



الهيئة السعودية للتخصصات الصحية  
Saudi Commission for Health Specialties

# Oncology Nursing Diploma



2022

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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# PREFACE

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- The primary goal of this document is to enrich the training experience of postgraduate trainees by outlining the learning objectives that enable them to become independent and competent future practitioners.
- This curriculum may contain sections outlining some regulations of training. However such the ultimate sources for information regarding these regulations remain the training's "general bylaws" and "Executive Policies" published by the Saudi Commission for Health Specialties (SCFHS), which can be accessed online through the official SCFHS website. In the case of discrepancy in regulation statements, the one stated in the most updated bylaws and executive policies will be the reference to apply.
- As this curriculum is subject to periodic refinements, please refer to the electronic version posted online for the most updated edition at [www.scfhs.org.sa](http://www.scfhs.org.sa).

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## II. COPYRIGHT STATEMENT

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## III. FOREWORD

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The Advanced Oncology Nursing Diploma Curriculum Development team acknowledges the valuable contributions and feedback from the Scientific Committee members in the development of this program. This curriculum is the structural design for the Advanced Oncology Nursing Diploma program. We extend special appreciation and gratitude to all the members who have been pivotal in the completion of this curriculum, especially the Curriculum Development Committee, Curriculum Advisory Committee Members, and Scientific Council. We would also like to acknowledge that the National Competency Framework for Bachelor of Nursing Programs is a copyright of the SCFHS and that many of the described competencies have been acquired from their resources. The Scientific Committee of the commission strives to ensure a proper process of continuous quality improvement for the program curriculum. To do this, a periodic review of the curriculum by expert professionals within the field will be performed to assess the scientific content and refine it based on the best available evidence at any given time.



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## V. INTRODUCTION

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Cancer is a group of diseases that can affect any part of the body and in which cells proliferate uncontrollably. According to the World Health Organization (WHO) (1), cancer is the second leading cause of death worldwide, accounting for approximately 10 million deaths in 2020. Approximately 70% of these deaths occur in low - and middle-income countries, where access to early diagnosis and treatment is limited (1,2).

The etiology of cancer has not been fully elucidated yet however, several risk factors have been identified for each type of cancer, including tobacco smoking, alcohol consumption, exposure to ultraviolet light, low fiber and high-fat diet, and lack of physical activity (1,3). Thus, primary cancer prevention programs were designed to eliminate these risk factors and promote healthier lifestyles. In addition, public education and awareness programs were established to enhance people's understanding of the contribution of these factors to the development and progression of cancer.

In Saudi Arabia, according to the latest Cancer Incidence Report, A total of 18,375 new cancer cases was reported in 2017 (4). Overall cancer incidence was higher among women (55.5%) than among men (44.5 %). In a recent report published by the International Agency for Research on Cancer, the total number of cancer cases in Saudi Arabia in 2020 was 27,885. In this report, the overall cancer rate was higher among men (51%) than among women (49 %) (5). The ten most common cancers in Saudi Arabia are breast cancer (18.1%), colorectal cancer (12.4%), thyroid cancer (8%), non-Hodgkin's lymphoma (6.4%), leukemia (5.1%), Hodgkin's lymphoma (3.7%), lung cancer (3.7%), endometrial cancer (3.6%), prostate cancer (3%), and liver cancer (2.8%) (4).

The incidence and mortality of cancer cases in Saudi Arabia have increased over the last two decades; for example, the incidence of thyroid cancer has increased by approximately 26-folds. Similarly, the incidence rates of breast and colon cancers recorded a 10-fold



increase, while that of prostate cancer underwent an 8-fold increase. On the other hand, mortality rates show an age-based stratification. Indeed, the mortality rate for people aged 15-49 is 10%, while that for those aged 50-69 is 19% (6).

In the past, patients were treated in specific and very limited cancer centers located in metropolitan areas. Hence, several patients had to travel long distances to receive the proper cancer therapy. The most identified provoking factor was the lack of specialized personnel (7,8,9). In response to the increasing demand for access to cancer treatments, more hospitals around the country started to provide these treatments. This has decreased the travel burden on cancer patients and allowed them to receive treatment at facilities closer to home.

In addition, the SCFHS developed the Advanced Practice Clinical Nursing Diploma Programs, such as the Oncology Nursing diploma, for multiple reasons. The aim of the program was to train, educate, and equip nurses with the required oncology-related knowledge, skills, and attitudes. Having such a program would ensure that cancer patients receive high-quality nursing care from specialized and competent oncology nurses. In addition, it would ensure homogenous practice standards and quality of care among the different cancer centers.

## 1. Context of Practice

The incidence and prevalence of cancer are increasing in Saudi Arabia, and the government's commitment to improve access to health care services is certain, as it is an essential part of the 2030 vision and the Strategic Goals for Health in the Kingdom (10). Thus, specialized healthcare services are expected to expand and the need for qualified and competent oncology nurses is pressing. As undergraduate nursing curricula provide a brief discussion about oncology, nurses usually take the bulk of in-depth knowledge about oncology when they actually work in cancer units after graduation. Therefore, hospital-based education on oncology is not unified across the country; thus, nurses are trained and educated differently.

Recognizing the previous concern, it is necessary to develop a unified and evidence-based curriculum to ensure high-quality oncology nursing care, which would result in competent oncology nurses working in every cancer center.

While nurses who join this program are already experienced nurses, this program will widen their horizons in the field of oncology and enrich their skills by developing advanced qualifications, including oncology nursing-specific competencies, research skills, and leadership skills.

Graduates of this program will be able to use their knowledge and skills at various levels, be it in the clinical setting while managing patients and taking care of them or in the academic setting while engaging in educational activities and passing on the knowledge they acquired.

As this program progresses, with more graduates every year, it is important that graduates continue to utilize the knowledge they received and the skills they developed, which together would ensure the achievement of the Strategic Goals for Health in the Kingdom. Therefore, a specific career plan for every applicant signed and approved by the applicant sponsor will be required in the future. Thus, the Oncology Scientific Committee is responsible for periodically reviewing and updating eligibility criteria.

## 2. Goals and Responsibilities of Curriculum Implementation

Ultimately, this curriculum seeks to guide trainees to become competent in their respective specialties. Accordingly, this goal requires a significant amount of effort and coordination from all stakeholders involved in postgraduate training. As “adult-learners,” trainees must be proactive, fully engaged, and exhibit the following assets: a careful understanding of learning objectives, self-directed learning, problem solving skills, an eagerness to apply learning by means of reflective practice from feedback and formative assessment, and self-awareness and willingness to ask for support when needed. The program director plays a vital role in ensuring the successful implementation of this curriculum. Moreover, training committee members, particularly the program administrator and



chief resident, have a significant impact on program implementation. Trainees should be motivated to share responsibility in curriculum implementation. The Saudi Commission for Health Specialties (SCFHS) applies the best models of training governance to achieve the highest quality of training. Additionally, academic affairs in training centers and the regional supervisory training committee play major roles in training supervision and implementation. The commission's Scientific Committee will guarantee that the content of this curriculum is constantly updated to match the highest standards in postgraduate education for each trainee's specialty.

### 3. What is new in this edition?

This curriculum was developed as a competency-based curriculum with an explicit representation of learning domains (knowledge, skills, and behavior). It is also based on a specific framework that supports independent learning. This curriculum gave a higher weight for the competency aspect of the training and provided clear objectives and expectations for each area of the training rotation. Doing so would ensure adequate completion of milestones that need to be achieved at each stage of the training.

The didactic classes in this curriculum were transformed to become academic half-day, where a greater exposure to the specialty core topics will take place. This can provide the trainees with a greater opportunity to participate in these academic days where instructors/faculty members may participate as facilitators in some sessions.

In addition to the mandatory rotations, this curriculum added two extra types of rotations: "Elective" and "Selective" rotations. Moreover, based on the year of training, the trainee completes specific sets of mandatory competencies.

This curriculum also aimed to prepare trainees toward independence, where trainees are expected to start taking responsibility for patients independently during the second year of the program. Patient safety should always be considered to be the top priority before assigning a trainee to the patient.

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# VI. ABBREVIATIONS USED IN THIS DOCUMENT

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*Try to limit the use of abbreviations to the recognized ones, for examples:*

Abbreviation	Description
SCFHS	Saudi Commission for Health Specialties
D(1)	(First) year of Diploma
D(2)	(Second) year of Diploma
PT	Progress test
OSCE	Objective Structured Clinical Examination
Mini-CEX	Mini-Clinical Experience report
DOPS	Direct Observation of Procedural Skills report
CBD	Case-Based Discussion report
CBE	Competency-Based Education
ITER	In-Training Evaluation Report
NCCN	National Comprehensive Cancer Network
ONS	Oncology Nursing Society
ADL	Activity of Daily Living
BMT	Bone Marrow Transplantation



Abbreviation	Description
CVAD	Central Venous Access Device
RT	Radiation Therapy
ED	Emergency Department
BMA	Bone Marrow Aspiration
PTC	Program Training Committee
HIPEC	Hyper-thermic Intra-Peritoneal Chemotherapy
OR	Operation Room
TBL	Team-Based Learning
PD	Program Director

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## VII. PROGRAM ENTRY REQUIREMENTS

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- Bachelor's degree in Nursing
- Paying the training and examination fees in full
- Holding a valid Nursing License and classified Registered Nurse from SCFHS
- At least one year of nursing experience in the acute nursing care unit prior to joining the program
- Providing employer approval, if any, for full-time training and enrollment in the training program
- English proficiency Result. Applicant should submit one of the followings:
  - (STEP: 64) Valid for 3 years;
  - (IELTS: 4.5) valid for 2 years;
  - (TOFEL: IBT 48-PBT 458) valid for 2 years
- Letter of intent: The applicant should submit a letter of intent explaining why they want to join the program

Please refer to the executive Policy of SCFHS on admission and registration.





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# VIII. INTRODUCTION TO LEARNING OUTCOMES AND COMPETENCY-BASED EDUCATION

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Training should be guided by well-defined “*learning objectives*” that are driven by targeted “*learning outcomes*” of a particular program to serve specific specialty needs. Learning outcomes are supposed to reflect the professional “*competencies*” that are required for the tasks that trainees aim to be “*entrusted*” with upon graduation. This will ensure that graduates will meet the expected demands of the healthcare system and patient care in relation to their particular specialty. *Competency-based education* (CBE) is an approach of “*adult-learning*” that is based on achieving *pre-defined, fine-grained, and well-paced* learning objectives that are derived from complex professional competencies.

Professional competencies related to healthcare are usually complex and contain a mixture of multiple learning domains (knowledge, skills, and attitude). CBE is expected to change the traditional method of postgraduate education. For instance, the time of training, though a precious resource, should not be considered as a proxy for *competence* (e.g., the time of rotation in certain hospital areas is not the primary marker of competence achievement). Furthermore, CBE emphasizes the critical role of informed judgment in the learners’ competency progress, which is based on a staged and formative assessment that is driven by multiple workplace-based observations. Several CBE models, such as the National Competency Framework for Bachelor of Nursing Programs, have been developed for undergraduate and postgraduate education in healthcare. This particular framework

has been used in this curriculum for multiple reasons. As it reflects the entry level to nursing for the newly graduated nurses, it also reflects the entry level of the oncology trainees to the specialty. In addition, this framework integrates three learning domains (knowledge, skills, and attitudes) that demonstrate nurses' abilities to perform different nursing competencies. The following concepts enhance the implementation of CBE in this curriculum:

- **Competency:** Competency is a cognitive construct that assesses the potential to perform efficiently in a given situation based on the standards of the profession. Professional roles (e.g., experts, advocates, communicators, leaders, scholars, collaborators, and professionals) are used to define competency roles in order to make them mendable for learning and assessment.
- **Milestones:** Milestones are the stages of the developmental journey throughout the competency continuum. Trainees, throughout their learning journey, will be assisted in transforming from being novice/supervised to master/unsupervised practitioners. This should not undermine the role of supervisory/regulatory bodies toward malpractice of independent practitioners. Milestones are expected to enhance the learning process by pacing the training/assessment to match the developmental level of the trainees (junior vs. senior).
- **Learning Domains:** Whenever possible, efforts should be directed to annotate the learning outcomes with the corresponding domain (K=Knowledge, S=Skills, and A=Attitude). You may have more than one annotation for a given learning outcome.
- **Content-area Categorization:** It is advisable to categorize learning outcomes in broad content areas related to the practice of the profession. For example, diagnostic versus therapeutic, simple versus complex, and urgent versus chronic.
- Trainees are expected to progress from the novice to the master's level in a certain set of professional competencies. The National Competency Framework for Bachelor of Nursing Programs is a newly published and locally developed competency framework by the Nursing Professional Council of the Saudi Commission for Health Specialties (11).



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# IX LEARNING AND COMPETENCIES

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## 1. Professionalism.

The Oncology Diploma trainee will demonstrate accountability and responsibility for the delivery of nursing care that is consistent with the profession's moral, ethical, legal, humanistic, and regulatory principles.

## 2. Patient Centered Care.

The Oncology Diploma trainee will deliver compassionate and coordinated care that recognizes patients' preferences, values, and needs and respects the patient as an active partner in providing holistic, safe, and effective care.

## 3. Evidence Based Practice and Research.

The Oncology Diploma trainee will be able to conduct scientific and oncology-related studies focusing on pertinent aspects of nursing care. The trainee will also be able to use his/her expertise to appraise the available literature and make clinical decisions based on the best available evidence.

## 4. Leadership and Management.

The Oncology Diploma trainee will demonstrate leadership and management skills through critical thinking, ethical decision-making, communication, collaboration, and adequate nursing interventions in providing culturally competent, cost-effective care for groups of clients across the wellness/illness continuum.

## 5. Quality and Safety Management.

The Oncology Diploma trainee will be able to identify basic quality and safety principles within the healthcare sector. In addition, the trainee will demonstrate proficiency in identifying and analyzing nursing quality indicators to minimize the chance of harm to patients and health care providers and improve the provided care based on nationally- and internationally-recognized benchmarks.

## 6. Health Education and Promotion.

The Oncology Diploma trainee will be able to identify the need of communities and individual patients related to health promotion and disease prevention. The trainee will also strive to promote healthy behaviors by providing health information and educational activities using reliable resources with respect to different age groups and cultural backgrounds.

## 7. Communication and Information Technology.

The Oncology Diploma trainee is expected to maintain effective verbal communication and interaction with patients, their families, and their co-workers. Moreover, the trainee is expected to take advantage of information technology to analyze and synthesize information in order to collaboratively make critical decisions that serve the best patient outcomes (National Academies of Sciences, Engineering, and Medicine, 2015).

## Program Durations

To obtain an Advanced Practice Clinical Nursing Diploma in Oncology, the candidate must fulfill the following requirements:

- The required period for the completion of this program is two academic years.
- The program consists of two academic years, excluding examination weeks.
- A total of 40 teaching and clinical training hours must be completed each week (36 hours of clinical training and 4 hours of didactic classes).
- Trainees may complete their clinical rotations through daily shifts of 8 or 12 hours (excluding lunchtime).

## Program Rotations

As demonstrated in the following table, the first year of the training consists of seven rotations in both in-patient and out-patient units. There will be no elective or selective rotations during the first year. This is because trainees need to complete all the core clerkships prior to engaging in specialized services.



The second year of training consists of eight core rotations. Moreover, trainees must complete elective and selective rotations.



Training Year	Mandatory core rotations*			Selective rotations**			Elective rotations***		
	Rotation name	Duration	Setting	Rotation name	Duration	Setting	Rotation name	Duration	Setting
D1	1. Medical Oncology	10 Weeks	In-patient	N/A			N/A		
	2. Hematology	8 Weeks							
	3. Bone Marrow Transplantation	6 Weeks							
	4. Radiation Therapy	4 Weeks							
	5. Palliative Care	4 Weeks							
	6. Infusion Center	10 Weeks							
	7. Out-patient Department	6 Weeks	Out-patient						
	8. ****Vacation	4 Weeks							
D2	1. Medical Oncology	6 Weeks	In-patient	Out-patient Services Oncology Hematology BMT Palliative Breast	8 weeks, which should be spent in at least two clinics or more	Out-patient	HIPEC	4 weeks for any selective rotation	Out-patient In-patient
	2. Hematology	6 Weeks					Apheresis		
	3. Bone Marrow Transplantation	4 Weeks					IV Therapy Team (Central Venous Catheter)		
	4. Radiation Therapy	3 Weeks					EMS		
	5. Palliative Care	4 Weeks					ICU		
	6. Infusion Center	6 Weeks					Stoma Care		



Train ing Year	Mandatory core rotations*			Selective rotations**			Elective rotations***		
	Rotation name	Durati on	Setting	Rotation name	Duratio n	Settin g	Rotation name	Durati on	Setting
	7. Leadership and Management	4 Weeks					wound care		
	8. Research Rotation	3 Weeks					Pain Management		
	9. Vacation	4 Weeks							

(\***Mandatory core rotation:** Set of rotations that represent program core components and are mandatory.

\*\***Elective rotation:** Set of rotations that are related to the specialty, as determined by the scientific council/committee, and the trainee is required to attend of them.

\*\*\***Selective rotation:** Set of other rotations, which is selected by the trainee (directed by mentor/program director) to enhance competency acquisition of the specialty.

\*\*\*\***Vacation:** four weeks annual leave and one week for one of the two Eids.

## Mapping of learning objectives and competency roles to program rotations:

This section aims to match the competencies and objectives of each rotation. Trainees and trainers should work together to achieve these objectives during teaching and formative assessment. Expectations should evolve as the training level progresses (training stage and milestones).

N.B. Trainees in year one [D1] are expected to meet the rotations' objectives under direct supervision with preceptors while completing the first year's core competencies. Trainees in year two [D2] who completed the first-year core competencies are expected to complete the rotations' objectives independently, while

continuing to pursue the advanced competencies, as demonstrated in the table below.

In the second academic year [D2], and with every new rotation, trainees may have 3-5 orientation shifts and then start to work independently with one patient as a primary nurse. In this case, the program director, clinical instructor, head nurse, and/or the in-charge nurse should ensure a senior staff nurse [fellow] to buddy the trainee during the working shift. A fellow or senior colleague will be the point of contact for the trainee to validate and verify the tasks to be performed whenever needed.

Through continuous formative assessment, the program’s clinical instructor and the preceptor can evaluate the trainee’s preparedness to progress, and increase the patient load to two and then three patients during the work shift.

Core Specialty Competencies	
Topics	Year to be completed
Comprehensive and Targeted Physical Assessment	D1
Pain Assessment and Management	D1
Administration of Cytotoxic Drugs – Different Routes	D1
Containment of Hazardous Drug Spills	D1
Safe Handling of Hazardous Drugs	D1
Management of Peripherally Inserted Catheters	D1
Management of Central Venous Catheters	D1
Feeding Tubes, Gastrostomy, and Jejunostomy Care	D1
Transfusion of Blood and Blood Products	D1
Mucositis Management	D1
Management of Myelosuppression	D1
Peripheral Intravenous (PIV) Cannulation	D1
Pressure Injury: Risk Assessment and Prevention	D1
Management of Infusion/Transfusion-related Reactions	D1





Core Specialty Competencies	
Topics	Year to be completed
Advanced Specialty Competencies	
Topics	Year to be completed
Urinary Catheterization: Insertion, Maintenance, and Removal	D2
Urinary Catheterization: Closed Continuous Irrigation	D2
Assisting in Brachytherapy	D2
Wound care	D2
Ostomy Pouching: Urostomy, Colostomy, and Ileostomy	D2
Management of Chest tube	D2
Peripheral Parenteral Nutrition	D2
Central Parenteral Nutrition	D2
Tracheostomy Care	D2
Fresh and Cryopreserved Stem Cell Infusion	D2
Anti-thymocyte Globulin (ATG) Administration	D2
Cyclosporine A (CSA) Administration	D2

## Description of First- and Second-year Rotations

### Orientation Week

1. Orientation week is a one-week period required in the first year of the diploma program. The diploma program director with the program coordinator/instructor will schedule the following when required and applicable:
2. Hospital orientation
3. Training site orientation
4. Health-system orientation
5. Design of the diploma program
6. The diploma program manual
7. Expectations and responsibilities of the trainee

8. Trainee schedule and rotation
9. Training evaluation and progress tracking
10. Training site policy and procedures
11. Training policies and regulation
12. Training binder to contain all residency pertinent documentation and instructions on how to arrange it
13. Reading material, for example, introduction to clinical research for residents' booklets and the ethics handbook for residents from the SCFHS website
14. Any other requirements assigned by the diploma program director

## Medical Oncology Rotation

The medical oncology rotation is a ten-week core rotation in the first year and a six-week core rotation in the second year. During this rotation, trainees are exposed to patients with different types of solid tumors, such as colorectal cancer, breast cancer, and lung cancer. In addition, trainees will be trained on different specialized nursing skills to make them capable of independently caring for cancer patients.

### Goals

- To introduce the trainee to the oncology nurse roles and responsibilities
- To equip the trainee with the general and specific oncology nursing skills
- To introduce the trainee to the different cancer types
- To enable the trainee to independently care for a cancer patient (D2 trainee)

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Provide personal care for patients and support them with their ADLs
2. Perform comprehensive and targeted physical assessment and compare findings with the primary nurse (Preceptor), and these include:
  - a. Pain assessment
  - b. Mucositis



- c. Myelosuppression
3. Provide nursing care to patients with different types of cancer (e.g., breast cancer, colon cancer, and Ewing sarcoma)
4. Conduct a nursing care plan for the different symptoms associated with cancer and/or cancer treatment
5. Demonstrate a good understanding of the purpose and types of chest tubes and provide the appropriate care for patients having them
6. Demonstrate a good understanding of the purpose of tracheostomy and its types and provide the appropriate care for patients undergoing them
7. Evaluate patients' progress and their response to the care provided
8. Reflect on their role in leading and developing practices in relation to the care of patients with cancer

## Hematology Rotation

Hematology is an eight-week core rotation in the first year and a six-week core rotation in the second year. During this rotation, trainees will be exposed to patients with benign hematological disorders, such as sickle cell anemia, thalassemia, and hemophilia.

### Goals

- To introduce the trainee to the hematology nurse roles and responsibilities
- To equip the trainee with the general and specific hematology nursing skills
- To introduce the trainee to the different benign blood disorders
- To explain the pathophysiology of hematological malignancies and etiological factors that may contribute to the development of hematological conditions/diseases
- To enable the trainee to independently care for a hematology patient (D2 trainee)

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Provide personal care for patients and support them with their ADLs

2. Perform comprehensive and targeted physical assessment and compare findings with primary nurse (Preceptor), and these include:
  - a. pain assessment
  - b. Mucositis
  - c. Myelosuppression
3. Provide nursing care to patients with different types of hematological disorders (e.g., sickle cell anemia, thalassemia, hemophilia)
4. Conduct a nursing care plan for the different symptoms associated with blood disorders and/or their treatment regimens
5. Demonstrate a good understanding of the purpose of bone marrow aspiration and provide appropriate care for patients undergoing it
6. Discuss the etiological factors contributing to the development of hematological malignancies
7. Analyze treatment options and potential side effects or complications commonly associated with these treatments
8. Reflect on their role in leading and developing practices in relation to the care of patients with hematological malignancies

### Bone Marrow Transplantation Rotation

The BMT rotation is a six-week core rotation in the first year and a four-week core rotation in the second year of the diploma program. Patients in BMT unit are diagnosed with hematological malignancies, such as acute myeloid leukemia and chronic lymphocytic leukemia. Different procedures are also performed during this rotation, such as stem cell transplantation.

#### Goal

- To introduce the trainee to the BMT nurse roles and responsibilities
- To equip the trainee with the general and specific BMT nursing skills
- To introduce the trainee to the different hematological malignancies
- To explain the pathophysiology of hematological malignancies and the etiological factors that may contribute to the development of hematological conditions/diseases



- To equip the trainee with the specific rotation competencies and skills
- To enable the trainee to independently care for a BMT patient (D2 trainee)

### Objectives

Upon of the rotation, the trainee should be able to:

1. Perform comprehensive and targeted physical assessment and compare findings with primary nurse (Preceptor), these include:
  - a. Pain assessment
  - b. Mucositis
  - c. Myelosuppression
2. Provide nursing care to patients with different types of hematological malignancies
3. Conduct a nursing care plan for the different symptoms associated with hematological malignancies and their treatment regimens
4. Demonstrate a good understanding of the purpose of bone marrow aspiration and provide appropriate care to patients undergoing it
5. Assist physician in intrathecal procedures and treatment administration
6. Discuss the etiological factors contributing to the development of hematological malignancies
7. Analyze treatment options and potential side effects or complications commonly associated with these treatments
8. Reflect on their role in leading and developing practices in relation to the care of patients with hematological malignancies
9. Discuss the different types of transplantations
10. Understand the mechanism of action and the rationale for use of the myeloablative drugs post transplantation
11. Care for a post-transplant patient with complications (e.g., graft versus host disease).

### Radiation Therapy (RT) Rotation

The radiation therapy rotation is a four-week core rotation in the first year and a two-week core rotation in the second year of the program. Cancer patients from Medical Oncology and BMT receive radiation treatment in this unit. Ionizing radiation is used in the

treatment of cancer owing to its ability to interact with the DNA of proliferating cancer cells in order to produce cytotoxic effects.

### Goals:

- To introduce the trainee to the nurse roles and responsibilities in RT unit
- To introduce the trainee to the different treatment plans for the different cancer types
- To explain the concept of the radiation simulation and the radiation treatment doses/sessions
- To equip the trainee with the specific rotation competencies and skills
- To introduce the trainee to the radiation-specific safety measures

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Perform targeted physical assessment and compare findings with primary nurse (Preceptor)
2. Demonstrate a good understanding of the purpose of RT in treating different types of cancer
3. Describe the side effects associated with RT
4. Describe the indications for RT
5. Label the safety measures used in RT
6. Analyze treatment options and the potential side effects or complications commonly associated with RT.
7. Reflect on their role in leading and developing practices in relation to the care for patients pre-and post-RT
8. Maximize radiation protection and safety with sealed and unsealed sources of RT
9. Apply the appropriate safety measures associated with radiation contamination
10. Develop a nursing care plan based on the area being treated

### Palliative Care Rotation

The palliative care rotation is a four-week core rotation in the first year and a four-week core rotation in the second year of the program. Palliative care is a specialized service for patients with serious illnesses. Patients who cannot be on active cancer treatment either because they have failed multiple lines of cancer



treatment or those with advanced-stage cancers who cannot tolerate cancer treatment will be admitted under palliative care for symptom management. It aims to improve the patient's and the family's quality of life, and it focuses on the patient's needs rather than the disease prognosis.

### Goals

- To introduce the trainee to the nurse roles and responsibilities in palliative care unit
- To introduce the trainee to the different treatment plans for the different symptoms
- To explain the concept of the palliative care and end-of-life care
- To equip the trainee with the specific rotation competencies and skills
- To introduce the trainee to the radiation specific safety measures
- To equip the trainee with the knowledge and skills of pain management
- To enable the trainee to independently care for a patient admitted under palliative care (D2 trainee)

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Perform targeted physical assessment and compare findings with primary nurse (Preceptor)
2. Describe the philosophy and principles of palliative care
3. Value the role of the palliative care nurse in easing patient death
4. Assess patient's and family's needs at the end-of-life
5. Value the multidisciplinary team contribution in palliative care
6. Participate and take part in conversation about dying and death
7. Demonstrate competence in pain and the other symptoms management
8. Provide education to patient and family about the end-of-life care
9. Provide sensitive care and emotional support
10. Strive to be a patients' advocate
11. Develop a nursing care plan for the actual symptoms and potential risks

## Infusion Center Rotation

The infusion center rotation is a ten-week core rotation in the first year and a six-week core rotation in the second year of the program. It is also called oncology treatment area, where oncology and hematology patients receive their respective treatments. Trainees in this rotation can see a variety of treatment regimens and procedures, and work with multidisciplinary team members.

### Goals

- To introduce the trainee to the nurse roles and responsibilities in the infusion unit
- To introduce the trainee to the different treatment regimens for the different cancer types
- To equip the trainee with the specific rotation competencies and skills
- To introduce the trainee to the hazardous drug-specific safety measures
- To enable the trainee to independently care for patients in the infusion unit who receive different types of treatment (D2 trainee)

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Perform targeted physical assessment and compare findings with primary nurse (Preceptor)
2. Demonstrate competence in the administration of cytotoxic drugs and cancer treatment in general, which may include, but is not limited to, chemotherapies, biotherapies, immunotherapies, etc.
3. Demonstrate competence in safe handling of hazardous drugs and waste management
4. Identify the rationale for the use of vascular access devices (VADs)
5. Differentiate among the various types of VADs
6. Outline potential complications associated with VADs, including a plan for nursing management and patient education
7. Demonstrate competence in VAD Care
8. Describe the side effects associated with cancer treatment





9. Identify the potential adverse effects/hypersensitivity reactions associated with cancer treatment
10. Justify the patient's readiness to receive treatment based on chart review, patient condition, and laboratory workups.
11. Demonstrate competence in reading the results of blood workups associated with cancer type and treatment protocol
12. Provide patient and family education about cancer treatment, side effects, and symptom management
13. Reflect on their role in leading and developing practices in relation to the care of cancer patients in the infusion unit
14. Develops nursing care plan based on the patient's chief complaint

### Out-Patient Department (OPD) Rotation

The OPD rotation is a six-week core rotation in the first year and an eight-week elective rotation in the second year. Trainees should rotate between all the oncology, hematology, and BMT clinics. Nurses in the OPD provide care to newly diagnosed cancer patients, cancer patients undergoing active treatment, and cancer survivors. In addition, patients with cancer receive care from multidisciplinary team members in the OPD.

#### Goals

- To introduce the trainee to the nurse roles and responsibilities in the OPD
- To introduce the trainee to the patient care process from diagnosis to survivorship
- To equip the trainee with the specific rotation knowledge and skills
- To introduce the trainee to the process of history taking from a cancer patient
- To introduce the trainee to the multidisciplinary care process and clinical pathways
- To enable the trainee to independently cover the out-patient clinic (D2 trainee)

#### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Perform targeted physical assessment and compare findings with primary nurse (Preceptor)

2. Recognize the patient flow system in the out-patient unit
3. Value the role of the out-patient nurse
4. Assist physician in providing care in the out-patient setting
5. Coordinate the patient care with the multidisciplinary team members
6. Demonstrate competence in assessing patient needs
7. Provide patient and family education appropriate to the specific patient need
8. Strive to be a patients' advocate
9. Develop nursing care plan in relation to patient needs

### Leadership and Management Rotation

Leadership and management rotation is a four-week core rotation in the second year of the program. During this rotation, the trainee is assigned to a nursing leader, for example, a head nurse, assistant head nurse, educator/instructor, clinical nurse specialist, or clinical care coordinator. During this rotation, trainees are encouraged to assume a leadership role that will widen their scope of practice prior to completing the diploma program.

### Goals

- To introduce the trainee to the nurse manager/educator roles and responsibilities
- To introduce the trainee to the daily nursing management duties
- To explain the different staffing processes in cancer nursing units
- To introduce the trainee to the staff nurses' professional development activities
- To introduce the trainee to the patient care coordination process

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Recognize the nurse manager/educator roles and responsibilities
2. Engage in the staffing process based on patient needs, patient acuity, and staff competency
3. Participate in patient safety activities that may include participating in "root-cause analysis"
4. Participate in the revision and resolution of the departmental incident reports



5. Evaluate the patient satisfaction and staff satisfaction surveys
6. Engage in staff development activities
7. Develop nursing education materials as required by program director
8. Provide nursing education to staff nurses and colleagues

### Research Rotation

Refer to Appendix-F

## Selective Rotations

The following rotations are all part of the curriculum's selective rotations. Trainees are required to complete one or two of these rotations within four-weeks. Shall the trainee request participation in more than two rotations, this has to be approved by the program director and the Program Training Committee (PTC). The approval of trainees' participation in these selective rotations is based on the training center's operational capacity and function.

### Hyper-Thermic Intra-Peritoneal Chemotherapy (HIPEC) Rotation

HIPEC rotation is an area in which a trainee can observe a specialized cancer treatment procedure in the operating room. Rotation to this area of practice is subjective to the availability of the service and cases. The trainee can be in any selective rotation and attend the HIPEC procedure whenever available. It is the program director's and program instructor/faculty's responsibility to involve the trainee in such learning experiences once available.

#### Goal

- To introduce the trainee to the oncology nurse roles and responsibilities in the HIPEC procedure

#### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Coordinate patient care with the multidisciplinary team members
2. Recognize the safety measures associated with chemotherapy administration in the OR
3. Document the chemotherapy precaution and safety measures post HIPEC in the patient chart

## Apheresis Unit Rotation

The apheresis unit is a procedure unit in which the medical technology used involves removing whole blood from a donor or patient and separating the blood into individual components. Trainees can observe the procedure of separating stem cells prior to transplantation.

### Goals

- To introduce the trainee to the role and responsibility of the apheresis unit nurse
- To introduce the trainee to the technology used in separating stem cells

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Coordinate patient care with the multidisciplinary team members
2. Recognize the safety measures associated with the apheresis procedure
3. Recognize the different purposes of apheresis procedure in treating different types of blood disorders

## Emergency Department (ED) Rotation

Cancer patients usually visit the ED because of diagnosis-related complications, treatment-related toxicities, or poorly managed symptoms. Trainees will have the chance to see and care for cancer patients who need immediate care.

### Goals

- To introduce the trainee to the ED nurse's roles and responsibilities in caring for cancer patients
- To introduce the trainee to cancer patients' needs in the ED

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Perform targeted physical assessment and compare findings with primary nurse (Preceptor)
2. Respond to patient's health complaints professionally and in a timely manner
3. Recognize the workflow in the ED



4. Value the role of the ED nurse
5. Assist physician in providing care for cancer patients in the ED
6. Coordinate the patient care with the multidisciplinary team members when needed
7. Demonstrate competence in assessing patients' needs
8. Provide patient and family education appropriate to the specific patient need
9. Strive to be a patients' advocate
10. Develop nursing care plan in relation to patient needs

### Intensive Care Unit (ICU) Rotation

Cancer patients need admission to the ICU department for the management of acute illnesses associated with cancer diagnosis itself or as a result of treatment-related complications that include SCT. Trainees can learn about the care provided to patients with cancer in the ICU for different possible complications.

#### Goals

- To introduce the trainee to the ICU nurse's roles and responsibilities in caring for cancer patients
- To introduce the trainee to cancer patients' needs in the ICU
- To introduce the trainee to the multidisciplinary care process for cancer patients in the ICU

#### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Perform comprehensive physical assessment and compare findings with primary nurse (Preceptor)
2. Conduct a nursing care plan for the different symptoms associated with cancer and/or cancer treatment
3. Demonstrate a good understanding of the purpose and types of chest tubes, and provide the appropriate care for patients having them
4. Value the role of the ICU nurse
5. Assist physician in providing care for cancer patients in the ICU
6. Coordinate patient care with the multidisciplinary team members when needed
7. Demonstrate competence in assessing patients' needs
8. Strive to be a patients' advocate

## Stoma Care Rotation

Stoma care nursing is a specialized role that is usually performed by colorectal specialist nurses or stoma nurses. During this rotation, the trainee learns about the different stoma types, including colostomy, ileostomy, and urostomy. Trainees will learn how to provide care and educate cancer patients with stoma pre-and post-surgery.

### Goals

- To introduce the trainee to the Stoma Care nurse role and responsibility in caring for cancer patients with a stoma
- To introduce the trainee to the different types of stomas
- To introduce the trainee to the multidisciplinary care process for cancer patients with stomas

### Objectives

Upon completion of the rotation, the trainee should be able to:

1. Perform targeted physical assessment and compare findings with primary nurse (Preceptor)
2. Coordinate the patient care with the multidisciplinary team members
3. Recognize the safety measures associated with the stoma
4. Recognize the different purposes of stomas
5. Demonstrate competency in stoma care
6. Provides patient education in-relation to stoma care

## IV Therapy Rotation

This rotation is a specialized nursing rotation where nurses are exposed to the process of assessing, evaluating, and inserting central venous access devices (CVADs). Trainees will learn about the different types of CVADs, their purposes, and the potential associated risks.

### Goals

- To introduce the trainee to the IV nurse roles and responsibilities
- To introduce the trainee to the different types of CVADs
- To promote the appropriate and safe use of CVADs



## Objectives

Upon completion of the rotation, the trainee should be able to:

1. Identify types of CVCs and the indications for use of each
2. List advantages and disadvantages for a short-term versus long-term CVC
3. Identify common insertion sites
4. Identify nursing responsibilities for pre-insertion, insertion, and post-insertion for short- and long-term CVCs
5. List possible complications of CVCs and the nursing actions that should be taken for each complication
6. List safety considerations when caring for a patient with a CVC and provide the rationale behind these actions

## Junior-level Competency-matrix: to map competency, learning domains, and milestones

		Professional Activities Related to Specialty						
Training Year level	Competency-roles (with annotation of learning domains involved: K: knowledge, S: Skills, A: Attitude)	Conducting a full physical assessment	Administration of cancer treatment	Managing cancer treatment – related adverse effects	Caring for cancer patient (Medical/Surgical Oncology and Hematology)	Caring for cancer patient on palliative treatment	Caring for cancer patient pre, peri and post stem cell transplantation	Providing supportive treatment
	D1 Professionalism	Demonstrates nursing professional behaviors	Displays responsibility and accountability for own actions, decisions, and professional conduct according to the scope of practice of registered nurses in Saudi Arabia	Incorporates the nursing professional standards of practice in patient care	Incorporates the nursing professional code of ethics into the daily practice	Advocates for the dignity, culture, values, beliefs, and rights of individuals/groups	Recognizes the professional standards of practice for Nursing Professionals	Advocates for the dignity, culture, values, beliefs, and rights of individuals/groups





## Professional Activities Related to Specialty

### Patient-centered Care

<ul style="list-style-type: none"> <li>- Conducts a holistic assessment</li> <li>- Assesses patient's needs and values throughout the application of clinical assessment</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstrates cognitive nursing skills when administering cancer treatment</li> <li>- Demonstrates proficiency in central and peripheral lines management</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstrates cognitive nursing skills</li> <li>- When delivering direct patient care</li> <li>- Verifies the role of the nurse in relieving all types and sources of pain and suffering</li> </ul>	<p>Plans nursing care to meet the comprehensive needs of patients on cultural, social, ethnic, and religious beliefs influencing human services and nursing practice</p>	<p>Assesses the degree of physical and emotional well-being and self-care abilities</p>	<p>Plans nursing care to meet the comprehensive needs of patients on cultural, social, ethnic, and religious beliefs influencing human services and nursing practice</p>	<p>Provides targeted patient care based on patient's condition, which may include but are not limited to parenteral nutrition, ostomy care, central venous catheter care</p>
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### Evidence-based Practice

<p>Uses best practice and evidence-based approaches at the patient level, clinical level, as well as throughout the health care system</p>	<p>Applies findings of research and evidence to areas of practice</p>	<p>Constructs individualized care plan based on best evidence-based practice</p>	<ul style="list-style-type: none"> <li>- Applies findings of research and evidence to areas of practice</li> <li>- Demonstrates the concept of evidence-based practice as an integral part of assessing best practices</li> </ul>	<p>Constructs individualized care plan based on best evidence-based practice</p>	<p>Constructs individualized care plan based on best evidence-based practice</p>	<p>Constructs individualized care plan based on best evidence-based practice</p>
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## Professional Activities Related to Specialty

Leadership and Management	Employs leadership skills in patient care by promoting health and appropriate culturally sensitive practice	Displays accountability and commitment throughout the nursing performance	Recognizes the value of clinical governance in health care to ensure safety and quality	Demonstrates teamwork with members of the healthcare team in delivering patient care	Demonstrates teamwork with members of the healthcare team in delivering patient care	Demonstrates teamwork with members of the healthcare team in delivering patient care	Demonstrates teamwork with members of the healthcare team in delivering patient care
Quality and Safety	Adheres to maintain an environment that enables patient's safety, independence, quality of life, and health	Demonstrates compliance with the use of personal protective equipment (PPE) and standard Precautions	<ul style="list-style-type: none"> <li>- Demonstrates knowledge regarding strategies of patient safety and risk management skills</li> <li>- Displays effective use of technology and standardized practices that support safe</li> </ul>	Identifies basic safety principles within healthcare sector	Adheres to maintain an environment that enables patient's safety, independence, quality of life, and health	Demonstrates knowledge regarding strategies of patient safety and risk management skills	Demonstrates knowledge regarding strategies of patient safety and risk management skills

## Professional Activities Related to Specialty

			practice				
Health Education and Promotion	Demonstrates teaching skills through providing health education to patients and families	Advocates for patient's rights in regard to treatment plan	Generates health information tailored to specific patient's needs	Identifies different modalities of care to support patients' care preferences	Identifies different modalities of care to support patients' care preferences	Identifies different modalities of care to support patients' care preferences	Generates health information tailored to specific patient's needs
Communication and Information Technology	Applies established communication policies and protocols within and across	Practices documentation (including consent) according to	Communicates transparently with healthcare providers, patients, and the	Recognizes the importance of effective and efficient communication	Accepts the responsibility to establish appropriate alternative	Values the effects of psychological, physiological, develop	Displays the collaborative care approach involving multidisciplinary

## Professional Activities Related to Specialty

health care organizations	organizational guidelines and procedures	community	with patients and other healthcare providers in both verbal and written forms of communication	effective communication methods for individuals/groups who are unable to verbalize their needs	mental, spiritual, and cultural influences on one's own ability to communicate	interdisciplinary team contribution to patient care
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## Senior-level Competency-matrix: to map competency, learning domains, and milestones

		Professional Activities Related to Specialty						
Training Year	Competency-roles (with annotation of learning domains involved: K: knowledge, S: Skills, A: Attitude)	Conduct targeted physical exam	Managing oncologic emergencies	Providing advanced supportive care	Providing end of life care	Assessing cancer Survival needs	Conducting and implementing nursing research and EBP	Demonstrating leadership role
D2	Professionalism	Appraises situations which need the nurse's role as a patient's advocates	Recognizes the potential oncologic emergency related to the type of cancer	Displays responsibility and the accountability for own actions, decisions, and professional conduct according to the scope of practice of registered nurses in Saudi Arabia	Advocates for the dignity, culture, values, beliefs, and rights of individuals/groups	Values responsibilities and the nurse's role as a patient's advocate	Performs in accordance with code of ethics and evidence-based practice	Demonstrates leadership in patient care by promoting a healthy and culturally-safe practice environment
	Patient-centered Care	Performs targeted physical exam based on the patient's complain and	Applies appropriate and advanced nursing care for the related oncologic	Demonstrates nursing interventions to relieve pain and suffering in light of	Demonstrates nursing interventions to relieve pain and suffering in light of	Assesses the care provided to cancer survivors	- Applies findings of research and evidence	Plans nursing care to meet the comprehensive needs of

## Professional Activities Related to Specialty

### Evidence-based Practice

presentation	emergency	patient values, preferences, and expressed needs	patient values, preferences, and expressed needs		to areas of practice	patients on cultural, social, ethnic, and religious beliefs influencing human services and nursing practice
Seeks relevant information to contemporary healthcare issues	Constructs individualized care plan based on best evidence-based practice	<ul style="list-style-type: none"> <li>- Applies findings of research and evidence to areas of practice</li> <li>- Integrates new evidence into standards and</li> </ul>	<ul style="list-style-type: none"> <li>- Applies findings of research and evidence to areas of practice</li> <li>- Integrates new evidence into standards and</li> </ul>	Improves the provided nursing care based on the best available evidence	Demonstrates proficiency in searching and research process	Accepts the responsibility to maintain professional development in clinical practice based on new evidence-based practice



Professional Activities Related to Specialty

Leadership and Management

		guide lines of nursing practice	guide lines of nursing practice			
Illustrates high standards of care to cultivate excellence in nursing practice	Demonstrates leadership behaviors through collaboration and communication with other members of the health care team	Demonstrates leadership behaviors through collaboration and communication with other members of the health care team.	Demonstrates teamwork with members of the healthcare team in delivering patient care	Displays accountability and commitment throughout the nursing performance	Leads in nursing research activity	Demonstrates management skills in planning, organizing, staffing, directing, and controlling

Quality and Safety

Recognizes the role of nursing that contributes to the system of care and that affects outcomes	Analyzes unsafe practices by self and others	Identifies predictors of occupational hazards	Maintains professional standards of nursing care along the span of patient illness	Generates a safe care transition of cancer survivors in collaboration with the other multidisciplinary team members	Judges the value of analyzing system and individual accountability when errors or near misses occur	Analyzes unsafe practices by self and others
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## Professional Activities Related to Specialty

### Health Education and Promotion

Recognizes health related learning needs of clients with respect to personal, environmental, and community health backgrounds	Uses information from different reliable sources for planning and improving health promotion and health education activities	Identifies different modalities of care to support patients' care preferences	Formulates educational material about end-of-life care to enhance the patient's and family's understanding and involvement	Formulates educational materials about cancer survivorship to enhance the patient's and family's understanding and involvement	Analyzes the patient education offerings based on the best available evidence	Generates health information to specific patient's needs with respect to different age groups and cultural backgrounds
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### Communication and Information Technology

Employs written and spoken communication skills appropriate to the needs of individual s/groups	Shows the importance of communicating new information and revisions to members of the health care team as necessary	Displays rapport with individual s/groups to enhance their ability to express feelings in an appropriate context	Displays rapport with individual s/groups to enhance their ability to express feelings in an appropriate context	Demonstrates written and spoken communication skills appropriate to the needs of individuals/groups	Assesses barriers to effective communication	Justifies the contribution of technology as a tool to improve patient safety and quality of care
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# X. CONTINUUM OF LEARNING

This includes learning that should take place at each key stage of progression within the specialty. Trainees are reminded of the importance of lifelong continuous professional development (CPD). Trainees should keep in mind the necessity of CPD for every healthcare provider to meet the demands of their vital profession. The following table shows how this role is progressively expected to develop throughout the junior, senior, and consultant levels of practice.

	Undergraduate	New Graduate	D1 (Junior Level)	D2(Senior Level)	Advanced Practice Clinical Nursing
	Novice	Advanced Beginner	Competent	Proficient	Expert
Experience and Performance	The Novice or beginner has no experience in the situations in which they are expected to perform	Demonstrates marginally acceptable performance because the nurse has had prior experience in actual situations	Demonstrated by the nurse who has been on the job in the same or similar situations for two or three years. The nurse is able to demonstrate efficiency, is coordinated, and has confidence in his/her actions	perceives situations as wholes rather than in terms of chopped up parts or aspects. Proficient nurses understand a situation as a whole because they perceive its meaning in terms of long-term goals	Has an intuitive grasp of each situation and zeroes in on the accurate region of the problem without wasteful consideration of a large range of unfruitful, alternative diagnoses, and solutions
Autonomy	Lacks confidence to demonstrate safe practice and requires continuous verbal and physical cues	Requiring occasional supportive cues	Able to make plan and establish a perspective, and the plan is based on considerable conscious, abstract, analytic	Learns from experience what typical events to expect in a given situation and how plans need to be modified in	Operates from a deep understanding of the total situation.  His/her performance becomes fluid



	Undergraduate	New Graduate	D1 (Junior Level)	D2(Senior Level)	Advanced Practice Clinical Nursing
			<p>contemplation of the problem.</p> <p>Care is completed within a suitable time frame without supporting cues</p>	<p>response to these events.</p> <p>can now recognize when the expected normal picture does not materialize</p>	<p>and flexible and highly proficient</p>
Coping Skills and Knowledge	Practice is within a prolonged time period, and he/she is unable to use discretionary judgment	<p>The nurse is efficient and skillful in parts of the practice area.</p> <p>May/may not be within a delayed time period.</p> <p>Knowledge is developing</p>	The conscious, deliberate planning that is characteristic of this skill level helps achieve efficiency and organization	This holistic understanding improves the proficient nurse's decision-making; it becomes less labored because the nurse now has a perspective regarding which of the many existing attributes and aspects in the present situation are the important ones	Highly skilled analytic ability is necessary for those situations with which the nurse has had no previous experience

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# XI. TEACHING METHODS

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The teaching process in postgraduate residency/fellowship/diploma training programs is mainly based on the principles of adult learning theory. Trainees feel the importance of learning and play active roles in the content and process of their own learning. The training programs implement the adult learning concept on each feature of the activities in which the residents are responsible for their own learning requirements. The formal training time includes the following three formal teaching activities:

- Program Specific Learning Activities
- Core Topics
- General Learning Opportunities

## 1. Program-specific learning activities:

Program-specific activities are educational activities specifically designed and intended for trainees' teaching during their training time. Trainees are required to attend these activities, and non-compliance can subject trainees to disciplinary actions. It is advisable to link attendance and participation in these activities to continuous assessment tools (see the formative assessment section below). Program administration should support these activities by providing protected time for trainees to attend these activities and allow them to participate in such activities.

### A). Program Academic half-day:

Every week, four hours of formal training time (commonly referred to as *academic half-day*) should be reserved. Formal teaching time is an activity that is planned in advance with an assigned tutor, time slots, and venue. Formal teaching time excludes bedside teaching and clinic postings. The academic half-day covers the core specialty topics that are determined and approved by the specialty's scientific council aligned with the specialty-defined competencies and teaching methods. The core specialty topics ensure that

important clinical problems of the specialty are well taught. It is recommended that lectures be conducted in an interactive case-based discussion format. The learning objectives of each core topic need to be clearly defined, and it is preferable to use pre-learning material. Whenever applicable, core specialty topics should include workshops, team-based learning (TBL), and simulation to develop skills in core procedures. Regional supervisory committees, in coordination with academic and training affairs, program directors, and trainee representatives, should work together to ensure the planning and implementation of academic activities as indicated in the curriculum. There should be active involvement of the trainee in the development and delivery of the topics under faculty supervision; the involvement might be in the form of delivery, content development, research, etc. The supervisor's educator should ensure that each topic is stratified into three categories of the learning domain: knowledge, skill, and attitude (see Appendix B for the top knowledge topic and procedure list).

Core Specialty Topics: Case Discussions; Interactive Lectures	
Topics	Comments
Health Promotion, Screening, and Early Detection	To be covered in year 1
Scientific Basis for Practice	To be covered in year 1
Cancer Treatment Modalities	To be covered in year 1
Symptom Management	To be covered in year 1
Oncologic Emergencies	To be covered in year 2
Palliative and End of Life care	To be covered in year 2
Cancer Survivorship	To be covered in year 2
Oncology Nursing Leadership Competencies	To be covered in year 2
Nursing Research and Evidence-based Practice	To be covered in year 2

The recommended number of half-days conducted annually is 40 sessions per academic training year, with reserving time for other forms of teaching methods, such as journal clubs and

clinical/practical teaching. Through the residency training committee, program directors and chief residents, in coordination with academic and training affairs and regional supervisory committees, should work together to ensure the planning and implementation of academic activities, as indicated in the curriculum. They should aim for the efficient use of available resources and optimize the exchange of expertise.

## Educational Session 1: Health Promotion, Screening, and Early Detection

### Session outline:

- General Cancer Epidemiology and Cancer Epidemiology in Saudi Arabia
- Cancer Risk Factors and Prevention Strategies
- Cancer Screening, Early Detection, and Diagnostic Testing

## Educational Session 2: Scientific Basis for Practice

### Session outline:

- Carcinogenesis
- Genetic Risk and Hereditary Cancer Syndromes
- Hereditary Breast and Ovarian Cancer Syndromes
- Hereditary Colorectal Cancer Syndrome
- Individuals and Families at High Risk
- Classification (tumors, staging, grading)
- Common Metastatic Sites
- Nursing Care for Patients with Different Types of the Following Cancers:
  - o Breast cancer, colorectal cancer, thyroid cancer, non-Hodgkin's lymphoma, Hodgkin's lymphoma, leukemia, lung cancer, endometrial cancer, prostate cancer, liver cancer, bladder cancer, brain cancer, and ovarian cancer.

## Educational Session 3: Cancer Treatment Modalities

### Session outline:

- VADs
- Nursing Implications of Surgical Treatment
- Nursing Implications of Radiation Therapy
- Nursing Implications of Chemotherapy
- Nursing Implications of Biotherapy and Molecular Targeted Therapy
- Nursing Implications of Hematopoietic Stem Cell Transplantation

## Educational Session 4: Symptoms Management

### Session outlines:

- Etiology and Patterns of Symptoms (Acute, Chronic, and Late)
- Toxicity and Rating Scales
- Altering Levels of Comfort
  - o Fatigue, pain, pruritus, sleep disorders.
- Alteration in Hematologic and Immune function
  - o Myelosuppression, neutropenia, anemia, thrombocytopenia.
- Alterations in Gastrointestinal Function
  - o Xerostomia, mucositis, nausea and vomiting, ascites, changes in bowel habits, bowel obstruction, bowel ostomies.
- Alterations in Genitourinary Function
  - o Urinary ostomies.
- Alterations in Cardiopulmonary Function
  - o Lymphedema, edema, cardiovascular toxicity.
- Nutritional Alterations
  - o Taste alterations, anorexia, cachexia.
- Alterations in Neurological Function
  - o Neuropathy.



- Alterations in Respiratory Function
  - o Pulmonary toxicity related to cancer therapy, dyspnea.

## Educational Session 5: Oncologic Emergencies

### Session outlines:

- Disseminated Intravascular Coagulation (DIC) [Sinusoidal Obstruction Syndrome]
- Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH)
- Septic Shock
- Tumor Lysis Syndrome
- Hypersensitivity and/or Anaphylaxis
- Hypercalcemia
- Cardiac Tamponade
- Spinal Cord Compression
- Superior Vena Cava Syndrome
- Increased Intracranial Pressure

## Educational Session 6: Palliative and End-of-life Care

### Session outlines:

- Palliative Care
- Pain Management
- Symptom Management
- Communication
- Cultural and Ethical Issues in End-of-life Care
- The Last Hours of Dying
- Loss, Grief, and Bereavement

## Educational Session 7: Cancer Survivorship

### Session outlines:

- Most Common Cancer Sites in the Survivor
- Long-term and Late Effects of Cancer Treatment
- Risk of Recurrence and Secondary Malignancy
- Surveillance Recommendations for Cancer Patients

- Survivorship Care

## Educational Session 8: Oncology Nursing Leadership Competencies

### Session outlines:

- Oncology Nursing Leadership Competencies
  - o Personal Mastery
  - o Vision
  - o Knowledge
  - o Interpersonal Effectiveness
  - o System Thinking

## Educational Session 9: Nursing Research and Evidence-based Practice

### Session outlines:

- Developing the Research Question
- Searching and Reviewing the Literature
- Research Design
- Ethics in Research
- Selecting Participants
- Collecting Data
- Analyzing Data

### B) Practice-based learning:

Training exposures during bedside, laboratory, OR, and other work-related activities, including courses and workshops (e.g., simulations, standardized patients, bedside teaching), represent excellent routes for learning. Trainees are expected to build their capacity through self-directed learning.

On the other hand, practice-based learning allows the educator to supervise the trainees to become competent in the required program practical skills that ensure fulfilling the knowledge, psychomotor, and/or attitude learning domains. Each trainee needs to maintain a logbook documenting the procedures observed, performed under supervision, and performed independently. It would be prudent to determine the minimum number of procedures that need to be performed before training completion and the





minimum number needed to maintain competency after certification.

### C) Morning and afternoon handover:

Morning and afternoon handover nursing reports are case-based teaching sessions that are common to many trainees, with varying purposes and focuses. The goals for morning and afternoon nursing handover reports are to teach efficient handover strategies and case presentation skills, allow discussion of the management of interesting cases, and enhance problem-solving, escalation, and collaboration skills.

## 2. Core topics:

Core topics are educational activities developed by the SCFHS and are intended for all specialties. Priority will be given to topics that are:

- Of high value
- Interdisciplinary and integrated
- Require expertise that might be beyond the availability of the local clinical training sites

Core topics have been developed by the SCFHS and are available through e-learning portals via personalized access for each trainee (to access the online modules). Each core topic will have a self-assessment at the end of the module. As indicated in the “executive policies of continuous assessment and annual promotion,” core topics are mandatory components of the criteria for the annual promotion of trainees from their current level of training to the subsequent level. Core topics will be distributed over the whole period of training.

See Appendix A for more details about the objectives of the required core topics.

Training Year	Program		Topics Name	
	Module	Lesson	Number	Name
D1	Infection Prevention and Control	1- General infection prevention and control principles	Topic-1	The basics of infection prevention and control
			Topic-2	Standard precautions
			Topic-3	Hospital cleaning and waste management
			Topic-4	PPE
			Topic-5	Transmission-based precautions
		2- Management of infectious diseases	Topic-1	Exposures management
			Topic-2	Multidrug resistant organism management guidelines
			Topic-3	Infection control guidelines for special cases
D1	Patient Safety	1- Patient safety	Topic-1	Creating the culture of patients' safety
			Topic-2	Understanding systems and the effect of complexity of patient care
			Topic-3	Using quality improvement methods to improve care
			Topic-4	Understanding and managing clinical risk



Training Year	Program		Topics Name	
	Module	Lesson	Number	Name
		2- Medical errors	Topic-1	Learning from errors to prevent harm
			Topic-2	Human factors and patients' safety
		3- Patient safety across the continuum of care	Topic-1	Being an effective team player
			Topic-2	Patient empowerment and community engagement
			Topic-3	Reporting system
			Topic-4	National patient safety improvement efforts
			Topic-5	Research to improve patient safety
		D2	Communication Skills for Healthcare Professionals	1- Aspects of communications
Topic-2	The principles of good communication			
Topic-3	Using verbal skills to establish good connections			
Topic-4	Non-verbal communication			
2- Doctor-patient relationships	Topic-1			Developing good doctor-patients relationships
	Topic-2			Handling difficult conversations
	Topic-3			Conversation models
	Topic-4			Reinforcement and self-assessment

Training Year	Program		Topics Name	
	Module	Lesson	Number	Name
D2	Code of Ethics	1- Healthcare practitioners' responsibilities toward patients	Topic-1	Patients' rights
			Topic-2	Truth telling and breaking bad news
			Topic-3	Privacy and confidentiality
			Topic-4	Patients' autonomy and consent to treatment
			Topic-5	Treating patients in emergency cases

Training Year	Program		Topics Name	
	Module	Lesson	Number	Name
		2- Healthcare practitioners professional relationships and duties	Topic-1	Healthcare practitioners' inter-professional relationships and duties
			Topic-2	Documentation, authentication, and confidentiality
			Topic-3	Financial affairs in the healthcare field
			Topic-4	Ethical issues in healthcare practice
		3 - Dealing with difficult situations in healthcare practice	Topic-1	Terminally incurable diseases and end of life decisions
			Topic-2	Communicable diseases and promoting public health

### 3. General learning opportunities:

Formal training time should be supplemented by practice-based learning (PBL), which includes:

- Journal Club - Three times per academic year\*\*
- Involvement in one quality improvement committee and its meetings
- Continuous professional activities (CPDs) relevant to specialty (conferences and workshops) – one per academic year
- Hospital-based nursing related committees – one committee per academic year\*\*

Participating in a hospital-based nursing-related committee offers trainees an opportunity to discuss patient cases where adverse effects have occurred due to errors or complications. In addition, trainees learn the processes of patient safety and nursing quality data collection and analysis. The goal of this resource is to equip trainees with safety principles and emphasize error-reduction strategies.

\*\* Any one of these academic activities could belong to the Program Specific Activities or the General Learning Opportunities depending on program's preference.

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# XII. ASSESSMENT AND EVALUATION

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## 1. Purpose of Assessment

Assessment plays a vital role in the success of postgraduate training. Assessment guides trainees and trainers to achieve defined standards, learning outcomes, and competencies. On the other hand, assessment provides feedback to learners and faculty regarding curriculum development, teaching methods, and quality of the learning environment. A reliable and valid assessment is an excellent tool for assessing curriculum alignment between objectives, learning methods, and assessment methods. Finally, assessment assures patients and the public that health professionals are reliable and competent to practice.

Assessment can serve the following purposes:

- a. **Assessment for learning:** Trainers use information from trainees' performance evaluations to tailor their feedback to these trainees. This enables educators to use information about trainees' knowledge, understanding, and skills to provide adequate feedback to trainees regarding their progress and how to improve.
- b. **Assessment as learning:** This involves trainees in the learning process, which enables them to monitor their own progress. Trainees use self-assessment and educators' feedback to reflect on their progress. It develops and supports the trainees' metacognitive skills. "Assessment as learning" is crucial in helping residents/fellows become lifelong learners.
- c. **Assessment of learning:** This is used to demonstrate the achievement of learning. This is a graded assessment and usually counts toward the trainee's end-of-training degree.
- d. **Feedback and evaluation** as assessment outcomes represent quality metrics that can improve the learning experience.

Miller's Pyramid of Assessment provides a framework for assessing the trainees' clinical competences, which acts as a road map for the

trainers to select the assessment methods to target different clinical competencies including “knows,” “knows how,” “shows how,” and “does” (Appendix F).

For the sake of the organization, assessment will be further classified into two main categories: *Formative* and *Summative*.

## 2. Formative Assessment

### 2.1 General Principles

Trainees, as adult learners, should strive for feedback throughout their journey of competency from “novice” to “mastery” levels. Formative assessment (also referred to as continuous assessment) is a component of assessment that is distributed throughout the academic year with the aim of providing trainees with effective feedback.

Every two weeks, at least one hour should be assigned by trainees to meet with their mentors/instructors in order to review performance reports (e.g., ITER, e-portfolio, mini-CEX, etc.). Input from the overall formative assessment tools will be utilized at the end of the year to determine whether individual trainees will be promoted from the current to the subsequent training level. Formative assessment is defined based on scientific (council/committee) recommendations (usually updated and announced for each individual program at the start of the academic year).

According to the executive policy on continuous assessment (available online: [www.scfhs.org](http://www.scfhs.org)), formative assessment will have the following features that will be used based on Miller’s pyramid (Appendix-F):

- a. Multisource: minimum four tools.
- b. Comprehensive: covering all learning domains (knowledge, skills, and attitude).
- c. Relevant: focusing on workplace-based observations.
- d. Competency-milestone oriented: Reflecting the trainee’s expected competencies that match the trainee’s developmental level.



Trainees must play an active role in seeking feedback during their training. However, trainers are also expected to provide timely and formative assessments. The SCFHS will provide an e-portfolio system to enhance the communication and analysis of data arising from formative assessments.

Trainers and trainees are directed to follow the recommendations of the scientific council regarding the updated forms, frequency, distribution, and deadlines related to the implementation of evaluation forms.

## 2.2 Formative Assessment Tools

		Knowledge	
Formative No.	Assessment Tools	Year one (D1)	Year two (D2)
1	Structured Academic Activities	<ul style="list-style-type: none"> <li>- Presenting two-nursing-related journal club entries</li> <li>- Completing 10 CME hours through (conferences, workshops, courses, ...etc.). All CMEs should be reported in Mumaris plus</li> <li>- Passing two Progress Tests (Passing Score 70%)</li> </ul>	<ul style="list-style-type: none"> <li>- Presenting two-nursing-related journal club</li> <li>- Completing 10 CME hours through (conferences, workshops, courses, ...etc.). All CMEs should be reported in Mumaris plus</li> <li>- Passing two Progress Tests (Passing Score 70%)</li> <li>- Passing structured Oral Exam (SOE) (Mock Exam)</li> </ul>
		Core Topics Module 1: Infection Prevention and Control Module 2: Patient Safety	Core Topics Module 3: Communication Skills for Healthcare Professionals Module 4: Code of Ethics
2	End-of-year Progress Test	Promotion Exam	Certificate of Training Completion
Skills			





Formative Assessment Tools		Knowledge	
		Year one (D1)	Year two (D2)
3	Logbook	Ten Drug Cards Five Case-based Discussion (CbD) Case Reports about cancer type or deteriorating case Direct Observation of Clinical Skills DOPS record of completing the D1-related core competencies (total of 13)	Direct Observation of Clinical Skills DOPS record of completing the D1-related core competencies (total of 13) Staffing: Working independently – care for cancer patients independently. Proof of independent work should be submitted from the staff roster.
4	Volunteering	Volunteer in cancer awareness activities (May include activities within or outside the training center, community [schools, universities, or malls], or cancer association)	N/A
5	Teaching and Training	Five Patient Education records with supervision	<ul style="list-style-type: none"> <li>- *Working as a preceptor for junior nurses (D1 trainee, intern, or novice nurse). Two times per academic year</li> <li>- **Validating the skills (checking-off) of a junior nurse on four different core or advanced specialty competencies</li> </ul>
6	Research	Idea of research proposal approved by the PTC	Research idea and written research proposal
Attitude			

Knowledge			
No.	Formative Assessment Tools	Year one (D1)	Year two (D2)
7	ITER: In-Training Evaluation Report	Evaluation reports per each rotation by faculties, clinical instructors/educators, and preceptors.	Evaluation reports per each rotation by faculties, clinical instructors/educators, and preceptors.

**\*Preceptorship:** Trainees are expected to arrange this arrangement in coordination with the program director, rotation instructor, and unit manager.

**\*\*Teaching skills validation:** to be done under supervision of the program director or the clinical instructor.

The evaluation of each component will be based on the following equation:

Percentage	< 50%	50-59.4%	60-69.4%	>70%
Description	Clear fail	Borderline fail	Borderline pass	Clear pass

To achieve unconditioned promotion, the candidate must score a minimum of “borderline pass” in all five components. The program director can still recommend the promotion of candidates if the above is not met in some situations:

- If the candidate scored “borderline failure” in one or two components at maximum, and these scores should not belong to the same area of assessment (for example: borderline failures should not both belong to the “skills” area).
- The candidate must have passed all other components and scored a minimum of clear pass in at least two components.

### 2.3 Promotion Exam

This is only applicable to residency programs. It is a written exam that permits the trainee to be promoted from “junior” to “senior” level of training. For further details on the promotion examination, please refer to general bylaws and executive policy of assessment (available online: [www.scfhs.org](http://www.scfhs.org)).

Blueprint Outlines: The content of the following table is for demonstration only (please refer to the most updated version published on the SCFHS website).

Blueprint of promotion exam is shown in the following table:

- Example of Written Exam Blueprint

No.	Section	Proportion %
1	Health Promotion, Prevention, and Early Detection	10
2	Hereditary Cancer Syndrome	5
3	Breast Cancer	5
4	Colorectal Cancer	5
5	Hodgkin's and Non-Hodgkin's Lymphoma	5
6	Leukemia	5
7	Lung Cancer	5
8	Thyroid Cancer	5
9	Corpus Uteri Cancer	2
10	Prostate Cancer	3
11	Chemotherapies and Biotherapies	15
12	Radiation therapy, Hormonal therapy, and Bone Marrow Transplantation	15
13	Cancer Symptoms Management	20
Total		100%

### 3. Summative Assessment

#### 3.1 General Principles

*Summative* assessment is a component of assessment that aims primarily to make informed decisions about trainees' competency. Compared to formative assessment, *summative assessment* does not aim to provide constructive feedback. For further details on this section, please refer to the general bylaws and executive policy of assessment (available online: [www.scfhs.org](http://www.scfhs.org)). In order to be eligible to sit for the final exams, trainees will be granted "Certification of Training Completion" upon successful completion of all training rotations.

### 3.2 Final In-training Evaluation Report (FITER)

In addition to the approval of the completion of clinical requirements (trainee's logbook) by the supervising committee, FITER is also prepared by program directors for each resident at the end of his or her final year of training. This report shall be the basis for obtaining the certificate of Training Program Completion as well as the qualification to sit for the Final Specialty Examinations.

### 3.3 Certification of Training-completion

To be eligible to sit for Final Specialty Examinations, each trainee is required to obtain a "Certification of Training Completion." Based on the training bylaws and executive policy (please refer to [www.scfhs.org](http://www.scfhs.org)), trainees will be granted "Certification of Training Completion" once the following criteria are fulfilled:

- a) Successful completion of all training rotations.
- b) Completion of training requirements (e.g., logbook, research, others) as outlined in FITER, which is approved by the scientific council/committee of the commission.
- c) Clearance from SCFHS training affairs that ensures compliance with tuition payments and completion of core topics.
- d) Passing the promotion examination (whenever applicable).

"Certification of Training-completion" will be issued and approved by the supervisory committee or its equivalent according to SCFHS policies.

### 3.4. Final Specialty Examinations

The Final Specialty Examination is the summative assessment component that grants trainees the commission's certification. It has two elements:

- a) Final written exam: To be eligible for this exam, trainees are required to have "Certification of Training-completion."
- b) Final clinical/practical exam: Trainees will be required to pass the final written exam to be eligible to sit for the final clinical/practical exam.



Blueprint Outlines: The content of the following table is for demonstration only (please refer to the most updated version published on the SCFHS website).

The blueprints of the final written and clinical/practical examinations are shown in the following tables:

## Example of Written Exam Blueprint

No.	Sections	Percentage (%)
1	Research and Evidence-based Practice	5
2	Oncologic Emergencies	35
3	Pain management at End of Life	10
4	Symptoms Management at End of Life	20
5	Cultural and Ethical Issues at End of Life	6
6	Loss, Grief, and Bereavement	4
7	Long Term Effects on Cancer Survivors	5
8	Secondary Malignancy in Cancer Survivors	5
9	Patient Safety	10
Total		100%



## Example of Final Clinical Exam Blueprint

		DIMENSIONS OF CARE					
		Health Promotion and Illness Prevention 1±1 Station(s)	Cancer Treatment Modalities 2±1 Station(s)	Symptoms Management 4±1 Station(s)	Oncologic Emergencies 4±1 Station(s)	End of Life Care 1±1 Station(s)	# Station(s)
DOMAINS FOR INTEGRATED CLINICAL ENCOUNTER	Patient Care 7±1 Station(s)	1	1	1	1		4
	Patient Safety and Procedural Skills 1±1 Station(s)		1	1	1		3
	Communication and Interpersonal Skills 2±1 Station(s)			1	1	1	3
	Professional Behaviors 0±1 Station(s)			1	1		2
	<b>Total Stations</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>12</b>

For further details on the final exams, please refer to the general bylaws and executive policy of assessment (available online: [www.scfhs.org](http://www.scfhs.org)).

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# XIII. PROGRAM AND COURSES EVALUATION

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SCFHS will apply variable measures to evaluate the implementation of this curriculum. The training outcomes of this program will undergo the quality assurance framework endorsed by the Central Training Committee at SCFHS. Trainees' assessment (both formative and summative) results will be analyzed and mapped relative to the curriculum content. Other indicators that will be incorporated are:

- Report of the annual trainees' satisfaction survey.
- Reports from trainees' evaluations of faculty members.
- Reports from trainees' evaluations of rotations.
- Reports from the annual survey of program directors.
- Data available from program accreditations.
- Reports from direct field communications with trainees and trainers.

Goal-based Evaluation: The intended achievement of milestones will be evaluated at the end of each stage to assess the progress of curriculum delivery, and any deficiency will be addressed in the following stage utilizing the time devoted to trainee-selected topics and professional sessions.

In addition to subject-matter opinions and best practices from benchmarked international programs, SCFHS will apply a robust method to ensure that this curriculum will utilize all the data that will be available during any subsequent revision in the future.





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# XIV. POLICIES AND PROCEDURES

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This curriculum represents the means and materials that outline the learning objectives that trainees and trainers should strive to fulfill for the purpose of achieving the identified educational outcomes. The SCFHS has a full set of “general bylaws” and “Executive Policies” (published on the official SCFHS website) that regulate all training-related processes. The general bylaws of training, assessment, and accreditation, as well as executive policies on admission, registration, continuous assessment and promotion, examination, trainees’ representation and support, duty hours, and leaves, are examples of regulations that need to be implemented. Under this curriculum, trainees, trainers, and supervisors must comply with the most updated bylaws and policies that can be accessed online (via the official SCFHS website).

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# XV. APPENDICES

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- A. Core Topics in Each Module
- B. Top Conditions and Procedures in the Specialty
- C. Examples of Academic Half Day Tables
- D. Miller's Pyramid of Assessment
- E. Glossary
- F. Research Rotation Objectives
- G. References

## Appendix A

### Core Topics

#### Intent:

These are high-value interdisciplinary topics of utmost importance to the trainee. The reason for delivering the topics centrally is to ensure that every trainee receives high-quality teaching and develops essential core knowledge. These topics are common to all specialties. The included topics meet one or more of the following criteria:

- Impactful: these are topics that are common or life-threatening
- Interdisciplinary: these topics are difficult to be taught by a single discipline
- Orphan: topics that are poorly represented in the undergraduate curriculum
- Practical: topics that trainees will encounter in hospital practice

#### Development and Delivery:

Core topics for the PG curriculum will be developed and delivered centrally by the commission through an e-learning platform. A set of preliminary learning outcomes was developed for each topic. Content experts, in collaboration with the central team, may modify the learning outcomes.

These topics will be didactic in nature, with a focus on the practical aspects of care. These topics will be more content-intensive than workshops and other planned face-to-face interactive sessions.

The suggested duration of each topic is 1.5 hours.



**Assessment:** The topics will be delivered in a modular fashion. At the end of each learning unit, there will be an online formative assessment. After completion of all topics, there will be a combined summative assessment in the form of context-rich MCQs. All trainees must attain minimum competency in the summative assessment. Alternatively, these topics can be assessed in a summative manner along with a specialty examination.

Some ideas may include case studies, high-quality images, worked examples of prescribing drugs in disease states, and internet resources.

## Module 1: Infection Prevention and Control

### Description:

Each lesson in the Infection Prevention and Control Program provides a brief medical case-based review related to the topic. Throughout the lessons, there will be motion clips, along with advanced interactive assessment tools and questions that highlight the rationale behind the correct answer.

### Learning Objectives:

- a) Healthcare practitioner's responsibilities to patients
- b) Recognize the importance of infection prevention control
- c) Explain the epidemiology of infection
- d) Recognize the importance of hand hygiene
- e) Identify when to apply hand hygiene
- f) Illustrate the techniques of hand hygiene
- g) Describe cough etiquette
- h) Identify the principles of hospital environment cleaning
- i) Differentiate between non-hazardous healthcare waste and infectious healthcare waste
- j) Apply healthcare waste management plans to different infectious waste categories
- k) Identify different PPE
- l) List the properties of masks
- m) Sequence the steps for putting different types of PPE
- n) Recognize when contact, droplet, and airborne precautions need to be considered
- o) Identify the transmission-based precautions that should be applied to different hospital care scenarios

Two lessons will be covered under this module, and these are:

1. Lesson 1: General infection prevention and control principles

## 2. Lesson 2: Management of infectious diseases

### Module 2: Patient Safety

#### Description:

Each lesson in the Patient Safety Program provides a brief medical case-based review related to the topic. Throughout the lessons, there will be motion clips, along with advanced interactive assessment tools and questions that highlight the rationale behind the correct answer.

#### Learning Objectives:

- a) Healthcare practitioner's responsibilities to patients
- b) Recognize that patient safety is the basis of quality care
- c) Describe systems and the effect of complexity on patient care
- d) Use quality improvement methods to improve care
- e) Explain and manage clinical risk
- f) Discuss the cascade effect of errors that could lead to inappropriate care
- g) Discuss how human interactions with tools, procedures, and machines can have a serious effect on patient safety
- h) Discuss narrow risk margins of high-risk drugs and their inappropriate administration
- i) Discuss elements of a patient-centered approach to informed consent before surgery
- j) Outline strategies to reduce the risk of HAI

Three lessons will be covered under this module, and these are:

1. Lesson 1: Patient safety
2. Lesson 2: Medical errors
3. Lesson 3: Patient safety across the continuum of care

### Module 3: Communication Skills for Healthcare Professionals

#### Description:

Each lesson in the Communication Skills for Healthcare Professionals Program provides a brief, medical case-based review related to the topic. Throughout the lessons, there will be motion clips, along with advanced interactive assessment tools and questions that highlights the rationale behind the correct answer.

#### Learning Objectives:

- a) Be aware of real patient suffering
- b) Understand the concept of patient-centered interviewing skills



- c) Identify the six stages in the communication cycle
- d) Explain the ways to improve communication
- e) Describe the barriers to communication
- f) Explain the verbal communication process
- g) Describe ways to convey proper diagnosis and health education to patients
- h) List the benefits of health education
- i) Identify the aspects of non-verbal communication
- j) Explain the role of non-verbal cues
- k) Identify the strategies used to communicate smartly

Two lessons will be covered under this module, and these are:

1. lesson 1: Aspects of communications
2. lesson 2: Doctor - patient relationship

## Module 4: Code of Ethics

### Description:

Each lesson in the Code of Ethics Program provides a brief, medical case-based review related to the topic. Throughout the lessons, there will be motion clips, along with advanced interactive assessment tools and questions that highlight the rationale behind the correct answer.

### Learning Objectives:

- a) Healthcare practitioner's responsibilities to patients
- b) List the behaviors that constitute the good treatment of patients
- c) Identify how to guard and maintain the patient's rights
- d) Confirm that patients' rights are respected during a hands-on teaching and learning session
- e) Generate a checklist to follow when breaking bad news to a patient or their family
- f) Assess how to talk to a patient and what information to disclose when dealing with bad news
- g) Respect the patient's right to know the truth
- h) Contemplate the best ways to communicate with the patient's family during difficult situations
- i) Identify the situations in which truth-telling to the patient needs to be approached with caution
- j) List the steps to follow when breaking bad news to patients or their families

- k) Contemplate how to break bad news to patients
- l) Assess how to talk to patients in difficult situations
- m) Identify the conditions required to obtain a valid patient consent to treatment
- n) Respect the patient's right to refuse medical treatment
- o) Assess how to address patients refusing medical treatment
- p) Discuss ethical issues during different emergency situations
- q) State the ethical framework to follow in emergency situations
- r) Assess the importance in emergency cases to sort patients according to clinical need

Three lessons will be covered under this module, and these are:

1. Lesson 1: Health care practitioner's responsibilities to patients
2. Lesson 2: Healthcare practitioner's professional relationships and duties
3. Lesson 3: Dealing with difficult situations in healthcare practice

## Recommended Study Books:

Brant, J. M. (2020). *Core curriculum for oncology nursing (Sixth)*. Saunders.  
 Yarbro, C. H., Wujcik, D., & Gobel, B. H. (2018). *Cancer nursing: Principles and practice (Eighth)*. Jones & Bartlett Learning.

## Appendix B

### Top Conditions and procedures in the Specialty

Top Conditions and Procedures in the Specialty Cancer Mortality in Saudi Arabia*		
	Disease; Condition	%
1.	Breast cancer	8.5%
2.	Leukemia	13%
3.	Liver cancer	10%
4.	Lung cancer	7.4%
5.	Lymphomas	6.7%
6.	Pancreatic cancer	4.8%
7.	Nervous system malignancies	4%
8.	Gastric cancer	3.7%
9.	Endometrial cancer	3%
10.	Renal cancer	2.4%

\*Data based on American Institute of Mathematical Sciences. Public Health. A study by Alqahtani et al (2020).



## Most Common Cancers in Saudi Arabia

Disease; Condition	Male to Female Ratio	(ASR)	%
1. Breast cancer		29.7/100,000 for females	18.1%
2. Colorectal cancer	115:100	12.5/100,000 for males 10.9/100,000 for females	12.4%
3. Thyroid cancer	(F373):(M100)	9/100,000 for females 2.5/100,000 for males	8.0%
4. Non-Hodgkin's Lymphoma	135:100	6/100,000 for males 4.8/100,000 for females	6.4%
5. Leukemia	133:100	4.5/100,000 for males 3.3/100,000 for females	5.1%
6. Hodgkin's Lymphoma	126:100	2.8/100,000 for males and 2.2/100,000 for females	3.7%
7. Lung cancer	234:100	5/100,000 for males and 2/100,000 for females	3.7%
8. Endometrial cancer		7.1/100,000 for female	3.6%
9. Prostate cancer		6.2/100,000 for male	3.0%
10. Liver cancer	204:100	4/100,000 for males 1.9/100,000 for females	2.8%

\* Data based on Cancer Incidence Report Saudi Arabia 2017

\*\* ASR – Age Standardized Ratio

Examples of Core Specialty Topics: Case Discussions; Interactive Lectures

Topics	Comments
Health Promotion, Screening, and Early Detection	
Scientific Basis for Practice	
Cancer Treatment Modalities	
Symptoms Management	

Most Common Cancers in Saudi Arabia			
Disease; Condition	Male to Female Ratio	(ASR)	%
Oncologic Emergencies			
Palliative and End of Life Care			
Cancer Survivorship			
Oncology Nursing Leadership Competencies			
Nursing Research and Evidence-based Practice			
Examples of Core Specialty Topics: Workshops/Simulation			
Topics		Comments	
Administration of Cytotoxic Drugs – Different Routes			
Hematopoietic Stem Cell Transplantation			
Management of Central Venous Catheters			
Management of Peripherally Inserted Catheters			
Management of Chest Tube			
Wound and Ostomy Care			
Tracheostomy Care			
Urinary Catheterization: Insertion, Maintenance and Removal			
Assisting in Brachytherapy			
Surgical Drains			





## Appendix-C

The following is a table with example topics that illustrate the half-day activities as they span over the course of one year (or cycle of teaching if more than one year is required to cover all the topics).

Academic week	Section	Date	Time	Sessions	presenters
1	Health Promotion and Prevention	Oct-4	08:00-10:00	Cancer Epidemiology	Program director
			10:00-11:00	Cancer Incidence in Saudi Arabia	Instructor A
			11:00-12:00	Activities Review of SCR* cancer report	Instructor A
2		Oct-11	08:00-09:00	Cancer Prevention Strategies	Instructor B
			09:00-10:00	Case base study***	Instructor B
			10:00-12:00	Cancer Risk Factors Group Activities	Instructor B
3	Early Detection	Oct- 18	08:00-09:00	Cancer Screening Modalities	Instructor C
			009:00-10:00	Journal Club**	Instructor B
			10:00-11:00	Early Detection of the Most Common Cancers	Instructor C
			11:00-12:00	Group Activities	
4		Oct- 25	13:00-14:00	Journal club	Instructor AB
			14:00-15:00	Case base study	Instructor AB
			15:00-16:00	Diagnostic Testing	Instructor A

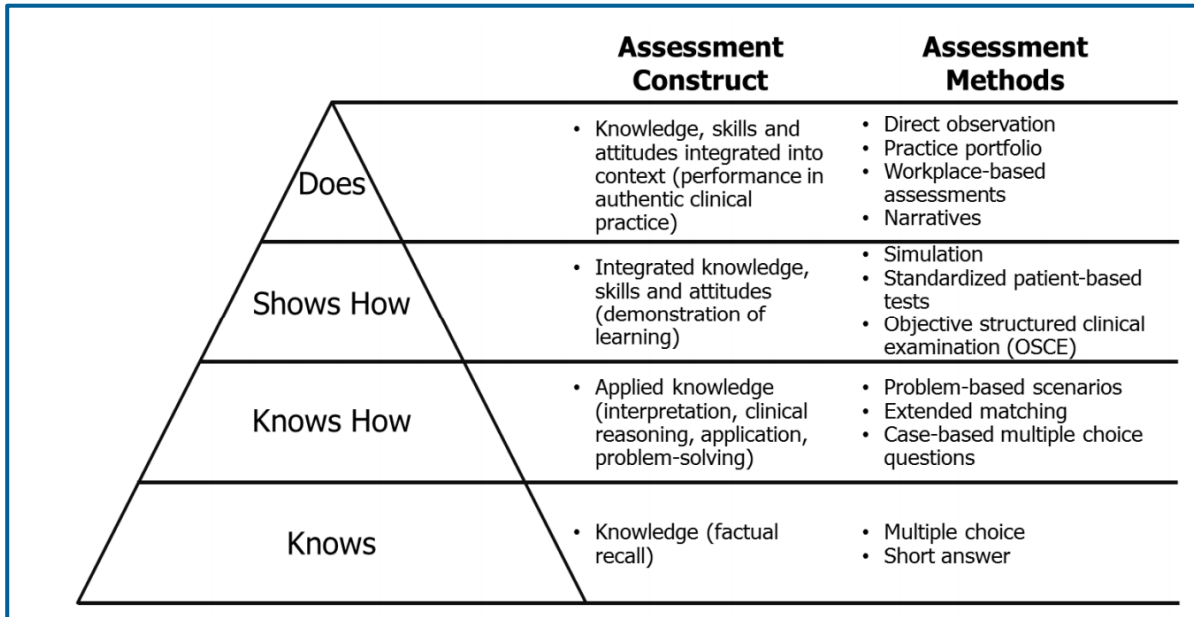
\* SRC Saudi Cancer Registry.

\*\*journal club could be done at the evening time or during the Half-day

\*\*\*case-based study could be done at the evening time or during the Half Day

## Appendix-D

Miller’s Pyramid of Assessment provides a framework for assessing trainees’ clinical competences which acts as a road map for the trainers to select the assessment methods to target different clinical competencies including “knows,” “knows how,” “shows how,” and “does” (2).



(figure1: Miller Pyramid)

- Adapted from: Walsh CM. In-training gastrointestinal endoscopy competency assessment tools: types of tools, validation and impact. *Best Practice & Research Clinical Gastroenterology*. 2016 Jun 1;30(3):357-74.
- Miller GE. The assessment of clinical skills/competence/performance. *Acad Med*. 1990;65(9 Suppl): S63–7.



# Appendix-E

## Glossary

Glossary	
Blueprint	Description correlating educational objectives with assessment contents. For example, test blueprint defines the proportion of test questions allocated to each learning domain and/or content.
Competency	Capability to function within a defined professional role that implies entrustment of a trainee by graduation of the program with the required knowledge, skills, and attitude needed to practice unsupervised.
Specialty Core Content (skills, knowledge, and professional attitude)	A specific knowledge, skill, or professional attitude that is specific and integral to the given specialty.
Formative Assessment	An assessment that is used to inform the trainer and learner of what has been taught and learned, respectively, for the purpose of improving learning. Typically, the results of formative assessment are communicated through feedback to the learner. Formative assessments are not intended primarily to make judgments or decisions (though it can be utilized as a secondary gain).
Mastery	Exceeding the minimum level of competency to the proficient level of performance indicating rich experience with possession of great knowledge, skills, and attitude.
Portfolio	A collection of evidence of progression toward competency. It may include both constructed components (defined by mandatory continuous assessment tools in curriculum) and unconstructed components (selected by the learner).
Summative Assessment	An assessment that describes the composite performance of the development of a learner at a particular point in time and is used to inform judgment and make decisions about the level of learning and certification.

## Glossary

### Core Topic

A knowledge, skill, or professional behavior that is not specific to the given specialty but universal for the general practice of a given healthcare profession.

## Appendix-F

### RESEARCH ROTATION

	First year	Second year	Total
Number of rotation months	0	1	1

#### Goals:

- To demonstrate an understanding of the basic principles of research design, methodology, data analysis, and clinical epidemiology. Also, with their advantages and disadvantages from the perspective of oncology nursing.
- To familiarize trainees with the ethical requirements of research and demonstrate an understanding of the responsible use of informed consent.
- To understand and practice appropriate methods for writing research proposals, drafting manuscripts, data collection, and results analysis and discussion.
- To demonstrate awareness of the current research topics in oncology nursing using available medical informatics systems.
- To acquire the skills required for scientific presentations and public discussions.

#### Training Methods

- A dedicated three weeks, full-time rotation in research is conducted.
- It is expected that the project will span more than three weeks. Therefore, the completion of the work should be done in parallel to other subsequent rotations.
- The trainee will be matched with a supervisor who will help in accessing the essential resources that will allow an appropriate cultivation of research skills and periodically discuss the progress.
- Attendance of dedicated courses or workshops that enhance research skills may be required by the program.



- The trainee must finish the research proposal at least one month prior to the end of the academic year.
- The oral abstract of the study proposal should be presented at the Oncology Nursing Diploma Mini-conference Day.
- The abstract should be sent at least two weeks before the Oncology Nursing Diploma Mini-conference Day.
- It is highly desirable for trainees to start data collection during the academic year and work on completing the research proposal even after completing the academic year and graduating.

### Evaluation

- Attendance at designated courses/lectures will be monitored and incorporated into the annual evaluation score.
- Panel scoring of the research proposal will be conducted at the end of the second year on the Oncology Nursing Research Day. This will count as the research proposal score (the Grading Rubric for Research Proposal will be uploaded to One45).

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