

# SYLLABUS

## 1. General information on the course

<b>Full course name</b>	Threpsology (Peculiarities of Balanced Diet at Different Diseases)
<b>Full official name of a higher education institution</b>	Sumy State University
<b>Full name of a structural unit</b>	Academic and Research Medical Institute. Кафедра педіатрії
<b>Author(s)</b>	Romaniuk Oksana Kostiantynivna
<b>Cycle/higher education level</b>	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
<b>Semester</b>	18 тижнів протягом 5-го семестру
<b>Workload</b>	Обсяг навчальної дисципліни становить 5 кредитів ЄКТС, 150 годин, з яких 36 годин практичних занять та 114 годин самостійних занять.
<b>Language(s)</b>	English

## 2. Place in the study programme

<b>Relation to curriculum</b>	Elective course available for study programme "Medicine"
<b>Prerequisites</b>	Крок-1, Knowledge of anatomy, physiology, biochemistry, pharmacology.
<b>Additional requirements</b>	There are no specific requirements
<b>Restrictions</b>	There are no specific restrictions

## 3. Aims of the course

During the course, the student needs to acquire a level of knowledge and skills that would allow a university graduate to assess the patient's condition, prescribe the necessary diet therapy for a particular patient, adjust dietary therapy depending on the course of the disease, if necessary, the period of illness.

## 4. Contents

Topic 1 Human nutrition as a science Nutrients, nutrients, and other substances they contain, their action, interaction and balance in a healthy or sick person (nutrition), dietary requirements for maintaining health and development of the body, the processes of consumption, digestion, absorption, transport, utilization, and excretion
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Topic 2 Basic requirements for the organization of patient nutrition. Characteristics of therapeutic diets.

The role of diet therapy in the treatment of diseases of organs and systems. Features of medical diets, its characteristics, indications for its purpose. Therapeutic nutrition, built taking into account the pathogenesis of the disease, the patient's diet.

Topic 3 Features of breastfeeding.

Lactation. Quantitative and qualitative characteristics of breast milk. Breastfeeding technique. Advantages of breastfeeding. The technique of application to the breast. Basic rules for feeding.

Topic 4 Nutrition with cardiovascular pathology.

Pathogenetic chains of development of defeat of nutritious disturbances at cardiovascular pathology. The main principle and tasks of food at cardiovascular pathology. The list of the products recommended at cardiovascular pathology.

Topic 5 Features of nutrition with chronic diseases of the pancreas.

Pathogenetic chains of development of defeat of nutritious disturbances at chronic diseases of the pancreas. The main principle and tasks of food at chronic diseases of the pancreas.

Topic 6 Features of nutrition with chronic diseases of the biliary tract and liver.

Pathogenetic chains of development of lesions of nutritional disorders in chronic diseases of the biliary tract and liver. The main principle and task of nutrition in chronic diseases of the biliary tract and liver. List of products recommended for chronic diseases of the biliary tract and liver.

Topic 7 Features of nutrition with chronic intestinal diseases.

Pathogenetic chains of development of defeat of nutritious disturbances at chronic diseases of intestines. The main principle and task of nutrition in chronic intestinal diseases.

Topic 8 Features of nutrition with chronic diseases of the stomach, duodenum.

Etiological factors of chronic diseases of the stomach, duodenum. Variants of chronic diseases of the stomach, duodenum, depending on the secretory function. The role of diet therapy in the treatment of diseases of the stomach, duodenum. Features of prescription of diet therapy at diseases of a stomach, a duodenum depending on secretory function. Features of the appointment of diet therapy depending on the secretory function.

Topic 9 Therapeutic nutrition for obesity.

Etiological factors of obesity. Degrees of obesity. The role of diet therapy in the treatment of obesity. Features of prescription of diet therapy at the obesity of various degrees.

Topic 10 Therapeutic nutrition for iron deficiency anemia.

The role of diet therapy in the treatment of anemia. Features of the appointment of diet therapy for anemia of varying degrees. Features of diet therapy for anemia.

Topic 11 Features of nutrition in lactose intolerance.

Etiological factors of lactose insufficiency. Variants of lactose deficiency. The role of diet therapy in the treatment of lactose intolerance. Features of diet therapy for lactose intolerance of various types. Features of prescription of diet therapy at lactose insufficiency.

<p>Topic 12 Features of nutrition with alimentary, neurogenic, inflammatory constipation.</p> <p>Etiological factors of constipation. Variants of constipation depending on the etiology. The role of diet therapy in the treatment of constipation. Features of diet therapy for constipation depending on the etiology.</p>
<p>Topic 13 Nutrition with pathology of the urinary system. Features of nutrition in glomerulonephritis.</p> <p>Pathogenetic chains of development of lesions of nutritional disorders in glomerulonephritis. The main principle and task of nutrition in glomerulonephritis</p>
<p>Topic 14 Features of nutrition in dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia).</p> <p>Etiological factors in dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia). Options for dysmetabolic nephropathy - hyperoxaluria, hyperururia, hyperphosphaturia. The role of diet therapy in the treatment of dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia). Peculiarities of diet therapy for dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia).</p>
<p>Topic 15 Features of nutrition in infectious diseases.</p> <p>Etiological factors in infections. Pathogenetic chains of lesion development. nutritional disorders. The main principle and objectives of nutrition. List of recommended products.</p>
<p>Topic 16 Features of nutrition in celiac disease.</p> <p>The main principle and task of nutrition in celiac disease. List of products that contain or do not contain gluten. Stages of nutrition in celiac disease.</p>
<p>Topic 17 Nutrition in insulin-dependent diabetes mellitus.</p> <p>Etiological factors in the development of insulin-dependent diabetes mellitus. Pathogenetic chains of development of lesions of nutritional disorders in the development of insulin-dependent diabetes mellitus. The main principle and task of nutrition in the development of insulin-dependent diabetes mellitus. List of products recommended for the development of insulin-dependent diabetes mellitus.</p>
<p>Topic 18 The differential credit.</p> <p>Test questions, practical skills. Test tasks.</p>

## 5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Orient in the basic provisions of the discipline.
LO2	Skills of interviewing and clinical examination of the patient.
LO3	Ability to determine the required list of laboratory and instrumental studies and evaluate their results.
LO4	Ability to establish a preliminary and clinical diagnosis of the disease.
LO5	Ability to determine the necessary nature of nutrition in the treatment of diseases.

## 7. Teaching and learning activities

## 7.1 Types of training

<b>Topic 1. Human nutrition as a science</b>
pr.tr.1 "Human nutrition as a science" (full-time course) Nutrients, nutrients, and other substances they contain, their action, interaction and balance in a healthy or sick person (nutrition), dietary requirements for maintaining health and development of the body, the processes of consumption, digestion, absorption, transport, utilization, and excretion food substances.
<b>Topic 2. Basic requirements for the organization of patient nutrition. Characteristics of therapeutic diets.</b>
pr.tr.2 "Basic requirements for the organization of patient nutrition. Characteristics of therapeutic diets." (full-time course) Characteristics of therapeutic diets. The role of diet therapy in the treatment of diseases of organs and systems of the child. Features of medical diets, their characteristics, indications for its purpose. Therapeutic nutrition, built taking into account the pathogenesis of the disease, the child's age, the peculiarities of its development The diet of a sick child.
<b>Topic 3. Features of breastfeeding.</b>
pr.tr.3 "Features of breastfeeding." (full-time course) Lactation. Quantitative and qualitative characteristics of breast milk. Advantages of natural feeding. Breastfeeding technique.
<b>Topic 4. Nutrition with cardiovascular pathology.</b>
pr.tr.4 "Nutrition with cardiovascular pathology." (full-time course) Pathogenetic chains of development of defeat of nutritious disturbances at cardiovascular pathology. The main principle and objectives of nutrition in cardiovascular pathology. The list of products recommended for cardiovascular pathology.
<b>Topic 5. Features of nutrition with chronic diseases of the pancreas.</b>
pr.tr.5 "Features of nutrition with chronic diseases of the pancreas." (full-time course) Pathogenetic chains of development of lesions of nutritional disorders in chronic diseases of the pancreas. The main principle and objectives of nutrition in chronic diseases of the pancreas.
<b>Topic 6. Features of nutrition with chronic diseases of the biliary tract and liver.</b>
pr.tr.6 "Features of nutrition with chronic diseases of the biliary tract and liver." (full-time course) Pathogenetic chains of development of lesions of nutritional disorders in chronic diseases of the biliary tract and liver. The main principle and task of nutrition in chronic diseases of the biliary tract and liver. List of products recommended for chronic diseases of the biliary tract and liver.
<b>Topic 7. Features of nutrition with chronic intestinal diseases.</b>

pr.tr.7 "Features of nutrition with chronic intestinal diseases." (full-time course)  
Pathogenetic chains of development of defeat of nutritious disturbances at chronic diseases of intestines. The main principle and task of nutrition in chronic intestinal diseases.

**Topic 8. Features of nutrition with chronic diseases of the stomach, duodenum.**

pr.tr.8 "Features of nutrition with chronic diseases of the stomach, duodenum." (full-time course)  
Etiological factors of lactose insufficiency. Variants of lactose deficiency. The role of diet therapy in the treatment of lactose intolerance. Features of diet therapy for lactose intolerance of various types. Features of diet therapy for lactose intolerance in children of different ages.

**Topic 9. Therapeutic nutrition for obesity.**

pr.tr.9 "Therapeutic nutrition for obesity." (full-time course)  
Etiological factors of obesity. Degrees of obesity. The role of diet therapy in the treatment of obesity. Features of prescription of diet therapy at the obesity of various degrees. Features of diet therapy for obesity.

**Topic 10. Therapeutic nutrition for iron deficiency anemia.**

pr.tr.10 "Therapeutic nutrition for iron deficiency anemia." (full-time course)  
The role of diet therapy in the treatment of anemia. Features of the appointment of diet therapy for anemia of varying degrees. Features of diet therapy for anemia.

**Topic 11. Features of nutrition in lactose intolerance.**

pr.tr.11 "Features of nutrition in lactose intolerance." (full-time course)  
Etiological factors of lactose insufficiency. Variants of lactose deficiency. The role of diet therapy in the treatment of lactose intolerance. Features of diet therapy for lactose intolerance of various types. Features of prescription of diet therapy at lactose insufficiency.

**Topic 12. Features of nutrition with alimentary, neurogenic, inflammatory constipation.**

pr.tr.12 "Features of nutrition with alimentary, neurogenic, inflammatory constipation." (full-time course)  
Etiological factors of constipation. Variants of constipation depending on the etiology. The role of diet therapy in the treatment of constipation. Features of diet therapy for constipation depending on the etiology.

**Topic 13. Nutrition with pathology of the urinary system. Features of nutrition in glomerulonephritis.**

pr.tr.13 "Nutrition with pathology of the urinary system. Features of nutrition in glomerulonephritis." (full-time course)  
Pathogenetic chains of development of lesions of nutritional disorders in glomerulonephritis. The main principle and task of nutrition in glomerulonephritis.

**Topic 14. Features of nutrition in dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia).**

<p>pr.tr.14 "Features of nutrition in dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia)." (full-time course)</p> <p>Etiological factors in dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia). Options for dysmetabolic nephropathy - hyperoxaluria, hyperururia, hyperphosphaturia. The role of diet therapy in the treatment of dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia). Peculiarities of diet therapy for dysmetabolic nephropathy (hyperoxaluria, hyperururia, hyperphosphaturia).</p>
<p><b>Topic 15. Features of nutrition in infectious diseases.</b></p>
<p>pr.tr.15 "Features of nutrition in infectious diseases." (full-time course)</p> <p>Etiological factors in infections. Pathogenetic chains of lesion development. nutritional disorders in infections. The main principle and task of nutrition in infections. List of recommended products.</p>
<p><b>Topic 16. Features of nutrition in celiac disease.</b></p>
<p>pr.tr.16 "Features of nutrition in celiac disease." (full-time course)</p> <p>The main principle and task of nutrition in celiac disease. List of products that contain or do not contain gluten. Stages of nutrition in celiac disease.</p>
<p><b>Topic 17. Nutrition in insulin-dependent diabetes mellitus.</b></p>
<p>pr.tr.17 "Nutrition in insulin-dependent diabetes mellitus." (full-time course)</p> <p>Etiological factors in the development of insulin-dependent diabetes mellitus. Pathogenetic chains of development of lesions of nutritional disorders in the development of insulin-dependent diabetes mellitus. The main principle and task of nutrition in the development of insulin-dependent diabetes mellitus. List of products recommended for the development of insulin-dependent diabetes mellitus.</p>
<p><b>Topic 18. The differential credit.</b></p>
<p>pr.tr.18 "The differential credit." (full-time course)</p> <p>Test questions, practical skills. Test tasks.</p>

## 7.2 Learning activities

LA1	Execution of practical tasks.
LA2	Performing situational exercises.
LA3	Solving situational problems.
LA4	Work with textbooks and relevant information sources.
LA5	Self-study.
LA6	E-learning in systems (Zoom, MIX.sumdu.edu.ua)
LA7	Watching educational films

## 8. Teaching methods

Course involves learning through:

TM1	Analysis of specific situations. (Case study)
TM2	Case-based learning (CBL).
TM3	Team-based learning (TBL).
TM4	Research-based learning (RBL).
TM5	Role play.
TM6	Educational discussion / debate

The discipline is taught using modern teaching methods (CBL, TBL, RBL), which not only promote the development of professional skills but also stimulate creative and scientific activities and are aimed at training practice-oriented professionals. The discipline provides students with the following soft skills: LC 1. Ability to abstract thinking, analysis, and synthesis. LC 2. Ability to learn, master modern knowledge and apply it in practical situations. LC 3. Knowledge and understanding of the subject area and understanding of the professional activity. LC 4. Ability to adapt and act in a new situation. LC 5. Ability to make informed decisions; work in a team; interpersonal skills. LC 7. Ability to use information and communication technologies LC 8. Definiteness and persistence in terms of tasks and responsibilities.

Students participate in group work, participation in discussions, preparation of written presentations, participation in public presentations.

## 9. Methods and criteria for assessment

### 9.1. Assessment criteria

Definition	National scale	Rating scale
Outstanding performance without errors	5 (Excellent)	$170 \leq RD \leq 200$
Above the average standard but with minor errors	4 (Good)	$140 \leq RD < 169$
Fair but with significant shortcomings	3 (Satisfactory)	$120 \leq RD < 139$
Fail – some more work required before the credit can be awarded	2 (Fail)	$0 \leq RD < 119$

### 9.2 Formative assessment

FA1	Interviews and oral comments of the teacher on his results.
FA2	Teacher's instructions in the process of performing practical tasks.
FA3	Checking and evaluating written assignments.
FA4	Peer assessment.

### 9.3 Summative assessment

SA1	Differential credit
SA2	Execution of practical and theoretical tasks.
SA3	Computer test control.

SA4	Abstract (preparation, presentation, defense).
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Form of assessment:

5 semester		200 scores
SA1. Differential credit		80
		80
SA2. Execution of practical and theoretical tasks.		100
		100
SA3. Computer test control.		10
		10
SA4. Abstract (preparation, presentation, defense).		10
		10

Form of assessment (special cases):

At each practical lesson, the student receives a grade on a four-point scale, where "5" - excellent, "4" - good, "3" - satisfactory, "2" - unsatisfactory. At the end of the discipline, the points are summed and the arithmetic mean is calculated, which is converted on a 120-point scale. The student is allowed to take a comprehensive modular control, provided that the requirements of the curriculum and if he received at least 72 points for the current educational activity. Differential credit is made according to the schedule at the end of the discipline. The score for modular control is set in the traditional 4-point grading system with subsequent conversion on an 80-point scale, with a score of "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points, "2" - 0 points. Points for current performance and comprehensive differential test are summed. A total score > 120 is considered to be the successful completion of the discipline.

## 10. Learning resources

### 10.1 Material and technical support

MTS1	Software (to support distance learning, Internet surveys, virtual laboratories, virtual patients, to create computer graphics, modeling, etc.)
MTS2	Library funds.
MTS3	Computers, computer systems and networks
MTS4	Medical facilities / premises and equipment (clinics, hospitals, etc.).
MTS5	Multimedia, video and sound reproduction, projection equipment (video cameras, projectors, screens, smart boards, etc.)
MTS6	Technical means (movies, radio and television programs, audio and video recordings, etc.).

### 10.2 Information and methodical support

<b>Essential Reading</b>
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1	Christopher Duggan, John B. Natkins. Nutrition in Pediatrics. 5th Edition. People's Medical Publishing house. USA Shelton. Connecticut;2016 -2814p.
2	Prof. Ebenezer, O. Ojofeitimi. Nutrition in Health and Diseases. Course Guide.2018 -148p.
3	Ronald E. Kleinman, Frank R. Greer, Pediatric Nutrition, 8th Edition, AAP Committee on Nutrition.2019 -320p
<b>Supplemental Reading</b>	
1	World Health Organization (WHO). Nutrition: complementary feeding. <a href="http://www.who.int/nutrition/topics/complementary_feeding/en/">http://www.who.int/nutrition/topics/complementary_feeding/en/</a> . Accessed December 18, 2016
2	Hanson, M., Gluckman, P., and Bustreo, F. (2016). 'Obesity and the health of future generations', The Lancet Diabetes & Endocrinology, 4(12), pp.902-967
3	American Academy of Family Physicians. Clinical preventive service recommendation. Iron deficiency anemia. <a href="https://www.aafp.org/patient-care/clinical-recommendations/all/iron-deficiency-anemia.html">https://www.aafp.org/patient-care/clinical-recommendations/all/iron-deficiency-anemia.html</a> . Accessed February 12, 2018.
4	5121 Methodical instructions for practical lessons on the discipline "Nutriciology" on the topic "Disorders of the Fat-Soluble Vitamins A, D, E and K" [Текст] : for students' specialty 222 "Medicine" of full-time study. Ч.1 / O. I. Smiyan, O. K. Romaniuk. — Sumy : Sumy State University, 2021. — 30 p.
<b>Web-based and electronic resources</b>	
1	<a href="http://www.bda.uk.com">www.bda.uk.com</a> British Dietetic Association
2	<a href="http://www.nutrition.org.uk">www.nutrition.org.uk</a> British Nutrition Foundation: general food and nutrition information
3	<a href="http://www.nutrition.org">www.nutrition.org</a> American Society for Nutritional Sciences