



QualityAssurance Unit

Medical Doctorate (M.D.) Degree Program and Courses Specifications for Clinical Oncology

(According to currently applied Credit point bylaws)

Clinical Oncology Faculty of medicine AssiutUniversity 2022-2023

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M. D. degree of Clinical Oncology

A. Basic Information

- **Program Title:** M.D. degree of Clinical Oncology
- **Wature of the program: Single.**
- **Responsible Department:** Department of Clinical Oncology
- Program Academic Director (Head of the Department): Prof. Samir Shehata
- Coordinator (s):
 - Principle coordinator: Prof. Samir Shehata
 - Assistant coordinator (s) DR. Hanan Gamal
- 🖊 🛛 Internal evaluators: Prof. Taha Zaki Mahran
- External evaluator : Prof. Emad Hamada & Prof. Mohamad AbdAllah
 Hassan (Cairo University)
- Date of Approval by the Faculty of Medicine Council of Assiut University: 23-9-2014
- Date of most recent approval of program specification by the
 Faculty of Medicine Council of Assiut University: : 27-11-2022
- Total number of courses: 7 courses + 2 Elective courses

B. Professional Information

1- Program aims

1/1To enable candidates to master high level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of clinical oncology

1/2 Provide candidates with fundamental knowledge of Clinical Oncology regarding; Skillful management of different cancers; professional communication with cancer patients, mastering the indications, contraindications and use of chemotherapy in different cancers. Becoming knowledgeable about current and recent radiotherapy techniques and different radiotherapy equipments, in addition to knowledge of recent National and International policies and treatment recommendations in the field of Clinical Oncology.

1/3 To enable candidates to perform high standard scientific medical research and learn how to proceed with publications in indexed medical journals.

1/4 To enable candidates to describe the basic ethical and medico-legal principles relevant to Clinical Oncology.

1/5 To enable candidates to have professional careers as a consultant in Egypt and to be recognized abroad.

1/6To enable candidates to continue self education in subspecialties.

1/7 To enable candidates to assess and analyze different research methodologies and do their own.

2/1Knowledge and understanding:

- A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to Clinical Oncology as well as the evidence – based application of this knowledge to patient care.
- B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.
- C. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Clinical Oncology
- D. Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of Clinical Oncology.
- E. Mention health care system, public health and health policy, issues relevant to this specialty and principles and methods of system – based improvement of patient care in common health problems of the field of Clinical Oncology.

2/2 Intellectual outcomes

- A. Apply the basic and clinically supportive sciences which are appropriate to the speciality related conditions / problem / topics.
- B. Demonstrate an investigatory and analytic thinking "problem solving "approaches to clinical situation related to Clinical Oncology.
- C. Plan research projects.
- D. Write scientific papers.
- E. Participate in clinical risk management as a part of clinical governance.
- F. Plan for quality improvement in the field of medical education and clinical practice in his specialty.
- G. Create / innovate plans, systems, and other issues for improvement of performance in his practice.
- H. Present and defend his / her data in front of a panel of experts.

I. Formulate management plans and alternative decisions in different situations in the field of Clinical Oncology.

2/3 Skills 2/3/1 Practical skills (Patient Care) Students will be able to:

A. Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

p.s. Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.

B. Provide extensive level of patient care *for patients with all common diagnoses and for uncomplicated procedures* related to Clinical Oncology.

C. Provide extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care.

D. Perform diagnostic and therapeutic procedures considered essential in the field of Clinical Oncology.

E. Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.

F. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in Clinical Oncology related situations.

G, Gather essential and accurate information about patients of Clinical Oncology related conditions.

H. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgment for Clinical Oncology related conditions.

I. Develop and carry out patient management plans for Clinical Oncology related conditions.

J. Counsel and educate patients and their families about speciality related conditions.

K. Use information technology to support patient care decisions and patient education in all Clinical Oncology related clinical situations.

L. Perform competently all medical and invasive procedures considered essential for Clinical Oncology related conditions / area of practices.

M. Provide health care services aimed at preventing Clinical Oncology related health problems.

N. Lead health care professionals, including those from other disciplines, to provide patient-focused care in Clinical Oncology related conditions.

O. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)

2/3/2 General skills

Including:

- Practice-based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-based Practice

Practice-Based Learning and Improvement

- A. Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of Clinical Oncology
- B. Appraise scientific evidence.
- C. Continuously improve patient care based on constant selfevaluation and <u>life-long learning.</u>
- D. Participate in clinical audit and research projects.
- E. Practice skills of evidence-based Medicine (EBM).

- F. Educate and evaluate students, residents and other health professionals.
- G. Design logbooks.
- H. Design clinical guidelines and standard protocols of management.
- I.Appraise evidence from scientific studies related to the patients' health problems.
- J. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.
- K. Use information technology to manage information, access online medical information; for the important topics.

Interpersonal and Communication Skills

L. Master interpersonal and communication skills that result in the effective <u>exchange of information and collaboration</u> with patients, their families, and health professionals, including:-

- <u>Present</u> a case.
- <u>Write</u> a consultation note.
- <u>Inform patients</u> of a diagnosis and therapeutic plan completing and maintaining comprehensive.
- Timely and legible medical records.
- Teamwork skills.

M. Create and sustain a therapeutic and ethically sound relationship with patients.

N. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.

O. Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

P. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.

Q. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.

R. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

S. Work effectively in health care delivery settings and systems related to Clinical Oncology including good administrative and time management.

T. Practice cost-effective health care and resource allocation that does not compromise quality of care.

U. Advocate for quality patient care and assist patients in dealing with system complexities.

V. Design, monitor and evaluate specification of under and post graduate course and programs.

W. Act as a chair man for scientific meetings including time management.

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for Medical Doctorate (MD) degree in Clinical Oncology

Assiut Faculty of Medicine developed MD degree programs' academic standards for different clinical specialties.

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program. These standards were approved by the faculty council on 20 /3.2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.These standards were recently revised and reapproved without changes by the Faculty Council on 27-11-2022.

4- Program External References

2. ACGME (Accreditation Council for Graduate Medical Education).

http://www.acgme.org/acWebsite/navPages/nav_Public.asp 3. The American Board of Physician Specialties (ABPS)'s radiation oncology board <u>http://www.abpsus.org/radiation-oncology</u> 4. Clinical Oncology Fellowship of the Royal College of Radiologists (FRCR)

http://www.rcr.ac.uk/section.aspx?pageID=10

Comparison between program and specialty external reference			
Item	Clinical Oncology	American Board of	
	program	Physician Specialties	
		(ABPS)'s radiation	
		oncology board	
Goals	Matched	Matched	
ILOS	Matched	Matched	
Duration	4 -6 years	Different	
Requirement	Different	Different	
Program structure	Different	Different	

5- Program Structure

Duration of program: 4-6 years B. Structure of the program: Total number of credit points: = 420 CP Master degree: 180 credit point Didactic #: 37 CP (23.1%), practical 123 (76.9%), total 160 CP Thesis and researches: 80 CP (33.3%)

First part Didactic 10 (100%), practical 0 (0 %), total 10 CP Second part Didactic 24, (16.3 %), practical 123 (83.7 %), total 147 CP Elective courses: 3 credit points #Didactic (lectures, seminars, tutorial)

According the currently applied bylaws:

Total courses: 160 credit point Compulsory courses: 157 credit point (98.1%) Elective courses: 3 credit point (1.9%)

	Credit point	% from total	
Basic science courses	10	4.1%	
Humanity and social courses	3	1.2%	
Specialty courses	147	61.3%	
Others (Computer,)	-	0	
Field training	123	51.3%	
Thesis	40	16.7%	
2 published researches	40	16.7%	
Master degree	180		

C. Program Time Table

Duration of program 4 years divided into

o Part 1

Program-related basic science courses

Program-related basic science courses

- Medical statistic
- Research methodology

- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.

Students are allowed to sit the exams of the remaining basic science courses after 12 months from applying to the MD degree.

Thesis and 2 published researches

For the M D thesis;

MD thesis subject should be officially registered within 1 year from application to the MD degree,

Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;

It could be discussed and accepted either before or after passing the second part of examination

o Part 2

Program – related specialty courses and ILOs

Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

Two elective courses can be set during either the 1st or 2nd parts. The students pass if they get 50% from the written exams and 60% from oral exams, 60% from clinical/practical exams of each course and 60% of summation of the written exams, oral and clinical/practical exams of each course

Total degrees 1700 marks.

500 marks for first part

1200 for second part

Written exam 40% - 70%.

Clinical/practical and oral exams 30% - 60%.

Curriculum Structure: (Courses):

4 Levels and courses of the program:

Courses and student work load list	Course	Course Credit points		
	Code	didactic #	training	total
First Part				
Basic science courses (10 CP)				
Course 1: Medical Statistics	FAC309A	1		1
Course 2: Research Methodology	FAC309B	1		1
Course 3: Medicolegal Aspects &	FAC310C	1		1
Ethics in Medical Practice and				
Scientific Research				
Course 4: Clinical Oncology	ONM327B#	3		3
1Physics of radiation and				
radiobiology	ONM327A§	2		2
Course 5: Internal Medicine and				
General Surgery	ONM327C#	2		2
Course 6: Pharmacology and				
		2 (1)		
Elective courses*		3 CP		
- Elective course 1		1.5		1.5
- Elective course 2		1.5		1.5
Thesis		40 CP		
Published researches**		40 CP		
Second Part	Spee	ciality courses	24 CP	
	Speciality Cli	nical Work (lo	g Book) 12	3 CP
Speciality Courses				
Course 5 " Clinical Oncology 2"	ONM327 D	24		24
Clinical Oncology				
Technology of Radiotherapy				
Speciality Clinical Work (123 CP)	ONM327 D		123	123
Total of second part		24	123	147

#Didactic (lectures, seminars, tutorial)

* Elective courses can be taken during either the 1st or 2nd parts. Student work load calculation:

Work load hours are scheduled depending on the type of activities and targeted competences and skills in different courses

Elective Courses#:

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.
- Quality assurance of clinical practice.
- -Hospital management

Two of the above mentioned courses are prerequisites for fulfillment of the degree.

3. Thesis / Researches:

40 CP are appointed to the completion and acceptance of the thesis.

**Another 40 points are appointed to acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

6. Courses Contents (Annex 1)

The competency based objectives for each course/module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

See Annex 1 for detailed specifications for each course/ module Annex 6 II: Program Matrix

7-Admission requirements

Admission Requirements (prerequisites) if any : General Requirements:

- Master degree in the chest diseases and tuberculosis

4 Specific Requirements:

- Fluent in English (study language)

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working assistant lecture 2 week leave prior to first/ second part exams.

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first part (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.
- Students are allowed to sit the exams of the remaining essential courses of the first part after 12 months from applying to the MD degree.
- Examination of the second part cannot be set before 4 years from registering to the degree.

- Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- **4** The minimum duration of the program is 4 years.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and speciality courses of this program as regulated by the post graduates approved rules by the faculty council.

- 2. Completing all scheduled CP and log book (minimum 80%).
- 3. Discussion and acceptance of the MD thesis.

4. Acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

ILOs measured	Method
K & I	Written examinations:
	Structured essay questions
	Objective questions
	MCQ
	Problem solving
K ,I, P &G skills	Clinical:
	Long/short cases
	OSCE
K ,I &G skills	Structured oral
All	Logbook assessment
I &G skills	Research assignment

9-Program assessment methods and rules (Annex IV)

Weighting of assessments:

Courses		Degrees			
Courses	Course	Written	Oral	Practical	Total
	Code	Exam	*	/ Clinical	
				Exam	
	First Part		1	1	
Basic science courses:					
Medical Statistics	FAC309A	35	15		50
Research Methodology	FAC309B	35	15		50
Medicolegal Aspects &	FAC310C	35	15		50
Ethics in Medical Practice					
and Scientific Research					
Clinical Oncology 1Physics of	ONM327A§	85	65		150
radiation and radiobiology					
Internal Medicine and	ONM327B#	60	40		100
General Surgery					
Pharmacology and		70	30		100
Oncopathology	ONM327C#				
Total of the first part					500
	Second Par	t	I		
	Course code	written	Oral	Practical	total
			*	/ Clinical	
				Exam	
Speciality Courses					
Clinical Oncology 2	CHT319B		360	360	1200
Paper 1 :Clinical Oncology 2					
Paper 2 :Clinical Oncology 2		120			
Paper 3: Technology of		120			
radiotherapy		120			
Paper 4: Commentary		120			
Total of The second part		480	360	360	1200
Elective course 1		50		50	100
Elective course 2		50		50	100

* 25% of the oral exam for assessment of logbook

* 25% of the oral exam for assessment of logbook

500 marks for first part

1200 for second part

Written exam 40% (480 marks) Clinical /practical and oral exams 60% (720 marks) Elective courses 200

4 Examination system:

E First part:

- Written exam 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination
- Written exam 3 hours in Clinical Oncology 1Physics of radiation and radiobiology + oral exam
- Written exam 2 hours in Internal Medicine and General Surgery + oral exam
- Written exam 2 hours in Pharmacology and Oncopathology + oral exam

Second part:

 Written exam four papers 3 hours for each in Clinical Oncology 2 + Oral exam+ Clinical/Practical exam

Elective courses

- Written exam one paper 1 hour in Elective course 1 + Oral & Practical exam
- Written exam one paper 1 hour in Elective course 2 + Oral & Practical exam

10-Program evaluation

By whom	Method	sample
Quality Assurance	Reports	#
Unit	Field visits	
External Evaluator	Reports	#
(s):According to	Field visits	
department		
council		
External Examiner		
(s): According to		
department		
council		
Stakeholders	Reports	#
	Field visits	
	questionnaires	
Senior students	Questionnaires	#
Alumni	Questionnaires	#

#Annex 5 contains evaluation templates and reports (Joined in the departmental folder).

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.

All course specifications for this program are in place.

Contributor	Name	Signature	Date
Program Principle Coordinator:	Prof. Samir Shehata	Samir	
		Shehata	
Head of the Responsible	Prof. Samir Shehata	Samir	
Department (Program		Shehata	
Academic Director):			

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses

First Part

- 1) Course 1: Medical Statistics
- 2) Course 2: Research Methodology
- 3) Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- 4) Course 4: Clinical Oncology 1 Physics of radiation and radiobiology
- 5) Course 5: Internal Medicine and General Surgery
- 6) Course 6: Pharmacology and Oncopathology

Course 1: Medical statistics

Name of department: Public Health and Community Medicine

Faculty of medicine Assiut University 2022-2023

1. Course data

- **4** Course Title: Medical statistics
- **4** Course code: FAC309A
- **4** Specialty: offered to all clinical and academic specialties
- **4** Number of credit points: 1 credit point

4 Department (s) delivering the course: Pubic Health and

Community Medicine

- **4** Coordinator (s):
 - Course coordinator: Prof. Farag Mohammed Moftah
 - Assistant coordinator (s):

Prof. Medhat Araby Khalil Saleh

- Date last reviewed: January -2022
- Requirements (pre-requisites) if any:
 - Completed Master degree in any of the academic or clinical departments of Medicine.

2. Course Aims

Enable gradute students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data

3. Intended learning outcomes (ILOs):To be able to use statistical principals to manage data

ILOS	Methods of	Methods of
	teaching/	Evaluation
	learning	
A. List the types of variables	Lecture and	Written
	discussion	examination
B. Identify the methods of data collection	Lecture and	Written
,	discussion	examination
C. Describe the different sampling	Lecture and	Written
strategies	discussion	examination
D. Identify types of tabular and graphic	Lecture and	Written
presentation of data	discussion	examination
E. Identify measures of central tendency	Lecture and	Written
and dispersion	discussion	examination
F. Identify the characters of normal	Lecture and	Written
distribution curve.	discussion	examination
G. Detect the difference between	Lecture and	Written
parametric and non-parametric tests	discussion	examination
H. Identify the concepts of correlation and	Lecture and	Written
regression	discussion	examination

A knowledge and understanding

B. intellectual

ILOs	Methods of teaching/ learning	Methods of Evaluation	
A. Describe the normal curves.	Lecture& Discussions	Written examination	
B. Describe and summarize data	Lecture& Discussions	Written examination	
C. Select the proper test of significance	Lecture& Discussions	Written examination	
D. Interpret the proper test of significance	Lecture& Discussions	Written examination	
E. Describe the difference between parametric and non-parametric tests	Lecture& Discussions	Written examination	

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design data entry files.	Tutorial on SPSS	Assignments SPSS exam
B. Validate data entry.	Tutorial on SPSS	Assignments SPSS exam
C. Manage data files.	Tutorial on SPSS	Assignments SPSS exam
D. Construct tables and graphs.	Tutorial on SPSS	Assignments SPSS exam
E. Calculate measures of central tendency and dispersion.	Tutorial on SPSS	Assignments SPSS exam
F. Select, apply and interpret the proper test of significance.	Tutorial on SPSS	Assignments SPSS exam

D general skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Appraise scientific evidence	Discussions	Research assignment
B. Use information technology to manage information, access on-line medical information; for the important topics.	tutorial	Research and audits' assignment

4. Course contents (topic s/modules/rotation Course Matrix

Time Schedule: First Part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical	General
			skills	Skills
	Α	В	С	D
Introduction	A-F	A-D	-	A&B
Tables and graphics	D	A-D	-	A&B
Sampling	С	-	-	A&B
Methodology of data	В	-	_	A&B
collection				
Type of variables	А	-	-	A&B
Proportion test&	E,F	C&D	-	A&B
Chi-square test				
Student T test&	E,F	C&D	F	A&B
Paired T test				
ANOVA test	E,F	C&D	F	A&B
Non parametric tests	E,F	C&D	F	A&B
Discrimination analysis factor	E,F	C&D	-	A&B
analysis				
SPSS Introduction	A-F	A-D	-	A&B
Data entry and cleaning of	А	A-D	A-C	A&B
data				
Transforming of variables	А	A&B	A-C	A&B
Descriptive statistics	D	A-D	D&E	A&B
Graphic presentation	D	A&B	D	A&B
Chi square and interpretation	E,F	C&D	F	A&B
of results				
Correlation Regression	E,F	C&D	F	A&B
Multiple and logistic	E,F	C&D	F	A&B
Regression				

5. Course Methods of teaching/learning

- 1. Lectures
- 2. Assignments
- 3. Discussions
- 4. Exercises
- 5. Tutorial on SPSS v.16

6. Course assessment methods:

i. Assessment tools:

- **1.** Attendance and active participation
- 2. Assignment
- **3.** Practical SPSS examination
- 4. Written exam

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for practical exam).

7. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

- Medical Statistics: Book by Ramakrishna HK 2016
 - Janet Peacock and Philip Peacock. Oxford Handbook of Medical Statistics (second edition.) Publisher: Oxford University Press, Print Publication Date: Nov 2010 Print ISBN-13: 9780199551286, Published online: Jun 2011. DOI: 10.1093/med/9780199551286.001.0001
 - Leslie E. Daly MSc, PhD, Hon MFPHM,, Geoffrey J. Bourke MA, MD, FRCPI, FFPHM, FFPHMI, Interpretation and Uses of Medical Statistics, Fifth Edition, First published:1 January 2000, Print ISBN:9780632047635
 |Online ISBN:9780470696750 |DOI:10.1002/9780470696750
 - Marcello Pagano, Kimberlee Gauvreau: Principles of Biostatistics second edition published in 2000 by Brooks/Cole and then Cengage Learning. CRC Press, Feb 19, 2018 Mathematics 584 pages.

lii- Recommended books

- Ji-Qian Fang (Sun Yat-Sen University, China) Handbook of Medical Statistics: <u>https://doi.org/10.1142/10259</u> | September 2017.Pages: 852
- Robert H. Riffenburgh: Statistics in Medicine 4th Edition (2020). EvidenceEvidence Based Medicine How to practice and teach EBM.
- Discovering Statistics Using IBM SPSS Book by Andy Field, 2013.

iii. Periodicals, Web sites, etc

- iv. **Periodicals , etc** Statistics in Medicine Wiley Online Library
- v. **Web sites** https://www.phc.ox.ac.uk/research/medicalstatistics

8. Signatures

Course Coordinator:	Head of the Department:
- Farag Mohammed Moftah	 Prof. Eman Morsy Mohamed
Date: 10-1-2022	Date: 10-1-2022
Associated Coordinator:	
Prof. Medhat Araby Khalil Saleh	
Date: 10-1-2022	

Course 2: Research Methodology

Name of department: Public Health and Community Medicine Faculty of medicine Assiut University 2021-2022

1. Course data

- Course Title: Research methodology
- **4** Course code: FAC309B
- Specialty: Offered to all clinical and academic specialties
- Number of credit points: 1 credit point
- Department (s) delivering the course: Department of public health
- Coordinator (s):
 - Course coordinator: Prof. Mahmoud Attia

Assistant coordinator (s): Prof. Ekram Mohamed

Prof. Medhat Araby Khalil

- **Date last reviewed:** January 2022
- Requirements (prerequisites) if any:
 - Completed Master degree in any of the academic or clinical departments of Medicine.

2. Course Aims

To provide graduate students with the skills of:

- planning and implementing sound research
- writing a scientific research proposal

3. Intended learning outcomes (ILOs)

Methods of Methods of teaching/ ILOs **Evaluation** learning A. Explain differences between different Lecture and Written exam study designs. discussion Log book Practical sessions assignments Workshops Practical exam B. Identify sources and types of bias in Lecture and Written exam research. discussion book Log Practical sessions assignments Practical exam C. Identify methods of data collection. Lecture and Written exam discussion Log book assignments Practical sessions D. Select and design valid measurement Lecture and Written exam tools for research. discussion Log book Practical sessions assignments Workshops Practical exam E. Explain ethical issues in conducting Lecture and Written exam discussion research on human subjects. Log book Practical sessions assignments Workshops F. List the steps involved in proposal Lecture and Written exam writing. discussion Log book Practical sessions assignments Practical exam Workshops Lecture Written exam G. Identify a research problem within a Discussion Log book conceptual framework. assignments Practical exam Log book Practical tutorial on H. Use the web sources to do a literature

A knowledge and understanding

search	web	assignment
I. Describe the rules of authorship in scientific writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
J. Select the appropriate study design for the research question.	Lecture Practical sessions	Written exam Practical exam
K. Minimize bias in designing research.	Lecture	Written exam
L. Screening & theoretical background	Lectures	Written exam Practical exam
M. Mention the basic ethics for conducting a	lectures	Written exam
research and medicolegal principles relevant	seminar	Practical
to data confidentiality.		exam

B. intellectual

Competency and Skills	Methods of	Methods of
	teaching/	Evaluation
	learning	
A-Apply basic science & knowledge for	Discussions	Written exam
appraising scientific literature.	&seminars	Practical exam
B- Design research and present study data,	lecture	log book
in seminars.	seminar	assignments
C- Design suitable epidemiological study.	lecture	log book
	seminar	assignments
D-Design strategies for resolving ethical	lecture	Written exam
concerns in research, law, and regulations.	Workshops	log book
		assignments
E- Apply coherently synthesize ideas and	lecture	log book
integrate lateral and vertical thinking.	Workshops	assignments
F- Evaluate screening tests and interpreting	lecture	Written exam
their uses in different population.		Practical exam

C. Practical skills

Competency and	Methods of	Methods of
Skills	teaching/	Evaluation
	learning	
A- Conduct epidemiological studies, screening	lectures	written exam
and surveys.	seminar	log book
		assignments
B- Identify steps required in fielding the study.	Lecture	Assignments
		Written exam
C- Managing data collection team.	lectures	log book
	seminar	assignments
D- Identify steps required for calculation	Lecture	Assignments
sensitivity, specificity, positive predictive	Practical	Written exam
value, negative predictive value, accuracy of	sessions	Practical exam
a screening test.		
E- Be able to define and apply the	Lecture	Assignments
epidemiologic criteria of causality and be	Practical	Written exam
able to distinguish between a measure of	sessions	Practical exam
association and evidence of causality.		
F- Synthesize information from multiple	Lecture	Assignments
sources for research writing and the ability	Practical	Written exam
to perform paper critique .	sessions	Practical exam
G- Identify bias and confounding in	Lecture	Assignments
epidemiological study designs, their types	Practical	Written exam
and ways to control them in various types of	sessions	Practical exam
biases.		

D General skills Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Scientific paper and proposal writing skills: be able to write an introduction, objectives and the methodological section.	Tutorial	Written examination
B- Learn authorship ethical rules.	Tutorial	Written examination
C- Perform practice-based improvement activities using a systematic methodology (audit, logbook, critical appraisal)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
D- Appraise evidence from scientific studies(journal club)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
E- Conduct epidemiological studies, screening and surveys.	- Lectures -Practical sessions - Discussion - Readings	attendance and participation
F- Facilitate training of junior students and other health care professionals in different screening activities.	Field work Participation in projects	attendance and participation

Interpersonal and Communication Skills

ILOs	Methods of teaching/	Methods of
	learning	Evaluation
G-Maintain ethically sound relationship with	- Lectures	Written
community members.	-Practical sessions	exams
	- Discussion	
	- Readings	
H-Provide information using effective nonverbal,	- Lectures	Written
explanatory, questioning, and writing skills.	-Practical sessions	exams
	- Discussion	Practical
	- Readings	exams
I- Present results of researches in seminars.	- Lectures	Log book
	-Practical sessions	assignments
	- Discussion	_
	- Readings	

Professionalism			
ILOs	Methods of teaching/ learning	Methods of Evaluation	
J- Demonstrate respect, compassion, and integrity to the needs of society.	LecturesDiscussionReadings	Written exams	
K- Manage potential conflicts of interest encountered by practitioners, researchers, and organizations.	LecturesDiscussionReadings	Written exams	
L- Design strategies for resolving ethical concerns in research, law, and regulations.	Lectures - Discussion - Readings	Written exams Practical exams	
M- Demonstrate ways to control for confounding in the analysis phase of a study	Lectures - Discussion - Readings	Written exams Practical exams	
N- Demonstrate a commitment to ethical principles including confidentiality of participants' information and informed consent.	Lectures - Discussion - Readings	Written exams	
O-Assess ethical considerations in developing communications and promotional initiatives.	LecturesDiscussionReadings	Written exams	

4. Course contents (topic s/modules/rotation Course Matrix

Time Schedule: First Part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical	General
			skills	Skills
	Α	В	С	D
Over view on research	A&E	A-D	A-C	C-G,
conduction and research				I,L&M-O
ethics				
How to write a research	F,I	Е	F	A-C&H
proposal				
Observational study design	A& D	B & C	D	E & F
Experimental study design	A& D	B & C	B	E & F
Evaluation of diagnostic tests	L	А	B& E	F
(Screening)				
Systematic reviews and meta	G, H & M	E& F	F	C, D
analysis				
Confounding, bias & effect	B & K	D	E & G	М
modification				

5. Course Methods of teaching/learning:

- 1. Lectures
- 2. Assignments
- 3. Discussion
- 4. Exercises

6. Course assessment methods:

i. Assessment tools:

- 1. Attendance and participation
- 2. Log book assignments
- 3. Written examination
- 4. Practical examination

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for practical exam).
7. List of references

i. Lectures notes

• Department lecture notes

ii. Essential books

- Research Design: Qualitative, Quantitative and Mixed Methods Approaches 4th Edition by John W. CreswellSAGE Publications, Inc; 4th edition (January 1, 2014)
- Research methodology: A step by step Guide for Beginners. Ranjit Kumar, 2020. Second edition https://books.google.com.eg/books?
- Medical Research Essentials Rania Esteitie, McGraw Hill Professional, third edition, Feb 5, 2014 Medical 104 pages
- Research Methodology in the Medical and Biological Sciences Petter Laake, Haakon Breien Benestad, Bjorn R. Reino Olsen, 4th edition, Academic Press, Nov 5, 2007 - Science - 512 pages

iv. Recommended books

- Research Methods in Education 7th Edition, by Louis Cohen, Lawrence Manion, Keith Morrison Publisher: Routledge; (April 22, 2011) www.routledge.com/textbooks/cohen7e.
- Research Methodology: A Practical and Scientific Approach Vinayak Bairagi, Mousami V. Munot · 2019, Research Methodology: A Practical and Scientific Approach - Google Books
- Based Medicine How to practice and teach EBM. David Sachett, Sharon E. Straus, W. Scott Richardson, William Rosenberg R.Brain Haynes
- Dissertation workshop open courseware JHSPH

8. Signatures

Course Coordinator:	Head of the Department:
Prof.Mahmoud Attia	Prof. Eman Morsy Mohamed
Date: 10-1-2022	Date: 10-1-2022

Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Name of department: Forensic medicine and clinical toxicology Faculty of medicine Assiut University 20122-2023

1. Course data

- Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- Course code: FAC310C
- Speciality: General medicine, Special medicine, Pediatrics, Public health, Oncology and Rheumatology Emergency Medicine (1st part).
- Number of credit points: 1 credit point
- Department (s) delivering the course: Forensic Medicine and Clinical Toxicology
- Coordinator (s):
 - Course coordinator:
 - Prof. Ghada omran
 - Assistant coordinator (s) Assist.
 - Prof. Zaghloul Thabet
- **Date last reviewed:** April 2022
- Requirements (prerequisites) if any :
 - > Completed Master degree.

2. Course Aims

To describe the basic ethical and medicolegal principles and bylaws relevant to practice in the field of General medicine, Special medicine, Pediatrics, Public health, Oncology and Rheumatology

3. Intended learnin	g outcomes	(ILOs):
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Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Mention principals of Taking consent.	Lecture and discussion	Oral &Written exam
 B. Mention principals of Writing a death certificate 	Lecture and discussion	Oral &Written exam
C. Mention principals of diagnosing death.	Lecture and discussion	Oral &Written exam
 D. Mention principals of writing toxicological reports. 	Lecture and discussion	Oral &Written exam
E. Explain principals of medical reports.	Lecture and discussion	Oral &Written exam
F. List indications and principals of induced emesis, gastric lavage and samples collection.	Lecture and discussion	Oral &Written exam

A knowledge and understanding

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present case , seminars in death certificate	Lecture and discussion	Oral &Written exam
B. Present case, seminars in toxicological cases	Lecture and discussion	Oral &Written exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Identify medical ethics and ethics in research.	Lecture and discussion	Reading Discussion
B. Prepare and write consent.	Lecture and discussion	Reading Discussion
C. Identify medical responsibilities.	Lecture and discussion	Reading Discussion
D. Write death certificate.	Lecture and discussion	Reading Discussion and active participation
E. Deal with a case of Suspicious death	Lecture and discussion	Reading Discussion and active participation
 F. Perform gastric lavage, induce emesis, and obtain samples. 		
G. Write medical and toxicological reports	Lecture and discussion	Reading Discussion and active participation
H. Develop and carry out patient management plans		

	for Euthanaesia, and Organ	
	Transplantation	
١.	Counsel patients and their	
	families about speciality	
	related conditions including	
	Permanent infirmities,	
	Euthanasia, and Organ	
	Transplantation	

D general skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Present a case.	Lecture and discussion	Global rating logbook
B. Write a consultation note	Lecture and discussion	Global rating logbook
C. Inform patients and maintaining comprehensive.	Lecture and discussion	Global rating logbook
D. Make timely and legible medical records	Lecture and discussion	Global rating logbook
E. Acquire the teamwork skills	Lecture and discussion	Global rating logbook

4. Course contents (topic s/modules/rotation Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual B	Practical skills	General Skills D
	A	D	U	D
 Death and death certificate. 	B,C	А	D,E	А
2. Medical Reports	А		G	A,D,E
3. Toxicological reports	D,F	В	G,F	A,E
4. Ethics in research.	А		А	
5. Medical ethics.	E		A,B,C,H,I	B,C,E

5. Course Methods of teaching/learning:

- 1. Lectures.
- 2. Discussions.
- 3. Exercises.

6. Course assessment methods:

i. Assessment tools:

- 1. Written examination.
- 2. Attendance and active participation.
- 3. Oral examination.

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

- Course notes.
- Staff members print out of lectures and/or CD copies.

ii. Essential books

• Bernard Knight and Pekka Saukko (2015: Knight Forensic Pathology. Hodder Arnold press

- Goldfrank, Lewis R.; Howland, Mary Ann; Hoffman, Robert S.; Nelson, Ewis S.; Lewin, Neal A (2019): Goldfrank's Toxicologic Emergencies, 11th ed. McGraw Hill / Medical.
 - Medical Ethics Manual. World medical association. Third edition 2015.
 - Medical ethics and law. Dominic Wilkinson, 3rdedition 2019.

iii. Recommended books

• Biswas Gautam (2021): Review of Forensic Medicine & Toxicology. 5th ed. Jaypee Brothers Medical Pub.

iv. Journal and web site

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- All International Journals of Forensic Medicine and Clinical Toxicology which available in the university network at <u>www.sciencedirect.com</u>. As :

Forensic Science International Journal.

Toxicology Letter.

8. Signatures

- Course Coordinator: Prof Ghada Omran	- Head of the Department: Prof. Banda Hussein Abdel hady	
	TTOI. Randa Husselli Abaci haay	
Date: 17-4-2022	Date: 17-4-2022	

Course 4: Clinical Oncology 1 Physics of radiation and radiobiology

Course 4: Clinical Oncology 1 Unit 1 Physics of radiation

Name of department: of Clinical Oncology Faculty of medicine Assiut University 2022-2023

1. Unit data

- **Unit Title: Physics of radiation**
- 🕹 Unit code: ONM327A§
- Speciality is Clinical Oncology
- **Number of credit points:** 1.5 credit point for didactic (100%)
- Department (s) delivering the unit: Department of physics, Cairo University in conjunction with Department of Clinical Oncology - Faculty of Medicine- Assiut- EGYPT
- Coordinator (s): Staff members of Department of physics, Cairo University in conjunction with Clinical Oncology Department as annually approved by both departments councils
- **4** Date last reviewed: June 2022
- Requirements (prerequisites) if any :
 None
- Requirements from the students to achieve unit ILOs are clarified in the joining log book.

2. Unit Aims

- To acquire indepth knowledge of all technical aspects of radiation therapy treatment planning, delivery, and documentation.
- To understans all technical availabilities and limitations with regard to patient set-up and beam delivery.

3. Unit intended learning outcomes (ILOs):

3. Course intended learning outcomes (ILOs): A- Knowledge and understanding **ILOs** of Methods of **Methods Evaluation** teaching/ learning A. Mention physical details of: -Written -Didactic Structure of matter and radiation and oral (lectures, The production and properties of X-rays examination seminars, The fundamentals of nuclear physics - Log book tutorial) High energy and teletherapy machines and simulators. \rm Isotopic therapy machines (tele and brachytherapy) 4 Quality assurance of teletherapy machines and simulators. Interaction and absorption of radiation in matter. 🖊 Measurements of radiation and dose measuring devices. Physical principles of patients and tumor imaging including radiographic image tomography

- sonography
- MRI
- isodose imaging.

4 Dece calculation for ovternal beam: DDD	
Dose calculation for external beam: PDD	
• TAR.	
• IPR.	
Dose calculations.	
• SSD.	
• FAD.	
Isodose curves.	
Field dose calculations.	
 Off axial dose calculation. 	
 Tissue inhomogenity. 	
Principles of external beam modification:	
 Isodose distribution. 	
 Field arrangement. 	
• Single field.	
 Parallel opposing fields. 	
Multiple fields.	
Wedge fields.	
 Moving fields' technique. 	
Weighting.	
• TBI.	
 Adjacent fields. 	
Electron beam (inhomgenities – field	
shaping).	
Herapy (BT):	
 Physics of BT sources 	
Apparatus	
Dose calculation.	
B. Mention the principles of Radiation protection:	
Background radiation	
Dose equivalent	
Protective barriers	
 Protection against scattered & leakage 	
radiation. Protection against sealed sources.	
 Protection against unsealed sources. 	
Radiation survey.	
 Personal area and environmental monitoring. 	

Waste disposal.	
 Storage and transfer of isotopes. 	
 Protective regulation in RT. 	
Maximum allowable doses.	
 Risk estimates national and international 	
regulations and license.	

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Physics of radiation) supportive sciences which are appropriate to related Clinical Oncology problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Physics of radiation.		

C- Practical skills

Practical skills = 0 credit point

D- General Skills

Practice-Based Learning and Improvement

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
A. Use information technology to manage	-Observation	- Oral Exam
information, access on-line medical information;	and	- Logbook
and support their own education.	supervision	
	-Written & oral	
	communication	

Interpersonal and Communication Skills

ILOs		Methods of teaching/ learning	Methods of Evaluation
B. Write a report in A.A &A.B	the conditions mentioned in	-Observation and supervision -Written & oral communication	- Oral Exam - Logbook - Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	-Observation -Senior staff experience	-Oral Exam - Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in relevant health care delivery	-Observation	-Log book
settings and systems.	-Senior staff	
	experience	

4. Course contents (topic s/modules/rotation Course (Unit 4) Matrix

Time Schedule: First part

Торіс	Covered ILOs			
	Knowledge Intellectual Practical G			General
			skills	Skills
	А	В	С	D
Section 1:	А	A&B	-	A-D
Structure of matter and				
radiation				
Section 2:	А	A&B	-	A-D
The production and				
properties of X-rays				
Section 3:	А	A&B	-	A-D
The fundamentals of				
radiation physics				
Section 4:	А	A&B	-	A-D
High energy and teletherapy				
machines and simulators.				
Section 5:	А	A&B	-	A-D
Isotopic therapy machines				
(tele and brachytherapy)				
Section 6:	А	A&B	-	A-D
Quality assurance of				
teletherapy machines and				
simulators.				
Section 7:	А	A&B	-	A-D
Interaction and absorption of				
radiation in matter.				
Section 8:	A	A&B	-	A-D
Measurements of radiation				
and dose measuring devices.				
Section 9:	A	A&B	-	A-D
Physical principles of patients				
and tumor imaging				
radiographic image	A	A&B	-	A-D

tomography	А	A&B	-	A-D
sonography	А	A&B	-	A-D
MRI	А	A&B	-	A-D
isodose imaging	А	A&B	-	A-D
Section 10:	А	A&B	-	A-D
Dose calculation for external				
beam:				
PDD.	А	A&B	-	A-D
TAR	А	A&B	-	A-D
TPR	А	A&B	-	A-D
dose calculations	А	A&B	-	A-D
SSD	A	A&B	-	A-D
FAD	А	A&B	-	A-D
Isodose curves	А	A&B	-	A-D
Field dose calculations				
Off axial dose calculation	А	A&B	-	A-D
Tissue inhomogenity.	A	A&B	-	A-D
Section 11:	А	A&B	-	A-D
Principles of external beam				
modification:				
Isodose distribution.	А	A&B	-	A-D
Field arrangement	А	A&B	-	A-D
Single field	A	A&B	-	A-D
Parallel opposing fields.	A	A&B	-	A-D
Multiple fields.				
Wedge fields.	A	A&B	-	A-D
Moving fields' technique.	A	A&B	-	A-D
Weighting.	А	A&B	-	A-D
TBI.	A	A&B	-	A-D
Adjacent fields.	А	A&B	-	A-D
Electron beam	A	A&B	-	A-D
(inhomgenities – field				
shaping).				
Section 12:	A	A&B	-	A-D
Brachytherapy				
Physics of BT sources.	А	A&B	-	A-D

Apparatus.				
Dose calculation.	А	A&B	-	A-D
Section 13:	В	A&B	-	A-D
Radiation protection:				
Background radiation	В	A&B	-	A-D
Dose equivalent	В	A&B	-	A-D
Protective barriers	В	A&B	-	A-D
Protection against scattered	В	A&B	-	A-D
& leakage radiation.				
Protection against sealed				
sources				
Protection against unsealed	В	A&B	-	A-D
sources.				
Radiation survey.	В	A&B	-	A-D
Personal area and	В	A&B	-	A-D
environmental monitoring.				
Waste disposal.	В	A&B	-	A-D
Storage and transfer of		A&B	-	A-D
isotopes.				
Protective regulation in RT.	В	A&B	-	A-D
Maximum allowable doses.	В	A&B	-	A-D
Risk estimates national and	В	A&B	-	A-D
international regulations and				
license.				

5. Methods of teaching/learning:

- Didactic (lectures, seminars, tutorial)
- Observation and supervision
- Written & oral communication
- Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

Extra didactic (lectures, seminars, tutorial)

7. Assessment methods:

I. Assessment tools:

- 1. Written and oral exam
- 2. Log book

ii. Time schedule: After 12 months from applying to the M D degree.

iii. Marks: 75

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

-The Physics of Radiation Therapy. Faiz Khan. Publisher: Williams and Wilkins. Baltimore, 2003 (3rd edition)

iii. Periodicals, Web sites, ... etc

- Periodicals:
- Web sites:
- ✓ www.NCCN.com
- ✓ www.asco.org
- ✓ www.uicc.org
- ✓ www.EORTC.org
- ✓ www.medscape.com
- ✓ www.cancer.gov/
- ✓ http://annonc.oxfordjournals.org/
- ✓ www.redjournal.org/
- iv. others : None

Course 4 Clinical Oncology 1 Unit 2 (Radiobiology)

Name of department: Clinical oncology Faculty of medicine Assiut University 2022-2023

1. Unit data

- Unit Title: Radiobiology
- **4 Unit code:** ONM327A§
- Speciality Clinical Oncology
- Number of credit point: 1.5 credit point, didactic 1.5 credit point (100%)
- Department (s) delivering the unit: Clinical Oncology Department,
- Coordinator (s):
 - **Course coordinator:** Staff members of Clinical Oncology, Assiut University as annually approved by department council
 - Assistant coordinator (s) Staff members of Clinical Oncology, Assiut University as annually approved by department council
- ∔ Date last reviewed: June 2022
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve unit ILOs are clarified in the joining log book.

2. Unit Aims

The student should acquire the details facts of Radiobiology including cellular biology; laws and principles of radiation biology ,electromagnetic and particulate radiations to cellular interactions; units of radiation quantities and radiobiological measures; correct usage somatic and genetic effects of radiation.

3. Unit intended learning outcomes (ILOs):

ILOs	Methods of	Methods of
	teaching/ learning	Evaluation
A. Demonstrate details of	Didactic	- Written
-	(lectures,	and oral
🖊 Normal cell morphology & physiology.	seminars,	examination
븆 DNA strand breaks and chromosomal	tutorial)	
aberrations.		- Log book
븆 Cell survival curve.		
븆 Cell, Tissue, and tumor Kinetics.		
4 Radiosenstivity and cell age in mitotic cycle.		
Repair of radiation damage and dose-rate effect.		
Oxygen effect and Reoxygenation.		
Linear Energy Transfer and Relative Biologic Effectiveness		
Acute Effects of Total-Body Irradiation		
Radioprotectors.		
k Radiation Carcinogenesis.		
4 Hereditary Effects of Radiation.		
4 Effects of radiation on the embryo and fetus.		
4 Radiation protection.		
4 Molecular techniques in radiobiology.		
🗸 Cancer Biology.		

A- Knowledge and understanding

Time dose and fractionation in radiotherapy.	
4 Alternative radiation Modalities.	
4 Radiosenstizers and Bioreductive drugs.	
4 Gene therapy.	
4 Interaction of Radiation and	
chemotherapeutic agents.	
🖶 Hyperthermia.	

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Radiobiology) supportive sciences which are appropriate to Clinical Oncology related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to tumor Radiobiology.		
C. Design and present cases, seminars in common problems related to Radiobiology.		
D. Formulate management plans and alternative decisions in different situations in the field of the Radiobiology.		

C- Practical skills

Practical = 0 credit point

D. General Skills Practice-Based Learning and Improvement

ILOs	Methods of	Methods of
	teaching/	Evaluation
	Learning	
A. Use information technology to manage	-Observation	- Oral Exam
information, access on-line medical information;	and	- Logbook
and support their own education.	supervision	
	-Written & oral	
	communication	

Interpersonal and Communication Skills

ILOs		Methods of teaching/ learning	Methods of Evaluation
B. Write a report in A.A &A.B	the conditions mentioned in	-Observation and supervision -Written & oral communication	- Oral Exam - Logbook - Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	-Observation	- Oral Exam
	-Senior staff	- Logbook
	experience	

Systems-Based Practice

ILOs	Methods of teaching/	Methods of Evaluation
	learning	
D. Work effectively in relevant health care delivery	-Observation	-360o global
settings and systems.	-Senior staff	rating
	experience	

4. Unit contents (topic s/modules/rotation Course (Unit) Matrix

Time Schedule: First Part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
	А	В	С	D
Normal cell morphology &	А	А	-	A-D
physiology				
DNA strand breaks and	А	А	-	A-D
chromosomal aberrations				
Cell survival curve.	A	А	_	A-D
Cell, Tissue, and tumor	А	A-D	-	A-D
Kinetics.				
Radiosenstivity and cell age	А	A-D	-	A-D
in mitotic cycle.				
Repair of radiation damage	A	A-D	-	A-D
and dose-rate effect.				
Oxygen effect and	A	A-D	-	A-D
Reoxygenation.				
Linear Energy Transfer and	A	А	-	A-D
Relative Biologic				
Effectiveness.				
Acute Effects of Total-Body	A	A-D	-	A-D
Irradiation				
Radioprotectors.	A	A-D	-	A-D
Radiation Carcinogenesis	A	A-D	-	A-D
Hereditary Effects of	А	А	-	A-D
Radiation				
Effects of radiation on the	А	А	-	A-D
embryo and fetus				
Radiation protection	A	A-D	-	A-D
Molecular techniques in	А	A-D	-	A-D
radiobiology				

Cancer Biology	А	A-D	-	A-D
Time dose and fractionation	А	A-D	-	A-D
in radiotherapy				
Alternative radiation	А	A-D	-	A-D
Modalities.				
Radiosenstizers and	А	A-D	-	A-D
Bioreductive drugs				
Gene therapy.	А	A-D	-	A-D
Interaction of	А	A-D	-	A-D
Radiation and				
chemotherapeutic agents.				
Hyperthermia	A	A-D	-	A-D

5. Unit methods of teaching/learning:

- Didactic (lectures, seminars, tutorial)
- Observation and supervision
- Written & oral communication
- Senior staff experience

6. Unit methods of teaching/learning: for students with poor achievements

• Extra didactic (lectures, seminars, tutorial)

7. Unit assessment methods:

. Assessment tools: 1.

2.

- Written and oral exam
 - Log book

ii. Time schedule: After 12 months from applying to the M D degree.

iii. Marks: 75

8. List of references

i. Lectures notes

Staff members print out of lectures

ii. Essential books

- Radiobiology for the Radiologist, 6 th edition: Eric Hall, 2016.
- The Basic Science of Oncology, 5th edition: Tannock, Hill, Bristow & Harrington, 2015.

iv. Periodicals, Web sites, ... etc

- ✓ www.NCCN.com
- ✓ www.asco.org
- ✓ www.uicc.org
- ✓ www.EORTC.org
- ✓ www.medscape.com
- ✓ www.cancer.gov/
- ✓ http://annonc.oxfordjournals.org/
- ✓ www.redjournal.org/

v. Others: none

9. Signatures		
Course Coordinator		
Head of the Department:	Unit 1 Coordinator:	
Date:	Date:	
Head of the Department:	Unit 2 Coordinator:	
Date:	Date:	

Course 5 Internal Medicine and General Surgery

Course 5 Unit 1 Internal Medicine

Name of department: of Clinical Oncology Faculty of medicine Assiut University 2022-2023

1. Unit data

- 🖊 Unit Title: Internal Medicine
- **Unit code: ONM327B#**

4 Speciality is Clinical Oncology

- **Number of credit points:** 1 credit point for didactic(100%)
- Department (s) delivering the Unit : Department of Internal Medicine in conjunction with Department of Clinical Oncology - Faculty of Medicine- Assiut- EGYPT
- Coordinator (s): Staff members of Internal Medicine
 Department in conjunction with Clinical Oncology
 Department as annually approved by both departments
 councils
- **4** Date last reviewed: June 2022
- Requirements (prerequisites) if any :
 None
- Requirements from the students to achieve Unit ILOs are clarified in the joining log book.

2. Unit Aims

• To make the students able to be familiar with the diagnosis and management of common medical problems that may be encountered with Clinical Oncology

3. Unit intended learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
 A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions of Internal Medicine in subjects related to clinical oncology: Thyroid Parathyroid Pituitary Renal Heart Respiratory system 	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
• GII D. Montion the principles of		
B. Mention the principles of		
 Hypothyroidism 		
 Hyperthyroidism 		
Thyroiditis		
 Thyroid malignancies 		
⊠ Parathyroid		
Hyperparathyroidism		
Suprarenal		
Cushing		
 Addison's 		

 Pheochromocytoma 	
E <u>Pituitary</u>	
 Hypopituitarism 	
 Acromegaly 	
Gigantism	
🗷 <u>Renal:</u>	
 Acute and Chronic renal failure 	
 Golmerulonephritis 	
Pyelonephritis	
E Heart	
• CAD	
• Angina	
Infarction	
 Cardiomyopathy 	
Respiratory system	
 Pulmonary embolism 	
 Bronchogenic Ca 	
SIT:	
Liver cirrhosis	
Jaundice	
 Causes of hepatosplenomegaly 	
C. Explain the facts and principles of the relevant	
basic supportive sciences related to Internal	
Medicine.	
D. Explain the facts and principles of the relevant	
clinically supportive sciences related to Internal	
Medicine.	
E. Describe the basic ethical and medicolegal	
principles revenant to the Internal Medicine.	
F. Describe the basics of quality assurance to	
ensure good clinical care in Internal Medicine.	
G. Explain the ethical and scientific principles of	
medical research	
H. Explain the impact of common health problems	
in the field of Internal Medicine on the society.	

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
 A. Design / present case in common problem related to Clinical Oncology 	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Apply the basic and clinically supportive sciences which are appropriate to the speciality related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Internal Medicine.		
D. Formulate management plans and alternative decisions in different situations in the field of Internal Medicine.		

C-Practical skills (Patient Care) Practical = 0 credit point

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition	-Clinical round -Seminars	-Log book -Chick list
	-Lectures	Oral exam

Professionalism

ILOs	Methods of	Methods of
	teaching/	Evaluation
	Learning	
C. Demonstrate a commitment to ethical	- Observation	-Log book
principles.	and	Oral exam
	supervision	
	Written & oral	
	communication	

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Unit contents (topic s/modules/rotation Course (Unit 3)Matrix

Time Schedule: First part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical	General
			skills	Skills
	А	В	С	D
 Hypothyroidism 	A-H	A-D	-	A-D
 Hyperthyroidism 	A-H	A-D	-	A-D
Thyroiditis	A-H	A-D	-	A-D
 Thyroid malignancies 	A-H	A-D	-	A-D
 Hyperparathyroidism 	A-H	A-D	-	A-D
 Suprarenal 	A-H	A-D	-	A-D
 Cushing 	A-H	A-D	-	A-D
 Addison's 	A-H	A-D	-	A-D
 Pheochromocytoma 	A-H	A-D	-	A-D
Hypopituitarism	A-H	A-D	-	A-D
 Acromegaly 	A-H	A-D	-	A-D
Gigantism	A-H	A-D	-	A-D
• Acute and Chronic renal	A-H	A-D	-	A-D
failure				
Golmerulonephritis	A-H	A-D	-	A-D
Pyelonephritis	A-H	A-D	-	A-D
• CAD	A-H	A-D	-	A-D
 Angina 	A-H	A-D	-	A-D
Infarction	A-H	A-D	-	A-D
 Cardiomyopathy 	A-H	A-D	-	A-D
Pulmonary embolism	A-H	A-D	-	A-D
Bronchogenic Ca	A-H	A-D	-	A-D
Liver cirrhosis	A-H	A-D	-	A-D
Jaundice	A-H	A-D	-	A-D
• Causes of	A-H	A-D	-	A-D
hepatosplenomegaly				

4. Unit Methods of teaching/learning:

- 5. Didactic (lectures, seminars, tutorial)
- 6. Observation and supervision
- 7. Written & oral communication
- 8. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs

7. Unit assessment methods:

i. Assessment tools:

- Written & oral , examination
- Chick list & Log book

ii. Time schedule: After 12 months from applying to the M D degree

iii. Marks: 50 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

 Davidson's Principles and Practice of Medicine by Nicki R. Colledge, Brian R. Walker, and Stuart H. Ralston on March, 2010

iii. Recommended books

• Harrison's Principles of Internal Medicine by Anthony Fauci, Eugene Braunwald, Dennis Kasper, and Stephen Hauser,17th Edition, March 2008.

iv. Periodicals, Web sites, ... etc

- Internal medicine journal
- Annals of Internal medicine journal
- Internal medicine
- Journal of General Internal Medicine
- i. others : None

Course 5 Unit 2 General Surgery

Name of department: of Clinical Oncology Faculty of medicine Assiut University 2022-2023

1. Unit data

- Unit Title: General Surgery
- **Unit code: ONM327B#**
- Speciality is Clinical Oncology
- Number of credit points: 1 credit point for didactic(100%)
- Department (s) delivering the unit: Department of General Surgery in conjunction with Department of Clinical Oncology -Faculty of Medicine- Assiut- EGYPT
- Coordinator (s):): Staff members of General Surgery Department in conjunction with Clinical Oncology Department as annually approved by both departments councils
- Date last reviewed: June 2022
- Requirements (prerequisites) if any :
 None
- Requirements from the students to achieve unit ILOs are clarified in the joining log book.

2. Unit Aims

The student should acquire the basic Knowledge, clinical and surgical skills related to Clinical Oncology in clinical reasoning, diagnosis and management of diseases of clinical Oncology

3. Unit intended learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
 A. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions of general surgery in subjects related to clinical oncology: Breast cancer Benign and malignant thyroid tumors Abdominal Swellings Colorectal Cancer Jaundice Testicular Tumors Tongue Cancer Lymphadenopathy 	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
 B. Mention the principles of Surgical Oncology Preoperative evaluation Surgery for specific types and sites Biopsy techniques Fine people aspiration 		
 a. Fine-needle aspiration b. Core, excision c. Needle localization biopsy C. Mention basics of the following rare diseases and conditions 		

Ereast Cancer	
 Male breast cancer 	
 Breast cancer in pregnancy 	
 Breast cancer in elderly women 	
 Breast cancer in very young women 	
 Breast cancer presenting as axillary 	
metastases	
 Phyllodes tumors 	
 Paget's disease of the nipple 	
D. Explain the facts and principles of the relevant	
basic supportive sciences related to General	
Surgery.	
E. Explain the facts and principles of the relevant	
clinically supportive sciences related to General	
Surgery.	
F. Describe the basic ethical and medicolegal	
principles revenant to the General Surgery.	
G. Describe the basics and measurements of	
quality assurance to ensure good clinical care in	
General Surgery	
H. Explain the ethical and scientific principles of	
medical research	
I. Explain the impact of common health problems in	
the field of General Surgery on the society.	

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design and present case in common problem related to General Surgery	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Apply the basic and clinically supportive sciences which are appropriate to the speciality		

related conditions / problem / topics.	
C. Demonstrate an investigatory and analytic	
thinking "problem – solving "approaches to	
clinical situation related to General Surgery	
D. Formulate management plans and alternative	
decisions in different situations in the field of	
General Surgery	

C-Practical skills (Patient Care) Practical = 0 credit point

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition	-Clinical round	-Log book
mentioned in A.A. A.B	-Seminars	-Chick list
	-Lectures	Oral exam

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	 Observation and supervision Written & oral communication 	-Log book Oral exam

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Course contents (topic s/modules/rotation Course (Unit 2) Matrix

Time Schedule: First part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical	General
			skills	Skills
	А	В	С	D
Breast Cancer	A-I	A-D	-	A-D
 Benign and malignant thyroid tumors 	A, B, D-I	A-D	-	A-D
Abdominal swelling	A, B, D-I	A-D	-	A-D
Colorectal cancer	A, B, D-I	A-D	-	A-D
Jaundice	A, B, D-I	A-D	-	A-D
 Testicular tumors 	A, B, D-I	A-D	-	A-D
• Tongue cancer	A, B, D-I	A-D	-	A-D
 Lymphadenopathy 	A, B, D-I	A-D	-	A-D
Surgical oncology	B-I	A-D	-	A-D
Preoperative evaluation	B-I	A-D	-	A-D
• Surgery for specific types and sites	B-I	A-D	-	A-D
Biopsy techniques	B-I	A-D	-	A-D
Preoperative evaluation	B-I	A-D	-	A-D
• Surgery for specific types and sites	B-I	A-D	-	A-D
Biopsy techniques	B-I	A-D	-	A-D
Male breast cancer	C-H	A-D	-	A-D
 Breast cancer in pregnancy 	С-Н	A-D	-	A-D
 Breast cancer in elderly women 	C-H	A-D	-	A-D
Breast cancer in very young women	C-H	A-D	-	A-D
 Breast cancer presenting as axillary metastases 	C-H	A-D	-	A-D
Phyllodes tumors	C-H	A-D	-	A-D
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 Paget's disease of the nipple 	C-H	A-D	-	A-D

9. Unit Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Unit Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs

7. Unit assessment methods:

i. Assessment tools:

- > Written
- Oral examination
- Chick list
- Log book

ii. Time schedule: After 12 months from applying to the M D degree

iii. Marks: 50 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Bailey and Love's Short Practice of Surgery [23rd Edition]by Hamilton Bailey, R.J.McNeill Love, R.C.G. Russell, and etc.(2000)
- Principles and Practice of Surgical Oncology: A Multidisciplinary Approach to Difficult Problems by Howard Silberman and Allan W. Silberman, Sep 23, 2009

iii. Recommended books

• Sabiston textbook of surgery 18th Edition,2013

iv. Periodicals, Web sites, ... etc

- Surgical clinics of North America
- Journal of General Surgery

ii. others : None

9. Signatures		
Course Coordinator		
Head of the Department:	Unit 1 Coordinator:	
Date:	Date:	
Head of the Department:	Unit 2 Coordinator:	
Date:	Date:	

Course 6: Unit 1: Pharmacology and Oncopathology

Course 6: Unit 1: Pharmacology

Name of department: of Clinical Oncology Faculty of medicine Assiut University 2022-2023

1. Unit data

- Unit Title: Pharmacology
- Unit code: ONM327C#
- **Speciality** Clinical Oncology
- **Number of credit points:** 1 credit point for didactic (100%)
- Department (s) delivering the Unit: Department of Pharmacology in conjunction with Department of Clinical Oncology - Faculty of Medicine- Assiut- EGYPT
- Coordinator (s):Staff members of Department of Pharmacology in conjunction with Department of Clinical Oncology department as annually approved by both departments councils
- 🕹 Date last reviewed: June 2022
- Requirements (prerequisites) if any :
 - None
- Requirements from the students to achieve unit ILOs are clarified in the joining log book.

2. Unit Aims

To acquire indepth the Pharmacological background necessary for Clinical Oncology in clinical reasoning, diagnosis and management of Clinical Oncology.

3. Unit intended learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Mention Principles of General Pharmacology Pharmacokinetics Phsrmacodynamics	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book
 B. Describe Pharmacologyical details of: Cancer chemotherapy Antiemetic drugs Antidiarrheal drugs Diuretics Anticonvulsants Steroid drugs and nonsteroidal anti-inflamatory drugs Immunosuppressive drugs Hormonal agents used in the treatment of cancer Drugs used in the treatment of metabolic disorders, shock, hemorrhage and anemia 		

A- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Pharmacologicall) supportive sciences which are appropriate to Clinical Oncology related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Clinical Oncology.		

C. Practical skills

Practical: 0 credit point

B-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
 A. Use information technology to manage information, access on-line medical information; and support their own education 	-Observation and supervision -Written and oral communication	Oral exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition	-Clinical round	-Log book
mentioned in A.A, A.B	-Seminars -Lectures	Oral exam

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	 Observation and supervision Written & oral communication 	-Log book Oral exam

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Unit contents (topic s/modules/rotation Course (Unit 2) Matrix

Time Schedule: First Part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical	General
			skills	Skills
	А	В	С	D
Pharmacokinetics	А	A.B	-	A-D
Pharmacodynamics	А	A.B	-	A-D
Cancer chemotherapy	А	A.B	-	A-D
Antiemetic drugs	А	A.B	-	A-D
Antidiarrheal drugs	А	A.B	-	A-D
Diuretics	А	A.B	-	A-D
Anticonvulsants	А	A.B	-	A-D
Steroid drugs and nonsteroidal	В	A.B	-	A-D
anti-inflammatory drugs				
Immunosuppressive drugs	В	A.B	-	A-D
Hormonal agents used in the	В	A.B	-	A-D
treatment of cancer				
Drugs used in the treatment of	В	A.B	-	A-D
metabolic disorders				
Drugs used in the treatment of	В	A.B	-	A-D
shock				
Drugs used in the treatment of	В	A.B	-	A-D
hemorrage				
Drugs used in the treatment of	B	A.B	-	A-D
anemia				

5. Unit methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Unit methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)

7. Unit assessment methods:

i. Assessment tools:

- 1. Written and oral examination
- 2. Log book

ii. Time schedule: After 12 months from applying to the M D degree.

iii. Marks: 50

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

 Basic & Clinical Pharmacology, 11th Edition. By Bertram Katzung, Anthony Trevor, Susan Masters. Publisher: McGraw-Hill,2009

iii. Recommended books

• GodmanGilmans. The pharmacological therapeutics. 11th Ed,2017.

iv. Periodicals, Web sites, ... etc

Periodicals,

- British journal f pharmacology
- Pharmacological review
 - Web sites: http://mic.sgmjournals.org/
- iii. others : None

Course 6 Unit 2 Oncopathology

Name of department: of Clinical Oncology Faculty of medicine Assiut University 2022-2023

1. Unit data

- ∔ 🛛 Unit Title: Pathology
- Unit code: ONM327C#
- Speciality Clinical Oncology
- **Number of credit points:** 1 credit point for didactic (100%)
- Department (s) delivering the unit: Department of Pathology in conjunction with Department of Clinical Oncology - Faculty of Medicine- Assiut- EGYPT
- Coordinator (s): Staff members of Pathology Department in conjunction with Clinical Oncology Department as annually approved by both departments councils
- Date last reviewed: June 2022
- Requirements (prerequisites) if any :
 None
- Requirements from the students to achieve unit ILOs are clarified in the joining log book.

2. Unit Aims

The student should acquire the pathological facts necessary for Clinical Oncology

3. Unit intended learning outcomes (ILOs):
B- Knowledge and understanding

ILOs	Methods of	Methods of
	teaching/ learning	Evaluation
 A. Mention Principles of General Pathology General pathology: Inflammatory reactions Gangrene Necrosis carcinogenesis 	-Lectures	-Written and oral examination - Log book
 B. Describe Pathological details of: Tumor pathology: Etiology Epidemiology incidence. A brief morphology of common tumors (macro & micro) grading & differentiation of tumors. Natural history, growth characteristics and tumor spread. Staging systems classification i.e. TNM, FIGO. Use of specialized pathology techniques e.g. immunohistochemistry, phenotyping, Cluster of differentiation (CD) classifications, FISH, CISH, microarry&geneprint. Breast Cancer Phyllodes tumors Paget's disease of the nipple 		

C- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Pathological I) supportive sciences which are appropriate to Clinical Oncology related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination -Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Clinical Oncology.		

C. Practical skills

Practical: 0 credit point

D. General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
 A. Use information technology to manage information, access on-line medical information; and support their own education 	-Observation and supervision -Written and oral communication	Oral exam Logbook

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A, A.B	-Clinical round -Seminars	-Log book -Chick list Oral exam

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles.	 Observation and supervision Written & oral communication 	-Log book Oral exam

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Unit contents (topic s/modules/rotation Course (Unit 4) Matrix

Time Schedule: First part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
	А	В	С	D
 Inflammatory reactions 	A	A	-	A-D
Gangrene	A	A	-	A-D
Necrosis	A	A	-	A-D
 carcinogenesis 	A	A	-	A-D
 Etiology 	В	A	-	A-D
 Epidemiology 	В	A	-	A-D
 incidence. 	В	A	-	A-D
 A brief morphology of common tumors (macro & micro) 	В	A	-	A-D
 grading & differentiation of tumors. 	В	A	-	A-D
 Natural history, growth characteristics and tumor spread. 	В	A	-	A-D
• Staging systems classification i.e. TNM, FIGO.	В	A	-	A-D
• Use of specialized pathology techniques e.g. immunohistochemistry, phenotyping, Cluster of differentiation (CD) classifications, FISH, CISH, microarry&geneprint.	В	A&B	-	A-D
Phyllodes tumors	В	A	-	A-D
 Paget's disease of the nipple 	В	A	-	A-D

1. 5. Methods of teaching/learning:-

- 2. Didactic (lectures, seminars, tutorial
- 3. Observation and supervision
- 4. Written & oral communication
- 5. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs

7. Assessment methods:

i. Assessment tools:

- 1. oral examination
- 2. Written examination
- 3. Log book
- **ii. Time schedule:** 12 months from applying to the M D degree.
- iii. Marks: 50 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies
- ii. Essential books
- Essentials of Rubin's Pathology by Raphael Rubin et. el., Second edition (October 1, 2010)

iii. Recommended books

- General Pathology of Cancer by El-Bolkainy et al., second edition, 2005.
- Topographic Pathology of Cancer by El-Bolkainy et al., second edition, 2005.

9. Signatures

Course Coordinator		
Head of the Department:	Unit 1 Coordinator:	
Date:	Date:	
Head of the Department:	Unit 2 Coordinator:	
Date:	Date:	

Second Part

Course 7 Clinical Oncology

Name of department: of Clinical Oncology Faculty of medicine Assiut University 2022-2023

1. Course data

- Course Title: Clinical Oncology
- Course ode: ONM327D
- Speciality is Clinical Oncology
- Number of credit points: 147 credit point didactic 24 credit point (16.3%) - practical 123 credit point (83.7%)
- Department (s) delivering the course: Department of Clinical Oncology - Faculty of Medicine- Assiut- EGYPT
- Coordinator (s):
 - Unit coordinator: Prof. Samir Shehata Assistant coordinator (s) Dr. HananGamal
- Date last reviewed: June 2022
- Requirements (prerequisites) if any :
 None
- Requirements from the students to achieve course ILOs are clarified in the joining log book.

2. Course Aims

- Enable MD students to master high level of clinical skills, in addition to update and advanced medical knowledge, integration and interpretation of different investigations, professional competence in the area of Clinical Oncology related disorders.
- Provide candidates with enough general skills related to Clinical Oncology including, writing specialized medical reports, use of information technology in clinical decisions and research, teaching juniors and counseling patients and their families about Clinical Oncology related conditions.

3. Course intended learning outco	mes (ILOs):	
A-Knowledge and understa	anding	
ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
 B. Explain update and evidence based etiology, clinical picture, diagnosis and management of the following common diseases and clinical conditions: Breast cancer Gastrointestinal cancers Genitourinary cancers Gynecological cancers Hematological malignancy Head and neck cancers Thoracic tumors Sarcoma and skin tumors 	-Lecture -Self- directed learning -Case-based studies with discussion and problem solving.	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year
 Pediatric malignancy Oncological emergency 		and another one in the
		third year -Written and oral examination

B. Mention the principles of	-Lecture	-OSCE at the
(diagnostic/therapeutic/preventive tools)	-Self-	end of each
Imaging/staging techniques in diagnosis, staging,	directed	year
and follow-up	learning	-log book &
Radiographic	-Case-based	portfolio
 Computed tomography (CT) 	studies with	- One MCQ
Ultrasound	discussion	examination
 Magnetic resonance imaging (MRI) 	and problem	at the
 Positron emission tomography (PET) 	solving.	second half
 Endoscopic imaging techniques 		of the
🗵 Surgical Oncology		second year
 Preoperative evaluation 		and another
 Surgery for specific types and sites 		one in the
Biopsy techniques		third year
a. Fine-needle aspiration		-Written
b. Core, excision		and oral
c. Needle localization biopsy		examination
Radiation Oncology		
 Principles of radiation biology 		
 Normal tissue tolerance and toxicity 		
Interactions		
a. Chemotherapy		
b. Hormone therapy		
c. Biologic therapy		
d. Sequencing of therapy		
 Fractionation and dosing 		
Hyperthermia		
 Electron beam therapy 		
 Brachytherapy 		
 Focused radiation therapies 		
a. 3-DCRth		
b. Gamma knife		
c. Sterotactic radiotherapy		
d. Intensity-modulated radiation therapy		
(IMRT)		
e. Cyberknife		

f. Image Guided Radiotherapy (IGRT)	
Chemotherapy	
 Indications and goals 	
a. Primary cancer	
b. Recurrent cancer	
Pharmacology	
a. Pharmacokinetics	
b. Pharmacodynamics	
c. Metabolism and clearance	
d. Pharmacogenomics	
e. List of drugs	
 Dose and schedule 	
a. Metronomic	
b. Dose-density	
c. Dose-intensity	
d. High-dose	
 Cancer drug development and testing 	
Drug resistance	
 Predicting response and toxicity 	
Hormonal Therapies	
Estrogens	
 Selective estrogen response modifiers 	
 Progestins and antiprogestins 	
 Aromatase inhibitors 	
 Androgens and antiandrogens 	
 Gonadotropin-releasing hormone analogs 	
Glucocorticoids	
Miscellaneous agents	
Biologic/Targeted Therapy	
 Basic concepts of targeted molecular therapies 	
 Monoclonal antibodies 	
Tumor vaccines	
Cellular therapy	
 Antiangiogenic agents 	
Cytokines	

 Gene-directed therapy 	
I Cancer prevention	
Lifestyle changes	
Chemoprevention	
Surgical role	
I Cancer Screening	
🗵 Breast cancer	
 Epidemiologic and etiologic risk factors, tumor 	
markers/molecular genetics for breast cancer.	
 Natural history, typical clinical presentations 	
and diagnostic work-up, staging, clinico-	
pathologic manifestations and prognostic	
factors of breast cancer.	
 Principles of multidisciplinary treatment and 	
management for early stage breast cancer,	
including:	
Ductal carcinoma in-situ (DCIS)	
Early stage invasive carcinoma	
The role of radiation therapy and systemic	
therapy in breast conservation therapy	
(BCT) for early stage breast cancer (DCIS	
and invasive)	
Surgical techniques: breast conserving	
surgery; axillary dissection; sentinel	
nodebiopsy	
Selection factors and contra-indications to	
Appropriate management of lymph node	
regions	
 Principles of multidisciplinary management and treatment of: 	
treatment of:	
 Locally advanced breast cancer Inflammatory breast cancer 	
 Types/use of systemic therapy 	
(chemothorany hormonal thorany)	
Role of radiation thorapy (nost-	
mastectomy)	
Παδιετιστηγ	

Radiation effects of the breast and surrounding	
normal tissue.	
 Expected therapeutic outcomes of treatments, 	
including expected control rates.	
 Supportive care and follow up 	
Gastrointestinal cancer	
 Epidemiologic and etiologic risk factors, tumor 	
markers/molecular genetics, potential	
preventative and screening methods.	
 Natural history, typical clinical presentations, 	
diagnostic workup and staging, clinico-	
pathologic manifestations and prognostic	
factors of GIT cancer.	
 Principles of multidisciplinary treatment and 	
management and role(s) of radiation therapy for	
each of the disease sites and categories,	
including:	
4 Types/use of systemic therapy (chemotherapy,	
targeted therapy)	
🖶 Esophageal cancer:	
Definitive or palliative treatment for distal	
and proximal esophageal cancer, including	
surgery, radiation therapy alone, pre-	
operative and post-operative radiation	
therapy and chemotherapy and definitive	
chemoradiation therapy	
Pre-operative/post-operative radiation therapy	
for stomach cancer	
A Pancreatic cancer:	
Post-operative radiation	
therapy/chemotherapy	
Chemoradiation for unresectability	
Kectal cancer:	
 Adjuvant radiation therapy Declaration (a static declaration) 	
Pre-operative/post-operative radiation	
therapy	
Chemoradiation for anal canal cancer	

	1	1
• Expected therapeutic outcomes of treatments,		
including expected control rates.		
Principles of treatment of primary site lymph		
node region for each of the disease categories		
and stage of disease.		
Principles of radiological physics and		
radiobiology appropriate to radiation therapy		
for each of the disease categories, including:		
Importance of time dose factors, including		
radiotherapy timing in relation to surgery;		
integration of radiotherapy and systemic therapy.		
Isodose distributions for various sized electron		
fields for different electron beam energies.		
Principles of chemoradiation sensitization.		
 In-depth knowledge of controversial areas or 		
unusual situations in each of the disease		
categories, including:		
Adjuvant therapy of colon cancer		
Pros and cons of pre-operative and post		
operative radiation for rectal cancer		
4 Chemoradiation for anal canal cancer.		
 Radiation effects and response on organ of 		
interest and surrounding normal tissue: acute		
and chronic radiation effects; complications.		
Genitourinary Cancer		
 Epidemiologic and etiologic risk factors, tumor 		
markers/molecular genetics, including		
prevention and screening methods.		
 Natural history, typical clinical presentations, 		
diagnostic workup and staging, clinico-		
pathologic manifestations and prognostic		
factors of Genitourinary cancer.		
 Principles of multidisciplinary treatment and 		
management and role(s) of radiation therapy for		
each of the disease sites/categories, including:		
Early stage/low r isk prostate cancer: role of brachytherapy,		
external beam therapy, including 3-D CRT and IMRT		

Intermediate risk and high risk (locally advanced) prostate cancer: role	
of external beam therapy, including 3-D CRT and IMRT, and/or	
Post-operative treatment of prostate cancer	
with radiation: adjuvant vs. salvage radiation +/-	
hormonal therapy	
Metastatic prostate cancer: role of radiation	
and/or hormonal therapy	
Hadder cancer: definitive radiation: pre-	
operative and post-operative radiation, role of	
definitive chemoradiation for invasive carcinoma	
4 Testicular cancer: seminoma	
Renal neoplasms: role of radiation for renal cell	
carcinoma	
 Treatment of primary site and lymph node 	
regions for each of the disease sites and stage of	
disease.	
 Principles of radiological physics and 	
radiobiology as appropriate to radiation therapy	
for each of the disease categories:	
4 Importance of time-dose factors for bladder	
cancer	
4 Principles of radiation sensitization with	
hormonal therapy (prostate cancer) and	
chemotherapy (bladder cancer)	
• Basic knowledge of areas of controversy in each	
of the disease categories:	
+ Prostate cancer:	
Treatment of lymph node region for early	
stage prostate cancer; locally-advanced, post-	
operative prostate cancer	
Observation for early stage prostate cancer	
Hormonal therapy vs. observation vs.	
salvage for biochemical failure following	
radiation therapy or brachytherapy	
4 Bladder cancer:	
Chemoradiation for invasive bladder	
carcinoma vs. Cystectomy.	

Pre/ postoperative radiation therapy	
📥 Testis:	
Surveillance in Stage I carcinoma	
Controversies in the determination of	
treatment volume and dose (para-aortic only	
vs. hockey-stick)	
Issue regarding sterility and second	
malignant tumor that may be associated with	
the disease and with radiation treatment.	
 Radiation effects and response on organ of 	
interest and surrounding normal tissue: acute	
and chronic radiation effects; complications.	
Synecological Cancer	
 Epidemiologic and etiologic risk factors, tumor 	
markers/molecular genetics.	
 Natural history, clinical presentation and 	
diagnostic work-up, staging, clinico-pathological	
manifestation and prognostic factors of	
gynecologic malignancies.	
 Principles of multidisciplinary treatment and 	
management for each site and stage:	
🖶 Cervical cancer	
🖶 Endometrial cancer	
🕌 Ovarian cancer	
4 Vulval cancer	
🖊 Vaginal cancer	
Including the use of chemotherapy, surgery, and	
other modalities of treatment.	
 Principles of radiological physics and 	
radiobiology appropriate for radiation therapy	
to each of these sites:	
Time dose parameters, including treatment	
duration for cervical cancer	
Specific medical knowledge:	
Cervix:	
✓ Time-dose parameters (treatment	
duration)	

 Use of concomitant chemoradiation 	
 Use of neoadjuvant chemotherapy 	
 Role of post-operative radiation therapy 	
Endometrial:	
 Indications for pre-operative/post- 	
operative XRT (pelvis and extended field)	
and brachytherapy	
 Radiation therapy alone for endometrial 	
cancer	
✤ Vulva:	
 Definitive chemoradiation, including 	
inguinal radiation	
 Indications for post-operative radiation 	
therapy	
✤ Vaginal:	
 Use of external beam radiation and 	
brachytherapy	
 Ovarian: 	
 Use of adjuvant chemotherapy 	
 Use of cytoreductive chemotherapy. 	
Indications for whole abdominal/pelvic radiation	
post-operatively.	
 Radiation effects and response on organ of 	
interest and surrounding normal tissue: acute	
and chronic radiation effects; complications.	
Hematological malignancy	
• Epidemiologic and etiologic risk factors, tumor	
markers/molecular genetics.	
 Natural history, clinical presentation and 	
diagnostic work-up, staging, clinico-pathological	
manifestation and prognostic factors of	
hematological malignancies.	
 Principles of multidisciplinary management and 	
treatment and, specifically, the role of	
chemotherapy and radiation therapy for each of	
the disease sites and according to disease stage:	
Lymphoma: use of radiation for non-Hodgkin's	

 lymphoma and Hodgkin's Disease Hodgkin's Disease: appropriate use of irradiation +/- chemotherapy by stage of disease Non-Hodgkin's Lymphoma: use of radiation by stage/extent of disease +/- chemotherapy Multiple myeloma/leukemia: role of radiation therapy for bone marrow transplant or SC transplant. Role of chemotherapy Acute Leukemias (ALL/AML): the use of different chemotherapy schedules according to risk adapted management. Role of BMT Chronic Leukemias (CLL/CML): the use of chemotherapy and targeted therapy according to disease stage and symptoms (observation vs. 	
Active treatment in CLL), the role of BMT	
 Principles of treatment of the lymph node 	
region for each of the disease categories by	
stage of disease.	
 Principles of radiological physics and 	
radiobiology appropriate to radiation therapy	
for each of the disease categories.	
 knowledge of controversial areas or unusual 	
situations in each of the disease categories,	
Including those regarding:	
 Hodgkin's Disease/Non-Hodgkin's Disease: dosos and troatmont fields according to each 	
stage of disease	
 CNS lymphoma. 	
 Radiation effects and response on organ of 	
interest and surrounding normal tissue: acute	
and chronic radiation effects; complications.	
Head and neck Cancer	
 Epidemiologic and etiologic risk factors, tumor 	
markers/molecular genetics.	
 Natural history, clinical presentation and 	
diagnostic work-up(including ENT endoscopy	
and laryngescopy), staging, clinico-pathological	

manifestation and prognostic factors of head	
and neck tumors.	
 Principles of multidisciplinary management and 	
treatment and, specifically, the role of	
chemotherapy and radiation therapy (including	
brachytherapy, altered fractionation 3-D CRT	
and IMRT, if appropriate) for each of the disease	
sites and according to disease stage:	
Nasopharynx:	
Role of chemotherapy and radiation; altered vs.	
Standard fractionation	
 Nasai Cavity/paramasai sinuses. Dele of surgery and rediction including altered 	
Kole of surgery and radiation, including altered fractionation, role of brachythorapy	
A Solivory globes:	
Salivary gialius. A polo of surgery and indications for treatment	
with post-operative radiation	
- Oral cavity:	
Indications for treatment with radiation and	
application of brachytherapy techniques	
Tonsillar fossa and faucial arch oropharynx	
including base of tongue:	
Pre-operative/post-operative and definitive	
radiation therapy (including hyperfractionation)	
and use of chemotherapy	
+ Hypopharynx:	
Use of surgery and/or radiation therapy for each	
sub-site by stage	
📥 Larynx:	
Use of definitive radiation therapy including	
altered fractionation and post-operative	
radiation for each sub-site and stage	
Chemoradiotherapy for laryngeal preservation	
Appropriate role of definitive radiation therapy	
vs. surgery for different disease locations.	
 Principles of treatment of primary site and 	
lymph node regions for each of the disease sites	

and stage of disease; know indications for	
treatment for each site and stage of disease.	
 Principles of radiological physics and 	
radiobiology appropriate to radiation therapy	
for each of the disease categories:	
4 Importance of time-dose factors	
4 Repopulation	
🖊 Principle of chemoradiation sensitization	
Principles of hyperfractionation/ altered	
fractionation	
4 Principles of field alignment; use of electron	
fields	
 Radiation effects and response on organ of 	
interest and surrounding normal tissue: acute	
and chronic radiation effects; complications.	
Inoracic Cancer	
 Epidemiologic and etiologic risk factors, tumor 	
markers/molecular genetics.	
 Natural history, clinical presentation and 	
diagnostic work-up(includingrole of broncoscopy	
andmediastinoscopy), staging, clinico-	
pathological manifestation and prognostic	
factors of thoracic tumors.	
 Principles of multidisciplinary management and 	
treatment and, specifically, the role of	
chemotherapy and radiation therapy (including	
brachytherapy, altered fractionation 3-D CRT	
and IMRT, if appropriate)for each of the disease	
sites and according to disease stage:	
4 Non-small cell lung cancer:	
✤ Resectable tumor	
✓ Role of pre-operative (chemo-) radiation	
✓ Role of post-operation radiation	
 Role of post-operation chemotherapy or 	
chemoradiation	
Unrespectable tumors	
 Definitive and palliative radiation and 	

chemorad	iation options, including altered	
fractionat	ion, hypofractionation and split	
course.		
✓ Palliative	chemotherapy in advanced	
disease.		
✤ Surgery:		
✓ types of s	urgery appropriate for lung	
cancer		
4 Small cell lung d	ancer:	
Chemoradiation	n for limited stage disease,	
sequencing of in	rradiation and chemotherapy	
(sequential vs. o	concurrent)	
Elective cranial	radiation (pros and cons)	
Appropriate rol	e of definitive radiation therapy	
vs. surgery for a	lifferent disease locations.	
4 Mediastinal tun	nors (eg. Thymic tumors)	
Principles of Su	rgical Resection	
Principles of Ra	diation Therapy	
Principles of Ch	emotherapy	
Postoperative r	adiotherapy or	
chemoradiothe	rapy	
Unresectable D	isease, Definitive and palliative	
radiotherapy.	, i	
Pleural Mesoth	elioma:	
Role of surgerv	in resectable disease: Role of	
adiuvant radio	or chemoradiotherapy.	
Role of palliativ	e chemotherapy or radiotherapy	
in irresctable tu	mors	
• Principles of tre	atment of primary site and	
lymph node reg	ions for each of the disease sites	
and stage of dis	ease: know indications for	
treatment for e	ach site and stage of disease	
 Principles of rad 	liological physics and	
radiohiology an	nronriate to radiation therany	
for each of the	disease categories.	
Importance of t	ime-dose factors	
Renonulation		

Principle of chemoradiation sensitization	
Principles of hyperfractionation/altered	
fractionation	
4 Principles of field alignment; use of electron	
fields	
 Radiation effects and response on organ of 	
interest and surrounding normal tissue: acute	
and chronic radiation effects; complications.	
🗷 Sarcoma and skin Cancer	
 Epidemiologic and etiologic risk factors, tumor 	
markers/molecular genetics.	
 Natural history, clinical presentation and 	
diagnostic work-up(including role of	
broncoscopy and mediastinoscopy), staging,	
clinico-pathological manifestation and	
prognostic factors of sarcoma and skin cancer.	
 Principles of multidisciplinary management and 	
treatment and, specifically, the role of	
chemotherapy and radiation therapy for each of	
the disease sites and according to disease stage:	
4 Soft tissue sarcomas, (extremitities sarcoma,	
retroperitoneal sarcoma, gastrointestinal	
stromal tumors (GIST):	
Role of postoperative radio/chemoradiotherapy	
in resectable tumors.	
Role of preoperative/definitive radiotherapy in	
irresctable tumor. Palliative systemic	
chemotherapy in metastatic disease.	
Role of targeted therapy in GIST.	
4 Bone sarcoma (Osteosarcoma, Ewing's sarcoma,	
chondrosarcoma:	
role of preoperative and postoperative	
chemotherapy in resectable tumors.	
Role of definitive and palliative radiotherapy in	
irresectable tumors.	
Role of chemtherapy in metastatic disease.	
📥 skin cancers:	

Role of adjuvant, palliative and radical	
radiotherapy in non Melanoma skin	
cancers(NMSC)	
Role and different procedures of sentinel LN	
biopsy and surgery in MSC.	
Systemic treatment in MSC.	
 Radiation effects and response on organ of 	
interest and surrounding normal tissue: acute	
and chronic radiation effects; complications.	
Pediatric Cancer	
 Epidemiologic and etiologic risk factors, tumor 	
markers/molecular genetics.	
 Natural history, clinical presentation and 	
diagnostic work-up(including role of	
broncoscopy and mediastinoscopy), staging,	
clinico-pathological manifestation and	
prognostic factors of pediatric cancers.	
 Principles of multidisciplinary management and 	
treatment and, specifically, the role of	
chemotherapy and radiation therapy for each of	
the disease sites and according to disease stage:	
4 Childhood CNS:	
Medulloblastoma (PNET): role of craniospinal	
irradiation	
Ependymoma: role of involved field radiation	
therapy	
Glioma: low grade or high grade intact brain	
stem	
Craniopharyngioma: role of post-operative	
radiation therapy	
4 Childhood solid tumors:	
Wilms: radiation therapy treatment by stage	
Neuroblastoma	
✤ Retinoblastoma	
Rhabdomyosarcoma: known usual radiation	
treatment approach by site and disease extent	
Lymphoma: use of radiation for non-Hodgkin's	

 lymphoma and Hodgkin's Disease Pinciples of radiological physics and radiobiology appropriate to radiation therapy for each of the disease categories. Radiation effects and response on organ of interest and surrounding normal tissue: acute and chronic radiation effects; complications. <u>Oncological emergency</u> Septic shock Febrile neutropenia Cord compression Superior vena cava obstruction. Cardiac tamponade. Convulsions. Encephalopathy. Renal failure. Humercological emergency 		
• Tumor lucis sundromo		
 Reading 		
 Bleeding. C. Montion, basics of the following rare diseases and 	Locturo	OSCE at the
conditions	-Lecture	end of each
Breast Cancer	directed	vear
 Male breast cancer 	learning	-log book &
 Breast cancer in pregnancy 	-Case-based	portfolio
 Breast cancer in elderly women 	studies with	- One MCQ
 Breast cancer in very young women 	discussion	examination
 Breast cancer presenting as axillary 	and problem	at the
metastases	solving.	second half
 Phyllodes tumors 		of the
 Paget's disease of the nipple 		second year
Section Cancer Gastrointestinal Cancer		and another
 Peritoreal mesothelioma 		one in the
Genitourinary Cancer		Writton
 Bilateral renal tumors 		and oral
 Oncocytoma 		examination
Collecting system tumor		Chammation

Irachal carcinoma
 Small coll carcinoma of prostato
Bonilo Cancor
Fellie Callel Growing toratoma
Growing teratoma
Faise-positive serum markers in germ cell
• Tumor sanctuary sites (testes)
Non–germ cell testicular tumors
Secondary malignancies
Signa Gynacological Cancer
Uterine sarcoma
 Gestational trophoblastic disease
 Cervical cancer during pregnancy
 Nonepithelial ovarian cancer
 Low-malignant potential ovarian cancers
 Fallopian tube tumors
 Primary peritoneal tumors
Hematological malignancy
 Richter's syndrome
 Hypogammaglobulinemia and infection
Autoimmune hemolytic anemia and
thrombocytopenia
 Monoclonal gammopathy of uncertain
significance (MGUS)
 Waldenstrom'smacroglobulinemia
 lymphoplasmacytic lymphoma with serum
immunoglobulin-M)
Head and neck Cancer
 Esthesioneuroblastoma
• Adenoid optic carcinoma and pleomorphic
adenoma
Paragangliomas
 Glomus tumors
Nasopharyngeal angiofibroma
 Ocular tumours
Inoracic Cancer

 Bronchoalveolar carcinoma 	
 Pancoast tumors 	
 Thymomas and Thymic Cancer 	
 Benign mesotheliomas 	
Sarcoma and skin Cancer	
• GIST	
 dermatofibrosarcoma protuberance 	
 Melanoma of Unknown primary 	
Oral Melanoma	
Anorectal Melanoma	
 Vaginal/vulvar Melanoma 	
Neuroendocrine (carcinoid) Tumors	
Merkel cell tumor	
🗵 <u>Peadiatric Cancer</u>	
Hepatoblastoma	
D. Explain the facts and principles of the relevant	
basic and clinically supportive sciences related to	
Clinical Oncology	
E. Explain the facts and principles of the relevant basic	
and clinically supportive sciences related to Clinical	
Oncology	
F. Describe the basic ethical and medicolegal	
principles revenant to the Clinical Oncology.	
G. Describe the basics and measurements of quality	
assurance to ensure good clinical care in Clinical	
Oncology	
H. Explain the ethical and scientific principles of	
medical research	
I. Explain the impact of common health problems in	
the field of Clinical Oncology on the society.	

B-Intellectual outcomes

ILOs	Methods	Methods of
	of	Evaluation
	teaching/	
	learning	
A. Design / present case in common problem	-Clinical	-Procedure
related to Clinical Oncology	rounds	and case
	-Senior	presentation
	staff	-Log book &
	experience	Portfolio
B. Apply the basic and clinically supportive sciences		
which are appropriate to the speciality related		
conditions / problem / topics.		
C. Demonstrate an investigatory and analytic		
thinking "problem – solving "approaches to clinical		
situation related to Clinical Oncology		
D. Plan research projects.		
E. Write scientific papers.		
F. Lead risk management activities as a part of		
clinical governs:		
 Cardiopulmonary resuscitation 		
G. Plan quality improvement activities in the field		
of medical education and clinical practice in his		
speciality.		
H. Create / innovate plans, systems, and other		
issues for improvement of performance in his		
practice.		
I. Present and defend his / her data in front of a		
panel of experts		
J. Formulate management plans and alternative		
decisions in different situations in the field of		
Clinical Oncology		

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
A. Take history, examine and clinically diagnose different conditions related to Clinical Oncology.	Didactic (lectures, seminars, tutorial) -Clinical rounds Clinical rotations (service teaching)	-OSCE at the end of each year -log book & portfolio - One MCQ examination at the second half of the second year and another one in the third year -Clinical
 B. Order the following non invasive and invasive diagnostic procedures Routine appropriate Lab investigations related to Clinical Oncology Cytology Cultures and sensitivity Blood gases Serum electrolytes Endocrinal profile Protein electophresis Bence jones protein 	Clinical round with senior staff Observation -Post graduate teaching -Hand on workshops -Perform under supervision of	Procedure presentation - Log book - Chick list

Tuberculin test	senior staff	
 Hormonal receptors 		
Molecular receptors		
Tumor markers		
 Immunophenotyping 		
 Mammography 		
Breast US		
Breast MRI		
• Chest X ray		
CT chest		
MRI chest		
Abdominal US		
CT abdomen		
CT pelvis		
MRI abdomen		
MRI pelvis		
Bone Scan		
Thyroid scan		
Renal scan		
• PET-CT		
CT brain		
MRI brain		
Barium studies		
Radiofrequancy		
• ECHO		
 Pulmonary function testing 		
• Biopsy		
 Pleural aspiration 		
Paracentesis		
 Bronchoscopy 		
Thoracoscopy		
 Cystoscopy Endoscopy (Upper, Lower, Pan, Fibro- optic) TVUS TRUS Bone marrow aspirate Bone marrow biopsy CSF cytology 		
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C. Interpret the non invasive and invasive diagnostic procedures that mentioned in C.B	 Clinical round with senior staff Observation Post graduate teaching Hand on workshops Perform under supervision of senior staff 	Procedure presentation - Log book - Chick list
 D. Perform the following non invasive and invasive diagnostic procedures Intravenous canulation Blood gases 		
 E. Prescribe the following non invasive and invasive therapeutic procedures Radiotherapy radiation therapy techniques (including 3- D conformal radiation therapy [3-D CRT] and intensity-modulated radiation therapy [IMRT], brachytherapy, Stereotactic 	Observation -Post graduate teaching -Hand on workshops	Procedure presentation - Log book - Chick list

radiosurgery and radiotherapy[SRS, SRT],	
image guided radiotherapy [IGRT] as they	
become integrated into the therapy of	
these patients	
• treatment plans and dosimetry including:	
븆 Determination of treatment volume	
clinically and on CT scans	
4 Determination of appropriate doses and	
fractionation, depending on	
clinical/pathologic circumstances	
4 Irradiation technique of regional	
lymphatic	
븆 Field arrangements and match line	
techniques, and doses, including use of	
electron fields vs. tangential fields	
븆 Set-up of different radiotherapy	
Techniques	
 A variety of palliative situations (CNS 	
metastasis – brain, bone/spinal	
metastasis)	
 Learn basic critical organ dose parameters 	
and begin to integrate this information	
into the patient's radiation therapy	
treatment plan.	
Chemotherapeutic regimens	
 Methods of preparation and 	
administration of different chemotherapy	
regimens	
 Managing different complications and side 	
effects of chemotherapy	
 Lumbar puncture and intrathecal 	
injections	

Kerne Hormonal therapy		
 Methods of preparation and 		
administration of different hormonal		
therapy.		
 Managing different complications and side 		
effects of hormonal therapy.		
Interact State Interaction Interactio Interactio Interactio Interactio Interaction Inte		
 Methods of preparation and 		
administration of different target		
therapy.		
 Managing different complications 		
and side effects of target therapy.		
Cannula insertion.		
Aseptic venepuncture and use of		
infusion pump		
Central venous devises care.		
Ascitic tap and paracentesis		
Pleurodesis and handling of		
intercostals tube.		
Pleural tapping		
Irethral catheterization.		
Nasogastric tube placement and		
<u>central feeding.</u>		
F. Perform the non invasive and invasive	Observation	Procedure
therapeutic procedures that mentioned in	-Post graduate	presentation
C.D	teaching	- Log book
	-Hand on	- Chick list
	workshops	
G. Develop and carry out patient management	Clinical round	
plans for the problems mentioned in A.A	with senior	
	staff	

H. Counsel and educate patients and their family about conditions mentioned in A.A.	Clinical round with senior staff	
 Use information technology to support patient care decisions and patient education for Clinical Oncology related conditions 	Clinical round with senior staff	
 J. Provide health care services aimed at preventing the conditions mentioned in A.A in addition to: Side effects of systemic therapy including [chemotherapy, hormonal therapy and target therapy] Side effects of radiotherapy depending on the site and techniques. 	Clinical round with senior staff	
K. Work with health care professionals, including those from other disciplines, to provide patient-focused care.	Clinical round with senior staff	
L. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible medical records)		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
 A. Perform practice-based improvement activities using a systematic methodology in the common problems (plan and conduct audit cycles) in conditions mentioned in A.A and A.C 	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	 Global rating Procedure & case presentation Log book & Portfolios Chick list
B. Locate, appraises, and assimilates evidence from scientific studies related to patients' health problems.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	 Global rating Procedure & case presentation Log book & Portfolios Chick list
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness		
D. Use information technology to manage information, access on-line medical information; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
F. Create and sustain a therapeutic and	Simulations	- Global rating
ethically sound relationship with patients	-Clinical round	-Procedure &
	-Seminars	case
	-Lectures	presentation
	-Case	-Log book &
	presentation	Portfolios
	-Hand on	- Chick list
	workshops	
G. Perform the following oral		
communications:		
 Interpretation of the results of 		
different investigations related		
to Clinical Oncology and		
discussion of different		
therapeutic options		
H. Fill the following reports:		
 Patients' medical reports 		
 Death report 		
I. Work effectively with others as a		
member or leader of a health care team		
as regard diagnosis and treatment of		
conditions mentioned in A.A and A.C		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and	Observation	 Objective
integrity; a responsiveness to the	- Senior staff	structured
needs of patients and society that	experience	clinical
supersedes self-interest.	- Case taking	examination Patient

	survey
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.	1.3600 global rating
 L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities 	

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M.Work effectively in different health care delivery settings and systems.	Observation - Senior staff experience	1. 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		 3600 global rating Patient survey
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

4. Course contents (topic s/modules/rotation Course (Unit 1)Matrix

Time Schedule: Second part

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
	A	В	С	D
Section 1:	B-I	A-J	A-L	A-P
Imaging/staging techniques				
in diagnosis, staging, and				
follow-up				
Radiographic	B-I	A-J	A-L	A-P
 Computed tomography 	B-I	A-J	A-L	A-P
(CT)				
Ultrasound	B-I	A-J	A-L	A-P
 Magnetic resonance 	B-I	A-J	A-L	A-P
imaging (MRI)				
 Positron emission 	B-I	A-J	A-L	A-P
tomography (PET)				
 Endoscopic imaging 	B-I	A-J	A-L	A-P
techniques				
 Section 2: Surgical 	B-I	A-J	A-L	A-P
oncology				
Preoperative evaluation	B-I	A-J	A-L	A-P
Surgery for specific types	B-I	A-J	A-L	A-P
and sites				
Biopsy techniques	B-I	A-J	A-L	A-P
 Section 3: Radiation 	B-I	A-J	A-L	A-P
oncology				
Section 4: Chemotherapy	B-I	-	-	-
 Predicting response and 	B-I	-	-	-
toxicity				
Section 5: Hormonal	B-I	-	-	-
therapy				
Estrogens	B-I	-	-	-

Selective estrogen	B-I	-	-	-
response modifiers				
 Progestins and 	B-I	-	-	-
antiprogestins				
Aromatase inhibitors	B-I	-	-	-
Androgens and	B-I	-	-	-
antiandrogens				
Gonadotropin-releasing	B-I	-	-	-
hormone analogs				
Glucocorticoids	B-I	-	-	-
Miscellaneous agents	B-I	-	-	-
Section 6:	B-I	-	-	-
Biologic/Targeted Therapy				
Basic concepts of	B-I	-	-	-
targeted molecular				
therapies				
 Monoclonal antibodies 	B-I	-	-	-
Tumor vaccines	B-I	-	-	-
Cellular therapy	B-I	-	-	-
Antiangiogenic agents	B-I	-	-	-
Cytokines	B-I	-	-	-
Gene-directed therapy	B-I	-	-	-
Section 7: Cancer	B-I	A-J	A-L	A-P
prevention				
 Lifestyle changes 	B-I	A-J	A-L	A-P
 Chemoprevention 	B-I	A-J	A-L	A-P
Surgical role	B-I	A-J	A-L	A-P
Section 8 : Cancer	B-I	A-J	A-L	A-P
Screening				
• Section 9: Breast Cancer	A-I	A-J	A-L	A-P
 Epidemiologic and 	A-I	A-J	A-L	A-P
etiologic risk factors, tumor				
markers/molecular				
genetics for breast cancer.				
 Natural history, typical 	A-I	A-J	A-L	A-P

clinical presentations and diagnostic work-up, staging, clinico-pathologic manifestations and prognostic factors of breast cancer.				
 Principles of multidisciplinary treatment and management for early stage breast cancer 	A-I	A-J	A-L	A-P
 Principles of multidisciplinary management and treatment of: Locally advanced breast cancer, Inflammatory breast cancer, Types/use of systemic therapy (chemotherapy, hormonal therapy), Role of radiation therapy (post-mastectomy) 	A-I	A-J	A-L	A-P
 Radiation effects of the breast and surrounding normal tissue. 	A-I	A-J	A-L	A-P
 Expected therapeutic outcomes of treatments, including expected control rates. 	A-I	A-J	A-L	A-P
 Supportive care and follow up 	A-I	A-J	A-L	A-P
 Section 10: Gastrointestinal Cancer 	A-I	A-J	A-L	A-P
• Epidemiologic and etiologic risk factors, tumor markers/molecular genetics, potential preventative and screening	A-I	A-J	A-L	A-P

		1		
methods.				
 Natural history, typical clinical presentations, diagnostic workup and staging, clinico-pathologic manifestations and prognostic factors of GIT cancer 	A-I	A-J	A-L	A-P
 Principles of multidisciplinary treatment and management and role(s) of radiation therapy for each of the disease sites and categories 	A-I	A-J	A-L	A-P
 Expected therapeutic outcomes of treatments, including expected control rates. 	A-I	A-J	A-L	A-P
 Principles of treatment of primary site lymph node region for each of the disease categories and stage of disease. 	A-I	A-J	A-L	A-P
 Principles of radiological physics and radiobiology appropriate to radiation therapy for each of the disease categories 	A-I	A-J	A-L	A-P
 In-depth knowledge of controversial areas or unusual situations in each of the disease categories, including: Adjuvant therapy of colon cancer, Pros and cons of pre-operative and postoperative radiation for rectal cancer, 	A-I	A-J	A-L	A-P

Chemoradiation for anal				
canal cancer.				
 Radiation effects and 	A-I	A-J	A-L	A-P
response on organ of				
interest and surrounding				
normal tissue: acute and				
chronic radiation effects;				
complications.				
Section 11: Genitourinary	A-I	A-J	A-L	A-P
Cancer				
 Epidemiologic and 	A-I	A-J	A-L	A-P
etiologic risk factors, tumor				
markers/molecular				
genetics, including				
prevention and screening				
methods.				
Natural history, typical	A-I	A-J	A-L	A-P
clinical presentations,				
diagnostic workup and				
staging, clinico-pathologic				
manifestations and				
prognostic factors of GI				
cancer.				
Principles of multidisciplinary treatment	A-I	A-J	A-L	A-P
and management and				
rolo(s) of radiation thorapy				
for each of the disease				
sites/categories				
Treatment of primary site	Δ-Ι	Δ-Ι	Δ-Ι	Δ-Ρ
and lymph node regions for				
each of the disease sites				
and stage of disease				
Principles of radiological	A-I	A-J	A-L	A-P
physics and radiobiology as				
appropriate to radiation				
therapy for each of the				

disease categories				
 Basic knowledge of areas 	A-I	A-J	A-L	A-P
of controversy in each of				
the disease categories				
 Radiation effects and 	A-I	A-J	A-L	A-P
response on organ of				
interest and surrounding				
normal tissue: acute and				
complications				
Section 12: Gynecological	Δ-Ι	Δ-Ι	A-I	Δ-Ρ
Cancer				,,,,
Epidemiologic and	A-I	A-J	A-L	A-P
etiologic risk factors, tumor				
markers/molecular				
genetics.				
 Natural history, clinical 	A-I	A-J	A-L	A-P
presentation and				
diagnostic work-up,				
staging, clinico-				
and prognostic factors of				
gynecologic malignancies				
Principles of	A-I	A-J	A-L	A-P
multidisciplinary treatment				
and management for each				
site and stage				
 Principles of radiological 	A-I	A-J	A-L	A-P
physics and radiobiology				
appropriate for radiation				
therapy to each of these				
SILES	Λ_Ι	Λ_1	Λ_1	Λ_D
 specific medical knowledge Cervix 	A-1		A-L	A-r
Snerific medical	Δ-Ι	Δ-Ι	Δ-Ι	Δ-Ρ
knowledge Endometrial				

Specific medical knowledge Vulva	A-I	A-J	A-L	A-P
Specific medical knowledge Vaginal	A-I	A-J	A-L	A-P
Specific medical knowledge Ovarian	A-I	A-J	A-L	A-P
 Indications for whole abdominal/pelvic radiation post-operatively 	A-I	A-J	A-L	A-P
 Radiation effects and response on organ of interest and surrounding normal tissue: acute and chronic radiation effects; complications 	A-I	A-J	A-L	A-P
 Section 13: Hematological malignancy 	A-I	A-J	A-L	A-P
 Epidemiologic and etiologic risk factors, tumor markers/molecular genetics. 	A-I	A-J	A-L	A-P
 Natural history, clinical presentation and diagnostic work-up, staging, clinico- pathological manifestation and prognostic factors of hematological malignancies. 	A-I	A-J	A-L	A-P
 Principles of multidisciplinary management and treatment and, specifically, the role of chemotherapy and radiation therapy for each of the disease sites 	A-I	A-J	A-L	A-P

 and according to disease stage: Lymphoma, Hodgkin's Disease, Non-Hodgkin's Lymphoma, Multiple myeloma/leukemia, Acute Leukemias (ALL/AML) and Chronic Leukemias (CLL/CML) 				
 Principles of treatment of the lymph node region for each of the disease categories by stage of disease. 	A-I	A-J	A-L	A-P
 Principles of radiological physics and radiobiology appropriate to radiation therapy for each of the disease categories. 	A-I	A-J	A-L	A-P
 knowledge of controversial areas or unusual situations in each of the disease categories, including those regarding: Hodgkin's Disease/Non- Hodgkin's Disease and CNS lymphoma. 	A-I	A-J	A-L	A-P
 Radiation effects and response on organ of interest and surrounding normal tissue: acute and chronic radiation effects; complications. 	A-I	A-J	A-L	A-P
 Section 14: Head and neck Cancer 	A-I	A-J	A-L	A-P
 Epidemiologic and etiologic risk factors, tumor 	A-I	A-J	A-L	A-P

markers/molecular				
 Natural history, clinical presentation and diagnostic work- up(including ENT endoscopy and laryngescopy), staging, clinico-pathological manifestation and prognostic factors of head and neck cancers. 	A-I	A-J	A-L	A-P
 Principles of multidisciplinary management and treatment and, specifically, the role of chemotherapy and radiation therapy (including brachytherapy, altered fractionation 3-D CRT and IMRT, if appropriate)for each of the disease sites and according to disease stage 	A-I	A-J	A-L	A-P
 Principles of treatment of primary site and lymph node regions for each of the disease sites and stage of disease; know indications for treatment for each site and stage of disease 	A-I	A-J	A-L	A-P
 Principles of radiological physics and radiobiology appropriate to radiation therapy for each of the disease categories 	A-I	A-J	A-L	A-P

 Radiation effects and response on organ of interest and surrounding normal tissue: acute and chronic radiation effects; complications. 	A-I	A-J	A-L	A-P
 Section 15: Thoracic Cancer 	A-I	A-J	A-L	A-P
 Epidemiologic and etiologic risk factors, tumor markers/molecular genetics. 	A-I	A-J	A-L	A-P
 Natural history, clinical presentation and diagnostic work- up(including role of broncoscopy and mediastinoscopy), staging, clinico-pathological manifestation and prognostic factors of thoracic tumors 	A-I	A-J	A-L	A-P
 Principles of multidisciplinary management and treatment and, specifically, the role of chemotherapy and radiation therapy (including brachytherapy, altered fractionation 3-D CRT and IMRT, if appropriate)for each of the disease sites and according to disease stage 	A-I	A-J	A-L	A-P
 Principles of treatment of primary site and lymph node regions for each of 	A-I	A-J	A-L	A-P

the disease sites and stage				
of disease; know				
for each site and stage of				
disease				
Principles of radiological	Δ-Ι	Δ-Ι	Α-Ι	Δ-Ρ
physics and radiobiology			,	,,,,
appropriate to radiation				
therapy for each of the				
disease categories				
Radiation effects and	A-I	A-J	A-L	A-P
response on organ of				
interest and surrounding				
normal tissue: acute and				
chronic radiation effects;				
complications.				
• Section 16: Sarcoma and	A-I	A-J	A-L	A-P
skin Cancer				
Epidemiologic and	A-I	A-J	A-L	A-P
etiologic risk factors, tumor				
markers/molecular				
Natural history clinical	A-I	A-1	A-I	Δ-Ρ
presentation and				
diagnostic work-				
up(including role of				
broncoscopy and				
mediastinoscopy), staging,				
clinico-pathological				
manifestation and				
prognostic factors of				
sarcoma and skin cancer				
Principles of	A-I	A-J	A-L	A-P
multidisciplinary				
management and				
treatment and, specifically,				
the role of chemotherapy				

and radiation therapy for each of the disease sites and according to disease stage				
 Radiation effects and response on organ of interest and surrounding normal tissue: acute and chronic radiation effects; complications. 	A-I	A-J	A-L	A-P
 Section 17: Pediatric Cancer 	A-I	A-J	A-L	A-P
 Epidemiologic and etiologic risk factors, tumor markers/molecular genetics. 	A-I	A-J	A-L	A-P
 Natural history, clinical presentation and diagnostic work- up(including role of broncoscopy and mediastinoscopy), staging, clinico-pathological manifestation and prognostic factors of pediatric cancers. 	A-I	A-J	A-L	A-P
 Principles of multidisciplinary management and treatment and, specifically, the role of chemotherapy and radiation therapy for each of the disease sites and according to disease stage 	A-I	A-J	A-L	A-P
 Pinciples of radiological physics and radiobiology 	A-I	A-J	A-L	A-P

appropriate to radiation therapy for each of the				
disease categories.				
Radiation effects and	A-I	A-J	A-L	A-P
response on organ of				
interest and surrounding				
normal tissue: acute and				
chronic radiation effects;				
complications.	A 1			
Section 18: Uncological	A-I	A-J	A-L	A-P
emergency				
Septic shock	A-I	A-J	A-L	A-P
Febrile neutropenia	A-I	A-J	A-L	A-P
Cord compression	A-I	A-J	A-L	A-P
 Superior vena cava 	A-I	A-J	A-L	A-P
obstruction				
Cardiac tamponade.	A-I	A-J	A-L	A-P
Convulsions.	A-I	A-J	A-L	A-P
 Encephalopathy. 	A-I	A-J	A-L	A-P
Renal failure.	A-I	A-J	A-L	A-P
Hypercalcemia	A-I	A-J	A-L	A-P
• Tumor lysis syndrome.	A-I	A-J	A-L	A-P
Bleeding.	A-I	A-J	A-L	A-P
Male breast cancer	С	A-J	A-L	A-P
Breast cancer in	С	A-J	A-L	A-P
pregnancy				
Breast cancer in elderly	С	A-J	A-L	A-P
women				
Breast cancer in very	С	A-J	A-L	A-P
young women				
Breast cancer presenting	С	A-J	A-L	A-P
as axillary metastases				
Phyllodes tumors	С	A-J	A-L	A-P
 Paget's disease of the 	С	A-J	A-L	A-P
nipple				

Peritoreal mesothelioma	С	A-J	A-L	A-P
Bilateral renal tumors	С	A-J	A-L	A-P
Oncocytoma	С	A-J	A-L	A-P
Collecting system tumor	С	A-J	A-L	A-P
Urachal carcinoma	С	A-J	A-L	A-P
 Small-cell carcinoma of prostate 	С	A-J	A-L	A-P
Penile Cancer	С	A-J	A-L	A-P
Growing teratoma	С	A-J	A-L	A-P
 False-positive serum markers in germ cell tumors 	С	A-J	A-L	A-P
 Tumor sanctuary sites (testes) 	С	A-J	A-L	A-P
 Non–germ cell testicular tumors 	С	A-J	A-L	A-P
 Secondary malignancies 	С	A-J	A-L	A-P
Uterine sarcoma	С	A-J	A-L	A-P
 Gestational trophoblastic disease 	С	A-J	A-L	A-P
 Cervical cancer during pregnancy 	С	A-J	A-L	A-P
 Nonepithelial ovarian cancer 	С	A-J	A-L	A-P
 Low-malignant potential ovarian cancers 	С	A-J	A-L	A-P
Fallopian tube tumors	С	A-J	A-L	A-P
 Primary peritoneal tumors 	С	A-J	A-L	A-P
Richter's syndrome	С	A-J	A-L	A-P
 Hypogammaglobulinemia and infection 	С	A-J	A-L	A-P
 Autoimmune hemolytic anemia and thrombocytopenia 	С	A-J	A-L	A-P

 Monoclonal gammopathy of uncertain significance (MGUS) 	С	A-J	A-L	A-P
 Waldenstrom'smacroglob ulinemia 	С	A-J	A-L	A-P
 lymphoplasmacytic lymphoma with serum immunoglobulin-M) 	С	A-J	A-L	A-P
Esthesioneuroblastoma	С	A-J	A-L	A-P
 Adenoid optic carcinoma and pleomorphic adenoma 	С	A-J	A-L	A-P
Paragangliomas	С	A-J	A-L	A-P
Glomus tumors	С	A-J	A-L	A-P
 Nasopharyngeal angiofibroma 	С	A-J	A-L	A-P
Ocular tumours	С	A-J	A-L	A-P
 Bronchoalveolar carcinoma 	С	A-J	A-L	A-P
Pancoast tumors	С	A-J	A-L	A-P
 Thymomas and Thymic Cancer 	С	A-J	A-L	A-P
Benign mesotheliomas	С	A-J	A-L	A-P
• GIST	С	A-J	A-L	A-P
 dermatofibrosarcoma protuberance 	С	A-J	A-L	A-P
 Melanoma of Unknown primary 	С	A-J	A-L	A-P
Oral Melanoma	С	A-J	A-L	A-P
Anorectal Melanoma	С	A-J	A-L	A-P
Vaginal/vulvar Melanoma	С	A-J	A-L	A-P
 Neuroendocrine (carcinoid) Tumors 	С	A-J	A-L	A-P
Hepatoblastoma	С	A-J	A-L	A-P

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Outpatient
- 3. Inpatient
- 4. Clinical rounds
- 5. Clinical rotations
- 6. Service teaching
- 7. Direct observation
- 8. Post graduate teaching
- 9. Hand on workshops
- **10**. Perform under supervision of senior staff
- **11**. Simulations
- 12. Present a case (true or simulated) in a grand round
- **13**. Case Taking
- 14. journal club,
- **15.** Critically appraised topic,
- **16.** Educational prescription
- **17**. Observation & supervision
- **18**. Written & oral communications

6. Methods of teaching/learning: for students with poor achievements

- Extra Didactic (lectures, seminars, tutorial) according to their needs
- **2.** Extra training according to their needs

7. Assessment methods:

i. Assessment tools:

- Clinical examination
- > Written
- Oral examination
- Chick list
- log book & portfolio
- Procedure/case presentation
- One MCQ examination in the second year and one in the third year
- Objective structured clinical examination
- Check list evaluation of live or recorded performance

- Record review (report)
- Patient survey
- ➤ 360° global rating

ii. Time schedule: At the end of the second part

iii. Marks: 1200 marks

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

- Cancer: principles and practice of oncology. De Vita et al.11th edition, April 22, 2021
- Principles and Practice of Radiation Oncology. Perez et al., December 3, 2015

iii. Recommended books

- Clinical Radiation Oncology by Leonard L. Gunderson et al., second edition, 2007.
- Manual of Clinical Oncology by Dennis A. Casciato et al., sixth edition, 2009
- Cancer Management: A Multidisciplinary Approach. Richard Pazdur et al., May 2009.

iv. Periodicals, Web sites, ... etc

- www.NCCN.com
- www.asco.org
- www.uicc.org
- www.EORTC.org
- www.medscape.com
- www.cancer.gov/
- http://annonc.oxfordjournals.org/
- www.redjournal.org/
- v. Others: None

	9. Signatures					
Head of the Department:		Course Coordinator:				
••••••	•••••	••••••				
Date:		Date:				
•••••		••••••				

ANNEX 2 Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Clinical Oncology

The Graduate (after residence training and medical doctorate years of study) must:

- Demonstrate competency and mastery of basics, methods and tools of scientific research and clinical audit in Clinical Oncology.
- 2- Have continuous ability to add knowledge to Clinical Oncology through research and publication.
- **3-** Appraise and utilise relevant scientific knowledge to continuously update and improve clinical practice.
- 4- Acquire excellent level of medical knowledge in the basic biomedical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care and scientific research.
- 5- Function as a leader of a team to provide patient care that is appropriate, effective and compassionate for dealing with health problems and health promotion.
- 6- Identify and create solutions for health problems in Clinical Oncology
- .7- Acquire an in depth understanding of common areas of Clinical Oncology, from basic clinical care to evidence based clinical application, and possession of required skills to manage independently all problems in these areas.
- B- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with individual patients

and their families and teamwork with other health professions, the scientific community and the public.

- 9- Function as teacher in relation to colleagues, medical students and other health professions.
- **10-** Master decision making capabilities in different situations related to Clinical Oncology
- 11- Show leadership responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.
- 12- Demonstrate in depth awareness of public health and health policy issues including independent ability to improve health care, and identify and carryout systembased improvement of care.
- 13- Show model attitudes and professionalism.
- 14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in Clinical Oncology or one of its subspecialties.
- **15-** Use recent technologies to improve his practice in Clinical Oncology.
- 16- Share in updating and improving clinical practice in Clinical Oncology .

2- Competency based Standards for medical doctorate in Clinical Oncology

22.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

- **2-1-A-** Established, updated and evidence- based theories, basics and developments of Clinical Oncology and relevant sciences.
- **2-1-B-** Basics, methods and ethics of medical research.
- **2-1-C-** Ethical and medicolegal principles of medical practice related to Clinical Oncology.
- **2-1-D-** Principles and measurements of quality in Clinical Oncology.
- **2-1-E-** Principles and efforts for maintainace and improvements of public health.

2- Intellectual skills

By the end of the program, the graduate should be able to demonstrate thefollowing

- **2-2-A-** Application of basic and other relevant science to solve Clinical Oncology related Problems.
- **2-2-B-** Problem solving based on available data.
- **2-2-C-** Involvement in research studies related to Clinical Oncology.
- **2-2-D-** Writing scientific papers.
- **2-2-E-** Risk evaluation in the related clinical practice.
- **2-2-F-** Planning for performance improvement in Clinical Oncology.
- **2-2-G-** Creation and innovation in Clinical Oncology.
- **2-2-H-** Evidence based discussion.
- **2-2-I-** Decision making in different situations related to Clinical Oncology.

2.3- Clinical skills

By the end of the program, the graduate should be able to

- **4** Competency-based outcomes for Patient Care:-
- 2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in Clinical Oncology.
- **2-3-B-** Master patient care skills relevant to Clinical Oncology for patients with all diagnoses and procedures.
- **2-3-C-** Write and evaluate reports for situations related to the Clinical Oncology.

2.4- General skills

By the end of the program, the graduate should be able to Competency-based outcomes for Practice-based Learning and Improvement

- 2-4-A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management
- **2-4-B-** Use competently all information sources and technology to improve his practice.
- **2-4-C-** Master skills of teaching and evaluating others.

Competency-based objectives for Interpersonal and Communication Skills

2-4-D-Master interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

Competency-based objectives for Professionalism

2-4-E-Master Professionalism behavior, as manifested through a commitment to carrying out professional

responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

4 Competency-based objectives for Systems-based Practice:

- **2-4-F**-Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.
- **2-4-G-** Participate in improvement of the education system.
- **2-4-H-** Demonstrate skills of leading scientific meetings including time management
- **2-4-O-** Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

	Patient care	Medical knowledge	Practice- based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems- based practice
Didactic (lectures, seminars, tutorial)	Х	Х		X	X	Х
journal club,	Х	Х	Х			
Educational prescription	Х	Х	Х	X	х	Х
Present a case (true or simulated) in a grand round	Х	Х	Х	X	X	
Observation and supervision	Х		Х	Х	Х	Х
conferences		Х	Х	Х		Х
Written assignments	Х	Х	X	X	X	Х
Oral assignments	Х	Х	X	X	X	Х

Teaching methods for knowledge

- Didactic (lectures, seminars, tutorial)
- ✤ journal club
- Critically appraised topic
- Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- Present a case (true or simulated) in a grand round
- Others

Teaching methods for patient care

- Observation and supervision /Completed tasks procedure/case logs
- On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).

- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for MD students.

Method	Practical skills	К	Intellectual	General skills				
	Patient care	К	I	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems- based practice	
Record review	X	X	Х		X	Х	Х	
Checklist	Х				Х			
Global rating	Х	Х	Х	Х	Х	Х	Х	
Simulations	Х	Х	Х	Х	Х	Х		
Portfolios	Х	X	Х	Х	X			
Standardized oral examination	Х	X	Х	Х	Х		Х	
Written examination	Х	Х	Х	X			Х	
Procedure/ case log	X	Х						
OSCE	Х	X	Х	X	X	Х	X	

Annex 4, Glossary of MD students assessment methods

- Record Review Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.
- Chart Stimulated Recall Uses the MD doctor's patient records in an oral examination to assess clinical decisionmaking.
- Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.
- Standardized Patients (SP) Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MD doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MD doctor's performance.
- Objective Structured Clinical Examination (OSCE) A series of stations with standardized tasks for the MD doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MD doctors.
- Procedure or Case Logs MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- PSQs Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.
- Case /problems assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.
- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.
- 360 Global Rating Evaluations MD doctors, faculty, nurses, clerks, and other clinical staff evaluate MD doctors from different perspectives using similar rating forms.
- Portfolios A portfolio is a set of project reports that are prepared by the MD doctors to document projects completed during the MD study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.
- Examination MCQ A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.
- Examination Oral Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.
- Procedure or Case Logs MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- PSQs Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

Annex 5, program evaluation tools

By whom	Method	sample
Quality Assurance	Reports	#
Unit	Field visits	
External Evaluator	Reports	#
(s):According to	Field visits	
department council		
External Examiner		
(s): According to		
department council		
Stakeholders	Reports	#
	Field visits	
	questionnaires	
Senior students	questionnaires	#
Alumni	questionnaires	#

Annex 6, program Correlations:

1- Graduate attributes

I- General Academic Reference Standards (GARS) versus Program ARS

Faculty ARS	NAQAAE General ARS for
	Postgraduate Programs
1- Demonstrate competency and mastery of basics, mothods and tools of scientific research and	1-إتقان أساسيات و منهجيات البحث العلمي
clinical audit in Pediatrics.	
2- Have continuous ability to add knowledge new	2-العمل المستمر على الإضافة للمعارف في
developments to Pediatrics through research	
and publication.	
3- Appraise and utilise scientific knowledge to	3-تطبيق المنهج التحليلي والناقد للمعارف في
continuously update and improve clinical practice and relevant basic sciences.	مجال التخصص و المجالات ذات العلاقة
4- Acquire excellent level of medical knowledge in	4-دمج المعارف المتخصصة مع المعارف
the basic biomedical, clinical, behavioural and	ذات العلاقة مستنبطا و مطورا للعلاقات
clinical sciences, medical ethics and medical	البينية ببنها
Jurisprudence and apply such knowledge in patient	
E Function as a leader of a team to provide nationt	
care that is appropriate effective and	3–إظهار وعيا عميقا بالمشاكل الجارية و
compassionate for dealing with health Problems	النظريات الحديثة في مجال التخصص
and health promotion.	
7- Acquire an in depth understanding of common	
areas of speciality, from basic clinical care to	
evidence based clinical application, and possession	
of skills to manage independently all problems in	
these areas.	
6- Identify and create solutions for health	6-تحديد المشكلات المهنية و إيجاد حلولا
problems in Pediatrics.	مبتكرة لحلها
5- Function as a leader of a team to provide patient	7-إتقان نطاقا واسعا من المهارات المهنية في
care that is appropriate, effective and	محال التخصص
compassionate for dealing with health problems	

and health promotion.	
7- Acquire an in depth understanding of	
common areas of Pediatrics, from basic clinical	
care to evidence based clinical application, and	
possession of skills to manage independently all	
problems in these areas.	
16- Share in updating and improving clinical practice	8- التوجه نحو تطوير طرق و أدوات و
in Pediatrics.	أرالان وحددة المناطقا المعنية
9- Function as teacher in relation to colleagues,	اساليب جديده للمراولة المهدية
medical students and other health professions.	
15- Use recent technologies to improve his practice	9-استخدام الوسائل التكنولوجية المناسبة بما
in Pediatrics.	يخدم ممارسته المهنية
8- Demonstrate leadership competencies including	10-التواصل بفاعلية و قيادة فريق عمل في
interpersonal and communication skills that	ساقات معنية مختلفة
ensure effective information exchange with	
individual patients and their families and	
teamwork with other health professions, the	
scientific community and the public.	
5- Function as a leader of a team to	
provide patient care that is appropriate,	
effective and compassionate for dealing with	
health problems and health promotion.	
10- Master decision making capabilities in different	11-اتخاذ القرار في ظل المعلومات المتاحة
situations related to Pediatrics.	1
11- Show leadership responsiveness to the	12-توظيف الموارد المتاحة بكفاءة و تنميتها
larger context of the health care system,	مالعمل مارياد مارد معاد معاد
including e.g. the organisation of health care,	والعمل على إيجاد موارد جديدة
partnership with health care providers and	
managers, practice of cost-effective health care,	
health economics, and resource allocations.	
12- Demonstrate in depth awareness of public	13-الوعي بدوره في تنمية المجتمع والحفاظ
health and health policy issues including	
independent ability to improve health care,	على البيلة
and identify and carryout system-based	
improvement of care.	

13- Show model attitudes and professionalism.	14–التصرف بما يعكس الالتزام بالنزاهة و
	المصداقية و قواعد المهنة
14- Demonstrate commitment for lifelong learning	15–الالتزام بالتنمية الذاتية المستمرة و نقل
and maintenance of competence and ability for	
continuous medical education and learning in	علمة و خبرانة لرحرين
subsequent stages and in Pediatrics or one of	
its subspecialties.	
15- Use recent technologies to improve	
his practice in Pediatrics.	

2- Academic standards

Faculty ARS	NAQAAE General ARS for
	Postgraduate Programs
2.1. A- Established, updated and evidence- based theories, basics and developments of Pediatricsand relevant sciences.	2-1-أ- النظريات و الأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2.1. B- Basic, methods and ethics of medical research.	1-2-ب −أساسيات و منهجيات و أخلاقيات البحث العلمي و أدواته المختلفة
2.1. C- Ethical and medicologal principles of medical practice related to Pediatrics.	1-2-ج- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص
2.1. D- Principles and measurements of quality in Pediatrics.	1-2-د مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. E- Principles and efforts for maintains and improvements of public health.	1-2-هـ - المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها
2.2. A- Application of basic and other relevant science to solve Pediatricsrelated problems.	2–2–أ –تحليل و تقييم المعلومات في مجال التخصص و القياس عليها و الاستنباط منها
2.2.B- Problem solving based on available data.	2-2-ب -حل المشاكل المتخصصة استنادا علي المعطيات المتاحة
2.2.C- Involvement in research studies related to Pediatrics.	2-2-ج -إجراء دراسات بحثية تضيف إلى المعارف
2.2. D- Writing scientific papers.	2-2-د- صياغة أوراق علمية
2.2. E- Risk evaluation in the related clinical practice	2–2—ه تقييم المخاطر في الممارسات المهنية
2.2.F- Planning for performance improvement in Pediatrics.	2-2-و -التخطيط لتطوير الأداء في مجال التخصص
2-2-G- Creation and innovation in the Pediatrics	2-2-ز – الابتكار /الإبداع
2.2. H- Evidence – based discussion.	2–2–ح– الحوار والنقاش المبني علي البراهين والأدلة
2.2.I- Discussion making in different situations related to Pediatrics.	2−2–ط –اتخاذ القرارات المهنية في سياقات مهنية مختلفة

 2.3. A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic science to evidence – based clinical application and possession of skills to manage independently all problems in Pediatrics. 2.3. B- Master patient care skills relevant to Pediatricsor patients with all diagnoses and procedures. 	2−3–أ –إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. C- Write and evaluate reports for situations related to the field of Pediatrics	2-3-ب- كتابة و تقييم التقارير المهنية.
2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2-3-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص
2.4.B- Use competently all information sources and technology to improve his practice.	2-3-د – استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
 2.4.A-Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 2.4.G- Participate in improvement of the education system. 	2-3-ه -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين

II-Program ARS versus program ILOs

Comparison between ARS- ILOS for medical doctorate for Clinical Oncology

(ARS)	(ILOs)
2-1- Knowledge and	2-1- Knowledge and understanding
 <u>understanding</u> 2-1-A-Established, updated and evidence-based Theories, Basics and developments of Clinical Oncology and relevant sciences. 	2-1-A- Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio behavioral science relevant to his speciality as well as the evidence – based application of this knowledge to patient care.
2-1-B Basic, methods and ethics of medical research.	2-1-B- Explain basics, methodology, tools and ethics of scientific medical, clinical research.
2-1-C -Ethical and medicologal principles of medical practice related to Clinical Oncology field.	2-1-C- Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Clinical Oncology.
2-1-D -Principles and measurements of quality in the Clinical Oncology field.	2-1-D-Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of Clinical Oncology.
2-1-E-Principles and efforts for maintains and improvements of public health.	2-1-E-Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system- based improvement of patient care in common health problems of the field of Clinical Oncology.

2-2- Intellectual skills:	<u>2-2- Intellectual skills:</u>
2-2-A -Application of basic and other relevantscience to solve Clinical Oncology related problems.	2-2-A- Apply the basic and clinically supportive sciences which are appropriate to Clinical Oncology related conditions / problem / topics.
2-2-B- Problem solving based on available data.	 2-2-B-Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Clinical Oncology.
2-2-C- Involvement in research studies related to the Clinical Oncology.	2-2-C- Plan research projects.
2-2-D Writing scientific papers.	2-2-D- Write scientific paper.
2-2-E -Risk evaluation in the related clinical practice.	2-2-E -Participate in clinical risk management as a part of clinical governance.
2-2-F -Planning for performance improvement in the Clinical Oncology field.	2-2-F- Plan for quality improvement in the field of medical education and clinical practice in his speciality.
2-2-G -Creation and innovation in the speciality field.	2-2-G- Create /innovate plans, systems, and other issues for improvement of performance in his practice.
2-2-H -Evidence – based discussion.	2-2-H- Present and defend his / her data in front of a panel of experts.
2-2-I-Decision making in different situations related to Clinical Oncology fields.	2-2-I- Formulate management plans and alternative decisions in different situations in the field of the Clinical Oncology.

(ARS) continuous	(ILOS) continuous
 2-3- Clinical skills: 2-3-A- MD students must be able to provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health extensive level means in depth understanding and from basic compassion to evidence in based 	2/3/1/Practical skills (Patient care :) 2-3-1-A-Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. <i>p.s.</i> Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of
 science to evidence – based clinical application and possession of skills to manage independently all problems in his field of practice. 2-3-B- Master patient care skills 	 application and possession of skills to manage independently all problems in field of practice. 2-3-1-B- Provide extensive level of patient care for patients with all common diagnoses and for uncomplicated procedures related to Clinical Oncology.
relevant to Clinical Oncology for patients with all diagnoses and procedures.	 2-3-1-C- Provide extensive level of patient care for non-routine, complicated patients and under increasingly difficult circumstances, while demonstrating compassionate, appropriate and effective care. 2-3-1-D- Perform diagnostic and therapeutic procedures considered essential in the field of
	Clinical Oncology. 2-3-1-E - Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns. 2-3-1-F - Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the Clinical

Oncologyrelated situations.
2-3-1-G- Gather essential and accurate
information about patients of the
Clinical Oncology related
conditions.
2-3-1-H Make informed decisions about
diagnostic and therapeutic
interventions based on patient
information and preferences up-
to-date scientific evidence and
clinical judgment for the Clinical
Oncology related conditions
2-3-1-1 - Develop and carry out nationt
2-3-1-1- Develop and carry out patient
Oncology related conditions
2 3 1 L Councel and educate nationts
2-3-1-J- Couriser and educate patients
difu their families about
conditions.
2-3-1-K - Use information technology to
support patient care decisions
and patient education in all
Clinical Oncology related clinical
situations.
2-3-1-L- Perform competently all
medical and invasive procedures
considered essential for the
Clinical Oncology related
conditions / area of practices.
2-3-1-M- Provide health care services
aimed at preventing the Clinical
Oncology related health
problems.
2-3-1-N- Lead health care professionals,
including those from other
disciplines, to provide patient-
focused care in Clinical Oncology
related conditions.

2-3-C- Write and evaluate reports for situations related to the field of Clinical Oncology.	2-3-1-O- Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.(Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive timely and legible medical records).
 2-4- General skills 2-4-A- Master practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management 	 2/3/2 General skills 2-3-2-A- Demonstrate the competency of continuous evaluation of different types of care provision to patients in the different area of Clinical Oncology. 2-3-2-B-Appraise scientific evidence. 2-3-2-C-Continuously improve patient care based on constant self- evaluation and <u>life-long learning.</u> 2-3-2-D. Participate in clinical audit and research projects. 2-3-2-E-Practice skills of evidence- based Medicine (EBM). 2-3-2-G-Design logbooks. 2-3-2-H-Design clinical guidelines and standard protocols of management. 2-3-2-I-Appraise evidence from scientific studies related to the patients' health problems.
2-4-B- Use competently all information sources and technology to improve his practice.	 2-3-2-J-Apply knowledge of study designs and statistical methods to the appraisal of clinical studies. 2-3-2-K- Use information technology to manage information, access online medical information; for the important topics.
2-4-C- Master skills of teaching and evaluating others.	2-3-2-F -Educate and evaluate students, residents and other health

	professionals.
2-4-D- Master interpersonal and communication Skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	 2-3-2-L- Master interpersonal and communication skills that result in the effective <u>exchange of information and collaboration</u> with patients, their families, and health professionals, including:- Present a case. Write a consultation note. Inform patients of a diagnosis and therapeutic plan Completing and maintaining comprehensive. Timely and legible <u>medical records.</u> Teamwork skills. 2-3-2-M-Create and sustain a therapeutic and ethically sound relationship with patients. 2-3-2-N- Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. 2-3-2-O-Work effectively with others as a member or leader of a health care team or other professional
	group.
2-4-E- Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	 2-3-2-P-Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. 2-3-2-Q- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices. 2-3-2-R- Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and

	disabilities.
2-4-F-Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system	2-3-2-S- Work effectively in health care delivery settings and systems related to Clinical Oncology including good administrative and time management.
resources to provide care that is of optimal value.	2-3-2-T- Practice cost-effective health care and resource allocation that does compromise quality of care.
2-4-G -Participate in improvement of the education system.	 2-3-2-U- Advocate for quality patient care and assist patients in dealing with system complexities. 2-3-2-V- Design, monitor and evaluate specification of under and post graduate courses and programs.
2-4-H -Demonstrate skills of leading scientific meetings including time management	 2-3-2-W- Act as a chair man for scientific meetings including time management 2-3-2-S- Work effectively in health care delivery settings and systems related to Clinical Oncology including good administrative and time management.
2-4-O- Demonstrate skills of self and continuous learning .	From A to H

Course	Program covered ILOs							
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E			
Course 1 : Medical statistics		\checkmark						
Course 2 : Research Methodology		\checkmark						
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research			~					
Course 4: Physics of radiation and radiobiology)	~							
Course 5: Internal Medicine & General Surgery	~	\checkmark	\checkmark	\checkmark	~			
Course 6: Pharmacology and Oncopathology	~							
Course 7 : "Clinical Oncology 2"	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			

III-Program matrix Knowledge and understanding

Intellectual

Course	Program covered ILOs								
	2/2/A	2/2/B	2/2/C	2/2/D	2/2/E	2/2/F	2/2/G	2/2/H	2/2/I
Course 1 : Medical			✓	~				\checkmark	
statistics									
Course 2 :			✓	✓				\checkmark	
Research									
Methodology									
Course 3 :								\checkmark	
Medicolegal									
Aspects and Ethics									
in Medical									
Practice and									
Scientific Research									
Course 4: Physics	✓	✓						~	\checkmark
of radiation and									
radiobiology)									
Course 5: Internal	\checkmark	✓						\checkmark	\checkmark
Medicine &									
General Surgery									
Course 6:	\checkmark	\checkmark							
Pharmacology and									
Oncopathology									
Course 7 : "Clinical	✓	\checkmark	\checkmark	\checkmark	\checkmark	✓	\checkmark	\checkmark	✓
Oncology 2"									

Practical Skills (Patient Care)

Course		Program covered ILOs							
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H	
Course 1 :									
Medical									
statistics									
Course 2 :									
Research									
Methodology									
Course 3 :				\checkmark				\checkmark	
Medicolegal									
Aspects and									
Ethics in									
Medical									
Practice and									
Scientific									
Research									
Course 4:									
Physics of									
radiation and									
radiobiology)									
Course 5:									
Internal									
Medicine &									
General									
Surgery									
Course 6:									
Pharmacology									
Onconathology									
Course 7 ·	✓	✓	 ✓ 	✓	✓	 ✓ 	 ✓ 	\checkmark	
"Clinical									
Oncology 2"									

Practical Skills (Patient Care)

Course	Program covered ILOs						
	2/3/1/I	2/3/1/J	2/3/1/K	2/3/1/L	2/3/1/M	2/3/1/N	2/3/1/0
Course 1 :							
Medical statistics							
Course 2 :							
Research							
Methodology							
Course 3 :	\checkmark	\checkmark					
Medicolegal							
Aspects and							
Ethics in Medical							
Practice and							
Scientific							
Research							
Course 4: Physics							
of radiation and							
radiobiology)							
Course 5:							
Internal Medicine							
& General							
Surgery							
Course 6:							
and							
Onconathology							
	✓	✓	✓	✓	✓	✓	✓
"Clinical							
Oncology 2"							
Cheology 2							

General Skills

Course	Program covered ILOs							
	2/3/2/A	2/3/2/B	2/3/2/C	2/3/2/D	2/3/2/E	2/3/2/F	2/3/2/G	2/3/2/H
Course 1 :		\checkmark						
Medical								
statistics								
Course 2 :		✓		✓	✓			
Research								
Methodology								
Course 3 :								
Medicolegal								
Aspects and								
Ethics in								
Medical								
Practice and								
Scientific								
Research								
Course 4:								
Physics of								
radiation and								
radiobiology)								
Course 5:								
Internal								
Medicine &								
General								
Surgery								
Course 6:								
and								
Oncopathology								
Course 7 :	✓	✓	✓	✓	✓	✓	✓	✓
"Clinical								
Oncology 2"								

General Skills

Course	Program covered ILOs							
	2/3/2/I	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/ M	2/3/2/N	2/3/2/0	2/3/2/P
Course 1 :	\checkmark	\checkmark	\checkmark					
Medical								
statistics								
Course 2 :	\checkmark	\checkmark						
Research								
Methodology								
Course 3 :				\checkmark				
Medicolegal								
Aspects and								
Ethics in								
Medical Practice								
and Scientific								
Research								
Course 4:			~	\checkmark				
Physics of								
radiation and								
radiobiology)								
Course 5:			~	~				
Internal Modicino 8								
General Surgery								
Course 6:			\checkmark	\checkmark				
Pharmacology								
and								
Oncopathology								
Course 7 :	 ✓ 	 ✓ 	✓	✓	 ✓ 	✓	✓	✓
"Clinical								
Oncology 2"								

General Skills

Course	Program covered ILOs							
	2/3/2/Q	2/3/2/R	2/3/2/S	2/3/2/T	2/3/2/U	2/3/2/V	2/3/2/W	
Course 1 : Medical								
statistics								
Course 2 :								
Research								
Methodology								
Course 3 :								
Medicolegal								
Aspects and Ethics								
in Medical								
Practice and								
Scientific Research								
Course 4: Physics	~		~					
of radiation and								
radiobiology)								
Course 5: Internal	~		\checkmark					
Medicine &								
General Surgery								
Course 6:	\checkmark		\checkmark					
Pharmacology and								
Oncopathology								
Course 7 : "Clinical	✓	✓	√	×	√	√	~	
Oncology 2"								

Annex 7, Additional information:

Department information

Equipments and Specialized Units:

- Clinical Oncology patients' wards: 40 beds.
- Daily one clinical oncology out patients' clinics (new patients, follow up post discharge appointments, discharged critical care patients Follow up clinic)
- Daily radiotherapy out patient clinic.
- ☑ Daily chemotherapy out patient clinic.
- 🗷 Simulator unit
- 🗷 Cobalt unit
- 🗷 Linear Accelerator unit
- Scientific Library (Chest Text Books and periodicals), MD, MSc thesis,
- Seminar room with data show
- Electronic Library of Scientific Seminars, case presentations

Data base filing of all the cases, procedures and out patient clinic data.

Staff members

Head of the Department: Prof. Samir ShehataMohamad

Staff members Prof. AmenaMohamadMostafa Prof. MohamahAbd-ElhakeemMekkawy Prof. SamiaAbd-elKareem Ali **Prof.** TahaZakyMohran **Prof. AmalEmamKhaliefa** Prof. MostafaSayedMostafa Assistant Prof. HussinRabeeSaleh Dr. SamyMahood Ali Dr. HananGamalEldeenMostafa Dr. Huda Hassan Essa **Dr. Ashraf FaragMohamad** Lecturers: Dr. MervateMohamad Omar Dr. MohamadAllaaEldeen Hassan Mohamad Dr. Waleed Ahmad dyab **Dr. AbeerFaekAmeen** Dr. Ola NabehAbd-elfatah

Dr. Rehab farokMohamad

Dr. MohamadHosnyMohamad

Dr. MarwaIsmaeelKhalaf

Dr. AmalRayanIbraheem

Dr. LamiaaMahmoodElotife

Dr. Maha Salah Elnagar

Dr. Tarek Salah Ahmad

Opportunities within the department

- Clinical Oncology patients' wards: 40 beds.
- Daily one clinical oncology out patients' clinics (new patients, follow up post discharge appointments, discharged critical care patients Follow up clinic)
- Daily radiotherapy out patient clinic.
- ☑ Daily chemotherapy out patient clinic.
- 🗷 Simulator unit
- 🗷 Cobalt unit
- 🗷 Linear Accelerator unit
- Scientific Library (Chest Text Books and periodicals), MD, MSc thesis,
- Seminar room with data show
- Electronic Library of Scientific Seminars, case presentations

Data base filing of all the cases, procedures and out patient clinic data.

Department quality control insurance for completing the program

- **4** Evaluation by the Department head and staff members.
- kegular assessments.
- 🖊 Log book monitoring.
- **4** Recent equipments and Specialized Units.

(End of the program specifications)