



## COURSE SPECIFICATION

Faculty of Medicine– Mansoura University

### (A) Administrative information

(1) Program offering the course	<b>M.Sc.</b>
(2) Department offering the program.	<b>Anatomy and Embryology</b>
(3) Departments responsible for teaching the course.	<b>Department of Anatomy and Embryology</b>
(4) Part of the program.	<b>First part</b>
(5) Date of approval by the Department's council	<b>18/5/2016</b>
(6) Date of last approval of program specification by Faculty council	<b>9-8-2016</b>
(7) Course title.	<b>Radiological Anatomy</b>
(8) Course code.	<b>ANA 501 RA</b> <b>ANA 529</b>
(9) Credit hours.	<b>2 (lectures)</b> <b>2 (practical)</b>

## **(B) Professional information**

### **(1) Course Aims:**

The main aims of this course are to provide basic knowledge and skills regarding the various radiological tools including x-ray and ultrasounography and to provide better understanding of the anatomical events in radiological films.

### **(2) Intended Learning Outcomes (ILOs):**

#### **A- Knowledge and Understanding:**

**K 1 Define** principles and fundamentals of the radiological sciences

**K 2 Identify** the clinical application of various radiological tools in the related fields of medicine.

**K 3 Recognize** fundamentals and ethics of the scientific research in different radiological fields.

**K 4 Recognize** the anatomical structures in radiological films.

**K 5 Identify** anatomical variations in radiological films.

#### **B- Intellectual skills:**

**I 1 Integrate** basic knowledge in anatomy and radiology to solve medical problems.

**I 2 Evaluate** risk factors in practicing radiology such as exposure to radiation.

### C- Practical skills :

**P 1 Interpret** normal X-ray and ultrasonography of the human body.

**P 2 Demonstrate** basic clinical skills in ultrasonography.

### D- Communication & Transferable skills:

**T 1 Use** information and communication technology efficiently in the field of professional radiological practice of teaching and research.

**T 2 Support** the learning of others when involved in a team work.

**T 3 Be prepared** for lifelong learning through self and continuous learning and setup self needs for learning.

### (3) Course contents:

Subjects	Lectures	Laboratory
1. Basics of radiology.	2	–
2. Different types of radiological procedures.	2	–
3. Integrate between the radiological findings.	2	4
4. Plain X-ray of the head and neck	2	4
5. Plain X-ray of the upper limb	2	6
6. Plain X-ray of the lower limb	2	6
7. Plain X-ray of the thorax	2	4
8. Plain X-ray of the abdomen	2	4
9. Plain X-ray with dye for the G.I.T.: <ul style="list-style-type: none"><li>• Barium swallow.</li><li>• Barium meal.</li><li>• Barium follow through</li><li>• Barium enema</li></ul>	2	6
10. Plain X-ray with dye of urinary system (IVP)	2	4

11.Plain X-ray with dye for the Female genital tract (HSG)	2	4
12.Cerebral angiography	2	4
13.Coronary angiography	2	4
14.Doppler of the limbs	2	4
15.Abdominal ultrasonography.	2	6
Total	30	60

#### (4) Teaching methods:

- 4.1. Lectures
- 4.2. Practical sessions
- 4.3. Group discussion
- 4.4. Presentation by students

#### (5) Assessment methods:

- 5.1. **Written exam** (one paper, 3 hours) for assessment of K1–6, I1,2
- 5.2. **Oral Exam** for assessment of K1–6, I1,2, T1–3.
- 5.3. **Practical exam** for assessment of P 1, 2.

Assessment schedule.

**Final Exam (210 marks):** at the end of the course

Percentage of each Assessment to the total mark.

Written exam. 120 marks (60%) Essay: 96 marks, MCQ: 24 marks

Oral exam. 45 marks (20%)

Practical exam. 45 marks (20%)

## (6) References of the course:

### 6.1. Text books:

- **Basics of Radiology.** David Sutton.
- **Applied Radiological Anatomy** by Paul Butler et al
- **Practical Radiological Anatomy** by Sarah McWilliams

### 6.2. Websites:

- <https://www.imaios.com/en/e-Anatomy>
- [http://www.med.wayne.edu/diagRadiology/Anatomy\\_Modules/Page1.html](http://www.med.wayne.edu/diagRadiology/Anatomy_Modules/Page1.html)
- [https://www.dartmouth.edu/~humananatomy/part\\_1/chapter\\_5.html](https://www.dartmouth.edu/~humananatomy/part_1/chapter_5.html)
- <https://sectional-anatomy.org/>

### 6.3. Journals:

- Surgical and Radiologic Anatomy  
<http://www.springer.com/medicine/radiology/journal/276>
- American *Journal* of Roentgenology  
<http://www.ajronline.org/doi/full/10.2214/ajr.175.1.1750016>
- Applied Radiology Online  
<http://appliedradiology.com/journal>

## (7) Facilities and resources mandatory for course completion:

- Lecture room
- X ray film illuminator
- Computers, data show, projectors and internet connection

Course coordinator: Prof. Adel El-Hawary

Head of the department: **Prof. Adel El-Hawary**

Date: