Peer Revision

Reviewers	University	Date of Revision
- Prof. Dawlat Salem	Cairo	10/12/2011
- Prof. Ahmad K. Mansur	Mansura	28/11/2011

Program Specification on Master degree of clinical oncology

Sohag University **Faculty of medicine**

A. Basic Information

1. Program Title: Master degree in Clinical Oncology
2. Programme Type: Single
3. Faculty: Faculty of Medicine
4. Department: Oncology and Nuclear Medicine
5. Coordinator: Prof. Dr. Al- Sayed mostafa
6. Assistant coordinator: Dr. Emad Eldin Nabil Hassan
7. External Evaluator: Prof.Dr. Amina Mohamed Mostafa
8. Last date of program specifications approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018.

B. Professional Information:

1. Program Aims:

The aim of this program is to provide the postgraduate student with the medical knowledge and skills essential for the practice of specialty and necessary to gain further training and practice in the field of Clinical Oncology through providing:

1. Scientific knowledge essential for the practice of clinical oncology according to the international standards.
2. Skills necessary for proper diagnosis and management of patients, including diagnostic, problem solving and decision making skills.
3. 3-Ethical principles related to the practice in this highly sensitive specialty.
4. Active participation in community needs assessment and problems solving.
5. Maintenance of research interest and abilities.
6. Maintenance of research interest and abilities.

2. Attributes of the student:

1. Mastering the basics of scientific research methodologies.
2. The application of the analytical method and used in the field of oncology.
3. The application of specialized knowledge and integrate it with the relevant knowledge in practice.
4. Be aware of the problems and has modern visions in the field of oncology.
5. Identify problems in the field of oncology and find solutions to them.
6. Mastery of professional skills in this specialty and use of the appropriate recent technologies supporting these skills.
7. Communicate effectively and the ability to lead work teams.
8. Decision-making in his professional contexts.

Program Specification on Master degree of clinical oncology

Sohag University **Faculty of medicine**

A. Basic Information

1. Program Title: Master degree in Clinical Oncology
2. Programme Type: Single
3. Faculty: Faculty of Medicine
4. Department: Oncology and Nuclear Medicine
5. Coordinator: Prof. Dr. Al- Sayed mostafa
6. Assistant coordinator: Dr. Emad Eldin Nabil Hassan
7. External Evaluator: Prof.Dr. Amina Mohamed Mostafa
8. Last date of program specifications approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018.

B. Professional Information:

1. Program Aims:

The aim of this program is to provide the postgraduate student with the medical knowledge and skills essential for the practice of specialty and necessary to gain further training and practice in the field of Clinical Oncology through providing:

1. Scientific knowledge essential for the practice of clinical oncology according to the international standards.
2. Skills necessary for proper diagnosis and management of patients, including diagnostic, problem solving and decision making skills.
3. 3-Ethical principles related to the practice in this highly sensitive specialty.
4. Active participation in community needs assessment and problems solving.
5. Maintenance of research interest and abilities.
6. Maintenance of research interest and abilities.

2. Attributes of the student:

1. Mastering the basics of scientific research methodologies.
2. The application of the analytical method and used in the field of oncology.
3. The application of specialized knowledge and integrate it with the relevant knowledge in practice.
4. Be aware of the problems and has modern visions in the field of oncology.
5. Identify problems in the field of oncology and find solutions to them.
6. Mastery of professional skills in this specialty and use of the appropriate recent technologies supporting these skills.
7. Communicate effectively and the ability to lead work teams.
8. Decision-making in his professional contexts.

9. To employ and preserve the available resources to achieve the highest benefit.
10. Awareness of his role in the community development and preservation of the environment at the lights of both international and regional variables.
11. Reflects the commitment to act with integrity and credibility, responsibility and commitment to rules of the profession.
12. Academic and professional self development and be capable of continuous learning

3. Program Intended Learning Outcomes (ILOs)

a) Knowledge and Understanding:

By the end of the study of master program in Clinical Oncology the Graduate should be able to :

a1. Mention the principles of biostatistics and molecular biology related to cancer.
a2. Mention the principles of radiobiology and cancer pathology.
a3. Mention the principles of medical radiation physics, techniques of radiotherapy and cancer treatment by radioactive nuclides.
a4. Explain the principles of chemotherapy.
a5. Explain the principles of management of haematological malignancies .
a6. Explain the principles of pediatric oncology field, palliatve care of cancer patients.
a7. Tell the principles of internal medicine related to oncology.
a8. Tell the principles of surgical oncology.
a9. Mention the advanced studies and recent technologies in clinical oncology.
a10. Mention scientific developments in the field of Clinical Oncology .
a11. Mention The mutual influence between professional practice and its impacts on the environment.
a12. Mention Ethical and legal principles of professional practice in the field of Clinical Oncology.
a13. List The principles and fundamentals of quality in professional practice in the field of Clinical Oncology.
a14. Describe the basics and ethics of scientific research.

b) Intellectual Skills

By the end of the study of master program in Clinical Oncology , the Graduate should be able to :

b1. Interpret data through history taking to reach a provisional diagnosis for oncological problems.
b2. Select from different diagnostic alternatives the ones that help reaching a final diagnosis for oncological problems.
b3. Link between knowledge for Professional problems' solving.
b4. Conduct research study and/or write a scientific study on a research problem.
b5. Assess risk in professional practices in the field of Clinical Oncology.
b6. Plan to improve performance in the field of Clinical Oncology.
b7. Identify oncological problems and find solutions.

b8. Analyze researches and issues related to clinical oncology.

c) Professional and Practical Skills

By the end of the study of master program in Clinical Oncology , the Graduate should be able to:

c1. Master the basic and modern professional skills in the area of Clinical Oncology .
c2. Write and evaluate medical reports.
c3. Assess methods and tools existing in the area of Clinical Oncology.

d) General and Transferable Skills

By the end of the study of master program in Clinical Oncology the Graduate should be able to:

d1. Communicate effectively by all types of effective communication.
d2. Use information technology to serve the development of professional practice.
d3. Assess himself and identify personal learning needs.
d4. Use different sources to obtain information and knowledge.
d5. Develop rules and indicators for assessing the performance of others.
d6. Work in a team, and team's leadership in various professional contexts.
d7. Manage time efficiently.
d8. Learn himself continuously.

4. Academic Standards:

Sohag Faculty Of Medicine adopted the general National Academic Reference Standards (NARS) provided by the national authority for quality assurance and accreditation of education (naqaae) for postgraduate programs. This was approved by the Faculty Council decree NO.6854, in its cession NO.177 Dated: 18/5/2009. Based on these NARS; Academic Reference Standards (ARS) were suggested for this program. These ARS were approved by the Faculty Council decree NO.7528 , in its cession No. 191, dated 15/3/2010. . The adoption of NARS and the suggested ARS were approved by University council degree No 587, in its cession No.60. dated 26-12-2011.

5. Curriculum Structure and Contents:

5.a- Program duration 6 semesters

5.b- Program structure

5.b.i-No. of hours per week:

	hours /week		
Subject	Lectures	Practical	Clinical
First Part:			
Medical radiation physics	1	1	
Radiobiology &Radioprotection	1	1	
Molecular biology, biostatistics	1	1	
Pathology	1	1	
	1	1	

Internal medicine related to oncology course. General surgery related to oncology course.	1 1		1 1
2nd part Clinical oncology: 1)Cancer treatment by chemotherapy, radiation therapy, and radionuclide	6	6	
2)Radiation technology and radioisotopes	3	3	
3)Pediatric oncology , hematological malignancies and oncological palliative care	3	3	

code	Item		No	%
b.i	Total credit hours	Compulsory	٤٩	١٠٠
		Elective	٠	٠
		Optional	٠	٠
b.iii	credit hours of basic sciences courses		٤	٨
b.iv	credit hours of courses of social sciences and humanities		٠	٠
b.v	credit hours of specialized courses:		٢٨	٥٧
b.vi	credit hours of other course		٦	١٢
b.vii	Practical/Field Training		٥	١٠
b.viii	Program Levels (in credit-hours system): Level 1: 1st part Level 2: 2nd Part Level 3: Thesis		 ١٥ ٢٤ ٦	 ٣٠ ٤٨ ١٢

6. <u>Program Courses:6 courses are compulsory</u>

6.1- Level of Program :

Semester…1…..

First part

a. Compulsory

Course Title	No. of hours	No. of hours /week			Program ILOs Covered (By No.)
		Lect.	Lab.	Exer./ Clin	
First Part Medical radiation physics	2	1	1		a3,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8
Radiobiology &Radioprotection	2	1	1		a2,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8
Molecular biology	2	1	1		a1,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8
Biostatistics	2	1	1		a1,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8

Pathology	2	1	1		a2,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8
General surgery related to oncology course	2	1	1		a8,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8
Internal medicine	2	1	1		a7,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8
Second Part: **Clinical oncology:** 1)Cancer treatment by chemotherapy , radiation therapy and radionuclide 2)Radiation technology and Radioisotopes. 3)pediatric oncology ,hematological malignancies and palliative care	12 6 6	6 3 3	6 3 3		a3, a4,a5,a6,a9,a10, a11,a12,a13,a14,b1,b2,b5,b 6,b7, b8,c1,c2,c3,d1,d2,d3,d4,d5, d6,d7, d8

7. <u>Program Admission Requirements</u>

I- General Requirements.

1. Candidate should have either:
   - MB Bch degree from any Egyptian Faculty of Medicine or
   - Equivalent Degree from Medical Schools abroad approved by the ministry of high Education.
2. Candidate should pass the house office training year.
3. Those who are not university hospital residents should pass a training for at least 12 months in one of the known hospitals.
4. Follow postgraduate bylaw Regulatory rules of Sohag Faculty of Medicine approved by the ministerial decree No. (44), dated 6/1/2010.

II. Specific Requirements:

A. Candidates graduated from Egyptian Universities should have at least "Good Rank" in their final year/cumulative years examination, and grade "Good Rank" in internal medicine Course too.

B. Candidate should know how to speak & write English well.

C. Candidate should have computer skills.

8. <u>Regulations for Progression and Program Completion</u>

Duration of program is 50 credit hours (≥4 semesters ≥3 years), starting from registration till 2nd part exam; divided to:

First Part: (15 Credit hours ≥6 months ≥1 semester):

- Program-related basic & clinical sciences & research Methodology, Ethics & medical reports, Biostatistics and computer.
- At least six months after registration should pass before the student can ask for examination in the 1st part.
- Two sets of exams: 1st in October — 2nd in April.
- At least 50% of the written exam is needed to pass in each course.

- For the student to pass the first part exam, a score of at least 60% (Level D) in each course is needed.
- Those who fail in one course need to re-exam it only for the next time only, and if re-fail, should register for the course from the start.

Thesis/Essay(6 Credit hours ≥6 months=1 semester):

- Completion of the 1st part credit hours and passing the exams are pre requisites for documentation of the **Thesis/Essay** subject.
- Should be completed, defended and accepted after passing the 1st part examination, and at least one month before allowing to enter 2nd part final examination.
- Accepting the thesis is enough to pass this part.

Second Part: (24 Credit hours ≥18 months= 3 semesters):

- Program related specialized sciences of Clinical Oncology Courses. After passing at least:
- Completion of the 1st part credit hours and passing the exams are pre requisites for documentation of the 2nd part courses.
- After passing at least:
    - University hospital residents: 36 months residency in the department of clinical oncology.
    - Residents in other places: Completed 36 months residency; 12 months of them training in the department of clinical oncology.
- The students should pass the 1st part before asking for examination in the 2nd part.
- Fulfillment of the requirements in each course as described in the template and registered in the log book (5 Credit hours; with obtaining ≥75% of its mark) is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; the credit hours of the logbook are calculated as following:
    - Each Cr. Hr.= 60 working Hrs.
    - Logbook= 5 Cr. Hr. X 60 working Hrs = 300 Working Hrs.
    - Collection of working Hrs. is as following:

Activity		**Hrs**
Grand rounds	**اجتماع علمى موسع**	**٦**
Training courses	**دورات تدريبية**	**12/ day**
Conference attendance	**حضور مؤتمرات علمية** **داخلى** **خارجة**	 **١٢/day** **18/day**
Thesis discussion	**حضور مناقشات رسائل**	**٦**
Workshops	**حضور ورش عمل**	**١٢/day**
Journal club	**ندوة الدوريات الحديثة**	**٦**
Seminars	**لقاء علمى موسع**	**٦**

Morbidity and Mortality conference	**ندوة تحليل المخاطر المرضية أوالوفاة**	٦
Self education program	**برنامج التعليم الذاتى**	٦

- Two sets of exams: 1st in October - 2nd in April.
- At least 50% of the written exam is needed to pass in each course.
- For the student to pass the 2nd part exam, a score of at least 60% (Level D) in each course is needed.

9. Methods of student assessments:

Method of assessment	weight	The assessed ILOs
1-Activities		- General transferable skills, intellectual skills
2-Written Exams: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	50%	 - Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills
3-OSCE	50%	-Practical skills, intellectual skills, general transferable skills
4-Structured Oral Exams		- Knowledge, Intellectual skills, General transferable skills

Assessment schedule:

Part I:

- Medical radiation physics: Written Exam (2 hours) +OSCE + Structured oral Exam
- Radiobiology &Radioprotection: Written Exam (2 hours) +OSCE + Structured oral Exam
- Pathology: Written Exam (2 hours) + OSCE + Structured oral Exam
- Molecular biology: Written Exam (2 hours) + OSCE + Structured oral Exam
- Biostatistics & Computer and Research Methodology: Written Exam (2 hours) + Structured oral Exam+ OSPE

Written exam(3hours)for internal medicine and General surgery related to oncology + OSCE + structured oral exam.

Part II:

-Four written Exams (3 hours for each): two for Cancer treatment by Chemotherapy, radiation therapy and radionuclide, one for radiation technology and radioisotopes, and one for Pediatric oncology, hematological malignancies and oncological palliative care: + OSCE for all + Structured oral Exam for all.

10. Evaluation of Program Intended Learning Outcomes

Evaluator	Tool	Sample
1- Senior students	Questionnaire	7
2- Alumni	Questionnaire	3
3- Stakeholders (Employers)	Questionnaire	20
4-External Evaluator(s) (External Examiner(s))	Report	1
5- Other	-	-

Course Specification of Physics in master degree in clinical oncology

Sohag University **Faculty of Medicine**

1. Program on which the course is given: master degree in clinical oncology
2. Major or Minor element of program: Minor
3. Department offering the program: Oncology and Nuclear medicine.
4. Department offering the course: Oncology and Nuclear medicine.
5. Academic year/ Level: 1^{d} part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of physics in master degree in oncology

Code :ONC 0521-200

Total hours

Lectures	Practical/Surgical	Total hour	Credit hours
15	30	45	2

B. Professional Information:-

1. **Overall Aims of Course**

To understand and to deal with machines of radiotherapy used in treatment of different types of cancer.

2. **Intended Learning Outcomes of Course (ILOs)**

a) Knowledge and Understanding:

By the end of the program, the student is expected to:-

a1. Describe the atom and matter.
a2. Mention nuclear transformation.
a3. List the radiotherapy machines.
a4. Describe the electron beam.
a5. Describe the percentage depth
a6. dose and factors affecting it.
a7. Mention the radiation detectors.
a8. List the bcardinal priciples of p rotection.

b) Intellectual Skills:

By the end of the program, the student expected to:-

b1. Run in scientific thinking.
b2. Know skills of observation.
b3. Know skills of description and interpretion of what he observes.

c) Professional and Practical Skills:

By the end of the program the student expected to:-

c1. Understand the functions of machines used in radiotherapy.

d) General and Transferable Skills:-

By the end of the program, the student is expected to:-

d1. Acquire skills of observation and description.
d2. Acquire skills of working within team.
d3. Acquire skills of logical and scientific thinking..
d4. Use computers in understanding medical physics.

3. **Contents**

Topic	No. Of hours	Lecture	Tutorial/Practical
Atom and matter	6hours	3hours	3hours
Nuclear transformation	6hours	2 hours	4 hours
Radiotherapy machines	6 hours	2 hours	4 hours
Electron beam	9hours	2 hours	7 hours
Percentage depth dose	6 hours	2 hours	4 hours
Radiation detectors	6 hours	2hours	4 hours
Protection	6 hours	2hours	4 hours
Total	45 hours	15 hours	30 hours

4. **Teaching and Learning Methods:**

4.1- Lectures.
4.2- Practical lessons.
4.3- Assignments.
4.4-attention and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed.

5. **Student Assessment Methods**:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams:	- Knowledge
-Short essay: 40%	- Knowledge
-structured questions: 25%	- Knowledge, intellectual skills
-MCQs: 20%	- Intellectual skills, General transferable skills,
-Commentary, Problem solving: 15%	- Practical skills, intellectual skills
5.3-Structured Oral Exams	- Knowledge

Assessment Schedule

Assessment 1	practical final exam	23 Week
Assessment 2	written final exam	24 week
Assessment 3	Log book	23 week
Assessment 4	oral final exam	24 week

Weighting of Assessments:

Log book : Formative exams

Final-term written examination	50	%
Final Structured Oral Exam	40	%
Practical Examination	10	%
Total	100	%

6. **List of References**

6.1- Essential Books (Text Books)

1. Khan (medical phsics)

6.2- Periodicals, Web Sites, … etc
Freemedical journals.com

7. **Facilities Required for Teaching and Learning**
    1. Appropriate teaching class
    2. camera digital.
    3. Computers and data show.

Course Coordinator: Dr: . Emad Eldin Nabil Hassan

Head of Department: Prof. Dr Elsayed Mostafa

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specification of Radiobiology in master degree in clinical oncology

University Sohag **Faculty of Medicine**

1. Program on which the course is given: Master degree in clinical oncology
2. Major or Minor element of program: Minor
3. Department offering the program: Oncology and Nuclear medicine.
4. Department offering the course: Oncology and Nuclear medicine.
5. Academic year/ Level: 1^{d} part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of radiobiology in master degree in oncology

Code: ONC 0521-200

Total hours

Lectures	Practical/Surgical	Tutorials/Clinical	Total hour	Credit hours
15	**30**	**-----**	**45**	**2**

B. Professional Information

1. Overall Aims of Course

1. mention the basic of many and varied uses of ionizing radiation in the medical profession.
2. mention the biological effects of radiation.
3. mention the basic background in radiobiology

2. Intended Learning Outcomes of Course (ILOs)

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

a1. Mention the hazardous biologic effect of radiation , and how to deal with acute and late effect of radiation.

a2. Describe the radiation safety

b) Intellectual Skills

By the end of the course, the student is expected to be able to: Define basic terminology

b1. know the different biological effect of ionizing radiation

b2. Know the methods of radiation safety

b3. Know the acute and late effect of radiation.

b4. Understand the different uses of ionizing radiation in the medical profession.

c) Practical Training aspects:

c1. Clinical assessment of different radiation side effects.

c2. Methods of radiation safety.

c3. New radiation modalities.

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

d1. Know the radiobiological effect of radiotherapy on different tissues.

d2. Understand the different cellular response to radiation.

d3. Know the basic biologic interactions of radiation.

3. Contents

Topic	No. of hours	lecture	Tutorial/Practical
Review of cell biology.	5	3	2
Basic biologic interactions of radiation.	8	2	6
Cellular response to radiation	6	2	4
Tissue radiation biology	6	2	4
Modification of cell and tissue responses to radiation.	6	2	4
Clinical radiobiology. * goal of radiotherapy. * tumor radiobiology. * radio sensitivity and radiocurablity. * chemical modifiers in radiotherapy . * new radiation modalities. * new treatment techniques. * hyperthermia Early effect and late effect of radiation.	8	2	6
	6	2	4
Total	**45**	**15**	**30**

4. Teaching and Learning Methods:

4.1- Lectures.
4.2- Practical lessons.
4.3- Assignments.
4.4-attention and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed.

5. Student Assessment Methods:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams:	- Knowledge
-Short essay: 40%	- Knowledge
-structured questions: 25%	- Knowledge, intellectual skills
-MCQs: 20%	- Intellectual skills, General transferable skills,
-Commentary, Problem solving: 15%	- Practical skills, intellectual skills
5.3-Structured Oral Exams	- Knowledge

Assessment Schedule

Assessment 1	practical final exam	23 Week
Assessment 2	written final exam	24 Week
Assessment 3	Log book	23 Week
Assessment 4	oral final exam	24 Week

Weighting of Assessments:

Log book : Formative exams

Final-term written examination	50	%
Final Structured Oral Exam	40	%
Practical Examination	10	%
Total	100	%

6. List of References

6.1- Essential Books (Text Books)

- Hassan Awad text book
- Elizabeth Latorre---medical radiobiology
- Perez text book

6.2- Recommended Books

- Gunderson text book

7. Facilities Required for Teaching and Learning:

- Adequate conditioned space for staff and assistants.
- Adequate conditioned teaching facilities.
- Audiovisual Aids: Data show, overhead and slide projectors and their requirements

Course Coordinator: Dr: . Emad Eldin Nabil Hassan

Head of Department: Prof. Dr Elsayed Mostafa

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specification of Pathology in Master degree in clinical oncology

Sohag University **Faculty of Medicine**

1. Program on which the course is given: Master degree in clinical oncology
2. Major or Minor element of program: Minor
3. Department offering the program: Oncology and nuclear medicine.
4. Department offering the course: Pathology
5. Academic year/ Level: First part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of pathology in master degree in clinical oncology
Code : PAT 0521-200

Lectures	Practical/Surgical	Tutorials/Clinical	Total hour	Credit hours
15	30		45	2

B. Professional Information:-

1. Overall Aims of Course

To understand and know cancer pathology of different organs, staging, prognostic factors and their relation with treatment outcome of different types of cancer.

2. Intended Learning Outcomes of Course (ILOs)

a) **Knowledge and Understanding:**

By the end of the program , the student is expected to:-

a1. Mention and understand of general pathology of cancer.
a2. Mention and understand of head and neck malignancies.
a3. Mention and understand of lung cancer.
a4. Mention and understand of G.I.T. malignancies.
a5. Mention and understand of genitourinary malignancies.
a6. Mention and understand of skin, soft tissue and bone malignancies.
a7. Mention and understand of C.N.S. tumors, endocrine malignancies.

b) **Intellectual Skills:-**

By the end of the program, the student is expected to:-

b1. Run in scientific thinking.
b2. Gain skills of observation.
b3. Gain skills of description and interpretion of what he observes.

c) **Professional and Practical Skills:-**

By the end of the programme, the student is expected to:-

c1. Understand the aetiology and prognostic factors of each organ and their affection on treatment outcome.

d) **General and Transferable Skills:**

By the end of the program, the student is expected to:-

d1. Acquire skills of observation and description.
d2. Acquire skills of working within team.

d3. Acquire skills of logical and scientific thinking..
d4. Know computers in understanding medical physics.

3. Contents

Topic	No. Of hours	Lecture	Tutorial/Practical
General pathology of cancer.	9 hours	3 hours	6 hour
Head and neck malignancies	6 hours	2 hours	4hour
Lung cancer	6hours	2 hours	4hour
G.I.T. malignancies.	6hours	2 hours	4hour
Genitourinary malignancies	6 hours	2 hours	4 hour
Skin, soft tissue and bone malignancies.	6hours	2 hours	4 hour
C.N.S. tumors and endocrine malignancies.	6hours	2 hours	4hours
Total	45 hours	15hours	30 hours
Credit	2	1	1

4. Teaching and Learning Methods:

4.1- Lectures.
4.2- Practical lessons.
4.3- Assignments.
4.4-attention and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed.

5. Student Assessment Methods:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams:	- Knowledge
-Short essay: 40%	- Knowledge
-structured questions: 25%	- Knowledge, intellectual skills
-MCQs: 20%	- Intellectual skills, General transferable skills,
-Commentary, Problem solving: 15%	- Practical skills, intellectual skills
5.3-Structured Oral Exams	- Knowledge

Assessment Schedule

Assessment 1	practical final exam	23 Week
Assessment 2	written final exam	24 week
Assessment 3	Log book	23 week
Assessment 4	oral final exam	24 week

Weighting of Assessments:

Log book : Formative exams

Final-term written examination	50	%
Final Structured Oral Exam	50	%
Total	100	%

6. List of References

6.1- Essential Books (Text Books):

- Muir's text book of pathology, 15th edition, 2014.
- Robbins Pathologic Basis of Diseases, 10th edition, 2015.

6.2- Recommended Books:

- Rosai&Ackerman text book of Pathology, 11th edition,2017
- Sternberg text book of Pathology, 6th edition, 2015.

6.3- Periodicals:

- Journal of Pathology
- Human Pathology
- Modern Pathology
- Histopathology
- American Journal of Pathology.

Web Sites: - http://www.ncbi.nlm.nih.gov/pubmed/

7. Facilities Required for Teaching and Learning

4. Appropriate teaching class
5. Camera digital.
6. Computers and data show.

Course Coordinator: Dr/Fatma El Zhraa Salla Eldeen

Head of Department: Dr/Afaf Al-Nashar

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specification of Immunology in master degree in clinical oncology

Sohag University **Faculty of Medicine**

1. Program on which the course is given: Master degree in clinical oncology
2. Major or Minor element of program: Minor
3. Department offering the course : Medical Microbiology and Immunology
4. Department offering the program: Clinical oncology Dep.
5. Academic year/ Level: First part .
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of immunology and molecular biology

Code: MIC 0521-200

Title	Lecture	Practical:	Total:	Credit hours
Immunology and molecular biology	**15**	**30**	**45**	**2**

B. Professional Information

1. Overall Aims of Course

By the end of the course the postgraduate student is expected to acquire advanced knowledge about the structure and function of the immune system and the role of the immune system in health and disease.

2. Intended Learning Outcomes of Course (ILOs):

a) Knowledge and Understanding:

By the end of the course the student is expected to:

a1. Describe the structure and function of immune system
a2. Mention the basics of the immune system, and the role it plays in health and disease
a3. Illustrate the role of molecular genetics and molecular biology applications in general
a4. Transplantation &immune system

b) Intellectual Skills:

By the end of the course the student is expected to:

b1. Select from different diagnostic alternatives the ones that help reaching a final diagnosis
b2. Determine the involvement of the immune system in the current disease process.

c) Professional and Practical Skills:

By the end of the course the student should have the ability to

c1. Recognize some serological tests used in diagnosis
c2. Interpret a report containing immunological data.

d) General and Transferable Skills:

By the end of the course the student should have the ability to:

d1. Use of different sources for information and knowledge.
d2. Educate himself Continuously

3. **Content**

Topics	No. of hours	Lecture	Practical
Immunology			
1. Congenital & Acquired Immunity	5	2	3
2. Immunological Cells	5	2	3
3. Hypersensitivity	5	2	3
4. Transplantation	6	2	4
5. Tumor Immunology	6	2	4
6. Immunodeficiency	6	2	4
7. antigen- antibody reactions	6	2	4
Molecular biology			
PCR technique	**6**	1	5
Total hours	45	15	30

4. **Teaching and Learning Methods:**

4.1- Lectures.
4.2- Practical lessons.
4.3- Assignments.
4.4-attention and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed.

5. **Student Assessment Methods:**

Method of assessment	**The assessed ILOs**
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams:	- Knowledge
-Short essay: 40%	- Knowledge
-structured questions: 25%	- Knowledge, intellectual skills
-MCQs: 20%	- Intellectual skills, General transferable skills,
-Commentary, Problem solving: 15%	- Practical skills, intellectual skills
5.3-Structured Oral Exams	- Knowledge
5.4-OSPE	-Practical skills, intellectual skills
5.5Computer search assignment	- general transferable skills, intellectual skills

Assessment Schedule

Assessment 1. Attendance and absenteeism (formative)
Assessment 2. Final Written examination: week 24
Assessment 3. Final Oral examination: week 24
Assessment4. Final OSPE: week 24

Weighting of Assessments

Final-term Examination	50%
Oral Examination	30%
OSPE	20%
Total	100%

formative only assessment :simple research assignment, attendance and absenteeism.

6. List of References

6.1- Essential Books (Text Books)
Jawetz Medical Microbiology2016.
Roitt Essential Immunology.
Abbas Clinical Immunology
Alberts Molecular Biology
6.2- Recommended Books
Topley and Wilson, Microbiology
6.3- Periodicals, Web Sites, etc
Clinical Immunology journal
http://mic.sgmjournals.org/
microbiology and immunology on line

7. Facilities Required for Teaching and Learning:

1. Adequate conditioned space for staff and assistants.
2. Adequate conditioned teaching facilities.
3. Audiovisual Aids: Data show, overhead and slide projectors and their requirements

Course Coordinator: Dr/ Ekram Abd El-Rahman

Head of Department: Dr. Abeer Shineaf

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specification of Internal medicine and General surgery in master degree in clinical oncology

Sohag University **Sohag Faculty of Medicine**

1. Program on which the course is given: Master degree in clinical oncology
2. Major or Minor element of program: Major
3. Department offering the program: Clinical Oncology and Nuclear medicine.
4. Department offering the course: : Internal medicine and General surgery department
5. Dated Academic year/ Level: 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of internal medicine and General surgery in master degree in clinical oncology
Code: SUR - MED 0521-200
Total hours :

Module	Lectures	Practical/Surgical	Tutorials/Clinical	Total hour	Credit hours
General surgery	15		30	45	2
Internal medicine	15		30	45	2

B. Professional Information:-

1. Overall Aims of Course

General surgery module:

To know surgical treatment options done to cancer patients and complications of different modalities .

Internal medicine module :

By the end of the course of Internal Medicine, the candidate should be able to:
Deal with common medical conditions on the basis of adequate history taking, physical examination interpretation of relevant supportive investigations and management

2. Intended Learning Outcomes of Course (ILOs)

General surgery module:

a) Knowledge and Understanding:

By the end of the program the student is expected to:-

a1. Mention and understand basics of General surgery (shock, haemoperitoneum, ascites, and peritonitis.
a2. Mention and understand of head injury.
a3. Mention and understand of jaw swelling.
a4. Mention and understand of esophageal cancer, non malignant obstructions.
a5. Mention and understand of G.I.T. diseases.
a6. Mention and understand of abdominal masses.

a7. Mention and understand of portal hypertension.

b) Intellectual Skills:

By the end of the program, the student expected to:-

b1. Understand scientific thinking.

b2. Understand skills of observation.

b3. Understand skills of description and interpretation of what he observes.

c) Professional and Practical Skills:-

By the end of the program, the student is expected to:-

c1. Understand treatment options done to cancer patients.

d) General and Transferable Skills:-

By the end of the program, the student is expected to:

d1. Understand skills of observation and description.

d2. Acquire skills of working within team.

d3. Acquire skills of logical and scientific thinking..

Internal medicine module :

a) Knowledge and Understanding:

a1. Grasp the spectrum of clinical symptomatology related to different Internal medicine disorders.

a2. Appreciate the clinical spectrum of common medical conditions with multisystem affection.

a3. Describe the concept of emergency management of acute medical disorders.

b) Intellectual Skills

b1. Interpret the most important symptoms and signs of disease in Internal Medicine patients.

b2. Formulate appropriate management plans for individual patients presenting with the most common medical disorders.

b3. Make decisions regarding common clinical situations using appropriate problem solving skills.

c) Professional and Practical Skills

c1. Conduct a proper general examination and identify normal and major abnormal physical signs.

c2. Conduct proper regional examination of the thorax and abdomen by inspection, palpation, percussion and auscultation to identify:

- Surface anatomy of internal organs.
- Normal physical signs.
- Major abnormal physical signs.

c3. Develop and present a comprehensive medical sheet including history and physical examination.

c4. Interpret the significance and relevance of abnormal physical signs.

c5. Identify the appropriate supportive investigations relevant to a particular patient and adequately interpret the results.

c6. Integrate the patient's symptomatology, historic data, abnormal physical signs and investigations into a comprehensive differential diagnosis.

c7. Identify adequate logistics for further patient assessment and management.

c8. Get acquainted with special therapeutic and interventional techniques related to the specialty.

c9. Adequately interpret the results of common laboratory investigations as urine analysis, blood picture, liver and kidney function tests, etc.

c10. Get acquainted with the methods of patient clinical assessment and monitoring, their significance and inter-relations.
c11. Identify a clear priority plan in the patient's management.
c12. Recognize the indications for consulting higher levels or reference to other disciplines.

d) General and Transferable Skills

d1. Presentation, analyzing and solving of clinical problems .

3. Contents

General surgery module :

opic	No. Of hours	Lectures	clinical
General General surgery	7.5	2.5	5
Head injury	7.5	2.5	5
Jaw swelling	7.5	2.5	5
Esophageal cancer, non malignant obstructions.	7.5	2.5	5
G.I.T. diseases	6	2	4
Abdominal masses	6	2	4
Portal hypertension	3	1	2
Total	45	15hours	30

Internal medicine module :

Topics	No of hours	Lecture	clinical
Cardiovascular Symptoms and signs	2	1	1
Rheumatic fever	2	1	1
Infective endocarditis	2	1	1
Valvular diseases	2	1	1
Coronary artery diseases -Acute coronary syndromes -Chronic ischemia	2	1	1
Systemic Hypertension	2	1	1
Adult Congenital Heart Diseases	2	1	1
Heart failure -Systolic Heart Failure -Diastolic Heart Failure -Decompensated cor pulmoale	2	1	1
Pulmonary embolism	2	1	1

2-Endocrinology teaching

Topics	No of lectures	leucture	clinical
Disorders of the anterior pituitary and the hypothalamus	2	1	1
Disorders of the thyroid gland	2	1	1

Hypothyroidism Hyperthyroidism			
Disorders of the adrenal gland: -Cushing syndrome -Aldosteronism -Adrenogenital syndrome Pheochromocytoma	2	1	1
Diabetes mellitus	2	1	1

Hematology :

Topics	No of Lectures	Lecture	clinical
Leukemias and myeloma and myelodysplastic syndromes	2	1	1
Lymphomas	2	1	1
Anemias:. -Megaloplastic -Iron deficiency -Acquaried hemolytic anemias	2	1	1
-Bleeding disorders Thrombocytopenia	2	1	1

5-Nephrology teaching

Topics	No of hours	Lecture	clinical
Disturbed renal function:. Acute renal failure - Chronic renal failure Renal dialysis and Renal transplantation	2	1	**1**

6-Gastroenterology and hepatology teaching

Topics	No of lectures	Lecture	clinical
Gastro esophageal junction disorders	2	1	1
Inflammatory bowel dis:. Crhon's dis Ulcerative colitis	2	1	1
Jaundice	2	1	1
Hepatitis (acute and chronic)			
Cirrhosis and Portal hypertension and Hepatocellular failure	2	1	1
Upper and lower GI bleeding	1	0.5	0.5

4. **Teaching and Learning Methods**
   - **4.1- Lectures**
5. **Student Assessment Methods:**

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams:	- Knowledge

-Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15% 5.3-Structured Oral Exams 5.4- OSCE	- Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills, - Practical skills, intellectual skills - Knowledge Practical skills, intellectual skills

Assessment Schedule

Assessment 1	clinical final exam	96 Week
Assessment 2	written final exam	96 week
Assessment 3	Log book	96 week
Assessment 4	oral final exam	96 week

Weighting of Assessments:

Log book : Formative exams

Final-term written examination	50	%
Final Structured Oral Exam	40	%
Clinical Examination	10	%
Total	100	%

6. List of References

General surgery module :

6.1- Essential Books (Text Books)

1. Baily and Love
2. Schwartz

62- Periodicals, Web Sites, … etc

Freemedical journals.com

Internal medicine module:

6.1- Essential Books (Text Books)

- Kumar and Clarke Textbook of Medicine; Parveen Kumar and Richard Clark; Blackwell Science; 9th edition, 2018

-Hutchison's Clinical Methods; Robert Hutchison; Harry Rainy; 24st edition;2018

6.2- Recommended Books

- Goldman-Cecil Textbook of Medicine;25th edition, 2018.
- Harrisson'sprincipales of internalmedicine,20th edition, 2018.

6.3- Periodicals, Web Sites, … etc

7. Facilities Required for Teaching and Learning

1. Appropriate teaching class
2. camera digital.
3. Computers and data show.

Course Coordinator:

General surgery module: Prof. Alaa El Suty

Internal medicine module: Dr. Mohamed Mustafa Ahmed Malak

Head of Department:

General surgery module: Prof. Nabiel Abo El Dahab

Internal medicine module: Prof. Usama Ahmed Arafa.

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013**, Revised: 1/12/2018**

Course Specification of Biostatistics in master degree in clinical oncology

Sohag University **Faculty of Medicine**

1. Program on which the course is given: Master degree in clinical oncology
2. Major or Minor element of program: Minor
3. Department offering the course: Community Medicine and public Health
4. Department offering the program: Oncology and Nuclear Medicine Dep.
5. Academic year/ Level: First part .
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of biostatistics

Code: COM 0521-200

Lectures	Practical/Surgical	Tutorials/Clinical	Total hour	Credit hours
15	**30**		**45**	**2**

B. Professional Information

1. Overall Aims of Course

1. To influence the students to adopt an analytical thinking for evidence based medicine
2. To use precisely the research methodology in researches and computer programs SPSS, Epi Info and Excel in data analysis

2. Intended Learning Outcomes of Courses (ILOs)

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

a1. Define causation and association
a2. Describe bias and confounding
a3. Describe different samples sizes
a4. Define the screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests
a5. Explain the usefulness of screening tests, and calculate sensitivity, specificity, and predictive values
a6. Define the sources of data and methods of collection
a7. Describe five sampling techniques and list at least three advantages of sampling
a8. Describe data in tables and graphs
a9. Explain measures of central tendency and measures of dispersion
a10. Describe the normal curves and its uses
a11. Define selected tests of significance and the inferences obtained from such tests

b) Intellectual Skills

By the end of the course, the student is expected to be allowed to:

b1. Integrate data variables impacting health and disease
b2. Interpret selected tests of significance and the inferences obtained from such tests
b3. Analyze measures of central tendency and measures of dispersion
b4. Compare different sampling methods
b5. Evaluate data, create tables and graphs
b6. Evaluate the sources of data and methods of collection

c) Professional and Practical Skills:

By the end of the course, the student is expected to practice the following:

c1. Perform methods of data collection
c2. Design tables and graphs for data prescription
c3. Teach association and causation

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

d1. Choose and use appropriate computer programs for statistical analysis effectively.
d2. Utilize computers in conducting researches.
d3. Work as a part in a team for data collection and prescription
d4. Write structural reports in the field of biostatistics
d5. Use different sources for information and knowledge

3. Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Methodology & statistics			
Introduction to research Terminology and rationale	4	1	3
Data collection methods	4	1	3
Types of Data	5	2	3
Tabulation of data	5	2	3
Measures of central tendency	4	1	3
Measures of dispersion	5	2	3
Normal distribution curves	4	1	3
Study design :Cross sectional study and the prevalence rate .Cohort study, incidence rate, relative & attributable risk. Case-control study, Odd's ratio	4	1	3
Sampling	5	2	3
Basics of selected tests of significance	5	2	3
Total	**45**	**15**	**30**

4. Teaching and Learning Methods:

4.1- Lectures.
4.2- Practical lessons.
4.3- Assignments.
4.4-attention and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed.

5. Student Assessment Methods:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams:	- Knowledge
-Short essay: 40%	- Knowledge
-structured questions: 25%	- Knowledge, intellectual skills
-MCQs: 20%	- Intellectual skills, General transferable skills,
-Commentary, Problem solving: 15%	- Practical skills, intellectual skills
5.3-Structured Oral Exams	- Knowledge
5.4-OSPE	-Practical skills, intellectual skills
5.5Computer search assignment	- general transferable skills, intellectual skills

Assessment Schedule

Assessment 1. Attendance and absenteeism (formative)
Assessment 2. Final Written examination: week 24
Assessment 3. Final Oral examination: week 24
Assessment4. Final OSPE: week 24

Weighting of Assessments

Final-term Examination	50%
Oral Examination	30%
OSPE	20%
Total	100%

formative only assessment :simple research assignment, attendance and absenteeism.

6. List of References

6.1- Essential Books (Text Books)

1-Maxy-Rosenau Public health and preventive medicine, 2008.,Robert Wallace, publisher McGraw-Hill Medical; 15 edition.

6.2- Recommended

Books

1- Dimensions of Community Based projects in Health Care, 2018. Arxer, Steven L., Murphy, John W.; 1st edition.

2- Parks Text Book of Preventive & Social Medicine. 2017., K. Park. BanarsidasBhanot Publishers; 23 edition.

3- Clinical Epidemiology: The Essentials, 2013, Robert F., Suzanne W. Fletcher, Grant S., publisher Lippincott Williams & Wilkins; 5 edition.

6.3- Periodicals, Web Sites, …etc

1-American Journal of Epidemiology

2-British Journal of Epidemiology and Community Health

3- WWW. CDC and WHO sites

7. Facilities Required for Teaching and Learning:

4. Adequate conditioned space for staff and assistants.
5. Adequate conditioned teaching facilities.
6. Audiovisual Aids: Data show, overhead and slide projectors and their requirements

Course Coordinator: Dr/**Rasha Abd El-Hameed**

Head of the department: Prof/ Ahmmed Fathy

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specification of clinical oncology in master degree in clinical oncology

Sohag University **Faculty of Medicine**

1. Program on which the course is given: Master degree in clinical oncology
2. Major or Minor element of program: Major
3. Department offering the program: Clinical Oncology and nuclear medicine.
4. Department offering the course: Clinical Oncology and nuclear medicine.
5. Academic year/ Level: 2nd part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of clinical oncology in master degree in clinical oncology
Code: ONC 0521-200

Radiation oncology

Lectures	Practical/Surgical	Tutorials/Clinical	Total hour
40	30	30	100

Radiation technology

Lectures	Practical/Surgical	Tutorials/Clinical	Total hour
30	75	60	135

Paediatric oncology

Lectures	Practical/Surgical	Tutorials/Clinical	Total hour
22	15	15	52

Medical oncology

Lectures	Practical/Surgical	Tutorials/Clinical	Total hour
35	30	22.5	87.5

1. Overall Aims of Course

The student should be able to:
Understand radiotherapy and radioisotopes in the management of malignant disease and understand and deal with the toxicities of radiotherapy and radioisotopes

2. Intended Learning Outcomes of Course (ILOs)

Radiation oncology

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:
a1. Mention the role of radiotherapy in the management of malignant diseases
a2. Mention different techniques of radiotherapy
a3. Mention using different procedures for planning patients for radiotherapy

b) Intellectual Skills

By the end of the course, the student is expected to be able to:
Define basic terminology
b1. Understand the interactions of radiation in different tissues
b2. Understand different techniques of radiotherapy

b3. Understand different rationale of radiotherapy in management of malignancy
b4. Know new modalities of radiotherapy
b5. Know palliative care with radiotherapy

c) Practical Training aspects:

By the end of the course, the student is expected to be able to:
c1. Training in different equipment of radiotherapy in the department
c2. Practical training in the simulator machine
c3. Clinical evaluation of the patient before receiving radiotherapy

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:
d1. Take a decision of delivering radiotherapy in cancer patient and the rationale of giving the radiotherapy or radioisotopes
d2. Update with a new modalities of radiotherapy equipment
d3. Update with a new protocols of radiotherapy

Radiation Technology

1. Overall Aims of Course:

1. Understand how radiotherapy is delivered (treatment machines,
2. treatment planning, and brachytherapy).
3. Understand different techniques of radiation including conformal radiotherapy and stereotactic radiation therapy,
4. Understand the radiobiological effects of radiation therapy and radioisotopes.

2. Intended Learning Outcomes of Course (ILOs)

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:
a1. List the different pretreatment procedures
a2. Describe the planning procedures for radiotherapy
a3. List the delivering radiotherapy
a4. Mention new modalities of radiotherapy
a5. Mention the radiotherapy toxicities
a6. Mention radioisotopes

b) Intellectual Skills

By the end of the course, the student is expected to be able to:
b1. how to take a decision in a cancer patients need radiotherapy
b2. understand different rationale of radiotherapy
b3. understand different techniques of planning and delivering radiotherapy
b4. know management of side effects of radiotherapy
b5. know using of radioisotopes in diagnosis and managment

c) Practical Training aspects:

c1. Know the properties of the simulator machine
c2. Understand different position of the patients during planning
c3. Understand different methods of fixation in mould rooms
c4. Understand different methods of brachytherapy
c5. Understand different new modalities of planning and radiotherapy
c6. know different radioisotopes and their uses and precautions

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:
d1. know different modalities of radiotherapy
d2. know different techniques of delivering radiotherapy
d3. know different methods of patient fixation
d4. Know new modalities of radiotherapy

d5. Understand using radioisotopes in diagnosis and management of malignant diseases

Paediatric oncology

1. **Overall Aims of Course**

The student should be able to:

Know different type of pediatric malignant diseases and their management , Understand the malignant hematological diseases and their management including the supportive treatment should be given to the patient due to chemotherapy toxicities , Understand bone marrow transplantation and its different types and the drugs used in the procedure and after, and also the student should know different methods of palliative care of cancer patients

2. **Intended Learning Outcomes of Course (ILOs)**

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

a1. Mention basic knowledge of pediatric malignant diseases and their management
a2. Mention general care of pediatric patient
a3. Describe treatment toxicities in pediatric patients
a4. Mention basic knowledge of malignant hematological diseases and their management
a5. Mention the procedures of bone marrow transplantation and types
a6. Mention how to palliate different symptoms of cancer patient

b) Intellectual Skills

By the end of the course, the student is expected to be able to:
Define basic terminology

b1. understand the different rationale of management pediatric malignancy
b2. understand using chemotherapy protocols in management pediatric malignancy
b3. know using chemotherapy protocols in management hematological malignancy
b4. understand palliative treatment of cancer patients

c) Practical Training aspects:

c1. clinical training in chemotherapy administration in pediatric cases
c2. clinical training in dealing with hematological toxicities of chemotherapy and other toxicities
c3. clinical training in different methods of palliation symptoms of cancer patients

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

d1. Know new chemotherapy agents used in management of pediatric malignancy and hematological malignancy
d2. Know new chemotherapy protocols
d3. know the basic of medical care of pediatric cases and hematological malignancy cases

medical oncology

a) Knowledge and understanding:

By the end of the course, the student is expected to be able to:

a1. Mention different chemotherapeutic agent
a2. Mention other lines of medical oncological treatment as the hormonal treatment, immunotherapy, the target therapy
a3. Mention different mechanism of action of chemotherapeutic agent

a4. Mention different side effects of those agents

b) Intellectual Skills

By the end of the course, the student is expected to be able to:

b1. Know different chemotherapeutic agents

b2. Understand dealing with other lines of treatment as hormonal treatment ,immunotherapy, target therapy

b3. Understand taking a decision of using chemotherapy or other lines of medical treatment in different malignant diseases

b4. Know dealing with chemotherapy toxicities

c) Practical Training aspects:

c1. clinical training in administration the different chemotherapeutic agents

c2. clinical training in management the chemotherapy side effects

General and Transferable Skills:

By the end of the course, the student is expected to be able to:

d1. Know chemotherapeutic agents

d2. Know using of hormonal, immunotherapy and target therapy

3. Contents

Radiation oncology

	No. of hours	**Lecture**	**Tutorial/practical**
Part I			
• physical and biological basis of radiation therapy	8	3	5
• clinical radiation physics	8		5
• principles of combining radiation therapy and General surgery	8	3	6
• principles of combining radiation therapy and chemotherapy	8	2	6
		2	

Part II • skin	8	2	6
• head and neck *salivary gland *nasal fossa and paranasal sinuses *nasopharynx *oropharynx *oral cavity *larynx and hypopharynx *orbit *temporal bone, ear, and paraganglion * thyroid	12	3	9
• breast			
• thorax * blood vessels and heart * lung and thymus	8	2	6
• GIT * esophagus * stomach and small intestine * pancreas * liver and biliary system * colon and rectum * anal region	8 10	2 4	6 6
• Urinary tract * testis * prostate			
• Female genital system * uterine cervix * endometrium * vulva and vagina * ovary	9	4	5
• CNS * brain * spinal cord	8	3	5
• Leukemia , lymphoma and Hodgkin, disease	8	3	5

• Musculoskeletal * bone * soft tissue • Childhood cancer • Special consideration	8	3	5
* radiation therapy for bone marrow or stem cell transplantation	8	3	5
* palliative care	8	3	5
* clinical application of new modalities	8	3	5
Total	**135**	**45**	**90**

Radiation technology

Topics	No. of hours	Lecture	Tutorial /Practical
General technology			
• physical and biological basis of radiation therapy	8	3	5
• clinical radiation physics	8	3	5
• recent modalities of radiotherapy	8	3	5
• brachytherapy	8	3	5
• radioisotopes	8	3	5
Radiotherapy techniques and planning for different types of malignant diseases			
• skin	8	3	5
• head and neck	9	3	6
• breast	8	3	5
• thorax	8	2	6
• GIT	8	3	5
• Urinary tract	8	2	6
• Male genital tract	8	3	5
• Female genital tract	8	2	6
• CNS	6	1	5
• Leukemia & lymphoma and HD	8	3	5
• Musculoskeletal	8	2	6
• Childhood cancers	8	3	5
Total	**135**	**45**	**90**

Pediatric oncology

Topics	No. of hours	Lecture	Tutorial/ clinical
Part I (pediatric malignancy)			
• bone marrow failure	5	2	3
• lymphadenopathy and splenomegally	6	2	4
• lymphoproliferative disorders and myelodysplastic syndromes	5	2	3
• leukemias			
• Hodgkin's disease	6	2	4
• Non Hodgkin lymphoma	6 6	2 2	4 4
• Central nervous system malignancies	5	2	3
• Neuroblastoma			
• Wilm,s tumor	5	2	3
• Soft tissue sarcoma	6	2	4
• Bone sarcomas	6	2	4
• Histocytosis syndromes	6 6	2 2	4 4
• Retinoblastoma			
• Miscellaneous tumors	6	2	4
• Bone marrow transplantation	5	1	4
• Supportive care and management of oncological emergencies	6 6	2 2	4 4
• Late effects of childhood cancer	6	2	4
Part II (hematological malignancies)			
• Hodgkin and non Hodgkin lymphoma	6	2	4
• Plasma cell dyscrasias and waldenstrom,s macroglbulinemia	6	2	4
• Chronic leukemias			
• Myeloproliferative			

disorders • Acute leukemias and myelodysplastic syndromes **Part III (palliative treatment**	6 6 6 8	2 2 2 2	4 4 4 6
Total	**135**	**45**	**90**

Medical oncology

Topic	**No. of hours**	**lecture**	**Tutorial/Practical**
• principles of oncology • cancer chemotherapeutic agents • supportive care	**9** 9 9	**3** 3 3	**6** 6 6
• head and neck cancers • lung cancers • GIT cancers • Breast cancer • Gynecological cancers • Testicular cancer • UT cancers • Neurological tumors • Endocrinal neoplasm • Skin cancers • Miscellaneous neoplasm Metastases of unknown origin	**9** 9 9 9 9 9 9 9 9 9 9 9	**3** 3 3 3 3 3 3 3 3 3 3 3	**6** 6 6 6 6 6 6 6 6 6 6 6
Total	**135**	**45**	**90**

4. Teaching and Learning Methods:

4.1- Lectures.

4.2- Practical lessons.

4.3- Assignments.

4.4-attention and participating in scientific conferences, workshops and thesis discussion to acquire the general and transferable skills needed.

5. Student Assessment Methods:

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exams:	- Knowledge
-Short essay: 40%	- Knowledge
-structured questions: 25%	- Knowledge, intellectual skills

-MCQs: 20% -Commentary, Problem solving: 15% 5.3-Structured Oral Exams 5.4- OSCE	- Intellectual skills, General transferable skills, - Practical skills, intellectual skills - Knowledge -Practical skills, intellectual skills

Assessment Schedule

Assessment 1	clinical final exam	96 Week
Assessment 2	written final exam	96 week
Assessment 3	Log book	96 week
Assessment 4	oral final exam	96week

Weighting of Assessments:

Log book : Formative exams	
Final-term Examination	50%
Oral Examination	30%
OSPE	20%
Total	100%

6. List of References

6.1- Essential Books (Text Books)

* Perez text book
* James D. cox (radiation oncology)

6.2- Recommended Books

* Ann Barrett (practical radiotherapy planning)

7. Facilities Required for Teaching and Learning:

- Adequate conditioned space for staff and assistants.
- Adequate conditioned teaching facilities.
- Audiovisual Aids: Data show, overhead and slide projectors and their requirements

Course Coordinator: Dr / Emad Eldin Nabil Hassan

Head of Department: Prof. Dr. Elsayed Mostafa Ali Hassan

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018