



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Radiology

1920-2-H4601D008

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#### Aims

The student has to know:

- the main clinical indications to the different imaging techniques and the limits of each of them;
- the diagnostic procedure of the different pathologies: inflammatory, focal benign and malignant;
- the main radiological features of the most common pathologies;
- physical and executive principles of the various imaging techniques;
- correctness and pertinence criteria of the various imaging techniques;
- The student has also to be able to interpret autonomously endoral and extraoral radiological images and orthopantomograms (OPGs).

#### Contents

The course provides the student with fundamental theoretical knowledge of general diagnostic radiology and of odontostomatologic imaging.

## Detailed program

- Physics of ionizing

radiations, biological effects of radiations, safety and protection from radiations;

- Imaging techniques basics:

x-ray films, projection's geometry, radiographic quality control;

- Endoral and extraoral

radiographies; panoramic radiography; normal radiographic anatomy;

- Digital systems and

Scanora Tomography; specialized radiographic techniques; CT general information; spiral CT; Dentascan; multislice CT; cone-beam CT; MRI: physical basics, general clinical information, mention of radiobiology;

- Radiographic

interpretation of pathology: dental caries; pathology of periodontium;

- Maxillary cysts

(Odontogenic cysts: general features, radicular cyst, dentigerous cyst, odontogenic keratocysts). Inflammatory pathology of maxillary alveolar processes (periapical lesions, pericoronitis, acute and chronic osteomyelitis, osteonecrosis). Maxillary bones benign neoplasms (palatal and mandibular tori, exostoses and enostoses, ameloblastoma and variants, odontoma, ameloblastic fibroma and other odontogenic tumors, non odontogenic tumors). Maxillary bones primary and secondary malignant neoplasms;

- Pediatric pathology: OPG

(growth, number and classification of deciduous and permanent teeth); teleradiographic exams of the skull: indications and purposes; requirements; bone age: methods and purposes; mention of guidelines and radioprotection;

- Bone pathologies: Fibrous

Dysplasia - Periapical Cemental Dysplasia (PCD) - Florid Osseous Dysplasia - Cemento-ossifying Fibroma - Central Giant-cell Granuloma - Aneurysmatic Bone Cyst - (Cherubism) - Paget's disease - Histiocytosis X. Systemic Pathologies: Hyperparathyroidism, Acromegaly, Diabetes Mellitus. Osteoporosis. Rachitism. Renal Osteodystrophy. Growth Disorders: Cleido-cranial Dysplasia - Crouzon Syndrome -

Goldenhar Syndrome (Hemifacial Hypotrophy) - Stafne defect - Palatoschisis - Focal Osteoporotic Bone Marrow Defect. Calcifying and Ossificans Pathology of Soft Tissues and Salivary Glands: Calcified Lymph

Nodes - Dystrophic Calcifications of Tonsilla - Blood vessels calcified - Sialoliths - Phleboliths - Heterotopic Bones: Ligamentum Stylohyoideum Ossification - Ossificans Myositis;

- Implants: Typology (blade,

subperiosteal, root-form). Imaging Techniques: endoral apical and occlusal x-ray – Teleradiography – OPG – Conventional Tomography (Scanora) – Dentascan and Cone-Beam CT – Simplant. Residual Bone Evaluation. Bone Graft and Maxillary Sinus Lift. Preoperative Program. Follow-up. Failure Signs. Other Implants. Maxillary Sinuses: Normal Development and Variations. Imaging Techniques.

Inflammatory

Alterations: Mucous Membrane Thickening, Periostitis, Sinusitis, Empyema, Polyps, Retention Pseudocysts, Mucocele;

•Temporomandibular Joints:

Radiographic and Functional Anatomy; Diagnostic Imaging: OPG, Projections:

Transcranial - Transpharyngeal - Transorbital - Transmaxillary -

Fronto-Condylar Projection - Axial Submentovertex; Conventional Tomography; CT;

MRI; (Arthrography). Growth Anomalies: Condylar Hyperplasia; Condylar

Hypoplasia; Juvenile Osteoarthritis; Coronoid Hyperplasia; Condylar Bifidus.

Soft Tissues Anomalies and Internal Lesions: Disk Dislocation with/without

Reduction; Discal Perforation and Deformity; Fibrous Adhesions and Effusion.

Remodeling and Osteoarthritic Pathologies: Remodeling; Degenerative Articular

Disease; Rheumatoid Arthritis; Juvenile Rheumatoid Arthritis; Psoriatic

Arthritis and Ankylosing Spondylitis (AS); Septic Arthritis. Intraarticular

Loose Bodies: Synovial Chondromatosis; Chondrocalcinosis;

•Traumas: Traumatic Lesions

of the Teeth: Concussion, Luxation, Avulsion, Crown Fractures, Root Fractures,

Crown-Root Fractures, Vertical Root Fractures Traumatic Lesions of the Facial

Bones: Mandibular Fractures: Body,

Condyle, Alveolar Process; Maxillary Fractures: Middle Third, Horizontal (Le

Fort I), Pyramidal (Le Fort II), Cranio-Facial Disjunctions (Le Fort III);

Zygomatic Fractures

## Prerequisites

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## Teaching form

Lectures

## Textbook and teaching resource

L.De Florio, G.Ghigi: Compendio di Radiologia Odontostomatologica (2nd

edition) Idelson-Gnocchi - S.C.White, M.Pharaoh: Radiologia odontoiatrica (4th

edition) A. Delfino editore

Teachers will provide further didactic material.

## Semester

Second semester

## Assessment method

Written test and oral examination.

The written test is about workers and patient radioprotection and includes 25 multiple choice questions with only one correct answer among 4. Each correct answer is scored 1,2. The written test is evaluated with a mark ranging from 0 to 30.

Oral examination consists in the evaluation of the knowledge acquired among all the other course topics through open questions, and recognition of radiological images The oral test is evaluated with a mark ranging from 0 to 30.

The final mark is based on the average score obtained by the students during the written and the oral test.

## **Office hours**

By appointment required by  
mail

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