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**POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO, SRI LANKA**



PROSPECTUS

**MASTER OF SCIENCE (MSc)
IN
HUMAN NUTRITION**

2012

**BOARD OF STUDY IN
COMMUNITY MEDICINE**

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PROSPECTUS OF MSc (Human Nutrition) TRAINING PROGRAMME

The Board of Study in Community Medicine (hereafter referred to as the Board) will conduct a training programme leading to the postgraduate degree of M.Sc. (Human Nutrition).

1. BACKGROUND TO THE PROGRAMME

In Sri Lanka, nutritional problems have continued to remain as serious public health problems as well as problems of individuals.

From a public health perspective, malnutrition remains a serious problem among Sri Lankans especially among children, pregnant and lactating mothers. Overall, the nutritional status of children under 5 years in Sri Lanka has not shown much improvement during the past ten years. A national level study conducted in 2009, reported that 19.2 percent of children were stunted, 21.6 percent underweight and 11.7 percent were wasted compared with 18.4 percent stunting, 22.8 percent underweight and 15.5 percent wasting reported in 2000 (DHS 2000). Percentage of low birth weight babies has continued to be about 16 – 18 percent over the past decade. Relationship of low birth weight to later life chronic diseases is a matter of concern.

Sri Lanka is beginning to experience the double burden of malnutrition with about 1.2 million Sri Lankan adults being overweight and among schoolchildren this number being approximately 0.4 million. Overweight and obese individuals have a greater risk of developing Non-Communicable Disease (NCD): diabetes, high blood pressure, stroke, cardiovascular disease, and some forms of cancer. NCDs, often precipitated by poor nutrition, presently account for 60% of global deaths and 46% of the global burden of diseases. It is predicted that by 2020, NCDs and obesity are likely to cause 73% of all deaths and 60% of all disease.

From an individual perspective, there are many clinical situations where dietary advice is required not only as a focus on secondary prevention but also in actual management of the individual patients. Such inputs require dietetic instructions to prevent complications of the clinical condition and need to be precise and best delivered by the clinicians. Dieticians are a category of personnel trained for dietary management of patients. However, they are not available widely, hence the need for the medical professionals to develop their competencies in prescribing diets to be strengthened. There are many clinical conditions where diet therapy is an important component of patient management practices. A medical professional who is trained in both public health nutrition and clinical nutrition could play a key role in handling common nutritional problems in both field and clinical settings.

In view of the non-availability of a comprehensive programme to train medical professionals in nutrition, this course is planned to develop a group of professionals who are competent in undertaking programmes aimed at reducing the problems of malnutrition at the community level as well as focus on the nutritional management of individual patients or groups of patients with established disease.

2. OBJECTIVES AND COURSE OUTCOMES

By the end of this course, the trainee should be able to:

- demonstrate an advanced knowledge of public health and clinical nutrition, at biological, social and policy levels.
- plan and conduct an assessment of nutritional problems in population and population sub-groups.
- interpret and synthesise different types of data used to assess nutritional problems.
- demonstrate an adequate knowledge in the management of nutritional aspects of common clinical conditions.
- assess critically, select and apply a range of appropriate research skills and techniques and be able to evaluate critically the findings of scientific studies of public health and clinical nutrition.
- identify and formulate appropriate responses and intervention strategies to address nutritional issues, taking into account the public health and social policy contexts, and
- apply knowledge of effective teamwork and communication skills to solve problems and achieve goals.

The duration of the course will be one year. The contents of the course will be divided among 3 Terms.

3. CURRICULUM

The MScin Human Nutrition (M.Sc-HN) training programme shall consist of a **taught component, a clinical/practical component and a portfolio.**

There shall be 14 modules in total: 10 modules in the taught component; one module each for clinical attachment, community attachment and laboratory attachment; and the portfolio. The number of teaching/learning hours and the credit points are listed below. The syllabi of the taught modules are described in **Annex 1**. The syllabus of the practical/clinical component is described in **Annex 2**.

Module No.	Name of the Module	Lecture Hrs	Small group classes hrs	Credit hrs
MSc-HN-01	Introduction to the Study of Nutrition and Principles of nutrition	30	15	2.5 credits
MSc-HN-02	Basic statistics	30	15	2.5 credits
MSc-HN-03	Basic epidemiology and demography	30	15	2.5 credits
MSc-HN-04	Basics of research and scientific reasoning	30	30	3 credits

Module No.	Name of the Module	Lecture Hrs	Small group classes hrs	Credit hrs
MSc-HN-05	Public Health Nutrition	150	15	10.5 credits
MSc-HN-06	Nutrition using life cycle approach	75	15	5.5 credits
MSc-HN-07	Planning and management	75	15	5.5 credits
MSc-HN-08	Health promotion and behaviour change communication	15	15	1.5 credits
MSc-HN-09	Special topics	45	15	3.5 credits
MSc-HN-10	Clinical Nutrition	150	30	11.0 credits
			Clinical/ Practical	
MSc-HN-11	Clinical attachment		180	4.0 credits
MSc-HN-12	Community attachment		90	2.0 credits
MSc-HN-13	Laboratory attachment		45	1.0 credit
		Contact hrs		
	Portfolio	150		5.0 credits
Total				60 credits

4. TRAINING STRUCTURE

The training programme shall include teaching sessions namely lecture, small group discussions, provision of reading material, video and sound clips, slide presentations, and may include any other instructional material designated by the Board. In addition there will be attachments for clinical, community and laboratory settings.

The students shall undertake preparation of a portfolio under prescribed guidelines. Each student will be allocated to a supervisor approved by the Board.

5. ADMISSION CRITERIA

- a) A medical degree registered with the Sri Lanka Medical Council and
- b) One year of internship recognized by the Sri Lanka Medical Council and
- c) One year of full-time post internship work experience in the health sector, recognized by the Board of Study in Community Medicine

6. SELECTION PROCESS

- a) The PGIM will place an advertisement to select a pre-determined number of candidates (as determined each year by the Board of Study in Community Medicine).

- b) Trainees are selected based on the overall mark obtained at the Qualifying Examination, which is a Multiple Choice Question (MCQ) paper.
- c) The MCQ paper, which has 60 MCQs of the multiple true / false type, to be answered in 180 minutes, includes questions on testing knowledge of basic Nutrition at undergraduate level.
- d) A candidate must obtain a minimum of 50% of the mark in order to qualify for selection to the training programme.
- e) Candidates will be selected to the course according to rank order of marks at the selection examination and the number of positions available.

7. INTAKE

This will depend on the needs and availability of training facilities. The information will be stated in the advertisement.

8. DURATION OF TRAINING

12 months full time

9. FORMAT OF TRAINING PROGRAMME

The training programme will consist of two components: a 9-month taught course followed by 3 months of practical/clinical training. During the practical/clinical component a portfolio and case book (**Annex 3**) shall be maintained by the trainees. This will be followed by two weeks of study leave and an end-of-course examination (MScExamination).

The various components of the course consist of learning activities that comprise the following credit hours as given in the Section 3:

Taught course	48 credit hours
Clinical/Practical training	7 credit hours
Portfolio/case book	5 credit hours
Total	60 credit hours

On the basis that one credit is equivalent to 15 hours of lectures or 30 hours of practical classes or 45 hours of field, clinical and research work, these contact hours in the taught course are the equivalent of 48 credits.

Trainees will be sent to training sites approved by the Board of Study.

Clinical/practical Training (content and details in **Annex 2**) -will consist of

- a) hospital clinical/ ward based training
- b) community based training
- c) laboratory based practical training

Training sites for **hospital clinical / ward** based will include the following institutions:

- Lady Ridgeway Children's Hospital (LRH)
- Burn Unit of National Hospital of Sri Lanka (NHSL)
- Intensive care unit of NHSL and LRH
- Medical and surgical Wards in NHSL
- Diabetes clinic in NHSL
- Colombo South Teaching Hospital
- Castle Street Hospital for Women
- De Soysa Maternity Hospital
- Rehabilitation Hospital, Ragama
- Cancer hospital, Maharagama
- Any General or Base hospital recognized by the Board of Study
- Diabetes Association of Sri Lanka
- Any other training center in the State or non State sector approved by the Board of Study

Training sites for **community and laboratory** based components will include following institutions:

- Medical Research Institute
- Industrial Technology Institute (ITI) or any other laboratories in the State or non State sector approved by the Board of study
- Selected Medical Officer of Health areas

On the basis that 45 hours of such clinical/practical training is equivalent to one credit, this amounts to 7 credit hours.

During the clinical attachments following areas will be included:

- Nutrition assessment in hospital settings and relevant nutrition therapy
- Management of nutrition aspect of selected diseases categories e.g. Diabetes, Heart disease, Renal disease, Arthritis, Burns, Hypertension, cancer etc.
- Critical care
- Nutrition in surgical patients
- Overweight and obesity
- Intensive care; total and parental nutrition
- Severe acute under-nutrition
- Drug nutrient interaction
- Food allergy

During the community attachments following areas will be included.

- Assessment of nutrition status in a community
- Planning and implementation of nutrition interventions
- Identification of resources / programmes available for improvement of nutritional status
- Assessment of effectiveness of interventions at community level
- Nutrition education including conduct of such programme at different levels

During the laboratory attachments following areas will be included

- Role of laboratory in assessment of nutritional problems and monitoring of interventions
- Exposure to relevant laboratory procedures – quality control, specimen collection and transfer etc.

During the practical/clinical training, necessary Direct Observation of Practical Skills will be done using the form in **Annex 4**. Supervising officer will be provided with a structured format to make his/her observations on the performance of the participants. These completed formats have to be submitted to the Coordinator of the MSc-HN on completion of the relevant training activity.

During the practical/clinical training it is necessary for the trainer to submit a progress report at the completion of training in the relevant section using the form in **Annex 5**.

10. IDENTIFICATION OF TRAINERS

All trainers have to be recognized by the Board of Study in Community Medicine. Those with relevant postgraduate degrees in Community Medicine, Biochemistry, Physiology, Paediatrics, Medicine, Surgery, Gynaecology and Obstetrics or other relevant clinical disciplines will be considered eligible. Those with at least three years experience after obtaining a Doctoral degree or a Masters degree (obtained after a full-time course of study of at least of one academic years' duration with a research component by way of thesis / dissertation), in the above mentioned fields of study shall also be considered.

11. FORMAT OF ASSESSMENTS

Assessment of trainees will include in-course assessment and end-of-course examination.

A. In-course assessment

- 1) Formative in-course assessment will include a portfolio compiled as stipulated by the Board of Study (**Annex 3**). This portfolio must be submitted to the PGIM at the end of the 3 months of practical/clinical training as a pre-requisite to sit for the end-of-course examination
- 2) Trainers will be required to send progress reports on the trainees (**Annex 5**). Unsatisfactory reports will result in:
 - (i) Extension of training period and / or
 - (ii) Discontinuation from the training programme
- 3) 80% participation at lectures, small group classes (tutorials, seminars, demonstrations) and practical / clinical training sessions

B. Eligibility to sit for end-of-course examination (MSc examination)

In order to be eligible to sit for the final examination, trainees must

- 1) Show at least 80% attendance in

- a. the classes conducted in each of the 10 modules in the taught course
 - b. the period of clinical/practical training
 - c. the weekly classes conducted during the period of clinical/practical training
- 2) Obtain satisfactory progress reports. The reports have to be sent by the trainers of practical/clinical training using the form in **Annex 5**. These should be acceptable to the Board.
 - 3) Submit a duly completed portfolio before a date stipulated by the Board.

C. End-of-course examination (MSc examination)

An end-of-course examination will be conducted at the end of the training period. It will have the following 4 components:

- C1. Theory component with a multiple choice question paper and a structured essay question paper
- C2. Objective Structured Practical Examination (OSPE)
- C3. Assessment of the Portfolio
- C4. Portfolio based Viva

C1-Theory component

C.1.1. The Multiple Choice Question paper will have 60 questions to be answered in a total of 3 hours. This will consist of 50 multiple true / false type and 10 single best answer type (SBA) type questions. The range of marking for MCQ will be 0 to 5 and there shall be negative marking within the questions in true/false type but will not to be carried forward. Each correct answer in SBA will carry 3 marks and there shall be no negative marking in SBA type. The Marks will be apportioned as follows:

	Number of questions	Marks
		%
Multiple true/false type	50	80
Single Best Answer type	10	20
Total	60	100

C.1.2. The Structured Essay Question paper will have 6 questions, and all questions to be answered in 3 hours. This paper will get a total of 100 marks.

C.2. The OSPE will assess practical competencies listed in the curriculum in relation to practical / clinical training. There will be 10 stations. The time allocated to each station shall be 5 minutes and the total duration shall be 50 minutes. In the 'live' stations there will be two examiners who shall mark independently. In other stations there may be one examiner or none if answers are documented in an answer paper only to be corrected later by examiners.

This will include 4 live stations with patients/information relevant to clinical situations. In other six there will be photos, models, graphs and instruments. The OSPE component will get 100 marknt of the **Portfolio**: The Portfolio will be assessed by two examiners with the use of a marking grid (**Annex 6**). The assessment of portfolio will get 50 marks.

C.4. The **Portfolio based viva examination** will be conducted by two examiners and will be marked out of 50 (**Annex 7**). b). Each candidate will be examined for 20 minutes. The portfolio viva will get 50 marks.

The final computation of marks shall be as follows:

Examination component	Marked out of	Percentage of final mark
MCQ paper	100	25
Structured essay question paper	100	25
OSPE	100	25
Assessment of the Portfolio	50	12.5
Portfolio based viva	50	12.5
Total	400	100

D. Requirements to pass the MSc Examination

To pass the MSc in Human Nutrition candidates will be required to obtain the following:

- A total aggregate minimum of 50% **for the all component of the examination**, and
- A minimum of 45% for the theory component (MCQ and Structured essay question paper) and
- A minimum of 45% for the practical component (OSPE)
- A minimum of 45% for the assessment of Portfolio
- A minimum of 25% for the Portfolio based viva

A candidate must complete the MSc within 6 attempts in not more than 8 years from the date of the first attempt at the MSc examination, unless the Senate has permitted extension for valid reasons.

E. Repeat attempts

A candidate who has obtained a total average of at least 50% for the examination, and has also obtained at least 45% in either the theory OR the practical component, but has failed the examination because he / she has not obtained the requisite minimum mark in only one component, shall be permitted to sit for that component alone in his / her next attempt at the examination. In such a case, the total mark for the repeat examination shall be calculated using the marks obtained in the completed component from the previous examination, along with the marks from the repeated component. A candidate shall be given this concession for only two subsequent repeat examinations. In the event that a candidate does not pass the repeat examination, he / she shall have to sit for the entire MSc end-of-course examination again after the 2 attempts. **A candidate is eligible for 6 attempts within 8 years of the first attempt.**

12. RECOMMENDED READING

1. Michael J. Gibney, Hester H. Vorster, Frans J. Kok. **INTRODUCTION TO HUMAN NUTRITION** (The Nutrition Society Textbook). 2005
2. Michael J. Gibney. **CLINICAL NUTRITION** (The Nutrition Society Textbook) 2005
3. T. W. Wickramanayaka. **NUTRITION DURING LIFECYCLE.** 2006
4. Alpers, Stenson and Bier, **MANUAL OF NUTRITIONAL THERAPIES**, 3rd Ed, 1995
5. Hark & Morrison, **MEDICAL NUTRITION & DISEASE**, 3rd Ed., 2003
6. Jeukendrup, **SPORTS NUTRITION: AN INTRODUCTION TO ENERGY PRODUCTION AND PERFORMANCE**,
7. Journal of the American College of Sports Medicine, **MEDICINE AND SCIENCE IN SPORTS AND EXERCISE**,
8. Kopple & Massary, **NUTRITIONAL MANAGEMENT OF RENAL DISEASE**, 2nd Ed, 2003
9. La Valle, et al, **NATURAL THERAPEUTICS POCKET GUIDE**, Lexi-Comp, Inc, 2000-2001
10. Jayatissa R, **OPTIMUM NUTRITION FOR BEATING DIABETES**, 2010.

ANNEX 1-DETAILS OF LEARNING MODULES

Module 1 - Introduction to the Study of Nutrition and Principles of nutrition

- Sub Units
- 1.1 Energy, Macro and micronutrient requirements
 - 1.2 Overview of metabolism and the role of macro and micronutrients in metabolism
 - 1.3 the assessment of nutritional status
 - 1.4 the current scientific and public health issues concerning human nutrition, in both developing and developed countries.
 - 1.5 Dietetics

Sub Unit	Lesson objectives	Learning Context (Method)
1.1 Energy, Macro and micronutrient requirements	(i) describe the basis of the classification of micronutrients as type I or type II; (ii) understand and describe the basis of the clinical effects of micronutrient deficiencies, particularly iron, vitamin A and iodine;	lectures, group-work activities, discussions with invited experts and critical review of key papers
1.2 Overview of metabolism and the role of macro and micronutrients in metabolism	(iii) demonstrate an understanding of the difficulties in assessing micronutrient status of individuals and populations, in particular for iron, zinc, vitamin A and B-vitamins;	
1.3 the assessment of nutritional status	(iv) assess critically different public health interventions to improve micronutrient intakes, including dietary diversification, supplementation and fortification with individual and multiple micronutrients;	
1.4 the current scientific and public health issues concerning human nutrition, in both developing and developed countries	(v) evaluate critically current research of selected topics in micronutrient nutrition; (vi) describe the role of micronutrients in bone health; (vii) appreciate the role of non-nutrient, biologically active ingredients in food in maintaining "optimum health".	
1.5 Dietetics		

Module 2 - Basic statistics

Sub Units: 2.1 basic statistical methods used in medical and public health research

Sub Unit	Lesson Objectives	Learning Context (Method)
Basic statistical methods used in medical and public health research	(i) describe and apply statistical methods in epidemiology and population health, and in their own disciplines; (ii) demonstrate skills in handling data on a computer and otherwise, and in deriving and presenting quantitative results using appropriate tables, figures and summaries; (iii) explain the nature of sampling variation and the role of statistical methods in quantifying it, and be able to calculate confidence limits and evaluate hypotheses; (iv) identify the key features of the normal and binomial distributions; (v) identify the key features of methods appropriate for sampling surveys; (vi) select appropriate statistical methods for the analysis of simple data sets and apply them on computer using STATA statistical software; (vii) accurately interpret and assess the output from statistical analyses carried out on a computer in relation to research and other questions being asked; (viii) present and discuss the findings from statistical analyses in a clear, concise and logical manner.	lectures, group-work activities, discussions with invited experts and critical review of key papers

Module 3 - Basic epidemiology and demography

Sub Units: 3.1 basic concepts and methods of epidemiology.

Sub Unit	Lesson Objectives	Learning Context (Method)
Basic concepts and methods of epidemiology.	(i) understand and apply measures of disease incidence and prevalence, and measures of effect (e.g. relative and absolute risk); (ii) demonstrate understanding of the basic principles underlying different study designs, including cross-sectional, cohort, case-control and intervention studies; (iii) assess strengths and limitations of different study designs; (iv) identify problems interpreting epidemiological data: chance, bias, confounding and effect modification; (v) be aware of criteria for assessing causality; (vi) assess advantages and disadvantages of different preventive strategies, including the use of measures of public health impact to anticipate their potential benefits; (vii) assess strengths and limitations of different sources of epidemiological data on health status and health service utilization in both industrialized and developing countries	lectures, group-work activities, discussions with invited experts and critical review of key papers

Module 4 - Basics of Research and scientific reasoning

Sub Units:

Sub Unit	Lesson Objectives	Learning Context (Method)
	(i) demonstrate an understanding of key concepts in research methodology; (ii) identify appropriate research designs for a range of research questions in health; (iii) evaluate the strengths and weaknesses of different research designs and data collection methods; (iv) critically evaluate published research studies; (v) demonstrate an understanding of how research findings can be used in public health disciplines.	lectures, together with essential reading, provide the structure and overview of key concepts. seminars are based around critical reading of a selection of science articles; the others are practical sessions in which students develop skills in refining research questions, interviewing, questionnaire design
	(i) demonstrate understanding of concepts underlying the design of epidemiological studies; (ii) select an appropriate study design for a given epidemiological scenario and provide a rationale for this; (iii) understand and conduct stratified analyses of data from epidemiological studies; (iv) appreciate the rationale and use of multivariable analyses of data from epidemiological studies; (v) explain basic approaches to the design and interpretation of multivariable analysis models; (vi) critically appraise the design, analysis and interpretation of studies conducted by other investigators; (vii) communicate effectively with those involved in conducting public health research.	lectures, computer practical sessions (using SPSS), a problem-based exercise on study design, and paper review discussion sessions.

Module 5 - Public Health nutrition

- Sub Units
- 5.1 Home Economics
 - 5.2 State policies and global policies
 - 5.3 MSc Com. Med course
 - 5.4 Food safety and security
 - 5.5 Intervention strategies
 - 5.6 Food advertising, labeling
 - 5.7 Trends and issues of nutritional problems
 - 5.8 Lifestyle management

Sub Unit	Lesson Objectives	Learning Context (Method)
	(i) the processes of ingestion, digestion, absorption, metabolism, and utilization of nutrients and other food constituents by the body; (ii) the principles of setting, defining and meeting macro- and micro-nutrient requirements; (iii) the factors that influence dietary patterns and food choices, including social, cultural and economic determinants; (iv) the genetic and epigenetic (infection and other environmental factors) determinants of nutritional needs; (v) the available methods for the assessment of food availability, dietary intake, food quality and dietary patterns relevant to health and nutritional status; (vi) the available methods for the assessment of nutritional status (clinical, anthropometric, biochemical, functional) [select examples only as these are also covered in other modules]; (vii) the processes involved in establishing nutrient recommendations and food based dietary guidelines for optimal health and nutrition of populations groups; (viii) global trends in food supply and dietary patterns, and their impact on health and nutrition of populations.	lectures, group participation, discussions with invited experts and computer practical.
5.8 Lifestyle management	(i) demonstrate a systematic understanding of the relationship between nutrition and chronic disease and the likely mechanisms involved; (ii) assess the strengths and weaknesses of epidemiological methods available to assess nutrition-disease relationships; (iii) critically evaluate the validity of consensus views of common nutrition-related chronic diseases through the appraisal of the epidemiological evidence; (iv) critically evaluate strategies to prevent nutrition-related chronic diseases and the evidence-base required to implement policy.	lectures given by topic experts and in-class group work and feedback. There will also be student-led presentations following a critical review of key evidence

5.7 Trends and issues of nutritional problems	(i) identify key areas of public health; (ii) demonstrate an understanding of selected issues of current and global importance in public health.	
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Module 6 - Nutrition - using life cycle approach

Sub Units 6.1 Requirements, issues, management on Infant and young child, School children, Adolescents, Youths, Adults, Pre pregnant women, Pregnant women, Lactating mothers, Premenopausal, Menopausal, Elderly

Sub Unit	Lesson Objectives	Learning Context (Method)
6.1 Requirements, issues, management Infant and young child, School children, Adolescents, Youths, Adults, Pre pregnant women, Pregnant women, Lactating mothers, Premenopausal , Menopausal and Elderly	<p>1. Participants will consider nutritional requirements in pregnancy, the determinants of birth weight, the consequences of low birth weight and the impact of prenatal supplementation programmes to improve birth weight.</p> <p>2. Participants will examine the nutritional requirements of lactation and the determinants of low breast milk output. Supplementation programmes to improve lactation will be critically reviewed.</p> <p>3. Infant and child feeding practices in developed and developing countries will be outlined and interventions to improve these practices will be discussed. The role of breastfeeding features prominently in this module.</p>	Lectures, group participation, and discussions with invited experts.

Module 7 - Planning and management

Sub Units 7.1 Monitoring and evaluation
7.2 Planning

Sub Unit	Lesson Objectives	Learning Context (Method)
Monitoring and evaluation Planning	(i) review different theoretical approaches and concepts used in policy analysis; (ii) analyse the political system within which policies are made and the contextual factors that lead to policy change; (iii) identify the different arenas involved in health policy, the actors within these arenas, and the key features of processes of policy identification, formulation, and implementation; (iv) plan how to use in research and/or decision-making the policy analysis framework introduced during the module.	lectures, linked to fortnightly seminars of one and a half hours, which will be based on case studies and student led

Module 8 - Health promotion and behaviour change communication

Sub Unit	Lesson Objectives	Learning Context (Method)
	(i) the historical development of health promotion (ii) various approaches to the definition of health; (iii) proposed mechanisms to promote health via various social interventions; (iv) the way in which theories and principles from history, psychology, sociology, ethics, epidemiology, biology, and communication and marketing theory have been used to inform health promotion.	Lectures and seminars. The seminars will consist of group work, presentation of material by students and discussion

Module 9 - Special topics

- Sub Units 9.1 Sports
- 9.2 Nutrition in emergencies
- 9.3 Disables
- 9.4 Nutrient drug interactions

Sub Unit	Lesson Objectives	Learning Context (Method)
	(i) understand the contexts in which different emergencies arise; (ii) be familiar with the roles of organizations involved in emergencies; (iii) identify the most appropriate nutrition interventions in different emergency contexts; (iv) apply the use of nutritional information in emergencies; (v) become familiar with up-to-date interventions and survey methodologies; (vi) understand the controversies and challenges associated with policy change in the emergency setting.	Combination of lectures and active student participation in case presentations and discussions.

Module 10 - Clinical Nutrition and dietetics

- Sub Units 10.1 Dietetics, 10.2 Critical care, 10.3 Burns, 10.4 Renal diseases, 10.5 NCDs, 10.6 Trauma, 10.7 Postsurgical, 10.8 HIV, TB, CANCER, Chemotherapy, dementia, psychiatric

Sub Unit	Lesson Objectives	Learning Context (Method)
Nutritional Aspects in Diseases	Management and prevention	Combination of lectures and active student participation in case presentations and discussions.
Nutrient - Nutrient and Drug - Nutrient Interactions, Contraindications and Risk Management	Risk management for the clinical nutritionist includes knowledge of -Nutrient - nutrient interactions and reactions -Nutrient - drug interactions and reactions	

ANNEX 2-DETAILS OF PRACTICAL/CLINICAL COMPONENT

Clinical attachment:

During the practical/clinical training, trainees should be able to manage to carry out the following tasks:

1. Participate in the daily ward round of the allocated clinicians and checking of nutritional managements of patients
2. Observe the daily work of the diet clerk and kitchen staff
3. Interpret clinical information in relation to nutrition management for nursing staff and participate in decision regarding management and care with medical and nursing staff

Community attachment:

During the training, trainees should be able to manage to carry out the following tasks:

1. To plan and implement intervention/s to improve the health of the community
2. To evaluate the effectiveness of the intervention/s

Tasks:

1. To describe the health status of a community
2. To assess the health needs of a community and the resources available for health promotion and health care which can be utilized to improve their health
3. To identify the factors which influence health-related behaviour and the use of health care services
4. To plan and implement intervention/s to improve the health of the community
5. To evaluate the effectiveness of these interventions
6. To develop skills that are necessary for carrying out community work: leadership, managerial, co-operation, collaboration, communication, negotiation, critical thinking, etc.

Laboratory attachment:

This training will cover an introduction to laboratory analysis for the nutrition practice. The student will be responsible for obtaining required texts. Information on how to contact various testing laboratories to obtain knowledge on the tests including interpretation, obtaining specimen kits, order requisitions and pricing will be given. Specific tests pertinent to individual diseases or evaluations will be covered throughout the course.

- a. Routine blood chemistries and organ profiles
- b. Urinalysis
- c. Food analysis
- d. Nutrient level determination

ANNEX 3-PORTFOLIO**INTRODUCTION:**

The purpose of developing a portfolio is to make a trainee reflect on the process of training and professional development as a trainee in Human Nutrition. It should be composed of a series of documents that record this process.

OBJECTIVES

The trainees should have

1. used a wide and appropriate range of learning methods effectively to develop their knowledge, skills and attitudes in Human Nutrition.
2. developed personal and professional strategies appropriate to the constraints and opportunities during their training period.
4. evaluated their own work with self, peer and supervisor based monitoring and evaluation techniques.
5. designed methods and techniques to improve the practice of management of nutritional problems in the community and clinical settings.
6. provided support to the colleagues, peers and allied staff in providing training in nutrition
7. shown a commitment to work with and learn from colleagues, practiced equal opportunities and continued reflection on professional practice.

1/ An introduction to self; in the 1st person

- Who you are?
- Where do / did you work? (Present and past)
- Current work place - special interests you may have regarding in nutrition.

2/ Statement about your mission and vision as a Medical officer Human Nutrition

- Duties and responsibilities as a trainee in Nutrition.
- Your vision of a professional career in Nutrition.

3/ Records of activities and practices that you have undertaken as an MSc trainee in Human Nutrition to achieve the objectives mentioned above (minimum 5)**A. Record of training appointment- Log entries of all appointments**

This should include details of training appointment with the signature of the trainee.

B. Reflective writing

This should include **at least 5 reports** that document what you hoped to achieve at the beginning of the in-service training appointment, and how much of this you had achieved by the end. The report should include in addition a self-evaluation carried out mid-way during the appointment that reviews your achievements to date, identifies problems that prevent you from reaching your goals, and what you plan to do to correct these deficiencies.

C. Direct observation of practical skills (DOPS)

A minimum of 3 practical skills should be assessed during the taught course or hospital based training period. A description of the procedure together with the formative assessment in the structured format should be included in the portfolio. E.g. Steps to be followed in weight, height, Mid arm circumference, BMI etc.

D. Other reports that can be included in the portfolio-CPD activities :

- Descriptions of ward rounds performed during the hospital based training appointment, as well as ward classes and other discussions.
- Descriptions of field attachments performed during the community based training appointment, as well as community interactions and other discussions.
- Reports on presentations you have made at journal clubs, lectures, etc, and feedback received from peers or supervisors on such presentations.
- Case records of patients that trainees have discussed with the trainer during their hospital training and field training.
- Slides presentation
- Certificate in participating in Journal clubs
- Certificate of attendance in clinical meeting

E. Training of others

- Description of teaching commitments undertaken by you during your training

ANNEX 4-DIRECT OBSERVATION OF PRACTICAL SKILLS (DOPS)

Trainee's name:	
Assessor's name	

Brief outline of procedure , indicating focus for assessment (Refer to topics in curriculum). Tick category of procedure or describe in space available.	
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Complexity of procedures	Low	Average	High
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	Please grade the following areas using the scale provided. This should relate to the standard expected for the end of the appropriate stage of training:	Below expectations	Border-line	Meets expectation	Above expectation	Unable to comment
		1	2	3	4	
1						
2						
3						
4						
5						
6						
7						
8						
9						

PLEASE COMMENT TO SUPPORT YOUR SCORING

SUGGESTED DEVELOPMENTAL WORK:
(Particularly areas scoring 1-3)

Outcome **Satisfactory** **Unsatisfactory**
(Please circle as appropriate)

Date of assessment:

Signature of Assessor

Signature of Trainee:

ANNEX 5-PROGRESS REPORT FORM

To be sent at end of the 2 month in service community and hospital based in-service training, to Coordinator MScin Human Nutrition

Name of trainee:

Name of trainer:

Training centre:

Period of report:

Please use the following key to rate your trainee's performance during the period in question, with regard to each of the areas listed below

- Outstanding A
- Above average B
- Adequate C
- Below expected D

PRACTICAL SKILLS	Rating	Specific comments
1.		
1.		
<i>C. Record keeping</i>		

PROJECTS OR OTHER ACTIVITIES CARRIED OUT DURING THE PERIOD OF TRAINING:

ANNEX 6 -MARKING GRID FOR THE ASSESSMENT OF PORTFOLIO

YEAR:

INDEX NO OF CANDIDATE:

Area	Maximum mark	Mark awarded
Timely submission	5	
Complete with minimum criteria	5	
Introducing oneself	5	
Mission and vision as a medical nutritionist	5	
1. Used a wide and appropriate range of learning methods effectively to develop their knowledge, skills and attitudes in nutrition.	5	
2. Reflected on their own personal and professional practice and development, assessed their future development needs and made plans for continuing professional development	5	
3. Developed personal and professional strategies appropriate to the constraints and opportunities of their working environment .	5	
4. Evaluated their own work with self, peer and supervisor based monitoring and evaluation techniques.	5	
5. Shown a commitment to work with and learn from colleagues, practiced equal opportunities and continued reflection on professional practice.	5	
Record of training appointment	10	
DOPS 1	10	
DOPS 2	10	
DOPS 3	10	
commitment to reflective practice	10	
Presentation, originality , organization, innovativeness	5	
Total	100	
Marks out of 50	50	

ANNEX 7 - PORTFOLIO BASED VIVA EXAMINATION

YEAR:

INDEX NO OF CANDIDATE:

Please encircle the appropriate cell for each item below.

1. Authenticity of work

0	1	2	3	4
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0	Evidence of plagiarism
1	Replication of the work of someone else, but properly referenced
2	Adaptation from the work of someone else; properly referenced
3	Original work with limited applicability beyond the given portfolio entry
4	Original work with wide ranging applicability

2. Communication skills

0	1	2	3	4
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0	Unable to communicate an idea
1	Communicates unclearly
2	Communicates clearly, but some of the content is not relevant
3	Communicates clearly and relevantly but not in proper sequence
4	Communicates relevant material clearly and in the proper sequence

3. Reasoning skills

0	1	2	3	4
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0	Cannot indicate the reason for including a given portfolio item
1	Can give only limited reasons
2	Can give sufficient reasons, but cannot justify the reasons if challenged
3	Can reason and justify
4	Can reason, justify and analyze the strengths and weakness of own reasoning

4. Ability to apply learning beyond portfolio item

0	1	2	3	4
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0	Cannot indicate the situations that the learning from a portfolio item can be used
1	Can identify situations with limited relevance that the learning from a given item can be useful
2	Can identify relevant situations that the learning from a given item can be useful
3	Can identify relevant situations and the components of learning (from a given portfolio item) that can be useful for such situations
4	Can identify relevant situations and the pros and cons of applying the learning to those situations

5. Global rating

0	1	2	3	4
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Total (out of 20)	
Marks out of 50:	

Guideline for examiners

- a) Two examiners must mark the above scales independently.
- b) Each candidate will be examined for 20 minutes.
- c) Examiners should mark the above marking sheet at the end of 20 minutes.
- d) All questions must be based on items from the candidate's portfolio.
- e) Each question must be focused on the aspects addressed by 1 to 4 scales above.
- f) Only a maximum of two questions may be asked on the same portfolio item.
- g) The two examiners should ask questions alternatively.
- h) Each scale should be marked independently.