

In the Name of God
Islamic Republic of Iran
Ministry of Health and Medical Education
Deputy for Education

Program: Master's Degree in Geriatric Nutrition

Total Credits:

Course Type	Credits
Pre-Requisite Courses	6
General Courses	13
Non-Core Courses	0
Core Courses	22 +4 (as thesis)
Internship	6
Field Internship	0
Thesis	4
Total	32

1. Definition of the course:

The Master's program is a multidisciplinary program and aims to address a critical training gap in the field of Geriatric Nutrition, a highly specialized area. Given the increasing aging population, there is a growing demand for qualified professionals capable of meeting the specific nutritional needs of this group. Consequently, this program is designed to be particularly appealing to Dietitians-Nutritionists and medical professionals specializing in Geriatrics. These professionals often work in nursing homes and geriatric centers, where they provide care, training, and conduct research. It's important to recognize that addressing nutritional issues and malnutrition in the elderly is a complex task. It requires a deep understanding of the interaction between the progressive decline of physiological systems associated with aging and various chronic diseases and conditions. While proper nutrition is essential, providing adequate nutrition for the elderly can be a challenging objective. Individualizing diets to meet specific requirements often involves the use of supplements and specialized dietary products to tailor the diet to each patient's unique profile.

2. Educational Goal:

The aims of the Geriatric Nutrition course are to explore the physiological changes that occur with aging and their impact on nutritional needs. Learn how to assess nutritional status in older adults, including macronutrient and micronutrient requirements. Discuss the prevalence and management of chronic diseases in older adults, such as diabetes, hypertension, and osteoporosis. Design nutrition programs. Provide nutritional counseling to older adults, considering their cultural diversity and medication use. Apply nutrition principles to delay effects of aging and disease, to aid in the management of the physical, psychological, and psychosocial changes commonly

associated with growing old. Discuss how to screen for malnutrition risk, assess malnutrition severity, and diagnose malnutrition and its causes. Provide nutrition therapy by explaining how to provide, monitor, and manage nutrition therapy for older patients as a way to close nutrition gaps, support patient recovery from illness and injury, and improve long-term outcomes. Manage drug and food interactions, handle food allergies and intolerances, and adapt diets for age-related health conditions. And finally enhance care for older adults by promoting health, addressing nutritional challenges, and ensuring a well-balanced personalized diet in promoting healthy aging. These aims are designed to equip students with the knowledge and skills necessary to address the unique nutritional needs of older adults and improve their overall health and well-being.

3. Admission Requirements and Eligibility

Students who are considered to have inadequate background in Nutrition maybe required to take additional prerequisite courses to make up for the deficiencies, without graduate credit. Documents to be submitted for admission: transcript of records, copy of last degree, certificate of English proficiency, and a medical certificate.

4. Prerequisite Degrees:

The following can apply: - Qualified graduates of recognized universities, colleges or schools who hold an MD Degree, PharmD Degree, Bachelor's degree in Nutritional Sciences as well as health care workers with a Bachelor's or master degree in medical sciences.

7. General Objectives and Roles

A program in Geriatric Nutrition aims to equip students with a range of general skills that are essential for success in the field. Here are some general skills that students may develop through the program:

1. Critical Thinking: The ability to analyze complex nutritional issues and make evidence-based decisions regarding the dietary needs and interventions for older adults.
2. Communication: Effective communication skills, including the ability to convey nutrition related information clearly and compassionately to older adults, their families, and interdisciplinary healthcare teams.
3. Problem-Solving: The capacity to identify and address nutritional challenges faced by older adults, such as malnutrition, chronic conditions, and age-related changes in metabolism and dietary needs.
4. Cultural Competence: Understanding and respecting diverse cultural, social, and economic factors that influence the dietary habits and nutritional needs of older adults from different backgrounds.

5. **Interdisciplinary Collaboration:** The ability to work collaboratively with healthcare professionals, including physicians, nurses, social workers, and other specialists, to develop comprehensive nutrition care plans for older adults.

6. **Research Literacy:** The skills to critically evaluate research literature, apply research findings to practice, and potentially contribute to the advancement of knowledge in geriatric nutrition through research projects.

7. **Professional Ethics:** Understanding and adhering to ethical standards in nutrition practice, including respecting patient autonomy, confidentiality, and informed consent.

8. **Health Promotion:** The ability to promote healthy aging through nutrition education, lifestyle interventions, and advocacy for policies that support the nutritional well-being of older adults.

9. **Technology Proficiency:** Familiarity with nutrition assessment tools, electronic health records, and other technology used in geriatric nutrition practice.

10. **Professional Development:** Skills to engage in ongoing professional development, including continuing education, networking, and staying informed about current trends and best practices in geriatric nutrition.

These general skills, in combination with specialized knowledge in geriatric nutrition, can prepare students to excel in providing comprehensive nutrition care for older adults and contribute to the advancement of the field.

9. Special Competencies Expected for Graduates

The below specific skills are essential for addressing the complex nutritional needs of older adults and providing high-quality nutrition care in geriatric settings. They are designed to prepare students to address the unique challenges and opportunities in this specialized area of nutrition practice.

1. **Nutritional Assessment:** Proficiency in conducting comprehensive nutritional assessments for older adults, including evaluating dietary intake, nutritional status, and identifying risk factors for malnutrition and other nutrition-related issues

2. **Medical Nutrition Therapy:** Ability to develop and implement individualized medical nutrition therapy plans for older adults with chronic conditions such as diabetes, cardiovascular disease, renal disease, and other age-related health concerns.

3. **Geriatric Nutrition Counseling:** Skills in providing age-appropriate nutrition counseling and education to older adults and their caregivers, addressing factors such as changes in taste perception, dental health, and medication-nutrient interactions.

4. **Nutrition Support:** Understanding of enteral and parenteral nutrition support, as well as the ability to assess the need for and manage the use of nutritional supplements and specialized diets for older adults who have difficulty meeting their nutritional needs through regular food intake.
5. **Food Safety and Hygiene:** Knowledge of food safety principles and the ability to educate older adults on safe food handling practices to prevent foodborne illnesses and promote overall health.
6. **Diet Modification:** Proficiency in modifying diets to accommodate the specific dietary needs and preferences of older adults with conditions such as dysphagia, chewing difficulties, or sensory changes.
7. **Polypharmacy and Nutrition:** Understanding the impact of multiple medications on nutritional status and the ability to collaborate with healthcare teams to address potential medication-nutrient interactions and side effects that may affect nutritional intake.
8. **Nutrition and Aging Research:** Skills in critically evaluating research on nutrition and aging, as well as the ability to design and conduct research studies related to geriatric nutrition, contributing to evidence-based practice and advancing the field.
9. **End-of-Life Nutrition Care:** Competence in providing compassionate and supportive nutrition care for older adults in palliative care or end-of-life situations, addressing nutrition-related quality of life and comfort.
10. **Nutrition Program Development:** Abilities to develop and implement nutrition programs and interventions tailored to the specific needs of older adults in various settings, including long-term care facilities, community centers, and home-based care.

Table: Professional Duties & Special Competencies

Domain	Description of Professional Duties	Related Course Codes
Education	Designing and delivering nutrition education and counseling programs for the elderly, caregivers, and healthcare staff. Promoting nutritional literacy in the aging population.	04, 14, 03
Research	Designing and conducting research projects to investigate nutritional needs and interventions in the elderly. Analyzing data and disseminating results.	13, 06, 17
Services	Providing direct clinical and consultative services, including nutritional assessment, diet therapy design,	10, 15, 16, 18

	and monitoring the nutritional status of the elderly in healthcare and long-term care facilities.	
Technology & Entrepreneurship	Utilizing modern technologies (assessment software, health information systems) and creating businesses related to nutrition and specialized products for the elderly.	13, 06
Management	Managing nutrition services in long-term care facilities, hospitals, and related organizations. Planning and supervising budgets, human resources, and service quality.	05
Professional Ethics Promotion	Understanding ethical principles in providing services to the elderly, respecting privacy and patient autonomy, and making ethical decisions in special situations (e.g., end-of-life care).	08, 07, 12

Table: Expected Procedural Skills

Skill / Task	Observation	Assisted Performance	Independent Performance	Total Frequency (Minimum)
1. Nutrition Screening				
1.1 Conduct malnutrition risk screening using validated tools (MNA, MUST)	2	3	3	8
1.2 Identify risk factors affecting nutritional status in older adults	1	2	3	6
1.3 Assess activities of daily living (ADL) and instrumental ADL limitations on food intake	1	2	2	5
2. Nutritional Assessment				
2.1 Perform comprehensive nutrition-focused physical examination (including oral health, skin, muscle wasting)	2	3	3	8
2.2 Estimate nutritional requirements (calories, protein, fluid) for older adults	1	3	3	7

2.3 Assess chewing and swallowing difficulties affecting food intake	1	2	2	5
2.4 Evaluate medication-nutrient interactions and polypharmacy effects	1	2	3	6
2.5 Assess cognitive and mental health factors affecting nutrition status	1	2	2	5
3. Nutrition Diagnosis				
3.1 Develop nutrition diagnostic statements describing nutrition-related problems	1	3	3	7
3.2 Synthesize signs and symptoms to target nutritional interventions	1	2	2	5
4. Medical Nutrition Therapy (MNT)				
4.1 Develop and implement individualized MNT plans for geriatric patients with diabetes, hypertension, renal disease, etc	2	4	4	10
4.2 Modify diets for dysphagia (texture-modified foods, thickened liquids)	1	2	3	6
4.3 Design nutrition support plans (enteral and parenteral) for elderly patients	1	2	2	5
5. Nutrition Counseling and Education				
5.1 Provide age-appropriate nutrition counseling to older adults and caregivers	1	3	3	7
5.2 Address cultural, ethnic, and religious factors influencing dietary intake	1	2	2	5
5.3 Assess readiness to learn and change nutrition-related behaviors	1	2	2	5
6. Interdisciplinary Collaboration				
6.1 Participate in interdisciplinary team meetings and patient care rounds	2	3	3	8

6.2 Collaborate with physicians, nurses, pharmacists, and social workers on nutrition care plans	1	2	3	6
7. Professional and Ethical Practice				
7.1 Demonstrate ethical decision-making in end-of-life and palliative nutrition care	1	2	2	5
7.2 Document nutrition care plans and progress notes according to professional standards	1	3	3	7

Table 1: Pre-requisite Courses (included in General courses)

Code	Course Title	Credits (Total)	Credits (Theory)	Credits (Practical)	Hours (Theory)	Hours (Practical)	Hours (Total)	Prerequisite
01	Basic Nutrition I	3	51		51	0	51	
02	Basic Nutrition II	3	51		51	0	51	

Table 2: General Courses

Code	Course Title	Credits	Hours (Theory)	Hours (Practical)	Hours (Total)	Prerequisite or Co-requisite
1	Basic Nutrition I	3	51	0	51	-
2	Basic Nutrition II	3	51	0	51	01
3	Principles of Diet Planning	2	34	0	34	01-02
4	Principles of nutrition education and counseling	2	34	0	34	01-02
5	Food service management	3	34	34	68	-
Total		13	204	34	238	6

Table 3: Non-Core Courses: ---

Code	Course Title	Credits (Total)	Credits (Theory)	Credits (Prac.)	Credits (Intern.)	Hours (Theory)	Hours (Prac.)	Hours (Total)	Prerequisite
1									
1									
1									
2									

Table 4: Core Courses:

Code	Course Title	Credits (Total)	Credits (Theory)	Credits (Prac.)	Credits (Intern.)	Hours (Theory)	Hours (Prac.)	Hours (Total)	Prerequisite
6	Advanced vital statistics	1.5	1.5	0		25.5	0	25.5	
7	Principles of geriatric medicine	1	1	0		17	0	17	
8	Principles of palliative medicine	1	1	0		17	0	17	
9	Biological and physiological basis of aging	2	2	0		34	0	34	
10	Geriatric Nutrition	2	1.5	0.5		25.5	17	42.5	
11	Pathophysiology in geriatric diseases	2	2	0		34	0	34	
12	Geriatric pharmacology	2	2	0		34	0	34	
13	Research Methods in Geriatric Nutrition	1.5	1.5	0		25.5	0	25.5	
14	Geriatric Nutrition Counseling and Education	2	1	1		17	34	51	
15	Medical Nutrition Therapy for Geriatric Patients1	3	1.5	1.5		25.5	76.5	102	

16	Medical Nutrition Therapy for Geriatric Patients2	3	1.5	1.5		25.5	76.5	102	
17	Geriatric nutrition Seminar	1	1	0		17	17	0	
18	Internship in geriatric nutrition	6	0	0	6	0	408	408	
	total	28						909.5	