

Course title **Nutrition in Elderly (Module 3. Nutrition for specific groups)**




Target group: Undergraduate, graduate students studying nutrition, dietetics, public health and etc.

Type: Elective

Semester load: 25 hours, 1 ECTS

Semester: \_\_\_\_\_

Lecturers:

Name	Photo	Position	Contact information	Institute
<b>Dr. Nazgul Matkerimova</b>		Lecturer of the Public Health Department	Phone number: +996 558 780 780 nazikakt@gmail.com	International Higher School of Medicine, Kyrgyzstan
<b>Dr. Olzhas Zhamantayev</b>		Lecturer of the Public Health Department	+7 702 36 012 66 oljamani4@gmail.com	Karaganda Medical University, Kazakhstan
<b>Dr. Oybek Eshmamatov</b>		Teacher of the Department of Training of Doctors	+998 913 087 399 oybekeshmamatov@gmail.com	Tashkent Medical Academy, Uzbekistan
<b>Dr. Zamira Umarova</b>		Lecturer of the Environmental Health Department	+	Avicenna Tajik State Medical University, Tajikistan

Contact person: Olzhas Zhamantayev

Consulting hours: Every Wednesday, from 15:00 to 16:00

Learning outcomes:

Upon completion of this course, students will be able to:

1. To identify of the eating choices of elderly.
2. To provide reasoning of general eating choices of elderly.
3. To assess macronutrients and micronutrients' intake requirements.
4. To provide recommendations regarding the healthy diet suitable for elderly.
5. To create a diet plan of elderly to maintain health or improve their health condition.

Course overview:

Overall, the course contains the basics of:

- The physiology of ageing and its impact on nutrition. Exploring the changes in the body that occur with age, such as decreased muscle mass, reduced metabolism, and changes in taste and smell, and how these changes can affect nutrient needs.
- Common nutritional problems in the elderly. This includes discussing malnutrition, dehydration, and food insecurity, as well as the risk factors for these problems and the strategies for prevention and treatment.
- Nutrition recommendations for older adults. Exploring the specific nutrient needs of older adults, such as protein, calcium, and vitamin D, and how to meet these needs through a healthy diet.
- Social and cultural aspects of nutrition in the elderly. This includes exploring the impact of social isolation, cultural beliefs, and economic factors on food choices and dietary patterns in the elderly.

Key areas: Nutrition for age-specific group, community health

Course schedule:

Week	Date	Topic	In-class activities	Out-of-class activities
<b>Day 1</b>	19/02/24	General social and health situation of elderly according to the food choices. Social and cultural aspects of nutrition in the elderly.	<ol style="list-style-type: none"> <li>1. Problem lecture, 45 min "Social and cultural aspects of nutrition in the elderly"</li> <li>2. Discussion about a particular case, 45 min</li> </ol>	Quiz, 10 min Self-study of presentation, 45 min Video, 15 min After-class test, 20 min Article 1 reading, 25 min Article 2 reading, 20 min
<b>Day 2</b>	21/02/24	Nutrition assessment. Meal patterns.	<ol style="list-style-type: none"> <li>1. Lecture, 45 min</li> <li>2. Video 1 "Mini Nutritional Assessment for elderly", 12 min</li> <li>3. Discussion by Video 1, 33 min</li> <li>4. Work with tools (questionnaires) 45 мин</li> </ol>	<ol style="list-style-type: none"> <li>1. Video 2 "Assessment of nutrition in the older adult", 20 min</li> <li>2. Problem (task) solving: Article 1 reading, 30 min Article 2 reading, 30 min Assignment 2, 45 min</li> <li>3. A discussion forum for uploading the articles communication with feedback. 45 min</li> <li>4. Quiz, 20 min</li> </ol>
<b>Day 3</b>	23/02/24	Nutrition requirements: Macronutrients and micronutrients.	<ol style="list-style-type: none"> <li>1. Lecture, 45 min</li> <li>2. Problem (task) solving, 45 min</li> <li>3. Discussion (results, feedback), 45 min</li> </ol>	Article 1 reading, 20 min Article 2 reading, 25 min Video 1, 20 min Video 2, 25 min
<b>Day 4</b>	26/02/24	Strategy and tactics of healthy diet for elderly.	<ol style="list-style-type: none"> <li>1. Guidelines breakdown, 45 min</li> </ol>	Moodle/Padlet individual work, 45 min Book chapter, 25 min

		Guidance and recommendations.	2. In-class individual work under guidance, 45 min	Article 1 reading, 20 min Article 2 reading, 25 min After-class test, 20 min
<b>Day 5</b>	28/02/24	Creating a diet plan for elderly.	1. Individual task: creating a diet plan for elderly, 90 min 2. Reporting/presenting the diet plan, 45 min	Video, 20 min Interview, 60 min
<b>TOTAL</b>			585 min	540 min

Prerequisites: Introduction to public health, basics of epidemiology

Learning methods:

Method:	Description
X Lecture	The course includes 3 lectures: Problem lecture: General social and health situation of elderly according to the food choices. Nutrition assessment. Meal patterns. Social and cultural aspects of nutrition in the elderly. Nutrition requirements: Macronutrients and micronutrients.
X Exercises	1. Problem (task) solving. 2. Discussion (results, feedback).
X Presentation	1. Presentation on a topic. 2. Reporting/presenting the diet plan.
X Seminar paper	Articles for reading and breakdown in a class.
X Project work	1. Interview with elderly about the diet. 2. Individual task: creating a diet plan for the elderly groups.
X Group work	In-class teamwork “Strategy and tactics of healthy diet. Guidance and recommendations”.
X Train the trainee	Groups of students get topics to prepare and then explain/teach it to the other group. It requires materials provided to the trainers (students) and trainees.

Grading:

Assessment:	Weighting in %
1 After-class Moodle tests	30%
2 Groupwork report presentation	15%
3 Problem (task/exercise) solving	15%
4 Project presentation	40%

Grade	In points
1 A	90-100

2	B	80-89
3	C	70-79
4	D	60-69
5	F	<60

### Project-work presentation RUBRIC

Criteria		Weight
1	Content Knowledge	<p>Exceptional (21-25 points): Demonstrates a deep understanding of nutritional requirements for the elderly, including considerations for health conditions, cultural preferences, and challenges.</p> <p>Proficient (16-20 points): Shows a good understanding of nutritional needs for the elderly but may have minor gaps in addressing specific health conditions or cultural nuances.</p> <p>Basic (11-15 points): Displays limited understanding of nutritional requirements for the elderly, with noticeable gaps in addressing health conditions and cultural factors.</p> <p>Limited (0-10 points): Shows a lack of understanding of nutritional needs for the elderly, with significant omissions in addressing health conditions and cultural considerations.</p>
2	Personalization and adaptability	<p>Exceptional (21-25 points): Designs a highly personalized diet plan considering individual health needs, preferences, and the adaptability of the plan over time.</p> <p>Proficient (16-20 points): Demonstrates good personalization in the diet plan, with clear considerations for individual health conditions and preferences.</p> <p>Basic (11-15 points): Shows some attempt at personalization but lacks depth and may overlook important individual factors.</p> <p>Limited (0-10 points): Fails to personalize the diet plan adequately, lacking consideration for individual health conditions and preferences.</p>
3	Practicality and feasibility	<p>Exceptional (16-20 points): Designs a practical and feasible diet plan, considering accessibility to ingredients, realistic meal preparation, and economic factors.</p> <p>Proficient (11-15 points): Shows practicality in the diet plan but may have minor oversights in terms of ingredient accessibility or economic feasibility.</p> <p>Basic (6-10 points): Demonstrates limited practicality, with notable gaps in considering the feasibility of the proposed diet plan.</p> <p>Limited (0-5 points): Lacks practicality and feasibility, making unrealistic suggestions without regard for accessibility or economic factors.</p>
4	Integration of nutritional science	<p>Exceptional (16-20 points): Integrates relevant nutritional science principles into the diet plan, demonstrating a strong understanding of the scientific basis for dietary recommendations.</p> <p>Proficient (11-15 points): Integrates nutritional science into the diet plan, with a clear understanding of scientific principles but may lack some depth.</p> <p>Basic (6-10 points): Demonstrates limited integration of nutritional science, with noticeable gaps in understanding scientific principles.</p>

		Limited (0-5 points): Fails to integrate nutritional science effectively, lacking a clear understanding of the scientific basis for dietary recommendations.
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Course policy:

- Students are obliged to attend all courses - as long as they are not prevented by illness or other compelling reasons. In such cases, a written excuse must be sent to the course director, the program director and the secretary's office. In the case of foreseeable valid reasons, the course director and the program director must be informed in advance.
- The existing attendance requirement is at least 80% per course. Failure to meet the attendance requirement is equivalent to a negative assessment of the course.
- Participation in the course will be assessed according to the professional basis of the individual contributions or questions.
- Students are expected to arrive on time for the course. If, for reasons beyond their control, students are nevertheless late, they should enter the course room without disrupting the course or fellow students. Cell phones are to be turned off prior to the start of the course. The consumption of food during the course is not permitted.
- In this course, we uphold the principles of academic integrity, which are essential to fostering an environment of trust, fairness, and respect for intellectual work. Academic integrity encompasses honesty, transparency, and the ethical use of information and ideas.
- Violation of academic integrity principles may result in consequences, such as receiving a reduced grade on an assignment, failing the course, or facing disciplinary action, as determined by the instructor and in accordance with the institution's policies.

Topics' content:

**TOPIC 1**

**General social and health situation of elderly according to the food choices.** Responsible person

Dr. Zamira

Materials:

1. Information to read:

*Book chapter*

Food for the Aging Population, Monique M. Raats, Lisette C.P.G.M. de Groot, 2017

<https://www.sciencedirect.com/book/9780081003480/food-for-the-aging-population>

*Article 1:* Insights into the Social Determinants of Health in Older Adults

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9681180/#R38>

*Article 2:* Synthesis Report on the implementation of the Madrid International Plan of Action on Ageing in the ECE region between 2017 and 2022

<https://unece.org/sites/default/files/2022-07/Synthesis%20Report%20including%20Statistical%20Annex.pdf>

2. *Video 1* Nutrition in the elderly, <https://www.youtube.com/watch?v=zHsXn62MAKA>

*Video 2* Nutrition in older adults, <https://www.youtube.com/watch?v=ps9zxAG5la4>

3. 1-2 cases, problems to solve, discuss in the class.

4. 1 MOODLE assignment (assignment for MOODLE).

5. Questions list: 5 open-ended questions, 10 MCQs.

**TOPIC 2**

**Nutrition assessment. Meal patterns.** Responsible person Dr. Nazgul

Materials:

1. Chapter 1: Introduction to Nutritional Assessment of the textbook Nutritional assessment by Robert D. Lee, and David C. Nieman,
2. Assessment of nutritional status in the elderly: A proposed function-driven model <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5917421/>
3. Mini Nutritional Assessment
4. Information to read (Nutritional Assessment for older adults):  
*Article 1* “Assessment of nutritional status using anthropometric index among older adult and elderly population in India”  
*Article 2* “Meal Patterns”
5. *Video 1*: Mini Nutritional Assessment for elderly  
*Video 2*: A practical assessment of nutrition in the older adult  
<https://youtu.be/S-z0kW0pio8?si=XlaOhpeQQfcutAeE>
6. 1 MOODLE assignment (assignment for MOODLE).
7. Questions list: 5 open-ended questions, 10 MCQs.

### TOPIC 3

**Nutrition requirements: Macronutrients and micronutrients.** Responsible person Dr. Oybek

Materials:

1. Information to read:  
*Textbook*:  
Nutrients important for metabolism and blood function  
<https://2012books.lardbucket.org/books/an-introduction-to-nutrition/s14-nutrients-important-for-metabo.html>
2. *Article 1*. Requirements of macronutrients and micronutrients  
[https://www.researchgate.net/publication/348904013\\_Macronutrients\\_and\\_micronutrients](https://www.researchgate.net/publication/348904013_Macronutrients_and_micronutrients)  
*Article 2* Food Insecurity and Dietary Intake Among Elderly Population: A Systematic Review  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8106269/>
3. *Video 1*:  
Macronutrients vs Micronutrients... What’s the difference?  
<https://www.youtube.com/watch?v=ZkSaVgikVAk&pp=ygUhTWFjcm9udXRyaWVudHMgYW5kIG1pY3JvbnV0cmllbnRz>  
*Video 2*:  
Macronutrients and micronutrients  
<https://www.youtube.com/watch?v=Hv33r79CcMM&pp=ygUhTWFjcm9udXRyaWVudHMgYW5kIG1pY3JvbnV0cmllbnRz>
4. MOODLE assignment (assignment for MOODLE).
5. Questions list: 5 open-ended questions, 10 MCQs.

### TOPIC 4

**Strategy and tactics of healthy diet for elderly. Guidance and recommendations.** Responsible person Olzhas

Materials:

1. Book chapter:  
Achieving a Healthy Diet. <https://2012books.lardbucket.org/books/an-introduction-to-nutrition/>
2. *Article 1*: Roberts et al., 2021. Healthy Aging - Nutrition Matters: Start Early and Screen Often  
Advances in Nutrition, 12 (4) (2021), pp. 1438-1448, 10.1093/ADVANCES/NMAB032  
*Article 2*: O' Mahony et al., A qualitative study of older adults’ and healthcare professionals’ perspectives on the potential of functional food products to support healthy ageing, Journal of Functional Foods, Volume 107, 2023, <https://doi.org/10.1016/j.jff.2023.105689>.  
*Article 3*: Meeting Dietary Guidelines Recommendations: Older Adults What We Eat in America, NHANES 2013-2016.

[https://www.ars.usda.gov/ARUserFiles/80400530/pdf/DBrief/28\\_Meeting\\_Dietary\\_Guidelines\\_Recommendations\\_Older\\_Adults\\_1316.pdf](https://www.ars.usda.gov/ARUserFiles/80400530/pdf/DBrief/28_Meeting_Dietary_Guidelines_Recommendations_Older_Adults_1316.pdf)

*Useful source:* Nutrition Guideline. Seniors Health overview.  
[https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary\\_Guidelines\\_for\\_Americans\\_2020-2025.pdf](https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf)

3. *Video 1:*

Dietary Guidelines for Older Adults. <https://www.youtube.com/watch?v=gFM1hJkrMsQ&t=1s>

*Video 2:*

Dietary Strategies to Augment Muscle Mass in the Elderly.  
<https://www.youtube.com/watch?v=kdVmMjrVc08>

4. MOODLE assignment (assignment for MOODLE).

5. Questions list: 5 open-ended questions, 10 MCQs.

## **TOPIC 5**

Read and follow the Course's Moodle instructions.