



## PROGRAMME SPECIFICATION

Faculty of Medicine- Mansoura University

### (A) Administrative information

(1) Programme Title & Code	Postgraduate Doctorate degree of Surgical Oncology/ SONC 620
(2) Final award/degree	M.D
(3) Department (s)	General Surgery
(4) Coordinator	Dr./Omar Farouk/ Islam Hany
(5) External evaluator (s)	Prof. Dr./ Gamal Emiera
(6) Date of approval by the Department's council	8 / 8 / 2016
(7) Date of last approval of programme specification by Faculty council	9/8/2016

## **(B) Professional information**

### **(1) Programme Aims:**

The broad aims of the Programme are as follows:

- 1- Within the philosophy of M.D., we aim to foster the development of personal communication skills with much emphasis on leadership & decision making skills as well as informational technology orientation.
- 2- The degree is designed to prepare the candidate for Systems-based Practice where they must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.
- 3- The certificate aims to prepare educators, researchers, and administrators capable of practicing Surgical Oncology in academic and clinical settings.
- 4- The certificate is designed to give health science professionals and in-depth knowledge of oncology either commonly or rarely encountered, and how to construct appropriate, optimal management strategies (both diagnostic and therapeutic) for patients with cancer.
- 5- To respond to the educational and research training needs of doctors with a special interest in Surgical Oncology. In addition, trainees will be expected to prepare a research proposal and dissertation for an original, self-directed project. This should be based on a research question focusing on a real problem. The project allows trainees to explore a particular issue in surgical oncology.
- 6- To allow the fellows to develop an educational role in the course by communicating their understanding to their peer groups, by means of presentations, lectures. The emphasis will be on self-learning.

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

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

### A- Knowledge and Understanding

Candidates must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social behavioral sciences, as well as the application of this knowledge to patient care. On successful completion of the programme, the candidate will be able.

- A1-Define cell cycle and recognize how cell proliferation occurs.
- A2- Discuss steps of carcinogenesis.
- A3- Recognize oncogenes and tumor suppressor genes and their role in carcinogenesis.
- A4- Understand cancer angiogenesis and how it occurs.
- A5- Discuss how cancer metastasis occurs and knows its different theories.
- A6-State different biological therapies used in cancer treatment, and their rational.
- A7- List different cytokines, currently in use, in cancer treatment.
- A8- Understand stem cell biology as a new hope for cancer management.
- A9-Review incidence and prevalence of different cancers worldwide, and in Egypt.
- A10-Identify different risk factors of cancer.
- A11-Describe different cancer syndromes and discuss their genetic causes.
- A12-Classify different levels of cancer prevention and list applicable measures to reduce cancer risk.
- A13-Discuss different types of cancer registry, and how to construct a registry program.
- A14-List different surgical treatment modalities used in cancer patient and mention briefly examples for their applications.
- A15-Dicuss different machines and methods used for production of radiotherapy beams.
- A16-Identify different types of radiotherapy and mention examples for their applications.
- A17-Describe side effects of radiotherapy and how to manage briefly.
- A18-Classify cancer chemotherapy.
- A19-Recognize the commonly used chemotherapeutic agents and their indication and major side effects.
- A20-Dicuss role of hormonal therapy in cancer treatment.
- A21-Dicuss role of hyperthermia in cancer treatment.
- A22-Discuss role of gene therapy in cancer treatment.
- A23-Identify how to produce photodynamic therapy and list their uses.
- A24-Dicuss role of laser in cancer treatment.
- A25-Enumerate different immunotherapies used for cancer and discuss their use.

A26-Discuss causes and management of anemia, fatigue, constipation and diarrhea in cancer patients.

A27-List different types of cancer induced nausea and vomiting and how to manage.

A28-Enumerate different types of ostomy and indications for each and how to care of constructed stomas.

A29-Identify cancer patients in need for tracheostomy and select patients for different tracheostomy types.

A30-Express how to care for tracheostomy in cancer patients.

A31-Discuss causes and management of pain and depression in cancer patients.

A32-Define role of family givers in care of cancer patients, care of children and terminal cases.

A33-Explain end of life care and recognize cancer prognosis.

A34-Identify different nutritional sources that carry risk of inducing cancer (artificial sweeteners, chemical in meat and fluoridated water) and the evidence base underlying this risk.

A35-List vegetables with cancer preventive effect and enumerate their role in different cancers

A36-Discuss antioxidants and the theories of their cancer preventive effects.

A37-Recognize vitamin D and tea as cancer preventive agent and discuss its role in different cancers.

A38-Identify alcohol as a major cancer risk and discuss its effects and implication of different alcohol types in cancer.

A39-Review causes of obesity and how and what cancer it is implicated in.

A40-Discuss anatomy of different parts of the head, neck, breast and the axilla.

A41-Identify anatomy of major vascular, nervous and lymphatic structures in thorax and upper limb.

A42-Discuss anatomy of different parts and viscera in abdomen and pelvis and recognize their surgical implications.

A43-Identify major nerves and vessels of lower limb.

A44-Recognize surgical anatomy of inguinal canal, popliteal fossa and hand spaces.

A45- Discuss pathology of cancer in different organs.

A46- List pathological types of different tumors according to world health organization (WHO).

A47- Review staging system of different tumors.

A48-Discuss hyperparathyroidism, how to diagnose and when to proceed for surgery.

A49-Identify cases of acute limb ischemia and discuss its management.

A50-Define deep vein thrombosis, list its causes and recognize measures for prevention and early treatment.

A51-Classify hemangioma, identify investigations required and treatment.

A52-Discuss Benign thyroid disorders and their differential diagnosis.

A53-Review sialadenitis and its management.

A54-Describe hernias of different types and their management.

A55-Identify maldescended testis, causes and management.

A56-Express how to diagnose and how to manage testicular torsion.

A57-Identify causes and management of surgical site infection.

A58-Discuss in details (acute abdomen, intestinal obstruction and acute appendicitis).

A59-Recognize diverticular disease of colon and inflammatory bowel disease and discuss their management.

A60-Discuss diagnosis, complications and management of (achalasia of the cardia, peptic ulcer and gall stones).

A61-Recognize risk factors and genetic causes of different cancers.

A62-Differentiate benign and malignant breast lesions.

A63-Define manifestations of different types of cancer.

A64-List different treatment options for every type of cancer.

A65-Recognize investigations required in diagnosis of different cancers.

A66-Discuss management of advanced cancers.

A67-Enumerate roles of surgery in leukemia and different hematological disorders.

A68-Identify causes of primary of unknown origin, how to reach diagnosis and how to manage if primary not reached.

A69-Discuss causes of lymphadenopathy and approach to manage these cases.

A70-Identify AIDS as a major risk factor for cancer and list its related types of cancer and precautions to be taken during management of such cases.

A71-Explain causes of oncologic emergencies and how to manage

A72-Explain how to choose animal species for different experimental surgeries.

A73-List methods of obtaining body fluids from animals.

A74-Describe how to restrain animals after surgery.

A75-Discuss methods of tumor transplantation in animals.

A76-Discuss methods of cancer antibody production.

A77-Discuss acid base balance and management of different disturbances in cancer patients.

A78-List causes of postoperative acute renal failure in cancer patients and describe how to manage.

A79-Identify different blood products in use and explain precautions during blood transfusion in cancer patients.

A80-Recognize respiratory problems in cancer patients and discuss how to manage.

A81-Express indications of parenteral nutrition in cancer patients, list its components and explain how to manage.

A82-Discuss fluid therapy in cancer patients.

A83-Recognize how to assess cancer pain.

A84-Discuss pharmacological and physical management of cancer pain.

A85-List invasive procedures used in cancer pain management and discuss its indications and technique.

A86-Define depressive disorders in cancer patients and recognize how to manage.

A87-Recognize how to assess cancer patients psychosocially.

A88-Explain grief and bereavement in cancer patients.

A89-Discuss drug use disorders in cancer patients.

A90-Explain paradigms of cancer rehabilitation.

A91-Discuss methods of rehabilitation of different cancer patients (breast, musculoskeletal and head and neck cancers).

A92-Identify cancer patients candidate for rehabilitation courses.

## B- Intellectual skills

- B1- Distinguish different cancers biology and nature.
- B2- Apply cancer biology knowledge in choice of cancer therapy.
- B3-Distinguish differences between genetic induced and sporadic cancers
- B4-Debate different measures of cancer prevention.
- B5-Employ the knowledge of different therapeutic options of cancer therapy to tailor treatment plan for each cancer patient.
- B6-Demonstrate understanding of health care of cancer patients in different situations.
- B7-Employ knowledge in decreasing cancer treatment related complications
- B8-Distinguish the role of different nutritional agents in cancer prevention.
- B9-Employ knowledge in nutritional science in counseling patients in what food to use and what to avoid.
- B10.Illustrate anatomy of different parts of the body.
- B11-Demonstrate understanding of surgical applications of surgical anatomy.
- B12-Correlate knowledge of anatomy with surgical practice point of view.
- B13. Employ knowledge in applied pathology in classifying and staging of cancer patients.
- B14. Distinguish prognosis of different cancers.
- B15. Relate the examination findings, investigational results and history taking to reach proper diagnosis of general surgical patients.
- B16.Employ gained knowledge in choice of suitable treatment option for different surgical patients.
- B17.Enlist the differential diagnosis of different surgical conditions.
- B18-Use the knowledge of general surgery in management of oncology patients with concomitant general surgical morbidity.
- B19. Discuss case management with senior staffs and supervisors to improve professional performance and raise health outcomes.
- B20. Criticize management of cancer patients and demonstrate pros and cons of different treatment options.
- B21. Analyze data obtained from investigations and examination to reach diagnosis for each individual case.
- B22-Employ knowledge in performing adequate experimental surgery.

- B23-Distinguish different problems encountered by cancer patients requiring ICU admission.
- B24-Calculate fluid therapy and parenteral nutrition amounts given to cancer patients in ICU.
- B25-Manage cancer patients in ICU adequately.
- B26-Judge cancer pain and choose suitable method for its management.
- B27-Distinguish different psychological disorders encountered by cancer patients.
- B28-Embloy knowledge in choice of Rehabilitation program suitable for every individual cancer patients.
- B29-Appraise the value of rehabilitation as an integral part in cancer treatment.

**C- Professional/practical skills**

- C1-Examine anatomy of different parts of the body on postmortem specimens.
- C2-Be able to recognize different structures on museum specimens.
- C3-Examine different pathological specimens and identify gross features of cancer.
- C4. Demonstrate different practical skills in the field of surgical Oncology.
- C5. Take proper history and perform clinical medical examination for cases.
- C6. Manage different emergent and urgent cases attending oncology center.
- C7. Apply ABC (patent airway, breathing and circulation) for life saving of critically ill patients.
- C8. Apply the international management guidelines in treatment of oncology cases.
- C9. Gain skills of dissection of organs, vessels, nerves and important anatomical structures all over the body and how to reach it through the simplest, safest and shortest way.
- C10. Apply these skills especially with emergent and urgent cases.
- C11. Be able to perform different common surgical oncology operations adequately (mastectomy, thyroidectomy, hysterectomy, colectomy, parotidectomy, etc.).
- C12. Interpret different investigations to reach proper diagnosis.
- C13. Demonstrate competence in basic minimally invasive oncology procedures (Laparoscopic oophrectomy, laparoscopic exploration and laparoscopic lymph node biopsy).
- C14. Gain skills in common endoscopic procedures (colonoscopy, upper GI endoscopy, hysteroscopy, cystoscopy).
- C15. Demonstrate basic skills in reconstructive surgery after cancer resection.
- C16. Apply surgical and medical knowledge in cancer palliation.



## D- Communication & Transferable skills

- D1: Demonstrate compassion, integrity, and respect for all patient's rights and treat all patients equally regardless to their believes, culture and behavior.
- D2: Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
- D3. Work effectively as a member or leader of a health care team or other professional group.
- D4. Manage patient at proper time.
- D5. Respect for patient privacy and autonomy.
- D6. To review the scientific literature on a research topic.
- D7. Advocate for quality patient care and optimal patient care systems.
- D8. Work in inter-professional teams to enhance patient safety and improve patient care quality.
- D9. Participate in identifying system errors and implementing potential systems solutions.
- D10. Transfer certain anatomical and surgical skills to undergraduate generations.

### (3) Academic standards.

Academic standards for the programme are attached in **Appendix I** in which **NARS** issued by the National Authority for Quality Assurance & Accreditation in Education are used being approved by the faculty council on 14/7/2010. External reference points/Benchmarks are attached in **Appendix II**.

**3.a-** External reference points/benchmarks selected to confirm the appropriateness of the objectives, ILOs and structure of assessment of the programme: Global curriculum in Surgical Oncology by European society of surgical oncology (ESSO) and American society of surgical oncology (SSO): [www.essoweb.org/eursso/education/global-curriculum](http://www.essoweb.org/eursso/education/global-curriculum)

**3.b-** Comparison of the specification to the selected external reference/ benchmark.

### **Curriculum structure and contents.**

**4.a- Duration of the programme (in years or months):** 36 months

### **4.b- programme structure.**

The programme consists of two parts; the first part composed of five courses which are: Cancer Biology, Cancer Epidemiology, Essentials of treatment of cancer, Health care of

cancer patient and Nutritional science of oncology. The second part composed of five courses; four of them are compulsory courses and one course (out of five) is optional.

●4.b.1. Number of credit hours (minimum): **60 credit hour.**

First part: **5 credit hours.** Second part: **25 credit hours.**

Thesis: **15 credit hours.**

Activities included in the log book: **15 credit hours (13 clinical & 2 other activities).**

**(4) Programme courses:**

**a- Compulsory courses:**

**First part (one semester =15 weeks duration/6 months)**

Course title	المقررات	Course code	Theoretical	Total hours / week	Total teaching hours
			Lectures		
Cancer Biology and immunology		SONC 620 EB	1 credit hour	1	15
Cancer Epidemiology		SONC 620 EP	1 credit hour	1	15
Essentials of treatment of cancer		SONC 620 CT	1 credit hour	1	15
Health care of cancer patients		SONC620 GMC	1 credit hour	1	15
Nutritional science of oncology		SONC 620 NP	1 credit hour	1	15
Total			5 credit hours	5	75

## Second part (60 weeks duration- 4 semesters)

Course title	Course code	Theoretical	Practical / Clinical	Total hours / week	Total teaching hours
		Lectures			
Surgical anatomy	SONC 601 SONC 620 ANA	1.5 credit hour	0.5 credit hour	1.5 lectures 1 practical	22.5 lectures 15 practical
Applied pathology	SONC 605 SONC 620 PATH	1.5 credit hour	0.5 credit hour	1.5 lectures 1 practical	22.5 lectures 15 practical
General surgery	SONC 620 GS 620	7 credit hour	-----	7 lectures	105 lectures
Surgical oncology	SONC 620	13 credit hour	13 credit hours	13 lectures 13 practical	195 lectures 390 practical
Total		23 credit hours	17 credit hours	23 lectures 15 practical	345 lectures 450 practical

### a- Elective courses:

#### Second part

Course title	المقررات	Course code	Theoretical	Total hours / week	Total teaching hours
			Lectures		
Experimental surgery		SONC 620 ES	1 credit hour	1	15
ICU for oncology patients		SONC 628	1 credit hour	1	15
Pain treatment in oncology patients		SONC 628	1 credit hour	1	15
Psychiatry of oncology patients		SONC 613	1 credit hour	1	15
Rehabilitation of oncology patients		SONC 6016	1 credit hour	1	15

**(5) Programme admission requirements:**

● **General requirements:**

According to the faculty postgraduate laws [Appendix IV](#).

● **Specific requirements (if applicable):**

Fulfillment of at least 75% of the logbook activities:

Attendance of lectures, clinical training, laboratory work and field training according to the master programme specification.

**(6) Regulations for progression and programme completion:**

- Student must complete minimum of 60 credit hours in order to obtain the M.D. degree, which include the courses of first and second parts, thesis and activities of the log book.
- Courses descriptions are included in [Appendix III](#).
- Registration for the M.D. thesis is allowed 6 months from the day of registration to the programme and must fulfill a total of 15 credit hours including material collection, patients' selection and evaluation, laboratory work, patients follow-up, and meetings with supervisors.

**Log book fulfillment:**

- Student must fulfill a minimum of 15 credits of log book activities including;
  1. Rotational clinical training in the outpatients clinics of surgical oncology. Clinical training must include also in-patients hospital requests.
  2. Conferences attendance or speaking.
  3. Operative attendance and active participation.
- Any workshops, conferences and scientific meetings should be included in the log book.

## Final exam.

### First part

Tools	Mark	Percentage of the total mark
<b>Written exam.</b> <ul style="list-style-type: none"> <li>- Cancer biology and immunology</li> <li>- Cancer epidemiology</li> <li>- Essentials of treatment of cancer</li> <li>- Health care of cancer patients</li> <li>- Nutritional science of oncology</li> </ul>	40 40 40 40 40	80%
<b>MCQ exam.</b> <ul style="list-style-type: none"> <li>- Cancer biology and immunology</li> <li>- Cancer epidemiology</li> <li>- Essentials of treatment of cancer</li> <li>- Health care of cancer patients</li> <li>- Nutritional science of oncology</li> </ul>	10 10 10 10 10	20%
<b>Total marks:</b> 250		

### Second part

Tools	Mark	Percentage of the total mark
<b>Written exam</b> <ul style="list-style-type: none"> <li>- Surgical anatomy</li> <li>- Applied pathology</li> <li>- General surgery</li> <li>- Surgical oncology</li> <li>- Elective course (Experimental surgery, ICU for oncology patients, Pain treatment in oncology patients, Psychiatry of oncology patients, Rehabilitation of oncology patients)</li> </ul>	60 60 160 400 40	
<b>MCQ</b> <ul style="list-style-type: none"> <li>- Surgical anatomy</li> <li>- Applied pathology</li> <li>- General surgery</li> <li>- Surgical oncology</li> <li>- Elective course (Experimental surgery, ICU for oncology patients, Pain treatment in oncology patients, Psychiatry of oncology patients, Rehabilitation of oncology patients)</li> </ul>	15 15 40 100 10	
<b>Oral exam</b> <ul style="list-style-type: none"> <li>- Surgical anatomy</li> </ul>	50	

- Applied pathology	50	
<b>OSCE exam</b>		
- General surgery	100	
- Surgical oncology	100	
<b>Clinical exam</b>		
Surgical oncology	100	
<b>Practical/Operative exam</b>		
- Surgical anatomy	50	
- Applied pathology	50	
- Surgical oncology	100	
<b>Total marks:</b> 1500		

### (7) Assessment methods:

5.1: Written exam for assessment of knowledge & intellectual skills.

5.2: MCQ exam for assessment of knowledge & intellectual skills.

5.3: Oral & OSCE exam for assessment of knowledge & intellectual skills.

5.4: Clinical exam for assessment of knowledge, intellectual skills & communication skills.

5.5: Practical/operative exam to assess professional/practical skills.

### (8) Evaluation of Programme's intended learning outcomes (ILOs):

Evaluator	Tools*	Signature
Internal evaluator (s) Prof. Dr. Nazem Shams Prof. Dr. Adel Denewer Prof. Dr. Sherif Zaki Kotb Prof. Dr. Ahmed Seteet Prof. Dr. Mohamed Hegazy Prof. Dr. Mona Hasheesh Prof. Dr. Wafaa Abdel-Hakeem El-Bahaey Prof. Dr. Basma Elkadee	Focus group discussion Meetings	

External Evaluator (s) <b>Prof. Dr. Gamal Emiera,</b> National cancer institute, Cairo university	Reviewing according to external evaluator checklist report.	
Senior student (s)		
Alumni		
Stakeholder (s)		
Others		

\* TOOLS= QUESTIONNAIRE, INTERVIEW, WORKSHOP, COMMUNICATION, E\_MAIL

We certify that all information required to deliver this programme is contained in the above specification and will be implemented. All course specifications for this programme are in place.	
<b>Head of department:</b> <b>Prof. Dr. Nazem Shams</b> Professor of surgical oncology, Mansoura University	Signature & date:
<b>Dean:</b> <b>Prof. Dr. Elsaid Mohamed Abdelhady</b>	Signature & date:
<b>Executive director of the quality assurance unit:</b> <b>Prof. Dr. Seham Gad El-Hak</b>	Signature & date: