to the study of oncological pathologies and to

the proper application to working procedures and experimental protocols in full autonomy and in collaboration with the medical staff.

Communication skills

At the end of the course, the student must be able to apply their knowledge and understanding skills in order to demonstrate a professional approach to work and have adequate skills both to devise and support arguments and to solve problems in their field of study and, in particular, in the study of odontostomatologic and doncological pathologies through the correct execution of work procedures and experimental protocols in full autonomy and in collaboration with the medical body.

Making judgements

At the end of the course, the student must have the ability to collect and interpret the data deemed useful to integrate and apply knowledge to a clinical reasoning related to the approach to the patient with diagnosis of cancer and its complications, making an independent judgment. This will also make it independent from the point of view of the critical judgment on social, scientific or ethical issues connected to them.

COURSE SYLLABUS

MODULO DI LOCOMOTIVE SYSTEM

- Introduction to musculoskeletal pathology
    - o Bone injuries
    - o Muscle injuries
    - o Capsuloligamentous lesions
- Traumatic pathology
    - o Fractures
    - o Dislocations
    - o Distortion
- Shoulder pathology
- Knee pathology
- Hip pathology
- Foot pathology
- Pathology of the spine
- Pediatric pathology
- Elements of oncological pathology

UniCamillus – Saint Camillus International University of Health Sciences – Via di Sant'Alessandro 8 - 00131 Roma
www.unicamillus.org   info@unicamillus.org PEC: unicamillus@pec.it Tel. +39 06 40 06 40 Codice Fiscale 97962900581 P.Iva.
15031161001

MEDICAL ONCOLOGY

- General principles of epidemiology and cancer prevention.
- Prognostic and predictive factors.
- Carcinogenesis, cell growth and proliferation. Immune tolerance
- Approach to the neoplastic patient, including anamnestic history, physical examination, laboratory and instrumental diagnostic data. Performance Status Assessment (according to Karnofsky and ECOG)
- Staging of tumors
- RECIST (Response Evaluation Criteria In Solid Tumours) criteria for the definition of response to therapy
- Therapy principles: surgical, radiant, medical (neoadjuvant, adjuvant, metastatic and palliative), target therapy and immunotherapy. Resistance to drugs
- Side effects of cancer therapies and their management

ELEMENTS OF STOMATOLOGICAL DISEASES

- *Anatomy of the jaws and the stomatognathic system with particular reference to bone and dental structures*
- *Notes on the main pathologies:*
- *Anomalies of the teeth (of shape, volume, number, structure, position, location) and of the eruption era*
- *Dental trauma*
- *Cavity*
- *Parodontopatie*
- *Apical periodontitis*
- *Cystic diseases of the jaw bones*
- *Main odontogenic neoplastic pathologies, tumors of the jaw bones and salivary glands*
- *Jaw bone fractures*
- *Diseases of the temporomandibular joint*
- *X-ray tests used in the diagnosis of previous pathologies:*
- *Intraoral radiography, Orthopanorama, Skull projections, CT Cone Beam, Spiral CT, Nuclear magnetic resonance.*

COURSE STRUCTURE

Frontal and interactive lessons with the aid of slides and continuous verification of knowledge, understanding and learning of the students.

COURSE GRADE DETERMINATION

Ongoing assessments and final evaluation of the integrated course, carried out through a questionnaire with 30 multiple choice and / or open-ended questions on the topics covered during the lessons. The tests will last 30 minutes.
The final exam grade will be calculated according to the following criteria:

Not suitable*: Poor or lacking knowledge and understanding of the topics; limited capacity for analysis and synthesis, frequent generalizations of the requested contents; inability to use technical language.*
18-20*: Just sufficient knowledge and understanding of the topics, with obvious imperfections; just sufficient capacity for analysis, synthesis and autonomy of judgment; poor ability to use technical language.*
21-23*: Sufficient knowledge and understanding of the topics; sufficient ability to analyze and synthesize with the ability to reason with logic and coherence the required contents; sufficient ability to use technical language.*
24-26*: Fair knowledge and understanding of the topics; discrete ability to analyze and synthesize with the ability to rigorously argue the required contents; good ability to use technical language*
27-29*: Good knowledge and understanding of the required contents; good ability to analyze and synthesize with the ability to rigorously argue the required contents; good ability to use technical language.*
30-30L*: Excellent level of knowledge and understanding of the required contents with an excellent ability to analyze and synthesize with the ability to argue the required contents in a rigorous, innovative and original way; excellent ability to use technical language*

OPTIONAL ACTIVITIES

Students will have the opportunity to carry out theoretical / practical exercises and participate in seminars. The teachers will provide constant support during and after the lessons

READING MATERIALS

LOCOMOTIVE SYSTEM

- Greene Walter. "Netter's Orthopaedics" Elsevier - Health Sciences Division, United States (2006). ISBN 10: 1929007027 ISBN 13: 9781929007028

MEDICAL ONCOLOGY
- Chmielowski B., Territo M.C. Manual of Clinical Oncology. Ed: Lippincott Williams and Wilkins. ISBN 9781496349576

ELEMENTS OF STOMATOLOGICAL DISEASES
- Oxford Handbook of oral and Maxilofaccial surgary. Cascarini, Shilling, Gurney, Brennan. Oxford University Press 2018
- Oxford Handbook of clinical dentistry. Mitchell, Mitchell, Longridge, Clarke, Aftab. Oxford University Press 2019
- Dental Radiography. Principles and tecniques. Iannucci, Howerton. Elsevier 2016