الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

Clinical Nutrition

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2018


بسم الله الرحمن الرحيم

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ACKNOWLEDGEMENTS

The Clinical Nutrition Higher Diploma team appreciates the valuable contributions and feedback of all curriculum committee members of the Saudi Commission for Health Specialties (SCFHS), and the unfailing support of the SCHS administration during the development of this program. The team also wishes to acknowledge the CanMEDS Framework, which was developed by the Royal College of Physicians and Surgeons of Canada. A great appreciation and thanks for all the committees' members in the Clinical Nutrition Higher Diploma development stages who their participation and inputs was essential and vital to produce this important program.

FOREWORD

The CanMEDS Framework of essential competencies was adopted as an innovative framework for medical education in the development of the Clinical Nutrition Higher Diploma Program. CanMEDS focuses on articulating a comprehensive definition of competencies needed for medical education and practice. The CanMEDS model for physician competence is adopted around the world and in other professions. The CanMEDS Framework is organized around seven roles, namely, medical expert (central role), communicator, collaborator, health advocate, manager, scholar, and professional.

I. INTRODUCTION

This Saudi higher Diploma Clinical Nutrition Program which is offered by the Saudi Commission for Health Specialties (SCFHS), qualifies the SCFHS-certified Clinical Nutrition Specialist to become a Senior Specialist in the field of clinical nutrition upon a successful completion of the program. The qualification certificate is granted by the Scientific Counsel for Community Health (SCFCH) and the Scientific Committee for Clinical Nutrition (SCCN), and the program is under the overall supervision and accreditation of the SCFHS.

The Diploma program aims to graduate highly qualified clinical nutrition residents, who have sufficient knowledge and skills and are equipped with values required for professional practices and leadership in the field of clinical nutrition that meet the aspirations of optimum health care at the national level. To this end, it provides the Residents with an advanced training in a variety of conditions to ensure the acquisition of skills and knowledge needed to become specialized clinical nutrition senior specialist.
Specifically, this Diploma program helps Residents attain excellence in clinical nutrition care, by providing clinical training and active learning for them to acquire knowledge and skills in advanced aspects of clinical nutrition care (i.e., clinical practice, research methodology, reporting, documenting, etc.) and develop theoretical understanding in all the program components. As the health of a human body depends on healthy diet and nutrition, to a great extent, this program is built on the relation between basic nutrients, which have elements that affect food consumption and an individual's health and nutritional status. It is also dependent on recognizing the individuals' needs in health.

II. CLINICAL NUTRITION HIGHER DIPLOMA PROGRAM

Status

The recent increase in the prevalence of nutrition-related diseases and health problems intensifies the demand for highly qualified clinical nutrition professionals. Many illnesses are linked to nutrition, the latter being either a potential causal factor or part of the treatment; often, both cases are valid. In the future, a large demand for clinical nutrition senior specialists working in healthcare system is projected. According to the General Director of Saudi Arabia's Ministry of Health (MOH), the expected required number of workers, who specialize in clinical nutrition, across the different healthcare institutions at the ministry is pegged at 2,700 (Annex 1). Several nutrition clinics are expected to be established in both public and private hospitals, especially in big cities. The establishment of new clinics will, in turn, increase the demand for clinical nutrition highly qualified specialists. Moreover, many studies in the field of clinical nutrition all over the world have highlighted the importance of nutrition and clinical nutrition. Therefore, the clinical nutrition profession plays an active role in the health system. It aims to contribute effectively to the development of Saudi Arabia's healthcare system by training highly skilled healthcare professionals based on a well-structured clinical nutrition diploma program.

Overview

The Clinical Nutrition Higher Diploma Program enables clinical nutrition specialists to attain a high level of practice and experience in subspecialties in clinical nutrition. In the process, they gain new skills to enhance and develop their capabilities. This Diploma program provides knowledge based on actual patient cases, rounds, small group discussions, critical evaluations of research, a practical hands-on approach to learning progress, and actual research. The goal of this program is to help the Residents grasp the latest knowledge in the field of nutrition, through sharing of skills and expertise based on the most current evidence-based information. Education experiences are aligned with modern practice, and reviewed regularly to ensure that the trainee meets the necessary requirements. The program attracts trainees and provides them with a suitable preceptor/advisor that will assist them whenever they need assistance. The rotations are structured to ensure that the Residents observe and participate in hands-on practices in advanced direct nutritional patient care, team rounds, and the review of rotation readings, case studies, and questions. Students and guest lecturers present lectures related to each module, in addition to the practical training that occurs within local tertiary critical care hospitals. They attend various forums, such as educational sessions on specific topics and brainstorming ones on specific "clinical challenges". Practice evidence-based nutrition, journal clubs, and observation of procedures are examples of learning experiences that maybe available during the Residency.

The Residency program requires the Residents to study full time, as the program delivery format involves daily practice and theory sessions. They must pass three different modules of this program to obtain the Diploma degree and the SCFHS licensure.

There are limited seats for the program each year. Courses (modules) are directed toward the application and practice of an advanced specialty in medical nutrition therapy (MNT).

Goals and Objectives

The overall objective of the program is to enroll applicants in a well-structured comprehensive training program in clinical nutrition, which is certified by the SCFHS. After completing successfully, the training and passing the final certification exam, graduates can function as senior specialists in clinical nutrition.

- **Clinical practice:** Residents will become familiar with providing a specialized nutritional management in various patient populations and disease states. Moreover, they will have an opportunity to attain a highest level of practice and experience in clinical nutrition. They will also learn how to incorporate their clinical knowledge into their daily practice, and function both independently and as a member of a healthcare team.
- **Teaching:** Residents will be involved in teaching dietetics to other Residents, dieticians, dietetic interns, pharmacy students, nursing staff members, medical students, Gastrointestinal (GI) Residents, and other interested physicians.
- **Research:** Residents will learn how to set up, conduct, and defend a clinical study research through their research activity throughout each module.
- **Others:** Residents will utilize and practice management, leadership, and quality skills to promote a rational and safe clinical practice.

III. CLINICAL NUTRITION HIGHER DIPLOMA PROGRAM FRAMEWORK

Modules

- **Module #1.** Surgery and Critical Care Nutrition Rotation **(30 weeks)**
- **Module #2.** General Pediatrics Nutrition Rotation **(36weeks)**
- **Module #3.** Internal Medicine Nutrition Rotation **(30 weeks)**

Learning Activities

During the rotation courses, Residents participate in the following activities:

- Understand the theoretical concepts of medical nutritional management of surgical and critical care, pediatrics, and Internal medicine diseases.
- Participate in group and individual assignments, exams, and discussions related to the nutritional management of tertiary care patients.
- Manage daily activities that reflect a priority on the delivery of patient-centered care to the patients in the inpatient units and outpatient clinics.
- Assume responsibility for providing advanced nutritional care to patients in the assigned inpatient units, in collaboration with a preceptor.
- Residents are responsible for reviewing the nutritional assessment on and intervention plans for each patient on the unit.
- Residents must check the appropriateness of nutrition therapy for individual patients and offer sound nutritional recommendations based on an evidence-based practice.
- Review and analyze critical factors for nutritional decision-making.
- Utilize nutritional principles and standards of care and protocols, to provide an optimal medical nutrition therapy.
- Provide nutritional recommendations to optimize patient care in the assigned area.
- Demonstrate sensitivity and responsiveness to a patient's culture, age, gender, and disabilities.
- Communicate effectively the nutritional care plans with other members of the healthcare team.
- Interact with patients and their families and caregivers, as instructed, to gather information and provide education when needed.
- Develop and deliver well-designed nutrition education plans to the patients and their families.
- Demonstrate commitment to ethical principles pertaining to the provision or withholding of nutritional care.
- Assess patients' nutritional needs for discharge or transfer to another care setting.
- Assist the team by providing recommendations for a nutrition care plan for the next care setting.
- Ensure an adequate follow-up when indicated, for monitored nutrition status. Coordinate with the home support team whenever necessary.
- Search and review the necessary/assigned materials, and be prepared to discuss with the preceptor the management of selected disease states.
- Demonstrate the ability to use information systems to obtain pertinent information regarding nutritional care.
- Use information technology to manage and provide patient-related information.
- Document patient care nutritional assessments/re-assessment and care plans, as well as monitor the nutritional management.

- Present patients' cases for discussion during rounds and seminars, with appropriate literature references to support the planned nutritional intervention.
- Meet with the preceptor to discuss patient cases and assigned topics.
- Prepare and deliver in-services to nursing or medical staff members on a topic agreed upon with the preceptor.
- Assist in supervising nutrition students by leading topic discussions and case presentations.
- Demonstrate commitment to excellence and ongoing professional development.
- Perform a scientific research, collect and analyze data, and discuss and criticize the results.
- Understand the role of a study design and review the results of a published study in the nutritional field and use this information to present case studies by the end of each module.
- Master the presentation and teaching skills.

Outcomes and Competencies

Clinical Nutrition Competencies

Upon completion of the training, Residents acquire the following seven competencies, and will function effectively, in accordance with CanMEDS Roles and Competency Framework:

- Medical expert
- Collaborator
- Manager
- Professional
- Scholar
- Communicator
- Health advocate

IV. ROTATION ONE: SURGICAL AND CRITICAL CARE NUTRITION

Duration: 30 weeks
Successful Residents will acquire a broad-based understanding of the principles and philosophy, as well as core knowledge, skills, and attitudes of surgical and critical care.

Roles

By the end of this rotation, residents must be able to:

Role #1 Medical Expert

- Understand all medical terminologies related to surgical procedures and critical care practice.
- Understand the fundamental principles of surgical management of diseases.
- Assess thoroughly the effect of surgical procedures on nutritional status, intake, digestion, absorption, and metabolism.
- Perform the preoperative assessment and postoperative care of patients undergoing surgical procedures.
- Assess the pre- and post-operative nutritional needs.
- Construct a patient-specific nutritional monitoring plan to minimize adverse events and maximize therapeutic outcomes of surgeries.
- Understand the nutritional requirements of the critically ill patient and the means available to provide nutritional support.
- Outline the fundamental elements of intensive care of surgical patients.
- Understand the pharmacological effects of medications on surgical and critical care patients.
- Manage fluids, electrolytes, and micronutrients.
- Perform sound judgments and individualized nutritional care.

Role #2 Communicator

- Provide educational and supportive counseling for patients and their families.
- Demonstrate effective communication skills in managing seriously ill patients and their families, including specific scenarios, such as leading a family meeting.
- Communicate effectively with supervisors and colleagues both verbally and in written reports.
- Identify barriers to effective communication, and modify the approach to minimize these barriers.
- Demonstrate an effective verbal and written communication among members of the interdisciplinary healthcare professionals, such as nurses, physicians, and other allied healthcare professionals.
- Prepare and deliver formal presentations for journal clubs and rounds.
- Realize that empathy and caring can be expressed through both verbal and non-verbal communication.

Role #3 Collaborator

- Realize the importance of collaboration and the unique roles of members of health professionals.
- Work effectively with other health professionals to prevent, negotiate, and resolve inter- and intra-professional conflicts.
- Role #4 Health Advocate
- Recognize and respond to nutritional issues for which advocacy is appropriate.

- Demonstrate an understanding of health advocacy by identifying a patient's status with respect to determinants of nutritional health (e.g., unemployment); adopting a specific assessment and management system accordingly (e.g., a patient's medical history compared to his/her social circumstances); and assessing his/her ability to access various services in the health and social system.
- Work with specialty societies and other associations to identify current "at risk" groups (e.g., candidates for nutritional support), and apply the available knowledge on prevention for these groups.
- Contribute "group data" for the better understanding of health problems within the population.

Role #5 Manager

- Describe the roles, regulatory frameworks, responsibilities, and professional capabilities of health professionals.
- Utilize information technology to optimize patient care, lifelong learning, and other activities.
- Make clinical decisions and judgments based on sound evidence for the benefit of individual patients with nutritional compromise and the population served.
- Work effectively as a member of a nutrition care team or a partnership, and accomplish tasks whether as a team leader or a team member.

Role #6 Scholar

- Access the relevant literature in helping to solve a clinical problem.
- Participate actively in all academic activities, such as journal club, workshops, and case management.
- Apply critical appraisal skills to literature.
- Explain the principles and techniques of qualitative and quantitative research methodologies and outcome evaluation, including statistical analyses and limitations of the current method.
- Demonstrate knowledge of basic grant and proposal-writing techniques and funding sources.
- Provide clinical teaching and mentoring to junior trainees.

Role #7 Professional

- Deliver the highest quality care with integrity, honesty, and compassion.
- Practice health care ethically, consistent with the obligations of a healthcare provider.
- Demonstrate knowledge and comprehension of the professional, legal, and ethical codes to which healthcare providers are bound, with reference to nutritional care.
- In clinical nutrition practice, recognize the roles of ethical issues, such as consent, advanced directives, confidentiality, end-of-life care, conflict of interest, resource allocation, and research ethics.

V. ROTATION TWO: GENERAL PEDIATRICS NUTRITION

Duration: 36 weeks

Roles

Successful Residents will acquire a broad-based understanding of the principles and philosophy, as well as core knowledge, skills, and attitudes of pediatric nutrition care. By the end of this rotation, Residents must be able to

Role #1 Medical Expert

- Understand the basic principles of nutrition during childhood.
- Identify the nutritional needs and recommendations during the first year of life, childhood, and adolescence.
- Perform a nutritional assessment for infants, children, and adolescents.
- Carry out professionally anthropometrics measurement for infants, children, and adolescents.
- Interpret nutrition-related laboratory data.
- Assess the drug nutrients interactions (e.g., effect of drugs on foods, and effect of foods on drug).
- Conduct a comprehensive nutritional evaluation.
- Understand composition and indications of regular and specialized infant milk formulas.
- Assess the nutritional status of a patient with special conditions.
- Develop a nutritional care plan that is best for a child's condition.
- Reassess the nutritional status of patients and reevaluate the nutritional care plan.
- Assess patients' nutritional needs for discharge, and develop a nutritional discharge plan.
- Understand the nutritional requirements, assess the nutritional status, and provide a nutritional care plan for critically ill children.
- Understand the nutritional requirements, assess the nutritional status, and provide a nutritional care plan for premature infants.
- Document patient care nutritional assessments/re-assessment and care plans, as well as the monitoring of nutritional management.
- Recognize the general aspects of nutrition and nutritional status assessments.
- Recognize the clinical manifestations of vitamin and mineral disorders in infants/children.
- Recognize the basic concepts of enteral and parenteral nutrition.
- Apply new scientific findings to the understanding and nutritional management of chronic diseases.

Role #2 Communicator

- Communicate a nutritional management plan to medical team members, such as nurses, pharmacists, surgeons, radiologists, pathologists, and clinical nutritionists, who are involved in the care of critically ill children, and have a multidisciplinary approach to complicated cases.
- Establish diet instructions for patients and their family members with different levels of education and varying cultural backgrounds.
- Prepare and deliver formal presentations for journal clubs and rounds.

Role #3 Collaborator

- Develop a care plan for a patient, including the investigation, treatment, and continuing care, in collaboration with the members of the interdisciplinary nutrition care team.
- Participate in an interdisciplinary nutrition care team meeting, demonstrating the ability to accept, consider, and respect the opinions of other team members, and contributing expertise in the fields of clinical and pediatric nutrition.

Role #4 Health Advocate

- Recognize and respond to nutritional issues for which advocacy is appropriate.
- Demonstrate an understanding of health advocacy by identifying the patient's status with respect to determinants of nutritional health (i.e., unemployment); adapting the assessment and management accordingly (i.e., the patient's medical history to his/her social circumstances); and assessing the patient's ability to access various services in the health and social system.
- Work with specialty societies and other associations to identify current "at risk" groups (e.g., candidates for nutritional support), and apply the available knowledge on prevention for these groups. Contribute "group data" for the better understanding of health problems within the population.

Role #5 Manager

- Describe the roles, regulatory frameworks, responsibilities, and professional capabilities of healthcare professionals.
- Utilize information technology to optimize patient care, lifelong learning, and other activities.
- Make clinical decisions and judgments based on sound evidence for the benefit of individual patients with nutritional compromise and the population served.
- Work effectively as a member of a nutrition care team or a partnership, and accomplish tasks whether as a team leader or a team member.

Role #6 Scholar

- Recognize the resources available for the nutritional care of patients with specific conditions and nutritional disorders.
- Engage in practice-based learning.
- Study literature, and practice evidence-based, interpersonal, and communication skills.
- Conduct clinical research, and design protocols for enteral feeding in pediatric and neonatal intensive care units (ICUs).

Role #7 Professional

- Deliver the highest quality care with integrity, honesty, and compassion.
- Practice medicine ethically, consistent with the obligations of a healthcare provider.
- Demonstrate knowledge and comprehension of the professional, legal, and ethical codes to which healthcare providers are bound, with reference to nutritional care.
- In clinical nutrition practice, recognize the roles of ethical issues, such as consent, advanced directives, confidentiality, end-of-life care, conflict of interest, resource allocation, and research ethics.

VI. ROTATION THREE: INTERNAL MEDICINE NUTRITION

Duration: 30 weeks

Successful Residents will acquire a broad-based understanding of the principles, philosophy and core knowledge, skills and attitudes of nutritional care of internal medicine diseases (upper and lower gastrointestinal disorders, hepatobiliary and pancreatic diseases, Diabetes mellitus, renal disorders, caner and Geriatrics). By the end of this rotation, the Resident students must be able to:

Roles

Role #1 Medical Expert

- Understand all medical terminologies related to diseases of internal medicine.
- Choose and manage daily activities so that they reflect a priority on the delivery of patient-centered care to the patients in the unit, assuring that, at the minimum, nutrition therapy of diseases of Internal medicine, and new patient admission assessments are completed daily.
- Assume responsibility for providing nutritional care to patients on the unit assigned, in collaboration with the preceptor.
- Review the nutritional assessment and intervention plans for each patient in the unit.
- Check the appropriateness of nutrition therapy for individual patients and provide recommendations.
- Use the nutritional support database as a tool to manage disease of Internal medicine among patients.
- Attend daily rounds with the preceptor and unit dietitian.
- Provide nutritional recommendations to optimize patient care on the unit assigned.
- Assess patients' nutritional needs for discharge or transfer to another care setting.
- Assist the team by providing recommendations for nutrition care for the next care setting, and ensure adequate follow-up when monitored nutrition is indicated.
- Assist with the completion of forms for home support patients.
- Read necessary/assigned materials, and be prepared to discuss with the preceptor the management of selected disease states pertaining to the patient.
- Meet with the preceptor to discuss patient cases and assigned topics.
- Prepare and deliver one in-service to nursing or medical staff on a topic agreed upon with the preceptor.
- Document patient care activities, where applicable; this applies specifically to nutritional assessments and recommendations of Internal medicine diseases, as well as monitoring of nutritional support.

Role #2 Communicator

- Establish diet instruction for patients and their family members with different levels of education and varying cultural backgrounds.
- Prepare and deliver formal presentations for journal clubs and rounds.
- Interact with patients and their families and caregivers, as instructed, to gather information and provide education when needed.
- Communicate effectively the nutritional care plans to clinical weekend staff, including clinical nutritionists and staff members in the evening shift.
- Coordinate with the home support team. Prepare continuity of care for patients to be discharged.

Role #3 Collaborator

- Develop a care plan for a patient, including investigation, treatment, and continuing care, in collaboration with the members of the interdisciplinary nutrition care team.
- Participate in an interdisciplinary nutrition care team meeting, demonstrating the ability to accept, consider, and respect the opinions of other team members, and contributing expertise in the fields of Nutritional care of Internal medicine.

Role #4 Health Advocate

- Recognize and respond to nutritional issues for which advocacy is appropriate.
- Demonstrate an understanding of health advocacy by identifying the patient's status with respect to determinants of nutritional health (i.e., unemployment); adapting the assessment and management accordingly (i.e., the patient's medical history to his/her social circumstances); and assessing the patient's ability to access various services in the health and social system.
- Work with specialty societies and other associations to identify current "at risk" groups (e.g., candidates for nutritional support), and apply the available knowledge on prevention for these groups.
- Contribute "group data" for the better understanding of health problems within the population.

Role #5 Manager

- Describe the roles, regulatory frameworks, responsibilities, and professional capabilities of healthcare professionals.
- Utilize information technology to optimize patient care, lifelong learning, and other activities.
- Make clinical decisions and judgments based on sound evidence for the benefit of individual patients with nutritional compromise and the population served.
- Work effectively as a member of a nutrition care team or a partnership to accomplish tasks whether as a team leader or a team member.

Role #6 Scholar

- Recognize resources available for the nutrition care of patients with specific conditions and nutritional disorders.
- Engage in practice-based learning.
- Study the literature, and practice evidence-based, interpersonal, and communication skills.
- Conduct clinical research, and design protocols for diseases of internal medicine.

Role #7 Professional

- Deliver the highest quality care with integrity, honesty, and compassion.
- Demonstrate knowledge and comprehension of the professional, legal, and ethical codes to which healthcare providers are bound, with reference to nutritional care.
- In clinical nutrition practice, recognize the roles of ethical issues, such as consent, advanced directives, confidentiality, end-of-life care, conflict of interest, resource allocation, and research ethics.
- Assist in presenting topic discussions and case presentations to nutrition students, whenever applicable.

VII. TEACHING AND LEARNING

Teaching and learning are delivered through various methods, such as mixing formal didactic lectures, which are given by the Residents and guest lecturers and supervised by the program faculties, and self-learning processes through a structured and programmatic Core Education Program (CEP). Alongside the formal teaching and learning activities (TLC), both practice-based learning (PBL) and work-based learning (WBL) will be used to enhance the experience in the Diploma program.

Formal Teaching and Learning Activities

- **Core specialty topics will be delivered as** both a basic science course (BSC) for four months and specialty topics.
- **Universal topics**

Core Specialty Topics

Basic Science Course (BSC)

The basic science course is a comprehensive and an intensive course in clinical nutrition. It is held for one at the beginning of each rotation in the Residency program. It represents a series of didactic lectures given by the Residents and guest lecturers. Attendance is compulsory for all participants of Residency programs in Saudi Arabia.

List of lectures in BSC

1. Human anatomy, physiology, and biochemistry review
2. Physiology of systemic inflammatory response syndrome and multiple organ dysfunction syndromes
3. Physiology and management of head injury
4. Physiology and management of major burns
5. Fluid, electrolytes, and acid–base requirements
6. Nutritional assessment
7. Metabolic response to stress
8. Starvation versus stress
9. Basic nutritional requirements for infants, children, adolescents
10. Methods of nutritional assessment for infants, children, and adolescents
11. Pediatrics milk formula
12. Epidemiology of metabolic and genetic disorders
13. Nutritional management of protein metabolic disorders
14. Nutritional management of carbohydrate metabolic disorders
15. Nutritional management of lipid metabolic disorders
16. Nutritional management of mitochondrial disorders
17. Emergency protocols for patients with acute metabolic disorder in emergency rooms

Specialty Topics

Formal specialty lectures will be given during the diploma program for 1–2 hours per week. Lectures are delivered by both Residents and guest lecturers. This ensures that Residents learn well the important clinical nutritional aspects. The topics are elaborated in each module.

Practice-based learning (PBL)

1. Morning report case presentations (optional)
2. Morbidity and mortality review

3. Journal club
4. Systematic reviews
5. Case presentation
6. Hospital rounds with other health team members
7. Guest speakers on core specialty topics

Work-based learning (WBL)

1. Daily round-based learning
2. Clinic-based learning
3. Workshops and courses

Universal topics

YEARS OF TRAINING	UNIVERSAL TOPIC
First year	1. Safe-drug prescription 2. Hospital-acquired infection 3. Assessment of Frail Elderly 4. Recognition and management of diabetic emergencies 5. Management of diabetic complications 6. Co-morbidities of obesity
Second year	1. Principles of cancer management 2. Side effects of chemotherapy and radiation therapy 3. Cancer prevention 4. Management of fluid in hospitalized patients 5. Management of acid–base electrolyte imbalances

Description of learning units

1. **Safe-drug prescription.** At the end of the learning unit, Residents must be able to
   a) Recognize the importance of prescribing safe drugs in healthcare
   b) Describe the various adverse drug reactions, providing examples of commonly prescribed drugs that can cause such reactions
   c) Apply the principles of drug-drug, drug-disease, and drug-food interactions into common situations
   d) Apply the principles of prescribing drugs in special situations, such as renal and liver failure
   e) Apply the principles of prescribing drugs in elderly, pediatrics' age group patents, and pregnant and lactating women
   f) Promote evidence-based cost effective prescription
   g) Discuss the ethical and legal frameworks that govern safe-drug prescription in Saudi Arabia

2. **Hospital acquired infections (HAI).** At the end of the learning unit, Residents must be able to
   a) Discuss the epidemiology of HAI, with special reference to HAI in Saudi Arabia
   b) Recognize HAI as among the major emerging threats in healthcare
   c) Identify the common sources and set-ups of HAI
   d) Describe the risk factors of common HAIs, such as ventilator associated pneumonia, methicillin-resistant Staphylococcus aureus (MRSA), central line associated bloodstream infection (CLABSI), and vancomycin-resistant Enterococcus (VRE)
   e) Identify the role of healthcare workers in the prevention of HAI
   f) Determine appropriate pharmacological (e.g., selected antibiotic) and non-pharmacological (e.g., removal of indwelling catheter) measures in the treatment of HAI

g) Propose a plan to prevent HAI in the workplace

3. **Assessment of Frail Elderly.** At the of the learning unit, Residents be able to
a) Enumerate the differences and similarities between a comprehensive assessment of the elderly and that of the other patients
b) In conjunction with other members of a healthcare team, perform a comprehensive assessment of a frail elderly, with special emphasis on social factors, functional status, quality of life, diet and nutrition, and medication history
c) Develop a problem list based on the assessment of the elderly

4. **Recognition and management of diabetic emergencies.** At the end of the learning Unit, Residents be able to
a) Describe pathogenesis of common diabetic emergencies, including their complications
b) Identify risk factors and groups of patients vulnerable to such emergencies
c) Recognize a patient presenting with diabetic emergencies
d) Institute immediate management
e) Refer the patient to an appropriate next level of care
f) Counsel patient and families to prevent such emergencies

5. **Management of diabetic complications.** At the end of the learning unit, Residents must be able to
a) Describe the pathogenesis of important complications of Type 2 diabetes mellitus
b) Screen patients for such complications
c) Provide preventive measures for such complications
d) Treat such complications
e) Counsel patients and families with special emphasis on prevention

6. **Comorbidities of obesity.** At the end of the learning unit, Residents must be able to
a) Screen patients for presence of common and important comorbidities of obesity
b) Manage obesity-related comorbidities
c) Provide dietary and lifestyle advices for the prevention and management of obesity

7. **Principles of management of cancer**. At the end of the learning unit, Residents must be able to
a) Discuss the basic principles of staging and grading of cancers
b) Enumerate the basic principles (e.g., indications, mechanism, types) of
    1. Cancer surgery
    2. Chemotherapy
    3. Radiotherapy
    4. Immunotherapy
    5. Hormone therapy

8. **Side effects of chemotherapy and radiation therapy.** At the end of the learning unit, Residents must be able to
a) Describe important side effects (e.g., frequent, or life or organ threatening) of common chemotherapy drugs
b) Explain the principles of monitoring of side effects in a patient who is undergoing chemotherapy
c) Describe measures (pharmacological and non-pharmacological) available to ameliorate the side effects of commonly prescribed chemotherapy drugs

d) Describe important (e.g., common and life-threatening) side effects of radiation therapy
e) Describe measures (pharmacological and non-pharmacological) available to ameliorate the side effects of radiotherapy

9. **Cancer prevention.** At the end of the learning unit, Residents must be able to
a) Conclude that many major cancers are preventable
b) Identify smoking prevention and lifestyle modifications that are major preventable measures
c) Recognize cancers that are preventable
d) Discuss the major cancer prevention strategies at both the individual and national level
e) Counsel patients and families in proactive manner regarding cancer prevention, including screening

10. Management of fluid in hospitalized patients. At the end of the learning unit, Residents must be able to
a) Review the physiological basis of water balance in the body
b) Assess a patient for his/her hydration status
c) Recognize a patient with over and under hydration
d) Order fluid therapy (oral and intravenous) for a hospitalized patient
e) Monitor fluid status and response to therapy through history, physical examination, and selected laboratory investigations

11. **Management of acid–base electrolyte imbalances.** At the end of the learning unit, Residents must be able to
a) Review the physiological basis of electrolyte and acid–base balance in the body
b) Identify diseases and conditions that are likely to cause or associated with acid/base and electrolyte imbalances
c) Correct electrolyte and acid–base imbalances
d) Perform careful calculations, checks, and other safety measures while correcting acid–base and electrolyte imbalances
e) Monitor response to therapy through history, physical examination, and selected laboratory investigations

VIII. **PROGRAM ROTATIONS**

The clinical nutrition higher diploma program consists of three rotations. For the first three rotations, Residents can start with any of the modules.

Rotation One

Rotation One: Surgical and Critical Care	Objectives
• **Introduction to surgical and critical care nutritional management** • **Medical nutrition therapy for metabolic stress** o Sepsis o Trauma o Burns o Wound healing • Nutritional management of surgical patients • Nutritional management of critically ill patients • Carbohydrate metabolism • Protein and amino acid metabolism: comparison of stressed and non-stressed states • Lipid metabolism: comparison of stress and non-stressed states • Energy requirements in critically ill patients • Macronutrient requirements: carbohydrates, protein, and lipids • Micronutrient and antioxidant therapy in critically ill patients • Fluid, electrolytes, and acid–base requirements for critically ill patients • Fiber (prebiotics) and probiotics: prevention of ICU infections with bioecological control and symbiotic treatment • Novel (immune) nutrients in critical illness • Delivery of nutrition support in critically ill patients • Specific organ system failure (pulmonary/renal/hepatic failure, or acute pancreatitis) • Endocrine disorders in critically ill patients • Nutritional support in patients with cancer and immunodeficiency	• Describe the fundamental principles of surgical management of diseases. • Assess thoroughly the effect of surgical procedures on the nutritional status, and their effect on intake, digestion, and absorption. • Perform the preoperative assessment and postoperative care of patients undergoing surgical procedures. • Perform sound judgment and individualized nutritional care. • Assess the pre and postoperative nutritior needs. • Construct a nutritional monitoring plan specific for a patient, to minimize adverse events and maximize therapeutic outcomes of surgeries. • Understand the nutritional requirements of critically ill patients and the means available to provide nutritional support. • Outline the fundamental elements of intensive care of surgical patients. • Describe the pharmacological effects of medications on surgical and critical care patients.

Rotation Two

Rotation Two: Pediatric Nutrition (36 W)	Objectives
• **Nutritional management of specific pediatric conditions** • **Pediatric nutritional support in critical care** • **Nutritional support in a neonatal ICU** • **Nutritional managements for systemic pediatric diseases** • **Nutritional managements for gastrointestinal and liver diseases, including** o Failure to thrive o Gastroesophageal reflux disease o Celiac disease and irritable bowel disease o Short bowel syndrome, mal-absorption diseases o Inflammatory bowel disease o Ulcerative colitis and Crohn's disease o Liver diseases and post-liver transplantation **Nutritional managements of renal diseases:** • Nephrotic syndromes • End-stage renal disease pre- and post-dialysis • Kidney transplantation **Oncology/hematology for** • immuno suppressed patients antitumor therapy (chemotherapy, radiation therapy, bone marrow transplant) Hematopoietic stem cell transplant **Nutritional managements for developmental disabilities** • Cerebral palsy spina bifida, Prader Willi syndrome. • Down syndrome **Endocrinology** • Diabetes mellitus • Hypoglycemia and hyperinsulinemia • Hyperthyroidism and hypothyroidism **Pulmonary diseases** **Cardiac diseases** **Pediatric nutritional support in children and infants in critical care: enteral nutrition, refeeding syndrome, and parenteral nutrition** **Nutritional support in a neonatal ICU** • **Special conditions and complications that alter nutrition needs**	• Perform an assessment of the nutritional status for infants, children, and adolescents. • Assess anthropometrics that is best for children. • Interpret laboratory data that are nutrition-related clinical ones. • Assess drug nutrients interactions (e.g., effect of drugs on foods, and effect of foods on drug). • Conduct a comprehensive nutrients evaluation. • Understand the composition and indications of regular and specialized milk formulas for infants. • Assess the nutritional status of a patient with special conditions. • Develop nutritional care plan that is best for child children. • Reassess the nutritional status of patients, and reevaluate their nutritional care plan. • Assess patients' nutritional needs for discharge, and develop a nutrition discharge plan. • Provide a nutritional care plan for critically ill children, infants, and premature infants. • Document patient care nutritional assessments/re-assessment and care plans, as well as the monitoring of nutritional management. • Recognize the clinical manifestations of vitamin and mineral disorders in the infant/child. • Apply new scientific findings to the nutritional management of pediatrics' chronic diseases. • Communicate a nutritional management plan to the medical team and have a multidisciplinary approach for complicated patients. • Establish diet instructions for patients and their family with different levels of education and varying cultural backgrounds.

Rotation Three

Rotation 3: Internal Medicine Nutrition (30 W)	Objectives

Overview of Internal Medicine
• **Nutritional managements for Upper & Lower gastrointestinal tract may include**
  • Bowel restriction
  • Celiac disease
  • Cirrhosis
  • Colostomy
  • Constipation
  • Crohn disease, ulcerative colitis, inflammatory bowel disease (IBS)
  • Diarrhea
  • Diverticular conditions
  • Esophageal surgery
  • Gallbladder disease
  • Gastric surgery
  • Gastroesophageal reflux disease (GERD)
  • Gastroparesis
  • Hepatitis
  • Ileostomy
  • Irritable bowel syndrome
  • Jaw fracture
  • Lactose intolerance
  • Nausea and vomiting
  • Pancreatitis
  • Peptic ulcer
  • Short bowel syndrome
  • Intestinal Dysbiosis
  • Non-Celiac Gluten Sensitivity
  • Colorectal Cancer
 	
Hepatobiliary and Pancreatic Disorders
• **Nutritional managements for Diseases of the liver may include**
  • acute viral hepatitis
  • fulminant hepatitis
  • chronic hepatitis
  • nonalcoholic fatty liver disease
  • alcoholic liver disease hepatic steatosis
  • alcoholic hepatitis
  • alcoholic cirrhosis
  • cholestatic liver diseases
  • sclerosing cholangitis
  • inherited disorders:
  a) hemochromatosis
	• Review the nutritional assessment and intervention plans for each patient on the unit.
	• Provide nutrition therapy for individual patients and provide recommendations.
	• Reassess the nutritional status of patients, and reevaluate their nutritional care plan.
	• Use the nutrition support database as a tool, and be prepared, to manage medical nutrition therapy of diseases of internal medicine
	• Attend daily rounds with the preceptor and unit dietitian.
	• Provide nutritional recommendations to optimize patient care on the unit assigned.
	• Utilize nutrition principles to dose and monitor medical nutrition therapy
	• Communicate effectively the nutritional care plans to clinical weekend staff members.
	• Interact with the patients and their families and caregivers, as instructed, to gather information and provide education when needed.
	• Assess patients' nutritional needs for discharge or transfer to another care setting.
	• Assist the team by providing practical nutritional recommendations for the next care setting, and ensure adequate follow-up when monitored nutrition is indicated.
	• Apply new scientific findings to the nutritional management of Internal medicine diseases
	• Coordinate with the home support team, whenever necessary. Prepare a continuity of care for patients to be discharged on supported nutrition therapy.
	•Assist with the completion of forms for home support patients.

Rotation 3: Internal Medicine Nutrition (30 W)	Objectives
b) Wilson's disease c) α1-antitrypsin Deficiency • liver tumors • treatment of cirrhosis and its complications • nutrition assessment of liver diseases • malnutrition and liver diseases • nutrient requirements • carbohydrates, lipid, protein , vitamins and minerals • medical nutrition therapy • glucose alterations and cirrhosis • renal insuffiency and hepatorenal syndrome • osteopenia and liver disease • liver resection and transplantation • diseases of the gallbladder • Diseases of the exocrine pancreas **Medical nutrition therapy for diabetes Mellitus** • Glucose intolerance • Pre-diabetes • Type 1 diabetes • Type 2 diabetes • Gestational diabetes • Screening and diagnostic criteria • Management of pre-diabetes • Management of diabetes • Medical management • Medical nutrition therapy for diabetes • Implementing the nutrition care process: a) Nutrition assessment b) Nutrition diagnosis c) Nutrition intervention d) Nutrition prescription e) Nutrition education and counseling f) Nutrition monitoring and evaluation • Acute complications: a) Hypoglycemia b) hyperglycemia and diabetic Ketoacidosis • Long -term complications a) Macrovascular Diseases b) Microvascular Diseases • Hypoglycemia of non-diabetic origin • Types of hypoglycemia	

Rotation 3: Internal Medicine Nutrition (30 W)	Objectives
• Management of hypoglycemia **Medical nutrition therapy for Renal disorders** **Renal Diseases may include** • kidney stones • Acute renal failure • Chronic kidney disease • Diseases of the tubules and interstitium • Glommerular diseases • End stage Renal Disease • End stage renal disease in patients with diabetes • Chronic kidney Disease and end stage renal disease in children • Kidney transplantation **Medical nutrition therapy for Cancer prevention, Treatment and recovery may include** • Nutrition and carcinogenesis • Energy intake and body weight • Nutrients for cancer prevention • Medical diagnosis and staging of cancer • Medical treatment • Medical nutrition therapy • Nutrition screening and assessment • Energy, protein, fluid, vitamin and minerals, supplement use, • Nutrition intervention strategies for patients with cancer • Nutritional impact of cancer treatment a) chemotherapy b) biotherapy c) hormone therapy d) antiangiogenic therapy e) radiation therapy f) surgery • Head and neck cancer • esophageal cancer • gastric cancer • pancreatic cancer • cancers of the intestinal tract • Hematopoietic cell transplantation (HCT) • Pediatric Cancer	

Rotation 3: Internal Medicine Nutrition (30 W)	Objectives
Nutrition in Aging may include - Gerontology and Geriatrics - Nutrition in health promotion and disease prevention - Theories on aging - Physiologic changes • body composition • sensory losses taste and smell • hearing and eyesight • immunocompetence • oral health • gastrointestinal changes • cardiovascular diseases • renal diseases • Neurologic - Common Health Problems 1. Depression 2. pressure ulcers: stages and nutritional recommendations 3. Frailty and failure to thrive - Quality of life: functionality - Weight Maintenance • obesity • Underweight and Malnutrition -Nutrition Screening and Assessment Nutrient needs: Energy, protein carbohydrate, fiber and vitamins and minerals (B12, folate, vitamin D , calcium, potassium, sodium and zinc) - Supplemented nutritional assistance	

Rotation Schedule Guidelines

No.	Rotation Title	Clinical Practice	Presentations (4 times/rotation)	By Residents and Guest Lecturers	Contact Hours
1	**SURGICAL AND CRITICAL CARE** Introduction to surgical and critical care nutritional management Medical nutrition therapy for metabolic stress: sepsis, trauma, burns, and wound healing Nutritional management of surgical patients Nutritional management of critically ill patients Case discussion: assessment, diagnosis and intervention of critical care case scenarios	**30 weeks** 1–2 weeks 2–4 weeks 4–14 weeks 14–26 26-30 weeks	1-Case discussion 2-Selected topic 3-Journal club 4-Systematic review 5-Case presentation	Human anatomy, physiology, and biochemistry review Nutritional assessment of surgical patients Nutritional management of surgical patients Fluid, electrolytes, and acid–base requirements Novel (immune) nutrients in critically Ill patients	8 6 16 2 4
2	**PEDIATRIC NUTRITION** Introduction to normal pediatric nutrition Nutritional management of specific pediatric conditions Pediatric nutritional support in critical care nutrition support in a neonatal ICU Case discussion : assessment, diagnosis and intervention of different pediatric case scenarios	**36 weeks** 1–2 weeks 2–24 weeks24–26 weeks 26–32 weeks 32-36 weeks	1-Case discussion 2- Selected topic 3-Journal club 4- systematic review 5- case presentation	Basic nutritional requirements for infants, children and adolescents Methods of nutritional assessment for infants, children, and adolescents Pediatrics milk formula	8 6 4

No.	Rotation Title	Clinical Practice	Presentations (4 times/rotation)	By Residents and Guest Lecturers	Contact Hours
				Nutritional managements for systemic pediatric diseases	10
				Nutritional management during metabolic response to injury and stress	4
				Nutritional assessment and requirements for premature infants	4
3	**NUTRITIONAL SUPPORT FOR INTERNAL MEDICINE** Upper & Lower gastrointestinal tract Hepatobiliary and Pancreatic Disorders Diseases of the liver Medical nutrition therapy for diabetes Mellitus Medical nutrition therapy for Renal disorders Medical nutrition therapy for Cancer prevention, Treatment and recovery Nutrition in Aging Case discussion : assessment, diagnosis and intervention of different cases of internal medicine	**30 weeks** 4–10 weeks 10–20 weeks 20–27 weeks 27-30 weeks	1-Case discussion 2- Selected topic 3-Journal club 4-systematic review 5- case presentation	Nutritional assessment and management of patients with GI problems Nutritional assessment and management of patients with renal diabetic and liver diseases Nutritional assessment and management of patients with different types of cancer Nutritional support of geriatrics	3 6 4 8

No.	Rotation Title	Clinical Practice	Presentations (4 times/rotation)	By Residents and Guest Lecturers	Contact Hours
				Nutritional support for systemic diseases	8

IX. TEACHING ACTIVITIES

Methods of Teaching

The teaching includes the following features, which will be addressed at the beginning of each module:

- Hands-on training and practice
- Theoretical lectures and presentations
- Discussions and brainstorming
- Multidisciplinary meetings
- Multidisciplinary patient bedside rounds
- Interactive sessions
- Conduct an up-to-date literature review
- Case studies
- A daily morning report is encouraged.
- Journal club meeting (four in each module)
- A weekly book review is encouraged.
- Weekly grand round meeting
- Pharmacology and nutrition interaction review
- Attendance to educational meetings, such as conferences and workshops

Mode of Delivery

- (1–2 hours per session)
- Lectures/presentations
- Problem-based techniques
- Small group lessons
- Tutorials

Further Resources

- Standard textbooks
- World Health Organization's (WHO's) guidelines and recommendations

Examples of Formal Activities

Day / Time	Sunday	Monday	Tuesday	Wednesday	Thursday
8 a.m.–9 a.m.	Morning report/case presentation	Morning report/case presentation	Self-directed learning		
9 a.m.–10 a.m.		Inpatient counseling		Inpatient counseling	Workshop course/monthly
10 a.m.–12 a.m.	Book review therapeutics and pharmacology Basic science (weekly for the first month in each module)			Journal club (four per module)	Meet with a mentor for a mini clinical evaluation exercise (mini-CEX) once a week
1 p.m.–3 p.m.	Develop educational materials on nutritional counseling	Outpatient clinic	Outpatient clinic	Outpatient clinic	Outpatient clinic

Assessment

The Assessment System

The purpose of the assessment system is to:

- Enhance learning by providing formative assessment, enabling trainees to receive immediate feedback, measure their own performance and identify areas for development.
- Drive learning and enhance the training process by clarifying what is required of trainees and motivating them to ensure they receive suitable training and experience.
- Provide robust, summative evidence that trainees are meeting the curriculum standards during the training program.
- Ensure trainees are acquiring competencies within the domains of good medical practice.
- Assess trainees' actual performance in the workplace.
- Ensure that trainees possess the essential underlying knowledge, skills, and attitude required for their specialty.
- Identify trainees who should be advised to consider a career change.

Evaluation Process

1. At the beginning of the rotation, the site coordinator or supervisor and resident must meet to discuss the objectives and process of evaluating the resident. At the meeting, the following details must be discussed:
    a. Delineation of the resident's role during the rotation
    b. Outline of the duties and responsibilities of the resident
    c. Outline of the goals and objectives of the rotation
    d. Explanation of the structure and inter-relationships of the healthcare team

e. Advise on the evaluation tools (e.g., supervised learning event [SLE], case-based discussion [CBD], mini-CEX, etc.) to be used and the timing of evaluations

2. During the rotation, a regular weekly informal face-to-face feedback must be provided to the resident. The resident is responsible for scheduling a face-to-face (formative) evaluation at the mid-point of their rotation. In this way, the resident has an opportunity to address any deficiencies that may have been identified.
3. At the end of the rotation, the clinical supervisor must draw on feedback of other members of the healthcare team and any other evaluation forms utilized (e.g., multi-source feedback [MSF] assessment), and then discuss the evaluation results with the resident prior to the end of the rotation. If the supervisor could not meet these deadlines and has not met with the resident within 10 working days after the rotation, the clinical supervisor must provide any supporting document to the program director.
4. The resident is expected to review the evaluation process within 20 working days from the end of the rotation.
5. All evaluations are site-, year-, and rotation-specific based on the CanMEDS competencies. Within each domain and for each goal and objective, there may be several levels of competence identified. However, the overall (summative) evaluation must indicate one of the following designations: satisfactory, provisional satisfactory, unsatisfactory, and incomplete.

Assessment Tools

- Quizzes
- Oral and written tests/exams: multiple choice questions (MCQs) and/or modified essay questions (MEQ)
- Up-to-date literature review
- Group assignments
- Case studies and its presentation
- Journal clubs
- Mini-CEX
- SLE
- The Final In Training Evaluation Report

Features

- Easy-to-use online interface
- Audio and video lectures
- Interactive case studies
- “Test Your Knowledge” quizzes
- Faculty interviews
- Links to additional resources

Purpose of Assessment

- It supports learning.
- It develops professional growth.
- It monitors progression.
- It enables competency judgment and the provision of certification.
- It evaluates the quality of the training program.
- Assessments must be continuous and strongly linked to the curriculum and content.

- The trainee and faculty member must meet together to review the portfolio and logbook once every two months and by the end of the given rotation.

Proposed Tools for Assessment

By the end of each given module, the following tools of assessment are suggested to evaluate and monitor the levels of competencies:

To assess cognition

Both MEQ and MCQ are suggested to assess the cognitive level of competency.

1. MCQs and extended matching items
2. Patient scenarios and MEQs

To assess clinical skills/patient management

Residents and their supervisors must meet together to review the portfolio and logbook once every two months and at the given rotation. All recorded evaluations of a resident's performance are accessible to the resident.

1. SLE will be utilized by the end of each rotation of the proposed clinical nutrition higher Diploma program (Appendix 1).
2. Final In -Training Evaluation Report (Appendix2), consisting of:
    - A mini-CEX (Appendix 2.1)
    - An MSF assessment (Appendix 2.2)
    - A CBD (Appendix 2.3)
3. Log-book (Appendix 3)
    - Monitor a trainee's performance on a continual basis.
    - Document and record the cases seen and managed by the trainees.
    - Enable the trainee and supervisor to determine the learning gaps.
    - Provide feedback for the trainee.
4. Presentation and case studies evaluation form (Appendix 4)
5. Portfolio
    - Portfolio will be an integral component of training.
    - Each trainee will be required to maintain a logbook.
    - The educational supervisor must oversee the monitoring and reviewing of the Residents' portfolio, and provide a continuous feedback to the trainee. Portfolio must include the following:
        i. Curriculum vitae
        ii. Professional development plan
        iii. Records of educational training events
        iv. Reports from the educational supervisors
        v. Logbook
        vi. FITER (MSF, CEX, CBD) (Appendix 2)
        vii. Resident monitoring and evaluation tracking tool (Appendix 5)

Examinations

Residents must submit his/her request to sit for the examination to the Regional Training Committee (RTC) upon completion of the approved training period; the local supervisor must help the Residents in this respect. Examinations will be held at the end of each module, and the candidate must accumulate a 70%-mark to pass the training year to the next level. Drills and mock examinations will be held during the year.

1. Residents must be evaluated according to the regulations of the **SCFHS**.
2. The progress of a Resident to the next module is determined by
    a) His/her passing of the in-training examination
    b) His/her overall performance
    c) The local supervisor's and RTC's approval
3. In the final in-training evaluation, the resident must
    d) Pass the written examination
    e) Submit and present case studies at the end of each module
4. An unsuccessful Resident should follow the general exams rules and regulations of the SCFHS (www.scfhs.org.sa) Structure and format of the examinations: As per SCFHS general exams rules and regulations (www.scfhs.org.sa)

Passing score

The passing score will be in accordance with the commission's training and examination rules and regulations. There will be no negative marking as per the rules of SCFHS.(www.scfhs.org.sa)

Certification

Certificates of training completion will only be issued upon the Resident's successful completion of all program requirements in the different three modules. Candidates passing all components of the final specialty examination are awarded the "Saudi Higher Diploma in Clinical Nutrition" certificate.

Trainee Support

- Each trainee must have an assigned supervisor.
- A clinical supervisor must not have more than three trainees at any time.
- The assigned supervisor must follow the trainee for at least one year.

X. POLICIES AND PROCEDURES

Program Admission Requirements

For acceptance into the Clinical Nutrition Higher Diploma Training Program, the candidate must fulfill all the requirements as per SCFHS Admission Requirements for Postgraduate Training Programs (www.scfhs.org.sa) :

- Complete a BSc in Clinical Nutrition with a GPA (3.5/5) or higher.
- Complete a one-year internship training in clinical nutrition from an accredited and a recognized university after acquiring a BSc in Clinical Nutrition.
- Provide his/her classification and certification from SCFHS as clinical dietitian
- Provide two (2) recommendation letters from professional consultants, instructors, or a senior dietitian.
- Provide a sponsorship letter from the candidate institution (employer), indicating the eligibility "**no objection letter"** of the candidate to join the Clinical Nutrition Higher Diploma Training Program for two years on a full-time basis.
- Provide a proof of sponsorship from the institution (employer) that is financially responsible to pay the expenses, including the tuition.
- Pass the admission exam and committee interview, and comply with the specific regulations of the Clinical Nutrition Higher Diploma Training Program.
- Pass the TOFEL (with a sore of 80 or higher) or IELTS (with a score of 5.5 or higher) exam.
- Fill out the application form on a timely manner during the application period.
- Provide complete original copies of all required certificates and letters, including the experience letter, upon application.
- Provide a signature of an obligation contract to abide by all the rules and regulations of the Clinical Nutrition Residency Training Program and the SCFHS upon acceptance.

General Rules

The program is subject to the general regulations, approved by the SCFHS. These regulations must be applied to all trainees for:

1- Rules of Training
2- Rules of Examinations
3- Rules of Accredited Training Centers

Program Length, Terms, and Duty Hours

The duration of the Diploma -training program is two years (96 weeks, excluding annual vacations). Residents are required to work from 7:30 a.m. to 4:30 p.m. Moreover, they are also required to attend program educational activities, which include scientific lectures, conferences, and subspecialty seminars. In addition, they are required to provide didactic presentations of, among others, cases, selected topics, and journal clubs, during the program.

Vacation and Holidays

Residents are granted 30 vacation days per year, as per SCFHS rules and regulations. Requests for vacation time must be approved by the Program Director. Requests for vacation time must be given at least four weeks in advance. In addition, Residents are granted conference leave as per SCFHS rules and regulations. The conference must be approved by the Program Director.

XI. MENTORING

Roles of the Mentor

The primary role of the mentor is to nurture a long-term professional relationship with the assigned residents. The mentor is expected to provide an "academic home" for the residents so that they can feel comfortable in sharing their experiences, express their concerns, and clarify issues in a non-threatening environment. The mentor is expected to keep a sensitive information on the residents in confidence.

The mentor is also expected to make an appropriate and early referral to the program director or head of the department if s/he determines a problem that would require expertise or resources that is beyond his/her capacity. Examples of such referral include

- Serious academic problems
- Progressive deterioration of academic performance
- Potential mental or psychological issues
- Personal problems interfering with academic duties
- Professional misconduct, etc.

However, the following roles are NOT from a mentor:

- Provide extra tutorials, lectures, or clinical sessions.
- Provide counseling for serious mental and psychological problems.
- Being involved in the residents' personal matters.
- Provide financial or other material supports.

Roles of the Resident

- Submit resume at the start of the relationship.
- Provide the mentor with medium- (1–3 years) and long-term (3-7 years) goals.
- Take primary responsibility in maintaining the relationship.
- Schedule a monthly meeting with the mentor in a timely manner, and does not request for an ad hoc meeting, except only in emergency cases.
- Recognize self-learning as an essential element of residency training.
- Report any major events to the mentor in a timely manner.

Mentorship

Who can be mentor?

Any senior faculty member within the residency program can be a mentor. There is no special training required.

Number of residents per mentor

As a guideline, each mentor may handle four to six residents. As much as possible, the residents must come from all years of training. This will create an opportunity for the senior residents to work as a guide for the junior residents.

Frequency and duration of engagement

The recommended minimum frequency is once every four weeks. Each meeting can take from 30 minutes to an hour. It is also expected that once assigned, the mentor must continue with the same resident, preferably, for the entire duration of the training program or for at least two years.

Tasks during the meeting

The following suggested tasks must be completed during the meeting:

- Discuss the overall clinical experience of the residents with particular attention to any concerns raised.
- Review the logbook or portfolio with the residents, to determine whether the resident is on target of meeting his/her training goals.
- Revisit earlier concerns or unresolved issues, if there are any.
- Explore any non-academic factors that interfere seriously with the training.
- Document excerpts of the interaction in the logbook

The following incidences must be reported to the program director or departmental head:

- Consecutive absences in three scheduled meetings without any valid reasons
- Unprofessional behavior
- Consistent underperformance despite the mentor's counseling
- Serious psychological, emotional, or health problems that may potentially cause unsafe patient care
- Any other serious concerns by the mentor

XII. **REFERENCES**

1. http://www.royalcollege.ca/rcsite/canmeds/about-canmeds-e (Royal college of physicians and surgeons of Canada)
2. SCFHS regulation manuals. https://www.scfhs.org.sa/en/Reglations/Pages/default.aspx
3. Royal College of Physicians and Surgeons of Canada. Objectives of training and specialty training requirements in adult and pediatric gastroenterology. 2004 http://rcpsc.medical.org/residency/certification/training/gastroenterology_e.pdf (Accessed 3 July 2007)

XIII. **APPENDICES**

Appendix 1: Example of a Supervised Learning Event (SLE) Form

Clinical Nutrition Residency Program

Competencies/Learning Outcomes Evaluation Form	
Name of Resident: _____	
Resident ID: _____	
Please evaluate the Resident's demonstration of each competency:	
3	Outstanding performance, based upon the progress and response to feedback within current rotation
2	Good performance, based upon the progress and response to feedback within current rotation
1*	Needs improvement, as more skills must be exhibited by the Resident at this point in the current rotation
0**	Unacceptable performance
N/A	No opportunity to observe or accomplish a task during this rotation
* It requires an action plan and a documentation prior to the start of the next rotation.	
** Please contact the program director immediately. It may require a review by the assigned committee and a repeat of the rotation components. The Resident is expected to provide examples of how the competency is met.	

Learning Outcome	**Recommended Rotation Where the Assessment Occurs (Can occur at other places)**	**Example Projects/Activities to Meet the Competencies**	**Rating Received**	**How Competency Was Met**
1.1 Understand all medical terminologies related to surgical procedures and critical care practice	1. Surgical and critical care rotation	Oral and written exams Test your knowledge by taking quizzes		
1.2 Understand human anatomy and physiology	1. Surgical and critical care rotation	Oral and written exams Test your knowledge by taking quizzes		

1.3 Understand the fundamental principles of surgical management of diseases	1. Surgical and critical care rotation	Oral and written exams Test your knowledge by taking quizzes		
1.4 Assess thoroughly the effect of surgical procedures on the nutritional status, and their effect on intake, digestion, and absorption	1. Surgical and critical care rotation	Oral and written exams Test your knowledge by taking quizzes (Appendix 3) Case discussions and studies Selected topics Brainstorming Group assignments		
1.5 Perform the preoperative assessment and postoperative care of patients who are undergoing surgical procedures	1. Surgical and critical care rotation	Group assignments Multidisciplinary patient bedside rounds Case discussions and studies Selected topics Brainstorming Group assignments Journal club		
1.6 Assess the pre-and post-operative nutritional needs	1. Surgical and critical care rotation	Case discussions Group assignments Research articles Case presentations Patient bedside rounds		
1.7 Construct a patient-specific nutritional monitoring plan to minimize adverse events and maximize therapeutic outcomes of surgeries	1. Surgical and critical care rotation	Case discussions Group assignments Research articles Case presentations Patient bedside rounds		
1.8 Understand the nutritional requirements of critically ill patients,	1. Surgical and critical care rotation	Oral and written exams Test your knowledge by		

and the means available to provide nutritional support		taking quizzes (Appendix 3) Case discussions and studies Selected topics Brainstorming Group assignments		
1.9 Outline the fundamental elements of intensive care of surgical patients	1. Surgical and critical care rotation	Oral and written exams Test your knowledge by taking quizzes Case discussions and studies Selected topics Brainstorming Group assignments Journal club		
1.10 Understand the pharmacological effects of medications on surgical and critical care patients	1. Surgical and critical care rotation	Research articles and books Case studies Group discussions and assignments		
1.11 Apply the management of fluids, electrolytes, and micronutrients	1. Surgical and critical care rotation	Case studies Written exams Group discussions Assignments Selected topics		
1.12 Perform sound judgment and individualized nutritional care	1. Surgical and critical care rotation	Interactive sessions Case studies Assignments		

End of first rotation (30 weeks)				
2.1 Understand the basic principles of nutrition during childhood	2. Pediatric nutrition	Oral and written exams Test your knowledge by taking quizzes		
2.2 Identify nutritional recommendations for infants, children, and adolescents	2. Pediatric nutrition	Oral and written exams Test your knowledge by taking quizzes (Appendix 3)		
2.3 Perform nutritional status assessment for infants, children, and adolescents	2. Pediatric nutrition	Group assignments Multidisciplinary patient bedside rounds Case discussions and studies Selected topics Brainstorming Group assignments		
2.4 Assess anthropometrics that is best for children	2. Pediatric nutrition	Group assignments Multidisciplinary patient bedside rounds Case discussions and studies Selected topics Brainstorming Group assignments		
2.5 Interpret nutrition-related laboratory and clinical data	2. Pediatric nutrition	Group assignments Multidisciplinary patient bedside rounds Case discussions and studies Selected topics Brainstorming Group assignments		
2.6 Assess drug nutrients interactions (Effect of drugs on foods, and effect of foods on drug)	2. Pediatric nutrition	Research articles and books Case studies Group discussions and assignments		

2.7 Conduct a comprehensive nutrients evaluation	2. Pediatric nutrition	Case studies Case presentation Patient bedside rounds		
2.8 Understand composition and indications of regular and specialized infants milk formulas	2. Pediatric nutrition	Assignments Research articles Case studies Interactive sessions Quizzes and written exams		
2.9 Assess nutritional status of Patients with special conditions.	2. Pediatric nutrition	Case discussions Group assignments Research articles Case presentations Patient bedside rounds		
2.10 Develop a nutritional care plan that is best for children	2. Pediatric nutrition	Create a handout to educate new mothers about their child condition Case discussions Group assignments Research articles Case presentations Patient bedside rounds		
2.11 Reassess the nutritional status of patients, and reevaluate their nutritional care plan	2. Pediatric nutrition	Case studies Case presentation Patient bedside rounds		
2.12 Assess patients' nutritional needs for discharge, and develop a nutritional discharge plan	2. Pediatric nutrition	Case studies Case presentation Patient bedside rounds		
2.13 Understand nutritional requirements, assess nutritional status, and provide nutritional care plan for critically ill children	2. Pediatric nutrition	Case studies Case presentation Patient bedside rounds Interactive sessions Journal club		

		Research articles Selected topics Oral,written exam		
2.14 Understand nutritional requirements, assess nutritional status, and provide nutritional care plan for premature infants	2. Pediatric nutrition	Case studies Case presentation Patient bedside rounds Interactive sessions Journal club Research articles Selected topics Oral and written exams		
2.15 Document patient care nutritional assessments/re-assessment and care plans, as well as the monitoring of nutritional management	2. Pediatric nutrition	Case studies Case presentation Assignments Selected topics		
2.16 Recognize the general aspects of nutrition and nutritional status assessments	2. Pediatric nutrition	Written exams and quizzes Case studies and discussions		
2.17 Recognize the clinical manifestations of vitamin and mineral disorders in infants/children	2. Pediatric nutrition	Research articles Group assignments Interactive sessions		
2.18 Recognize the basic concepts of enteral and parenteral nutrition	2. Pediatric nutrition	Oral and written exams Test your knowledge by taking quizzes Group assignments		

2.19 Apply new scientific findings to the understanding and nutritional management of chronic diseases	2. Pediatric nutrition	Oral and written exams Test your knowledge by taking quizzes Case discussions and studies Selected topics Brainstorming Group assignments Journal club		
2.20 Communicate a nutritional management plan to the medical team and have a multidisciplinary approach for complicated patients	2. Pediatric nutrition	Case studies and clinical charting during medical nutrition therapy (MNT) rotation evaluated by the director and preceptors Develops interpersonal and communication skills		
2.21 Recognize the resources available for the nutritional care of patients with specific conditions and nutritional disorders	2. Pediatric nutrition	Practice-based learning Study the literature and practice evidence-based learning Research articles Journal club		
2.22 Conduct clinical research,	2. Pediatric	Create handouts of protocols for enteral and parenteral feeding for pediatrics and neonatal intensive care units Research articles		
2.23 Establishment of diet instructions for patients and their family members with different levels of education and varying cultural backgrounds	2. Pediatric nutrition	Create a handout to educate new mothers about their child's condition Develops communication skills		

End of second rotation (36 weeks)				
3.1 Review the nutritional assessment and intervention plans for each patient on the unit.	3. Internal medicine	Case studies Case presentation Patient bedside rounds		
3.2 Provide nutrition therapy for individual patients and provide recommendations.	3. Internal medicine	Case studies Case presentation Patient bedside rounds		
3.3 Reassess the nutritional status of patients, and reevaluate their nutritional care plan.	3. Internal medicine	Case studies Case presentation Patient bedside rounds		
3.4 Use the nutrition support database as a tool, and be prepared, to manage medical nutrition therapy of diseases of internal medicine	3. Internal medicine	Case studies Case presentation Patient bedside rounds Interactive sessions Journal club Research articles Selected topics Oral and written exams		
3.5 Attend daily rounds with the preceptor and unit dietitian.	3. Internal medicine	Case studies Case presentation Patient bedside rounds Interactive sessions Journal club Selected topics Oral and written exams		
3.6 Provide nutritional recommendations to optimize patient care on the unit assigned.	3. Internal medicine	Case studies Case presentation Patient bedside rounds Interactive sessions Journal club		

3.7 Utilize nutrition principles to dose and monitor medical nutrition therapy	3. Internal medicine	Case studies Case presentation Patient bedside rounds Interactive sessions Journal club Research articles Selected topics Oral and written exams		
3.8 Communicate effectively the nutritional care plans to clinical weekend staff members. 3.9 Interact with the patients and their families and caregivers, as instructed, to gather information and provide education when needed. 3.10 Assess patients' nutritional needs for discharge or transfer to another care setting. 3.11 Assist the team by providing practical nutritional recommendations for the next care setting, and ensure adequate follow-up when monitored nutrition is indicated.	3. Internal medicine	Case studies and clinical charting during medical nutrition therapy (MNT) rotation evaluated by the director and preceptors Develops interpersonal and communication skills Create handouts of protocols for different cases of internal medicine Research articles Create a handout to educate patients of different nutritional status Case discussions and presentation Journal club Patient bedside rounds		

3.12 Apply new scientific findings to the nutritional management of Internal medicine diseases 3.13 Coordinate with the home support team, whenever necessary. Prepare a continuity of care for patients to be discharged on supported nutrition therapy.				

Date: _____

Preceptor's Signature: _____

Date: _____

Intern's Signature: _____

Comments: _____

Appendix 2: Final In-Training Evaluation Report (FITER)

1) This is a summative evaluation prepared at the end of the Diploma program, which grants the Resident with the full range of competencies (knowledge, skills and attitudes) required for the clinical nutrition specialist, and a readiness to sit the Saudi certification examinations.
2) It provides information that will be considered by the Saudi Examination Diploma during the deliberation of a candidate whose performance at the Saudi certification examination falls into the borderline category.
3) The FITER is requested by the Saudi Diploma at the end of Residency training.
4) The FITER is completed by the Diploma Training Program Director.
5) The FITER is not a composite of the regular in-training evaluations; rather it is a testimony of the evaluation of competencies at the end of a Diploma education program.
6) The FITER of individual candidates is available only to the Chair of the Examination Committee, who must maintain confidentiality regarding the name of the candidate, the training center and the program director at all times.

FITER Report

Final In-Training Evaluation Report (FITER)/Comprehensive Competency Report (CCR)		
Trainee Name:		
Trainee SCFHS number:		
Evaluation covering the last year as a Resident: In the Residency Program Committee's view, the trainee mentioned above has acquired the competencies of the Clinical nutrition as prescribed in the Objectives of Training and is competent to practice as a specialist. (Please tick √ in the appropriate box)	Yes	No
The following sources of information were used for this evaluation:		
Items	Yes	No
Written exams		
Oral exams		
Multi-source Feedback (MSF) Assessment		
Multi-source Feedback (MSF) Assessment		
Feedback from healthcare professionals		
Completion of a scholarly project		
Other evaluations		
Note: If, during the period from the date of signature of this document to the completion of training, the Residency Program Committee judges that the candidate's demonstration of competence is inconsistent with the present evaluation, it may declare the document null and void and replace it with an updated FITER. Eligibility for the examination would be dependent on the updated FITER		
Comments:		
Name of Program Director:		
Date: Signature:		
This is to attest that I have read this document: _____ SCFHS number: _____ Date: _____ Signature: _____ Trainee's Comments:		

FITER –Medical Expert Competency

FITER: (Medical Expert Competency)						
Trainee Name:						
Trainee SCFHS Number:						
	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	*Generally meets	*Sometimes exceeds	*Consistently exceeds	*Not Applicable
Medical Expert						
1. Practicing holistically refer to operating in physical, psychological, socioeconomic, and cultural dimensions, taking into account others' feelings and thoughts						
2. Data gathering and interpretation involve clinical judgment, choice of nutritional care processes, and their interpretations.						
3. Making a nutritional diagnosis and decisions refer to the conscious and structured approach to decision making.						
4. Nutritional management refers to the recognition and management of common medical conditions in primary care through a proper interventional plan.						
5. Managing medical complexity and promoting health refer to the aspects of care beyond managing the straightforward problems, including management of co-morbidity, uncertainty, and risk, as well as focusing on health rather than just illness.						
Please comment on the strengths and weaknesses of the candidate and provide a rationale for your ratings. Make direct reference to the objectives and give specific examples wherever possible.						

*Rarely meets ≤30%; *Inconsistently meets >30-60%; *Generally meets >60-80%; *Sometimes exceeds >80-90%; *Consistently exceeds >90%

FITER – Communicator Competency

FITER: (Communicator Competency)						
Trainee Name:						
Trainee SCFHS Number:						
	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	*Generally meets	*Sometimes exceeds	*Consistently exceeds	*Not Applicable
COMMUNICATOR						
1. Communication and consultation skills refer to communication with patients and the use of recognized consultation techniques						
Please comment on the strengths and weaknesses of the candidate and provide a rationale for your ratings. Make direct reference to the objectives and give specific examples wherever possible.						

*Rarely meets ≤30%; *Inconsistently meets >30-60%; *Generally meets >60-80%; *Sometimes exceeds >80-90%; *Consistently exceeds >90%

FITER – Manager Competency

FITER: (Manager Competency)						
Trainee Name:						
Trainee SCFHS Number:						
	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	*Generally meets	*Sometimes exceeds	*Consistently exceeds	*Not Applicable
MANAGER						
1. Organization, management, and leadership cover the understanding of the use of computer systems to augment the nutrition care process and primary care at individual and systems levels, the management of change, and the development of organizational and clinical leadership skills.						
Please comment on the strengths and weaknesses of the candidate and provide a rationale for your ratings. Make direct reference to the objectives and give specific examples wherever possible.						

*Rarely meets ≤30%; *Inconsistently meets >30-60%; *Generally meets >60-80%; *Sometimes exceeds >80-90%; *Consistently exceeds >90%

FITER – Scholar Competency

FITER: (Scholar Competency						
Trainee Name:						
Trainee SCFHS Number:						
	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	*Generally meets	*Sometimes exceeds	*Consistently exceeds	*Not Applicable
SCHOLAR						
1. Maintaining performance, learning, and teaching include the maintenance of performance and conduct of an effective continuing professional development (CPD) for oneself and others.						
Please comment on the strengths and weaknesses of the candidate and provide a rationale for your ratings. Make direct reference to the specific objectives and give specific examples wherever possible:						

*Rarely meets ≤30%; *Inconsistently meets >30-60%; *Generally meets >60-80%; *Sometimes exceeds >80-90%; *Consistently exceeds >90%

FITER – Professional Competency

FITER: (Professional Competency)						
Trainee Name:						
Trainee SCFHS Number:						
	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	*Generally meets	*Sometimes exceeds	*Consistently exceeds	*Not Applicable
PROFESSIONAL						
1. Working with colleagues and in teams refers to working effectively with other professionals to ensure good patient care, including the sharing of information with colleagues						
2. Maintaining an ethical approach to practice refers to practicing ethically, with integrity and respect for diversity						
Please comment on the strengths and weaknesses of the candidate and provide a rationale for your ratings. Make direct reference to the objectives and give specific examples wherever possible.						

*Rarely meets ≤30%; *Inconsistently meets >30-60%; *Generally meets >60-80%; *Sometimes exceeds >80-90%; *Consistently exceeds >90%

FITER – Health Advocate Competency

FITER: (HEALTH ADVOCATE)						
Trainee Name:						
Trainee SCFHS Number:						
	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	*Generally meets	*Sometimes exceeds	*Consistently exceeds	*Not Applicable
HEALTH ADVOCATE						
1. Community orientation refers to the management of health and social care of the practice population and local community.						
Please comment on the strengths and weaknesses of the candidate and provide a rationale for your ratings. Make direct reference to the objectives and give specific examples wherever possible.						

*Rarely meets ≤30% *Inconsistently meets >30-60%; *Generally meets >60-80%; *Sometimes exceeds >80-90%; *Consistently exceeds >90%

FITER – Scholar Competency

FITER: (Scholar Competency						
Trainee Name:						
Trainee SCFHS Number:						
	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	*Generally meets	*Sometimes exceeds	*Consistently exceeds	*Not Applicable
Collaborator						
1. Fitness to practice refers to the resident's awareness of when his/her own performance, conduct, or health or that of others that might put patients at risk, and taking action to protect patients.						
Please comment on the strengths and weaknesses of the candidate and provide a rationale for your ratings. Make direct reference to the specific objectives and give specific examples wherever possible						

*Rarely meets ≤30%; *Inconsistently meets >30-60%; *Generally meets >60-80%; *Sometimes exceeds >80-90%; *Consistently exceeds >90%

Appendix 2.1: Mini Clinical Evaluation Exercise (Mini-CEX)

National Care Plan

Evaluation: _____

Date: _____

Resident: _____

OR-1 OR-2 OR-3 R-4

PES Statement: _____

Setting: ○ Ambulatory ○ In-patient ○ ED ○ Others _____

Patient: Age:_____ Sex: _____ ○ New ○ Follow Up: _____

Complexity: ○ Low ○ Moderate ○ High

Focus: ○ Data gathering ○ Diagnosis ○ Therapy ○ Counseling

1- Data gathering (○ Not Observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

2-Medical interviewing skills (○ Not Observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

3-Nutritional assessment (○ Not Observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

4. Interventional plans (○ Not Observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

5- Interventional plans (clinical management) (○ No Observed)

1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

6- Monitoring and evaluation (○ No Observed)								
1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

7- Managing a medical complexity (○ Not Observed)								
1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

8- Counseling skills (○ Not Observed)								
1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

9- Communication skills (working with colleagues in a team) (○ Not Observed)								
1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

10- Humanistic qualities/professionalism (○ Not Observed)								
1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

11- Organization/efficiency (○ Not Observed)								
1	2	3	4	5	6	7	8	9
UNSATISFACTORY			SATISFACTORY			SUPERIOR		

Appendix 2.2: Multi-source Feedback (MSF) Assessment Form

Please complete the question using a cross (x). Please use black font and write in CAPITAL LETTERS.

Trainee Surname			
Trainee Forename			
Observed by		**Role**	
Signature			
Date			

In which clinical setting have you primarily observed the resident?
Surgical and critical care ☐
General pediatrics ☐
Internal Medicine ☐

How do you rate this in their:	**Good**	**Satisfactory**	**Needs Improvement**	**Unacceptable**	**Unable to Comment**
Knowledge, skills, performance					
1. Ability to nutritionally diagnose patient problems	☐	☐	☐	☐	☐
2. Ability to plan patient care	☐	☐	☐	☐	☐
3. Awareness of their own limitations	☐	☐	☐	☐	☐
4. Ability to keep up-to-date with knowledge and skills	☐	☐	☐	☐	☐
5. Responds to distress of patients appropriately	☐	☐	☐	☐	☐
6. Technical skills [Appropriate to grade]	☐	☐	☐	☐	☐
7. Ability to multitask and work effectively in a complex environment	☐	☐	☐	☐	☐
8. Ability to manage time and prioritize effectively	☐	☐	☐	☐	☐

How do you rate this in their:	Good	Satisfactory	Needs Improvement	Unacceptable	Unable to Comment
9. Able to cope under stress	☐	☐	☐	☐	☐
10. Willingness and effectiveness when teaching/training colleagues	☐	☐	☐	☐	☐
11. Ability to take leadership role when required by circumstances	☐	☐	☐	☐	☐
12. Keeps clear, accurate, and legible records contemporaneously	☐	☐	☐	☐	☐
Safety and quality					
13. Contributes constructively to audit, appraisal, and clinical governance	☐	☐	☐	☐	☐
14. Safeguards and protects patients' well-being	☐	☐	☐	☐	☐
15. Responds promptly to risks posed by patients					
Communication					
16. Communication with patients	☐	☐	☐	☐	☐
17. Communication with carers and/ or family	☐	☐	☐	☐	☐
18. Verbal communication with colleagues	☐	☐	☐	☐	☐
19. Written communication with colleagues	☐	☐	☐	☐	☐
20. Ability to recognize and value the contribution of others	☐	☐	☐	☐	☐
21. Accessibility / reliability	☐	☐	☐	☐	☐

How do you rate this in their:	Good	Satisfactory	Needs Improvement	Unacceptable	Unable to Comment
Maintaining trust					
22. Respect for patients privacy, tight for confidentiality	☐	☐	☐	☐	☐
23. polite, considerate and honest to patients	☐	☐	☐	☐	☐
24. Treats patients fairly and without discrimination	☐	☐	☐	☐	☐
25. Treats colleagues fairly and without discrimination	☐	☐	☐	☐	☐
26. Honest and objective when appraising and assessing colleagues	☐	☐	☐	☐	☐

Are there any concerns about this resident's probity or health? Yes ☐ No ☐

If yes, please provide details

Please add any additional comments

If any boxes were marked with minor or major concerns, please explain why

Signature	**Date**

Appendix 2.3: Case-based Discussion (CBD)

Resident's Surname:

Resident's Forename:

Assessor's Name:

Assessor's Setting: _____

Clinical Setting: _____

Please select referring to the descriptors in the competency areas

Area	Curriculum Entry	Grade			
Practicing holistically	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Data gathering and interpretation	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Making nutritional diagnosis/decisions	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Interventional plan/clinical management	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Managing a medical complexity	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Follow up and monitoring plan	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Working with colleagues and in teams	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Communication skills	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Maintaining an ethical approach	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Fitness to practice	Display	O Insufficient evidence	O Needs further development	O Competent	OExcellent
Overall assessment		O Insufficient evidence	O Needs further development	O Competent	OExcellent

Feedback and recommendations for further development:

Agreed action:

Time taken for discussion (in minutes):

Time taken for feedback (in minutes):

Appendix 3: Examples of a Logbook

Name of the Rotation	
Activity Description	
Duration	
Patient Medical Record	
Date	
Interviewing skills	
Nutritional assessment (anthropometrics, biochemical, clinical, and dietary components)	
Nutritional diagnosis	
Interventional plans (Therapeutic, educational, and discharge plans)	
Monitoring and follow-up	
Counseling skills	
Communication skills	
Learning gaps (if any)	
Supervisor's Signature	
Value: High/Medium	

Appendix 4: Presentation and Case Studies Evaluation

Lecture – Academic Day

Topic: _____

Presenter (Initials) :_____ Date: _____

1. Please rate the presenter.						
SKILLS	N/A	1 Poor	2 Needs Improvement	3 Good	4 Very Good	5 Excellent
Enthusiasm						
Interaction with the audience						
Preparation of the topic						

2. Please rate the presentation.						
SKILLS	N/A	1 Poor	2 Needs Improvement	3 Good	4 Very Good	5 Excellent
Information was presented in an organized manner.						
Related information was presented using practical problems.						
Quality of audiovisual aids						

3. Please rate the content of the presentation.						
SKILLS	N/A	1 Poor	2 Needs Improvement	3 Good	4 Very Good	5 Excellent
The volume and complexity of the information presented was appropriate.						
The content is related to current evidence in the literature.						
The content was relevant to your practice.						
4. Please rate the content in terms of the CanMEDS Roles						
SKILLS	N/A	1 Poor	2 Needs Improvement	3 Good	4 Very Good	5 Excellent
Medical expert						
Scholar						
Professionalism						
Health advocate						
Communicator						
Collaborator						
Manager						
Please provide comments, suggestions, or feedback:						

Appendix 5. Resident Monitoring and Evaluation Tracking Tool

Resident Name	Rm #	NCP Diagnosis	Schedule Follow-up Month											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec