

# SYLLABUS

## 1. General information on the course

<b>Full course name</b>	Європейський досвід вигодовування дітей раннього віку
<b>Full official name of a higher education institution</b>	Sumy State University
<b>Full name of a structural unit</b>	Medical Institute. Department of Pediatrics
<b>Author(s)</b>	Sichnenko Petro Ivanovych, Manko Yuliia Anatoliivna
<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 weeks during the 5th semester, 20 weeks during the 6th semester
<b>Workload</b>	The volume of the discipline is 5 ECTS credits, 150 hours, 36 of them are classroom hours.
<b>Language(s)</b>	English

## 2. Place in the study programme

<b>Relation to curriculum</b>	Elective course available for study programmes "Medicine", "Pediatrics"
<b>Prerequisites</b>	There are no specific pre-requisites
<b>Additional requirements</b>	There are no specific requirements
<b>Restrictions</b>	There are no specific restrictions

## 3. Aims of the course

The aim of the discipline is to achieve students' modern knowledge and professional skills in breastfeeding a healthy young child based on the study of modern approaches to the principles of early childhood feeding in our country and features in European countries from the standpoint of evidence.

## 4. Contents

<b>Module 1. Feeding and nutrition of healthy young children</b>
Topic 1 Introduction. Definition of the concept of discipline. Normative documents regulating the principles of breastfeeding young children.
Topic 2 Morpho - functional features of breastfeeding regulation. Anatomical and physiological features of the gastrointestinal tract in young children. Neuroendocrine mechanisms of lactopoiesis regulation.

<p>Topic 3 Natural breastfeeding. Biological significance of breastfeeding. The value of basic food ingredients for the child's body</p>
<p>Topic 4 Topic 4 Diet of pregnant women and nursing mothers Diet of a pregnant woman. Nutrition in complicated pregnancy Nutrition of nursing mothers</p>
<p>Topic 5 Natural feeding. Immunobiological role of human milk. Quantitative and qualitative composition of women's mature and transitional milk, colostrum. Comparative characteristics with cow.</p>
<p>Topic 6 Natural feeding. Indications and contraindications to breastfeeding. Hypogalactia. Types of hypogalactia, methods of prevention and treatment. Breast care.</p>
<p>Topic 7 Natural feeding. 10 principles of successful breastfeeding WHO and UNICEF. Basic rules of successful breastfeeding. Signs of proper attachment of the baby to the mother's breast. Mode and technique of natural feeding. Methods of calculating the daily and single amount of food. The need for proteins, fats, carbohydrates and calories.</p>
<p>Topic 8 Natural feeding. Supplementary feeding during breastfeeding. The concept of supplementary feeding, indications. Rules of introduction of supplementary food, terms, types. The difference between supplementary feeding and supplementary feeding.</p>
<p>Topic 9 Natural feeding. Features of breastfeeding premature babies.</p>
<p>Topic 10 Artificial feeding of children. Concept. Indications for artificial feeding. Basic rules of conduct. Characteristics of modern adapted and unadapted infant formula.</p>
<p>Topic 11 Artificial feeding of children. Mode and technique of artificial feeding. Introduction of supplementary feeding during artificial feeding. Terms, rules.</p>
<p>Topic 12 Mixed breastfeeding The concept of mixed feeding. Indications for mixed feeding. Mode and technique of mixed feeding. Rules of introduction of supplementary food.</p>
<p>Topic 13 Nutrition for children from 1 to 3 years Principles of nutrition of children older than one year, the need for food ingredients, the frequency of feeding. Basic products.</p>
<p>Topic 14 Physical developmental disorders are related to nutritional status Principles of assessment of physical development of the child - anthropometric measurements, graphs of physical development.</p>

Topic 15 Physical developmental disorders related to nutritional status Correction of physical developmental disorders related to nutritional status.
Topic 16 Nutritional supplements for children Nutritional supplements of iron, calcium, with vitamin D, iodine, vitamin A.
Topic 17 Food allergies Manifestations of food allergies in young children, causes, prevalence. The main products that lead to food allergies.
Topic 18 Final modular control

## 5. Intended learning outcomes of the course

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

LO1	Analyze, interpret and use in practice the knowledge of the current state of problems and achievements in the field of pediatric nutrition, the basic principles of feeding young children from the standpoint of evidence-based medicine.
LO2	Interpret, analyze and summarize data on the effectiveness of different types of feeding.
LO3	Choose and use modern approaches to the principles of breastfeeding young children, based on the positions of evidence-based medicine.
LO4	Determine the diet, daily or single volume of food, the timing of the introduction of breastfeeding a healthy child and prescribe the necessary nutrition in the treatment of childhood diseases from the standpoint of evidence-based medicine.
LO5	Apply knowledge of general and professional disciplines in professional activities

## 7. Teaching and learning activities

### 7.1 Types of training

<b>Topic 1. Introduction. Definition of the concept of discipline.</b>
pr.tr.1 "Introduction. Definition of the concept of discipline. (full-time)" (full-time course) Normative documents regulating the principles of breastfeeding of young children (Order №149 of 20.03.08 "On approval of the Clinical Protocol of medical care for a healthy child under 3 years of age", etc.).
<b>Topic 2. Morpho - functional features of breastfeeding regulation.</b>
pr.tr.2 "Morphofunctional aspects of feeding (full-time)" (full-time course) Morphofunctional features of the digestive and metabolic organs in children in the age aspect from the standpoint of adaptation to breastfeeding. Morphofunctional features of the breast, neuroendocrine regulation of lactation.
<b>Topic 3. Natural breastfeeding.</b>

pr.tr.3 "Natural breastfeeding and its importance for the health of the child and mother (full-time)" (full-time course)

Biological significance of breastfeeding. The value of basic food ingredients for the child's body. Basic provisions on breastfeeding, its importance for the child's health, modern views on this issue and basic principles.

#### **Topic 4. Topic 4 Diet of pregnant women and nursing mothers**

pr.tr.4 "Diet of a pregnant woman and a nursing mother (full-time)" (full-time course)

Diet of a pregnant woman. Nutrition in complicated pregnancy. Nutrition of nursing mothers.

#### **Topic 5. Natural feeding.**

pr.tr.5 "Immunobiological value of human milk. (full-time)" (full-time course)

Quantitative and qualitative composition of women's mature and transitional milk, colostrum. Comparative characteristics of the composition of human and cow's milk. Factors determining the biological value of human milk.

#### **Topic 6. Natural feeding.**

pr.tr.6 "Indications and contraindications to breastfeeding. Hypogalactia (full-time)" (full-time course)

Indications and contraindications to breastfeeding. Types of hypogalactia, methods of prevention and treatment. The concept of lactation crises. Indications and contraindications to breastfeeding. Features of breast care - preparation for lactation, prevention of mastitis, hypogalactia.

#### **Topic 7. Natural feeding.**

pr.tr.7 "Natural breastfeeding of children of the first six months. (full-time)" (full-time course)

Advising the mother on breastfeeding a child under 6 months. 10 principles of successful breastfeeding WHO and UNICEF. Basic rules of successful breastfeeding. Signs of proper attachment of the baby to the mother's breast. Signs of effective sucking. Assessment of breastfeeding. Mode and technique of natural feeding. Features of breastfeeding children in the first two weeks of life and from two weeks to a year. Methods of calculating the daily and single amount of food. The need for proteins, fats, carbohydrates and calories. Compilation of the menu for a child for 1 day under the age of 6 months. Solving situational problems (analysis of clinical cases).

#### **Topic 8. Natural feeding.**

pr.tr.8 "Supplementary feeding during breastfeeding. (full-time)" (full-time course)

Advising a mother on breastfeeding a child aged 6 to 12 months. The concept of supplementary feeding, indications. Signs of readiness of the child for introduction of supplementary food. Rules of introduction of supplementary food, terms, products. The difference between supplementary feeding and supplementary feeding. The concept of nutrition correction. Rules, terms of introduction of juices. Compiling a menu for a child for 1 day aged 6 to 12 months. Solving situational problems (analysis of clinical cases).

#### **Topic 9. Natural feeding.**

pr.tr.9 "Natural feeding of premature babies. (full-time)" (full-time course)

Features of breastfeeding premature babies. Compiling a menu for a child for 1 day. Solving situational problems (analysis of clinical cases).

**Topic 10. Artificial feeding of children.**

pr.tr.10 "Artificial feeding of children (full-time)" (full-time course)

Concept. Indications for artificial feeding. Basic rules of conduct. Characteristics of modern adapted and unadapted infant formula.

**Topic 11. Artificial feeding of children.**

pr.tr.11 "Artificial feeding (full-time)" (full-time course)

Mode and technique of artificial feeding. Introduction of supplementary feeding during artificial feeding. Terms, rules. The child's daily need for proteins, fats, carbohydrates and calories during artificial feeding. Compiling a menu for a child for 1 day. Solving situational problems (analysis of clinical cases).

**Topic 12. Mixed breastfeeding**

pr.tr.12 "Mixed feeding (full-time)" (full-time course)

The concept of mixed feeding. Indications for mixed feeding. Basic rules of conduct. Mode and technique of mixed feeding. Feeding techniques and rules. Milk formulas used for supplementary feeding. Schemes of mixed feeding of children of the first year of life. Supplementary feeding and nutrition correction. The child's daily need for protein, fat, carbohydrates and calories during mixed feeding. Compiling a menu for a child for 1 day. Solving situational problems (analysis of clinical cases).

**Topic 13. Nutrition for children from 1 to 3 years**

pr.tr.13 "Nutrition of children from 1 to 3 years (full-time)" (full-time course)

Advising the mother on the nutrition of a child aged 12 months to 3 years. Principles of nutrition of children older than one year, the need for food ingredients, the frequency of feeding. Basic products. Compiling a menu for a child for 1 day. Solving situational problems (analysis of clinical cases).

**Topic 14. Physical developmental disorders are related to nutritional status**

pr.tr.14 "Physical development disorders related to nutritional status (full-time)" (full-time course)

Principles of assessment of physical development of the child - anthropometric measurements, graphs of physical development.

**Topic 15. Physical developmental disorders related to nutritional status**

pr.tr.15 "Physical development disorders related to nutritional status (full-time)" (full-time course)

Correction of physical development disorders associated with nutritional status. Compiling a menu for a child for 1 day. Solving situational problems (analysis of clinical cases).

<b>Topic 16. Nutritional supplements for children</b>
pr.tr.16 "Nutritional supplements for children (full-time)" (full-time course) Nutritional supplements of iron, calcium, with vitamin D, iodine, vitamin A.
<b>Topic 17. Food allergies</b>
pr.tr.17 "Food allergy (full-time)" (full-time course) Food allergy. Manifestations of food allergy in young children, causes, prevalence. The main products that lead to food allergies. Compiling a menu for a child for 1 day. Solving situational problems (analysis of clinical cases).
<b>Topic 18. Final modular control</b>
pr.tr.18 "Final modular control (full-time)" (full-time course) Practically - oriented differentiated test will include questions to the whole course of breastfeeding, including: theoretical questions, questions to computer test control and practical part. Classes are held in the classroom. First, students answer written questions orally or orally, followed by discussion and defense, then make a test computer control. The practical part of the test will include a demonstration of the student's practical skills, which he mastered during the study of the discipline. Classes are planned in the simulation center (demonstration of the correct application of the child to the breast, etc.) and in the absence of quarantine - assessment of breastfeeding in children treated in hospital wards, in addition, the practical part includes compiling a menu for one day, depending from her age and type of feeding. The overall score for the test will be based on the results of all three components of the test.

## 7.2 Learning activities

LA1	Preparation for practical classes
LA2	Implementation of practical tasks
LA3	Preparation for current and final control
LA4	Analysis of clinical cases
LA5	Individual research project (preparation and demonstration of multimedia presentations)
LA6	Watching educational films
LA7	Work with textbooks and relevant information sources
LA8	Self-study
LA9	E-learning in Google Meet, Viber, Telegram, MIX learning systems

## 8. Teaching methods

Course involves learning through:

TM1	Think-pair-share
TM2	Case-based learning (CBL).
TM3	Team-based learning (TBL).

TM4	Research-based learning (RBL).
TM5	Role-playing game
TM6	Educational discussion / debate

Practical classes allow applicants to plan and develop options for breastfeeding tactics from the standpoint of evidence-based medicine and evaluate the effectiveness of breastfeeding a healthy child. Analysis of specific situations will determine the tactics of feeding. Practice-oriented learning will develop students' skills of independent learning, synthesis and analytical thinking.

Mastering skills such as: • Ability to think abstractly, analyse, and synthesise. • Ability to learn, acquire current knowledge, and apply it in practical situations. • Ability to use information and communication technologies, creativity.

## 9. Methods and criteria for assessment

### 9.1. Assessment criteria

ECTS	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	Diagnostic testing
FA2	Solving clinical cases
FA3	Interviews and oral comments of the teacher on the results
FA4	Peer assessment
FA5	Checking and evaluating written assignments
FA6	Defense of presentation

### 9.3 Summative assessment

SA1	Evaluation of written works, surveys, solving a clinical case
SA2	Testing
SA3	Defense of multimedia presentations
SA4	Final control (PC): practice-oriented differentiated test (according to the regulations)

Form of assessment:

<b>5 semester</b>	<b>200 scores</b>
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SA1. Evaluation of written works, surveys, solving a clinical case		<b>100</b>
		100
SA2. Testing		<b>10</b>
		10
SA3. Defense of multimedia presentations		<b>10</b>
		10
SA4. Final control (PC): practice-oriented differentiated test (according to the regulations)		<b>80</b>
	Final computer testing	16
	Answer to theoretical task	32
	Performing a practical task	32
<b>6 semester</b>		<b>200 scores</b>
SA1. Evaluation of written works, surveys, solving a clinical case		<b>100</b>
		100
SA2. Testing		<b>10</b>
		10
SA3. Defense of multimedia presentations		<b>10</b>
		10
SA4. Final control (PC): practice-oriented differentiated test (according to the regulations)		<b>80</b>
	Final computer testing	16
	Answer to theoretical task	32
	Performing a practical task	32

Form of assessment (special cases):

<b>5 semester</b>		<b>200 scores</b>
SA1. Evaluation of written works, surveys, solving a clinical case		<b>100</b>
	In case of quarantine restrictions, practical classes are held remotely using the platforms Mix.sumdu.edu.ua, Google meet.	100
SA2. Testing		<b>10</b>
	In case of quarantine restrictions, practical classes are held remotely using the platforms Mix.sumdu.edu.ua, Google meet.	10
SA3. Defense of multimedia presentations		<b>10</b>
	In case of quarantine restrictions, practical classes are held remotely using the platforms Mix.sumdu.edu.ua, Google meet.	10



SA4. Final control (PC): practice-oriented differentiated test (according to the regulations)	<b>80</b>
In case of quarantine restrictions, practical classes are held remotely using the platforms Mix.sumdu.edu.ua, Google meet.	80

The grade in the discipline is defined as the sum of points for the current educational activity (not less than 72) and points for the final modular control (not less than 48). The number of points for the current activity, selected by the formula 100 times for the average performance of students in 4-point grading systems / 5. The student receives a maximum of 10 points for testing. The minimum number of points that a student must receive is 6 points. For the defense of the presentation the student receives a maximum of 10 points, a minimum of -6. The maximum number of points for the current educational activities of the student - 120. The student may be involved in the implementation of the requirements of the curriculum if the he scored at least 72 points: 60 points during practical classes, 6 points for presentations and 6 points for testing The final module control is conducted in previous semesters in response to a written request, during this assessment "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points, "2" - 0 points. In case of unsatisfactory result for the final module control, the student has the right to retest it. Students who do not appear for the test without an initial reason are considered to have received an incorrect grade. The student refuses to open the final modular task, is certified as an unsatisfactory answer.

## 10. Learning resources

### 10.1 Material and technical support

MTS1	Information and communication systems
MTS2	Library funds
MTS3	Computers, computer systems, and networks
MTS4	Municipal Non-Profit Enterprise “Children’s Clinical Hospital of Saint Zinaida” Sumy City Council
MTS5	Software (to support distance learning, online surveys, virtual laboratories, virtual patients, to create computer graphics, modelling, etc.).
MTS6	Watching educational films

### 10.2 Information and methodical support

<b>Essential Reading</b>	
1	Nelson Textbook of Pediatrics [Text] / R. M. Kliegman [et al.] ; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.] : Elsevier, 2020.
2	Kapitan T. Propaedeutics of children’s diseases and nursing of the child : textbook for students of higher medical educational institutions ; / T. Kapitan. – 4th ed. updated and translated in English Vinnitsa: The State Cartographical Factory, 2010. – 808 p.
3	Ronald E. Kleinman, Frank R. Greer, Pediatric Nutrition, 8th Edition, AAP Committee on Nutrition.2019 -320p
<b>Supplemental Reading</b>	

1	Fidle Mis Natasa, Braegger Christian, Bronsky Jiri. Sugar in Infants, Children and Adolescents: A Position Paper of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition Committee on Nutrition / Journal of Pediatric Gastroenterology and Nutrition, Volume 65, Number 6, December 2017, pp. 681-696 doi: 10.1097/MPG.0000000000001733
2	BaharehNikooyehPh.D.Tirang R.Neyestani Poor vitamin D status increases the risk of anemia in school children: National Food and Nutrition Surveillance / Nutrition. - Volume 47, March 2018, p. 69-74 <a href="https://doi.org/10.1016/j.nut.2017.09.008">https://doi.org/10.1016/j.nut.2017.09.008</a>
<b>Web-based and electronic resources</b>	
1	<a href="https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/publications/2020/the-best-start-in-life.-breastfeeding-for-the-prevention-of-noncommunicable-diseases-and-the-achievement-of-the-sustainable-development-goals-in-the-who-european-region-2020">https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/publications/2020/the-best-start-in-life.-breastfeeding-for-the-prevention-of-noncommunicable-diseases-and-the-achievement-of-the-sustainable-development-goals-in-the-who-european-region-2020</a>
2	Daniels L.A. Feeding Practices and Parenting: A Pathway to Child Health and Family Happiness // Ann Nutr Metab 2019;74(suppl 2):29–42 <a href="https://doi.org/10.1159/000499145">https://doi.org/10.1159/000499145</a> <a href="https://www.karger.com/Article/FullText/499145">https://www.karger.com/Article/FullText/499145</a>
3	Horta B.L., de Mola C.L., Victora C.G. Breastfeeding and intelligence: a systematic review and meta-analysis. Acta Paediatrica. 2015. Dec; 104(467): 14-19. doi: 10.1111/apa.13139. Електронне посилання: <a href="https://pubmed.ncbi.nlm.nih.gov/26211556/">https://pubmed.ncbi.nlm.nih.gov/26211556/</a>