



## COURSE SPECIFICATION

### (Clinical Oncology)

Faculty of Medicine– Mansoura University

#### (A) Administrative information

(1) Programme offering the course.	Postgraduate M.D degree of Clinical Oncology and Nuclear Medicine/ CONM500
(2) Department offering the programme.	Clinical oncology and nuclear medicine department
(3) Department responsible for teaching the course.	Clinical oncology and nuclear medicine department
(4) Part of the programme.	Second part
(5) Date of approval by the Department's council	7/6/2016
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title.	Clinical Oncology
(8) Course code.	CONM 617 CO

(9) Credit hours	<b>14 lectures</b> <b>15 clinical</b>
(10) Total teaching hours.	<b>210 hours lectures</b> <b>450 hours practical</b>

## **(B) Professional information**

### **(1) Course Aims.**

The broad aims of the course are as follows: (either to be written in items or as a paragraph)

**Each trainee in Clinical Oncology & Nuclear Medicine who  
Complete this course should be able to:**

- 1- Educate the candidates the concepts and terminology of clinical oncology.**
- 2- Provide the students the principles of cancer management and decision making for treatment policy.**
- 3- Teach them recent advances in management of cancer of different body parts.**

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

Intended learning outcomes (ILOs); Are four main categories: knowledge & understanding to be gained, intellectual qualities, professional/practical and transferable skills.

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

**The trainee should: know and understand:**

**A1: Discuss principles of cancer management.**

**A2: Describe recent advances in management of cancer of different body parts.**

**A3: Describe the recent advances in radio-therapeutic and systemic treatment (chemotherapy, hormone therapy, biologic agents) according to evidence based practice and understand and practice clinical audit and risk management and Know the usefulness of anticancer agents in the neo-adjuvant, concomitant, and adjuvant setting and as a radiation sensitizer**

**A4: Describe principles of application of biologic therapy.**

**A5: Discuss oncologic emergencies, supportive care of cancer patients.**

**A6: Discuss cancer of unknown primary.**

**A7: Defines cancer in Aids and other immunodeficiency status.**

**A8: Discuss administrative issues of cancer treatment.**

**A9: Describe psychological problems and rehabilitation of cancer patients.**

**A10: Discuss the design and analysis of clinical trials.**

**A11: Describe newer methods of cancer treatment.**

## B- Intellectual skills

**B1: Analyze clinical knowledge, that is radiological, medical, surgical and pathological, relating to the specific body systems**

**B2: Distinguish the evidence based clinical practice**

**B3: Distinguish the indications, contraindications and potential complications of radiotherapy and systemic therapy (chemotherapy, hormone therapy, biological agents) in order to plan and prescribe appropriate treatment for common malignancies**

**B4: Evaluate the management of complications of disease processes and of different treatment modalities.**

## C- Professional/practical skills

**Training should give appropriate experience in the areas identified below:**

**C1: Prescription and administration of cytotoxic chemotherapy and biological therapy.**

**C2: participate in an appropriate on-call rotation, or other schemes of exposure to emergency oncology and palliative care, in which he/she will be responsible to a named consultant(s).**

**C3: Applies principles of radiotherapy planning.**

**C4: Designs the plan of treatment to System-based site specialties:**

- |  |                             |
|--|-----------------------------|
| • breast cancer                              | • thoracic malignancy       |
| • upper and lower gastrointestinal (GI)      | • head and neck             |
| • sarcomas (bone & soft tissue)              | • gynecological oncology    |
| • urological malignancy and germ cell tumors | • neuro-oncology            |
| • skin tumors (melanoma&non melanoma)        | • lymphomas & leukemia      |
| • pediatric oncology                         | • cancer of unknown primary |

#### D- Communication & Transferable skills

D1: Trainees must be able to.

Explain disease processes and treatment details honestly in language appropriate to patients and their families.

Communicate clearly and efficiently both orally and in writing with medical colleagues in other disciplines.

Maintain accurate records of consultations and other interactions with patients and their families.

D2: Trainees must take part in discussions in multi-disciplinary meetings.

D3: Trainees should be able to explain clearly the benefits, side effects and risks of a course of radiotherapy.

D4 Trainees should assess and advise patients attending for follow-up after completion of treatment and advice on appropriate investigations during and after follow-up.

#### (4) Course Content



Trimesters	Subjects	Lectures	ILOs
First	*Principles of cancer management and decision making for treatment policy: surgery, radiotherapy, hormonal therapy and chemotherapy.	4	A1, B2
	* Multidisciplinary approach of treatment.	3	A1, B2
	* Recent advances in management of cancer head and neck: - nasal cavity, -paranasal sinuses, -nasopharynx, -oral cavity, - oropharynx, - larynx, -hypopharynx -salivary glands.	2 2 3 3 2 2 2 2	A2,A3,B1, B2,B3,B4
	* Recent advances in management of cancer lung: -small cell lung cancer -Non-small cell lung cancer -Carcinoids tumors -Large cell neuroendocrine carcinoma. * Recent advances in management of cancer mediastinum : -Thymic tumors -Germ Cell Tumors -Mesenchymal tumors -Neurogenic tumors -Primary Cardiac malignancies  *Recent advances in management of cancer pleura.	2 3 3 2 2 2 2 2 2 2 2	A2,A3,B1, B2,B3,B4
	* Recent advances in management of Leukemias, lymphomas and plasma cell neoplasms.	6	A2,A3,B1, B2,B3,B4

	* Recent advances in management of genitourinary system cancers: -kidney, - ureter, - bladder, -prostate, -urethra, - penis, -testis	2 1 3 3 1 2 3	<b>A2,A3,B1, B2,B3,B4</b>
Second	* Recent advances in management of GIT cancers: - esophagus, -stomach, -pancreas, - hepatobiliary, -small intestine, -colon, -rectal -anal region.	2 2 2 2 2 2 2 2	<b>A2,A3,B1, B2,B3,B4</b>
	* Recent advances in management of Gynecologic tumors: - vulva, -vagina, -cervix, - endometrium, -fallopian tubes, -gestational trophoblastic disease -ovary	2 2 3 2 2 3 4	<b>A2,A3,B1, B2,B3,B4</b>



	* Recent advances in management of breast cancer: -Early breast cancer -Locally advanced breast cancer -Metastatic breast	2 2 2	A2,A3,B1, B2,B3,B4
	* Recent advances in management of Soft tissue sarcomas	4	A2,A3,B1, B2,B3,B4
	*Principles of applications of biologic therapy	2	A4
	* Supportive care of cancer patient.	4	A5
Third	* Recent advances in management of Bone sarcomas: -Osteosarcoma -Giant cells tumors -Ewing sarcoma -Chondrosarcoma	2 1 2 2	A2,A3,B1, B2,B3,B4
	* Recent advances in management of -Non melanomatous skin cancer -Melanomas.	2 2	A2,A3,B1, B2,B3,B4
	* Recent advances in management of Cancer of the endocrine system : - thyroid, -parathyroid, -adrenals, - pancreas, - carcinoid.	2 1 1 2 2	A2,A3,B1, B2,B3,B4
	*Recent advances in management of Neoplasms of the central nervous system: -Low grade gliomas -High grade gliomas -Meningiomas	2 2 2 2	A2,A3,B1, B2,B3,B4

	-Ependymomas	2	
	-Medulloblastoma	2	
	-Pituitary tumors	2	
	-Spinal cord tumors	2	
	-Orbital, ocular& optic nerve tumors.	2	
	* Recent advances in management of Solid tumors of childhood:	2	<b>A2,A3,B1, B2,B3,B4</b>
	-Neuroblastoma	2	
	-Wilm's	2	
	-Retinoblastoma	3	
	-Pediatric bone sarcomas	2	
	-Osteosarcoma	2	
	-Ewing's sarcoma	2	
	-Rhabdomyosarcoma	2	
	-Liver tumors	2	
	-Germ cell tumors	2	
Fourth	*Paraneoplastic syndromes and oncologic emergencies.	4	A5
	*Cancer of unknown primary site.	2	A6
	*Cancer in Aids and other immunodeficiency status	2	A7
	*Principles of chemotherapy: chemotherapy objectives, side effects and complications of chemotherapy	3	B3
	*Administrative issues of cancer treatment :	2	A8
	-Evolution of roles for oncology nurses - Practical issues affecting patient care	2	
	* Psychological aspects of patients with cancer.	2	A9
		2	

*Rehabilitation of cancer patients.		A9
*Design and conduct of clinical trials	2	A10
*Newer methods of cancer treatment : -Role of stem cell in cancer management -Molecular and genetic approaches -Hyperthermia -Chemical modification of radiation and chemotherapy - Photodynamic therapy -Particle beam radiation therapy - Bone marrow transplantation -Recent innovation	2 2  2 1 2 1 2 2 1	A11

**Table of clinical teaching (450 hours practical)**

Clinical skill	Teaching hours	ILOs
Practical issues in cytotoxic chemotherapy usage.	20	C1, D1,D4
Prescription and administration of biological treatment in cancer.	10	C1, D1,D4
Participate and deal with Emergency oncology and Palliative care.	20	C2, D1
<b>Principles of radiotherapy planning:</b> 1-Define gross tumor volume (GTV), clinical tumor Volume (CTV), internal target volume (ITV) planning target volume (PTV) and organs at risk , outline them and defines planning organs at risk volume (PRV). Define DVH planning constraints.	20	C3, D2

2-Accuracy of patient set-up and recommends adjustments. 3-An appropriate treatment schedule according to stage of disease, performance status of patients and concomitant systemic therapy. 4-Modify a course of radiotherapy treatment depending on Acute toxicity and unplanned gaps in treatment.	10 15 15	
Radiation therapy technique of cancer head and neck: - nasal cavity,  -paranasal sinuses,  -nasopharynx,  -oral cavity, - oropharynx, - larynx, -hypopharynx -salivary glands	4 6 8  8 8 8 6 6	C4,D2,D3
Radiation therapy technique of cancer lung and mediastinum: -small cell lung cancer. -Non-small cell lung cancer -Thymic tumors -Germ Cell Tumors -Mesenchymal tumors -Neurogenic tumors	5 6 3 3 3 3 3	C4,D2,D3
Radiation therapy technique of genitourinary system cancers: -kidney - ureter - bladder -prostate -urethra - penis -testis	5 2 5 6 2 5 5	C4,D2,D3

Radiation therapy technique of GIT cancers: - esophagus -stomach -pancreas - hepatobiliary -rectal -anal region.	6 6 6 6 5 5	C4,D2,D3
Radiation therapy technique of Gynecologic tumors: - vulva, -vagina, -cervix, - endometrium,	6 4 8 8	C4,D2,D3
Radiation therapy technique of breast cancer: -Early breast cancer -Locally advanced breast cancer	6 6	C4,D2,D3
Radiation therapy technique of Soft tissue sarcomas	8	C4,D2,D3
Radiation therapy technique of Bone sarcomas: -Osteosarcoma -Ewing sarcoma -Chondrosarcoma	4 8 6	C4,D2,D3
Radiation therapy technique of Non melanomatous skin cancer Melanomas.	8 8	C4,D2,D3
Radiation therapy technique of thyroid.	8	C4,D2,D3
* Radiation therapy technique of Neoplasms of the central nervous system: -Low grade gliomas -High grade gliomas -Meningiomas -Ependymomas	5 5 5 5	C4,D2,D3

-Medulloblastoma -Pituitary tumors -Spinal cord tumors -Orbital, ocular& optic nerve tumors.	10  5 6 6	
Radiation therapy technique of Solid tumors of childhood: -Neuroblastoma -Wilm's tumor -Retinoblastoma -Pediatric bone sarcomas -Osteosarcoma -Ewing's sarcoma -Rhabdomyosarcoma	  4 5 3 10 4 8 8	C4,D2,D3
Radiation therapy technique of Cancer of unknown primary site.	10	C4,D2,D3
Radiation therapy technique of Leukemias, Lymphomas and plasma cell neoplasms.	4 4 4	C4,D2,D3

### (5)Teaching methods.

- 4.1. lectures
- 4.2. scientific meetings.
- 4.3. case presentation.
- 4.4. panel discussion .
- 4.5. club journal

### (5) Assessment methods.

- 5.1. written exam for assessment of Knowledge and intellectual skills
- 5.2. MCQ exam for assessment of Knowledge and intellectual skills
- 5.3. oral exam for assessment of Knowledge and intellectual skills
- 5.4. OSCE exam for assessment of Knowledge, intellectual skills, practical, and communication skills.

#### Assessment schedule.

Assessment 1. written exam held after 6 semester of registration.

Assessment 2. Oral exam held after 6 semesters.

Assessment 3. MCQ exam held at the end of , 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> semester.

#### Percentage of each Assessment to the total mark.

Written exam. 240 marks.

MCQ exam 60 marks.

Oral and OSCE. 200 marks.

### (6) References of the course.

6.1. Text books.

- **Perez CA, Brady LW, Halperin EC, et al., editors.** *Principles and Practice of Radiation Oncology*. 5<sup>th</sup> ed. Philadelphia: Lippincott Williams & Wilkins; 2012.

- **Hansen EK and Roach M.:** *Handbook of Evidence-based Radiation Oncology*. 2<sup>nd</sup> edition. New York: Springer Science+ Business Media, LLC; 2011.
- **Jiade J. Lu • Luther W. Brady (Eds.)** *Decision Making in Radiation Oncology*. Springer-Verlag Berlin Heidelberg 2011
- **Casciato DA**, editor. *Manual of clinical oncology*. 6<sup>th</sup> edition. Philadelphia: Lippincott Williams & Wilkins; 2015.
- **DeVita VT, Hellman S, Rosenberg SA**, editors. *Principles and Practice of Oncology*. 8<sup>th</sup> ed. Philadelphia: Lippincott; 2008.
- **Nancy Y. Lee • Nadeem Riaz • Jiade J. Lu** Editors : *Target Volume Delineation for Conformal and Intensity-Modulated Radiation Therapy*: Springer ; 2015

## 6.2. Journals.

- *Journal of clinical oncology*
- *International journal of radiation oncology, radiobiology & physics*.

## 6.3. Websites.

- [www.asco.org](http://www.asco.org)
- [www.esmo.org](http://www.esmo.org)

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

Candidates and their learning are supported in a number of ways:

- ☐ Candidates logbook
- ☐ Programme Specification
- ☐ Extensive library and other learning resources



- Computer laboratories with a wide range of software
- Intranet with a wide range of learning support material
  - MSc/MD Dissertation Supervisor

**Course coordinator:**

**Professor: Mohamed Elawady.**

**Assistant Professor: Ghada Ezzat Eladawei**

**Head of the department:**

**Professor : Ibrahim Awad.**

**Date:**

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