Course Description

343 DDS- Clinical Oral and Maxillofacial Radiology II
(2013-2014)

Course title: Clinical Oral & Maxillofacial Radiology II
Course No & Code: 343 DDS
Credit Hours: 2 h (1h lecture & 1h clinical)
Level: Third year undergraduate level
Prerequisite: 243 DDS Physics of Diagnostic Radiology and Oral and Maxillofacial Radiology
Academic Year: 2013-2014
Course Director (MUC): Dr. Asma’a Al-Ekrish- Assistant Professor, OMF Radiology
Course Contributors (MUC): Dr. Wafa Al-Faleh- Associate Professor, OMF Radiology
Dr. Reema Al-Shawaf- Lecturer, OMF Radiology
Dr. Faikha Abdelmejid- Associate Professor, Oral Biology
Office Hours: Tuesday 12-1 (MUC)
Email: 343DDS@gmail.com

1.0 General Description:

This is the second course of oral radiology which is a comprehensive course in radiographic interpretation and differential diagnosis of developmental and pathological lesions, and fractures of the jaws and associated structures. The course is covered by lectures in the first half of the year and practical and tutorials in the second half. The lectures in the first half will encourage the student to present and participate in case discussion sessions in the second half.
2.0 **References:**

1. **Lectures**

2. **Required Textbooks:**

   Oral radiology- Principles and Interpretation. 6th edition  
   By: White and Pharoah

   By: Denise L. Lazo

3. **Suggested reading:**

   Differential Diagnosis of Oral Lesions (section on bony lesions)  
   By: Wood and Goaz

   Separate recommendations for further reading will be given at the end of each lecture.

4. **Recommended Web Links:**

   Oral Radiographic Differential Diagnosis (ORAD II):  
   [http://www.orad.org/index.html](http://www.orad.org/index.html)

   Marcilan Maxillofacial Radiology:  
   [http://www.marcilan.com](http://www.marcilan.com)

   European Academy of Dentomaxillofacial Radiology:  
3.0 Content of Lectures:

Chapters and pages from Oral Radiology principles and Interpretation, 6th edition unless otherwise specified.


- Sectional bony anatomy of axial, coronal and sagittal of the oral and maxillofacial structures

3.02 Inflammatory lesions of the jaws - chapter 20:


3.03 Odontogenic and non-odontogenic cysts - chapter 21

Definition, clinical features, radiographic features, and differential diagnosis of:

- Odontogenic cysts
  - Radicular cyst
  - Residual cyst
  - Dentigerous cyst
- Non-odontogenic cysts
  - Nasopalatine duct cyst (incisive canal cyst)
- Cyst-like lesions
  - Simple bone cyst (traumatic bone cyst)
  - Lingual salivary gland defect (Stafne cyst)-(p. 574)
  - Aneurysmal bone cyst- (p. 445)

3.04 Benign odontogenic tumors - chapter 22

- Definition, clinical features, radiographic features (location, shape, periphery, internal structure, and effect on surrounding structures) and differential diagnosis of the following benign odontogenic tumors:

- Odontogenic epithelial tumors
  - Ameloblastoma
  - Adenomatoid odontogenic tumor (AOT)
- Keratocystic odontogenic tumor (KOT)
  - Mixed odontogenic tumors
    - Odontoma
  - Odontogenic mesenchymal tumors
    - Odontogenic myxoma

3.05 **Benign non-odontogenic tumors- chapter 22 (p. 410)**
- Definition, clinical features, radiographic feature, and differential diagnosis of the following *hyperplastic* lesions (p. 367):
  - Torus palatinus
  - Torus mandibularis
  - Enostoses
  - Idiopathic osteosclerosis
  - Exostoses
- Definition, clinical features, radiographic features, and differential diagnosis of the following *benign non-odontogenic tumors*:
  - Tumors of neural origin:
    - Traumatic neuroma
  - Mesodermal tumors:
    - Osteoma

3.06 **Malignant tumors- chapter 23**
- Radiographic characteristics of *malignant tumors*, difference between benign and malignant tumors.
- Definition, clinical features, radiographic features, and differential diagnosis of the following *malignant tumors*:
  - Carcinomas
    - Squamous cell carcinoma
    - Metastatic carcinoma
  - Sarcomas
    - Osteosarcoma

3.07 **Trauma to the Facial Structures- chapter 29**
- Introduction and general radiographic signs of fracture.
Clinical and radiographic appearance of:

- Mandibular fractures
- Condylar fractures
- Midface fractures
- Zygomatic complex fractures

3.08 Bone diseases with jaw manifestation - chapter 24

Definition, clinical features, radiographic features, and differential diagnosis of:

- Fibrous dysplasia
- Periapical cemental dysplasia
- Florid osseous dysplasia
- Cemento-ossifying fibroma
- Giant cell lesions:
  - Cherubism
  - Central giant cell granuloma
- Paget’s disease
- Osteopetrosis

3.09 Soft Tissue Calcifications - chapter 28

General clinical and radiographic features of:

- Dystrophic calcifications:
  - Calcified lymph nodes
  - Dystrophic calcification in the tonsils
  - Calcified blood vessels (carotid arteriosclerosis)
- Idiopathic calcification:
  - Salivary sialolith
  - Phleboliths
- Metastatic calcification
- Heterotropic calcification:
  - Ossification of stylohyoid ligament
  - Myositis ossificans
3.10 Systemic diseases manifested in the jaws - chapter 25

- Endocrine disorders
  - Hyperparathyroidism
  - Hypoparathyroidism
  - Hyperthyroidism
  - Hypothyroidism
  - Diabettes mellitus

- Metabolic bone diseases
  - Osteoporosis
  - Rickets and osteomalacia
  - Osteopetrosis

- Other systemic diseases
  - Sickle cell anemia
  - Thalassemia

3.11 Tempromadibular joint (TMJ) disorders and imaging - chapter 26

- Radiographic anatomy of the TMJ
- Diagnostic imaging of the TMJ
  - Hard tissue imaging
    - Panoramic and automatic double TMJ program
    - Conventional tomography
    - Computed tomography and cone beam computed tomography
  - Soft tissue imaging
    - MRI

- Abnormalities of the TMJ
  - Developmental abnormalities (bony)
    - Condylar hyperplasia and hypoplasia
    - Coronoid hyperplasia
    - Bifid condyle
  - Soft tissue abnormalities
    - Disk displacement with reduction
    - Disk displacement without reduction
Disk perforation and deformities

Remodeling

Arthritic disorders
  o Osteoarthritis
  o Rheumatoid arthritis

Trauma:
  o Dislocation
  o Fractures
  o Ankylosis

3.12 Salivary gland diseases and imaging- chapter 31

Anatomy

Diagnostic imaging
  o Plain film radiography
    • Intraoral radiography (periapical, occlusal)
    • Extraoral radiography (lateral oblique)
  o Indications, contra-indications, limitations, and appearance of:
    • Conventional sialography
    • CT
    • MRI
  • Definition, clinical features, radiographic appearance, and differential diagnosis of:
    o Sialolithiasis,
    o Autoimmune sialadenitis (Sjogren’s syndrome)
  • Radiographic appearance of benign and malignant tumors of the salivary glands.

3.13 Maxillary sinus diseases and imaging- chapter 27

Review of normal development, anatomy, functions, and diagnostic imaging.

Definition, clinical features, radiographic appearance and differential diagnosis of:
  o Inflammatory changes (thickened mucous membrane, sinusitis, empyema, polyps)
  o Antrolith
- Mucous retention cyst
- Mucocele
- Odontogenic cyst
- Benign neoplasms
- Malignant neoplasms (squamous cell carcinoma)

5.0 **Evaluation and Grades:**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Marks</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>1st CAT (written)</td>
<td>15</td>
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<tr>
<td>2nd CAT (written)</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>Clinical Requirements</td>
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<tr>
<td>1 case of 20 CMS radiographic taking</td>
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<tr>
<td>Evaluation of 20 CMS radiographic taking</td>
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<td>Report writing for 2 assigned 20 CMS cases</td>
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<td>1 panoramic radiographic taking</td>
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<td>Final clinical exam</td>
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## DDS 343- Oral and Maxillofacial Radiology

### Lectures Schedule

#### First Semester (2013-2014)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Lecturer</th>
<th>Date</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>Al-Ekrish</td>
<td>3 - 9 – 2013</td>
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<tr>
<td>2</td>
<td>Sectional anatomy of the oral &amp; maxillofacial structures</td>
<td>Al-Ekrish</td>
<td>10 - 9 – 2013</td>
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<td>3</td>
<td>Inflammation lesions of the jaws</td>
<td>Al-Faleh</td>
<td>17 - 9 – 2013</td>
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<tr>
<td>4</td>
<td>Odontogenic and non-odontogenic cysts</td>
<td>Al-Ekrish</td>
<td>24 - 9 – 2013</td>
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<tr>
<td>5</td>
<td>Benign odontogenic tumors</td>
<td>Al-Shawaf</td>
<td>1- 10 – 2013</td>
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<td>6</td>
<td>Benign non-odontogenic tumors</td>
<td>Al-Ekrish</td>
<td>8 - 10 – 2013</td>
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<td><strong>HAJJ VACATION</strong></td>
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<tr>
<td>7</td>
<td>Malignant tumors</td>
<td>Al-Shawaf</td>
<td>22 - 10 – 2013</td>
</tr>
<tr>
<td>8</td>
<td>Soft tissue calcifications</td>
<td>Al-Faleh</td>
<td>29 - 10 – 2013</td>
</tr>
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<td>9</td>
<td>First continuous assessment exam</td>
<td>Staff</td>
<td>19 - 11 – 2013</td>
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<tr>
<td>10</td>
<td>Trauma to the facial structures</td>
<td>Al-Ekrish</td>
<td>5- 11 – 2013</td>
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<tr>
<td>11</td>
<td>Bone diseases with jaw manifestations</td>
<td>Al-Faleh</td>
<td>12- 11 – 2013</td>
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<tr>
<td>12</td>
<td>Systemic diseases manifested in the jaws</td>
<td>Al-Ekrish</td>
<td>26 - 11 – 2013</td>
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<tr>
<td>13</td>
<td>Temporomandibular joint imaging and disorders</td>
<td>Al-Ekrish</td>
<td>3 - 12 – 2013</td>
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<td>14</td>
<td>Salivary glands imaging and disorders</td>
<td>Al-Shawaf</td>
<td>10 - 12 – 2013</td>
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<td>15</td>
<td>Maxillary sinus disease and imaging</td>
<td>Al-Ekrish</td>
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<td><strong>Second continuous assessment exam</strong></td>
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**Practical Exercise Schedule**  
**Second Semester (2013-2014)**

<table>
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<tr>
<th>Week</th>
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<th>Group B</th>
<th>Group C</th>
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<td>Clinic 2</td>
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<td>11</td>
<td>Makeup Clinical Session</td>
<td>Assigned Case Reporting</td>
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<td>Makeup Clinical Session</td>
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<td>Formative Assessment</td>
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**Mid-semester vacation**

| 16   |                       |                               |                                | Final Exam                     | To be determined  |

**Clinic:** Venue- OMF Radiology Clinic (Requirements: one 20 CMS case and one panoramic radiograph taken on a patients)

**Assigned Case Reporting:** Venue- Interpretation Room (Requirements: report writing of two assigned 20 CMS cases and one assigned panoramic case).

**Case Presentation:** Venue- Classroom (Requirements: 1 case presentation and weekly quizzes).