

Ministry of Education and Science of Ukraine
Sumy National Agrarian University Faculty of Food
Technologies
Department of Food Technology

Syllabus of the educational component

EC 11 Food Quality Control Methods (mandatory)
(name and status (required/optional))

Implemented within the educational program
G– Engineering, Manufacturing and Construction
in specialty **G13 - Food Technology**
at **the first (bachelor's)** level of higher education

Sumy – 2026

Developer :

(signature)

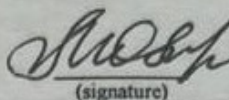
(surname, initials)

Olena KOSHEL, Associate Professor of the Department of Food Technology
(academic degree and title, position)

Reviewed, approved
and approved on
Meetings departments
food technology
(name of department)

protocol dated 02.06.2026 No. 21

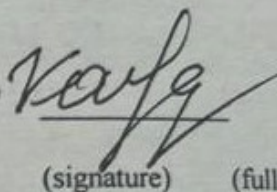
Manager
departments


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Oksana MELNYK
(last name, initials)

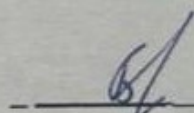
Agreed:

Guarantor of the educational program "Food Technologies"

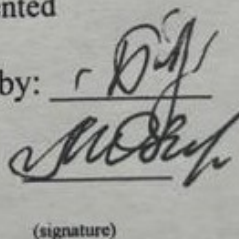

(signature)

Olena KOSHEL
(full name)

Dean of the Faculty of Food Technology,
where the educational program is implemented

 Nataliia BOLHOVA

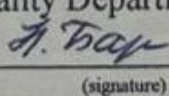
Review of the work program provided by:


(signature)

Serhii BOKOVETS (attached)

Oksana MELNYK (attached)

Methodologist of the Education Quality Department,
licensing and accreditation

 (N. Baranik)
(signature)

Registered in the electronic database: date: 25.06. 2026.

♥ SNAU, 2026 year

Information about reviewing the work program (syllabus):

Educational the year in which are introduced changes	Number of the appendix to the work program with a description of the changes	Changes reviewed and approved		
		Date and number minutes of the meeting departments	Head of the Department	Guarantor educational programs

1. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

1.	EC	EC Food control methods							
2.	Faculty/department	Faculty of Food Technology, Department of Food Technology							
3.	Status EC	Mandatory							
4.	Program/Specialty(s) that include OK for	EVP "Food Technologies" EVP " Craft Technologies and Gastronomic Innovations" / "Food Technologies"							
5.	EC maybe proposed for	EVP" Hotel and restaurant business"							
6.	NQF level	Level 6							
7.	Semester and duration study	Full-time HT, CTGI – 4th semester . Duration of study – 1 5 weeks Full-time TN P.T. – 2nd semester, Duration of study – 1 5 weeks							
8.	Number of credits ECTS	5 credits							
9.	Total hours and their distribution	Contact work (classes)						Independent work	
		Lectures		Practical /seminar		Laboratory			
		Daily	Abroad	Daily	Abroad	Daily	Abroad	Daily	Abroad
		14	4	-	-	44	10	92	136
10.	Language of instruction	Ukrainian, english							
11.	Teacher/Coordinator educational component	Koshel Olena Yuriivna							
11.1	Contact information	koshelolena85@ukr.net							
12.	General description educational component	The program of the "ICCP" course is designed to provide a holistic understanding of the basic methods of quality control of raw materials and finished products in various branches of the food industry .							
13.	The purpose of education component	Students acquire theoretical knowledge and practical skills in food control, familiarization with the requirements of relevant DSTU.							
14.	Prerequisites for studying EC, connection with other educational components of the EVP	1. The educational component is based on the knowledge that students have gained while studying the disciplines - theoretical foundations of food products, food chemistry, and biochemistry. 2. The educational component is the basis for further study of such disciplines as general food production technologies, nutrition technologies, fundamentals of physiology and food hygiene, innovative technologies in industry enterprises, and research work.							
15.	Academic policy virtue	Compliance academic virtue for applicants higher education involves: independent completion of educational tasks, tasks of the current and final control results teaching; link on sources information in case using ideas, statements, information; compliance norms legislation about author's right; granting reliable information about results own educational or scientific activities. Code of Academic Integrity (http://surl.li/khyd)							
16.	Link to the course in Moodle system	https://cdn.snau.edu.ua/moodle/enrol/index.php?id=2635							
17.	Key words	Control methods, food products, determination methods, mass fraction, quality, dry matter, moisture, organoleptic indicators.							

2. LEARNING OUTCOMES BY EDUCATIONAL COMPONENT AND THEIR RELATIONSHIP WITH PROGRAM LEARNING OUTCOMES

Learning outcomes for EC: After studying the educational component, the student is expected to be able to... »	Program learning outcomes, the achievement of which is aimed at the EC (indicate the number according to the numbering given in the profile of the OPP Food Technologies)					How is the DRE assessed?
	PLO 1	PLO 5	PLO 11	PLO 18	PLO 31	
DLO 1. Know the basics changes occurring in products and ways to most effectively regulate these changes in the desired direction.	x			x		<i>Knowledge assessment by checking the processing of the reference notes of lectures and laboratory classes</i> <i>Exam</i>
DLO 2. Evaluate the properties of essential nutrients and foods.				x		
DLO 3. Know the scientific and theoretical foundations of classical and modern technological processes and methods of their practical implementation.		x		x		
DLO 4. Know basic technological processing methods and their impact on the quality of finished food products.	x	x		x		
DLO 5. Analyze technological processes from the point of view of changes that occur during the technological process under the influence of various factors.				x	x	
DLO 6. Be able to independently and/or collectively make non-standard creative decisions, generate new ideas and implement them in practical activities			x		x	
DLO 7. Apply basic methods of research of physicochemical, chemical, biochemical, microbiological processes, generalize them and connect them with practical application in the specialty profile				x		
DLO 8. Present the results of scientific and production tests in the form of scientific articles and conference abstracts.			x	x	x	

3. CONTENT EDUCATIONAL COMPONENT (PROGRAM ACADEMIC DISCIPLINE)

Topic. List of issues to be addressed within the topic	Distribution within the overall time budget								Recommended reading ⁵
	Classroom work						Independent work		
	Lectu res		P.z / semin . z		Lab . with.				
	Daily	Abroad .	Daily	Abroa d .	Daily	Abro ad .	Daily	Abroad .	
Module 1									
Topic 1									
LC 1. Fundamentals and methodology of food quality control . Use of organoleptic methods in assessing the quality of food products 2. General concepts about the quality of food products. 2. Legal and technical basis for quality control of food products. 3. Characteristics of the main indicators of food product quality. 4. Basic information about organoleptic evaluation. 5. Methods of organoleptic evaluation. Laboratory work 1. Determination of sensory sensitivity and sensory sensitivity thresholds of a taster. IW 1. Fundamentals and methodology of food quality control. Use of organoleptic methods in assessing the quality of food products	2	2	-	-	6	4	8	18	[3, 5, 9, 10]
Topic 2									
LC 2. Methods for determining the mass fraction of moisture and dry matter. 1. The importance of water in the composition of food products, forms of moisture bonds. General characteristics of methods for determining the mass fraction of moisture and dry matter. 2. Characteristics of direct methods for determining the mass fraction of moisture. 3. Characteristics of methods for determining the mass fraction of dry matter. Laboratory work 2. Study of methods for determining the mass fraction of moisture and dry matter. IW 2. Methods for determining the mass fraction of moisture and	2	2	-	-	8	4	8	18	[1, 2, 3, 5, 7, 9, 11]

dry matter.									
Topic 3									
LC 3. Methods for determining acidity and alkalinity. 1. General characteristics of acidity and alkalinity of food products and methods for their determination. 2. Characteristics of methods for determining acidity. 3. Characteristics of methods for determining alkalinity Laboratory work 3. Study of methods for determining acidity and alkalinity IW 3. Methods for determining acidity and alkalinity.	2	2	-	-	6	2	12	18	[2, 4, 5, 8, 9, 10]
Topic 4									
LC 4. Methods for determining the mass fraction of protein. 1. Protein in food products. General characteristics and classification of methods for protein determination. 2. Characteristics of the Kjeldahl method . Determination of total, protein and non-protein nitrogen. 3. Characteristics of photolorimetric methods for protein determination. 4. Characteristics of physicochemical methods for protein determination. Laboratory work 4. Study of methods for determining the mass fraction of protein IW 4. Methods for determining the mass fraction of protein.	2	2	-	-	6	-	12	18	[1, 3, 4, 7, 9, 10, 11]
Module 2									
Topic 5									
LC 5. Methods for determining the mass fraction of fat. 1. General characteristics of lipids and methods for their determination. Gerber method . Characteristics and scope of application. 3. Refractometric method. Characteristics and scope of application. 4. Extraction and gravimetric methods. Soxhlet method , Rushkovsky method , infusion method. Characteristics and scope of application. Laboratory work 5. Study of methods for determining the mass fraction of fats	2	-	-	-	6	-	12	20	[3, 4, 7, 9, 10, 11]

IW 5. Methods for determining the mass fraction of fat.									
Topic 6									
LC Topic 6. Methods for determining the mass fraction of carbohydrates. 1. General characteristics of carbohydrates and methods for their determination. 2. Characteristics of physical methods for determining the mass fraction of carbohydrates. 3. Characteristics of chemical methods for determining the mass fraction of carbohydrates. Laboratory work 6. Study of methods for determining the mass fraction of carbohydrates. CPC 6. Methods for determining the mass fraction of carbohydrates.	2	-	-	-	6	-	12	22	[1, 2, 5, 6, 7, 9, 11]
Topic 7									
LC 7. Methods for determining the mass fraction of minerals and vitamins. 1. General characteristics of minerals and vitamins. 2. Characteristics of methods for determining the mass fraction of mineral substances. 3. Characteristics of methods for determining the mass fraction of vitamins Laboratory work 7. Study of methods for determining the mass fraction of vitamins and minerals IW 7. Methods for determining the mass fraction of minerals and vitamins.	2	-	-	-	6	-	12	22	[2, 5, 6, 8, 9, 11]
Total	14	4	-	-	44	10	92	136	

4. TEACHING AND LEARNING METHODS

DLO	Teaching methods (work that will be carried out by the teacher <u>during classroom lessons</u> , consultations)	Number of hours (day / night)	Teaching methods (what types of learning activities should the student perform? <u>independently</u>)	Number of hours (days / weeks)
DLO 1	Lecture session (<i>teaching lecture material, conversation, demonstration of graphic material</i>)	4/2	Familiarization with lecture material, preparation of a basic lecture outline	10/16
DLO 2	Laboratory lesson (<i>illustration of maps, drawings and conducting laboratory research</i>)	10/4	Presentation of laboratory results, report writing	10/16
DLO 3	Lecture session (<i>teaching lecture material, discussion, demonstration of graphic material</i>)	6/4	Familiarization with lecture material, preparation of a basic lecture outline	12/16
DLO 4	Lecture session (<i>teaching lecture material, discussion, demonstration of</i>	6/4	Familiarization with lecture material, preparation of a basic	12/16

	<i>graphic material)</i>		lecture outline	
DLO 5	Laboratory session (<i>demonstration of technological schemes and conducting laboratory research</i>)	18/4	Presentation of laboratory results, report writing	12/16
DLO 6	Laboratory work (<i>consideration of technological situations with the provision of recommendations for solving technological production problems</i>)	8/4	Presentation of decisions made and preparation of abstracts, reports with visual support	12/16
DLO 7	Laboratory work (<i>consideration of technological situations with the provision of recommendations for solving technological production problems</i>)	4/2	Presentation of decisions made and preparation of abstracts, reports with visual support	12/16
DLO 8	Laboratory work (<i>consideration of technological situations with the provision of recommendations for solving technological production problems</i>)	2/-	Presentation of laboratory results, decisions made and preparation of abstracts, preparation of reports with visual support	12/14

5. EVALUATION BY EDUCATIONAL COMPONENT

5.1. Diagnostic assessment (indicated as appropriate)

5.2. Summative assessment

5.2.1 For the assessment of expected learning outcomes, there are

No.	Summative methods evaluation	Points	Date drafting
Module 1 (35 points):			
1	Development and protection laboratory works (4 Lbs of 5 points each)	20 points	after each laboratory occupation
2	Intermediate testing (multiple choice test choice)	15 points	after study topics 1-4
Module 2 (35 points):			
3	Working out laboratory works (3 Lbs of 5 points each)	15 points	after each laboratory occupation
4	Intermediate testing (multiple choice test choice)	20 points	after study topics 5 - 7
	Exam (test) plural choice)	30 points / 30%	17-18 weeks

5.2.2 Evaluation criteria

Component ¹	Unsatisfactorily	Satisfactorily	Good	Perfectly ²
Oral defense of laboratory work	1 point <i>The student completed the laboratory work, but did not defend it.</i>	2 points <i>Most requirements are met, but some components are missing</i>	3-4 points <i>All task requirements met</i>	5 points <i>All task requirements were met, thoughtfulness was demonstrated, and an original solution to the problem was proposed.</i>
Midterm testing (multiple choice test)	<i>The test includes 30 questions, each of which is worth 0.5 points for module 1, 20 questions - 1 point for module 2</i>			

¹ Specify the summative assessment component

² Indicate the distribution of points and the criteria that determine the level of assessment

	<i>Task requirements not met</i>	<i>Most requirements are met, but some components are missing or insufficiently disclosed</i>	<i>All task requirements met</i>	<i>All requirements for the task have been met, your own solution and approach have been demonstrated</i>
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5.2. Formative assessment

To assess current progress in learning and understand areas for further improvement,

No.	Elements of formative assessment	Date
1.	Oral survey after studying all topics, during laboratory classes	According to the educational process schedule
2.	Feedback in the form of testing discussion	
3.	Feedback in the form of a discussion of the non-formal education course	after completing the course, receiving a certificate

6. LEARNING RESOURCES (LITERATURE)

6.1. Main sources

1. DSTU ISO 3972:2004. Organoleptic analysis. Method for studying taste sensitivity. – Introduction . 01.05.2006. – K.: Derzhspozhyvstandart Ukrainy, 20 19 . – 8 p.
2. Methods of food control. Methodological instructions for conducting lectures for students of the Faculty of Food Technologies, specialty "Food Technologies" of full-time and part-time forms of education. Authors Koshel O.Yu., Doctor of Science , Associate Professor of the Department of Food Technology, Bokovets S.P., Doctor of Science , Associate Professor of the Department of Food Technology Sumy: Sumy National Agrarian University, 2025 – p.47.
3. Methods of food control. Methodological instructions for conducting laboratory work for students of the Faculty of Food Technology, specialty "Food Technology" of full-time and part-time forms of education Authors Koshel O.Yu., Doctor of Science , Associate Professor of the Department of Food Technology, Bokovets S.P., Doctor of Science , Associate Professor of the Department of Food Technology Sumy: Sumy National Agrarian University, 2025 – p.66
4. Methods of food control. Methodological instructions for conducting independent work for students of the Faculty of Food Technologies, specialty "Food Technologies" of full-time and part-time forms of education. Authors Koshel O.Yu., Doctor of Science , Associate Professor of the Department of Food Technology, Bokovets S.P., Doctor of Science , Associate Professor of the Department of Food Technology Sumy: Sumy National Agrarian University, 2025. – p.30 .
5. Koshel O.Yu., Marenkova T.I. Determination of quality indicators of dough for croissants. Scientific Bulletin of TSATU, 2022. Issue . 12, volume 3, p.258-265. DOI: 10.31388/2220-8674-2022-3-25
<https://oj.tsatu.edu.ua/index.php/visnik/issue/view/26/%D0%92%D0%B8%D0%BF%D1%83%D1%81%D0%BA12%D1%82%D0%BE%D0%BC3.pdf>
6. Koshel O.Yu. USE OF GLUTEN-FREE FLOUR TYPES IN MUFFIN TECHNOLOGY V International Scientific and Practical Conference "Technical Support of Innovative Technologies in the Agro-Industrial Complex" (November 1-24, 2023), Zaporizhzhia, 2023-p. 123.
7. Koshel O.Yu. RESEARCH ON MOISTURE CONTENT IN PIZZA DOUGH V International Scientific and Practical Conference "Technical Support of Innovative Technologies in the Agro-Industrial Complex" (November 1-24, 2023), Zaporizhzhia, 2023-p. 128.
8. Koshel O.Yu., Vynnyk A.O. COMPARATIVE CHARACTERISTICS OF DETERMINING PROTEIN CONTENT IN FOOD PRODUCTS BY THE DUM AND KJELDAL METHODS Materials of the Scientific and Professional Conference of Teachers, Postgraduate Students and Students of Sumy NAU (May 14-16, 2024) 2024 – P. 572.
9. O. Yu. Koshel, T. I. Marenkova , T. M. Stepanova, A. V. Krutas , Innovative technology for preparing pizza dough. Scientific Bulletin of the Tavria State Agrotechnological University. – Zaporizhzhia: TSATU, 2024. – Issue . 24, volume 2, p. 285-294 DOI: 10.32782/2220-8674-2024-24-2-13
10. O. Yu. Koshel, S.P. Bokovets , Study of the influence of green buckwheat flour and psyllium on the structural and mechanical properties of gluten-free muffins . Scientific Bulletin of the Tavria State Agrotechnological University. – Zaporizhzhia: TSATU, 2024. – Issue . 24, volume 2, p. 297-303. DOI: 10.32782/2220-8674-2024-24-2-19
11. Monograph. Koshel O. Yu. Technology of thermostable milk-containing filling using gelatin/ O. Yu. Koshel, A. M. Dikhtyar , F. V. Pertsevov , N. V. Fedak . – Kharkiv: Disa +, 2024. – 146 p. ISBN 978 -6178346218

6.2 Supporting literature

14. Drobot V.I. Handbook of bakery production technology. - K.: Ruslana LLC, 2020. – 413 p.
15. Drobot V.I. Technology of bread-baking production. - Kyiv: "Logos", 20 21 . - 366 p.
16. Kolomiets T.M., Prytulska N.V., Romanenko O.L. Examination of goods: Textbook. – K.: Kyiv.

National Trade and Economics University, 20 20 . – 274 p.

6.3 Information resources

1 <http://kniga.biz.ua/book/restoran/-1/3277/>

2 http://www.booksgid.com/kulinarija_i_recepty/7338-sbornik-receptur-bljud-i-kulinarnykh.html