

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

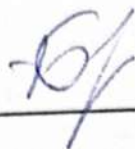
Syllabus of the educational component

EC 28 Equipment for catering establishments (mandatory)

Implemented within the educational program
in specialty **G13 - Food Technology**
at **the first (bachelor's)** level of higher education

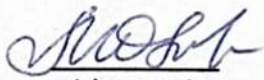
Sumy – 2026

Developer:



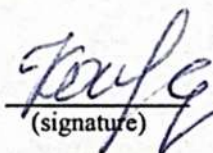
Serhii BOKOVETS

Associate Professor of the Department of Food Technology

Reviewed, approved and approved on Meetings departments <u>food technology</u> (name of department)	protocol dated 02.06.2026 № 21	
	Manager departme nts	 (signature) <u>Oksana MELNYK</u> (name, initials)

Agreed:

Guarantor of the educational
program


(signature)

Olena KOSHEL
(Full name)

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

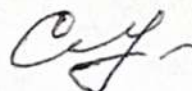

(signature)

Nataliia BOLHOVA
(full name)

Review of the work program provided by:

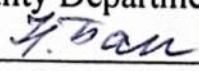


Oksana MELNYK
(full name)



Olha SEREDA
(full name)

Methodologist of the Education Quality Department,
licensing and accreditation


(signature)

(N. Banaruk)
(full name)

Registered in the electronic database: date: 24.06. 2026.

Developer: _____ **Serhii BOKOVETS**
Associate Professor of the Department of Food Technology

Reviewed, approved and approved on Meetings departments <u>food technology</u> (name of department)	protocol dated 02.06.2026 № 21		
	Manager departme nts	_____ (signature)	<u>Oksana MELNYK</u> (name, initials)

Agreed:

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program _____
(signature) **Olena KOSHEL**
(Full name)

Dean of the Faculty of Food Technology,
where the educational program is implemented _____
(signature) **Nataliia BOLHOVA**
(full name)

Review of the work program provided by: _____
(signature) **Oksana MELNYK**
(full name)

Olha SEREDA
(full name)

Methodologist of the Education Quality Department,
licensing and accreditation _____ (_____)
(signature) (full name)

Registered in the electronic database: date: _____ 2026.

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 28 Equipment for catering establishments		
2	Faculty/department	Faculty of Food Technology, Department of Food Technology		
3	Status EC	Mandatory		
4	Program/Specialty(s) that include OK for	EVP G13 "Food Technologies"		
5	EC maybe proposed for	EVP "Hotel and restaurant business"		
6	NQF level	6 level		
7	Semester and duration study	Third semester (group FT 2501 s.t.) Duration study – 15 weeks		
8	Number of credits ECTS	5 credits		
9	Total hours and their distribution	Contact work (classes)		Independent work
		Lectures 30	Practical /seminar --	Laboratory 30
10	Language of instruction	English		
11	Teacher/Coordinator educational component	Teacher – <u>Associate Professor of the Department of Food Technology</u> Bokovets Serhii		
11.1	Contact information	Audience departments 212m, tel . 0671878061 Email: sergiy_bokovec@ukr.net time consultations: every Wednesday from 13 to 14 hours.		
12	General description educational component	The course is aimed at familiarizing students with key aspects of technological equipment used in food production. It will provide students with the necessary knowledge and practical skills for the effective use of various equipment during the production of high-quality and innovative food products. Students will have the opportunity to study in detail different types of technological equipment, its technical characteristics and application possibilities.		
13	The purpose of education component	To familiarize students with the main aspects of technological equipment used in the field of food production. To develop in students the ability to critically analyze the choice of equipment, evaluate its technical characteristics and choose optimal solutions for solving production tasks.		
14	Prerequisites for studying EC, connection with other educational components of the EVP	The educational component has connection with other educational components "Processes and devices of food production", "Technologies of restaurant establishments", "Technological equipment of meat and milk processing enterprises", "Technological equipment of food production", "Pre-graduate practice", "Qualification work"		
15	Academic policy virtue	At discovered violation of academic integrity under time taking an exam – work student is canceled and the exam is passed repeatedly.		
16	Link to the course in Moodle system	https://cdn.snau.edu.ua/moodle/enrol/index.php?id=5777		
17	Key words	Equipment, restaurant establishments, refrigeration equipment, mechanical equipment, heating equipment		

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 13	PLO 19	Implementation and protection laboratory work, test, testing, exam
DLO 1. Know the classification, purpose, structure and operating principles of the main types of equipment in restaurant establishments.	x			
DLO 2. Analyze the impact of technical characteristics and operating modes of equipment on the quality, safety, and technological parameters of food products.	x			
DLO 3. Justify the choice of modern technological equipment for mechanization, heat treatment, refrigeration storage, and auxiliary processes in restaurant establishments.		x		
DLO 4 . Develop technological and equipment -technological schemes of production processes with the determination of the necessary equipment and compliance with the requirements for its safe operation.		x		
DLO 5 . Perform individual and group tasks on the selection, calculation and evaluation of the efficiency of the use of technological equipment in restaurant establishments.			x	
DLO 6. Interact in a team when solving production and technological tasks related to the design and technical equipment of restaurant establishments.			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	
	Classroom work			Independent work
	Lectures	Lab. with		
Topic 1				
Lecture 1. <i>Introduction to restaurant equipment: Main types and purposes of equipment . Universal kitchen machines.</i> 1. Purpose, objectives and structure of the course. 2. Main types and purposes of equipment. 3. The main types of universal kitchen machines: planetary mixers, food processors, multifunctional blenders . 4. Principles of operation and design features of universal kitchen machines.	2			[1-10]
Laboratory lesson 1. <i>Performing engineering and technological calculations universal kitchen machines .</i>		2		
Independent study . 1. The use of universal kitchen machines in restaurant establishments: advantages and limitations. 2. Safety and hygiene when working with universal kitchen machines.			1 1	
Topic 2				
Lecture 2. <i>Sorting and calibrating equipment .</i> 1. The essence of the sorting and calibration process. 2. Types of sorting and calibrating equipment: sorting machines, calibrating tables. 3. Purpose, classification, structure, principle of operation, operating rules and safety precautions of sorting and calibrating equipment.	4			[1-10]
Laboratory lesson 2. <i>Performing engineering and technological calculations of sorting and calibrating equipment. Screeners .</i>		4		
Independent study . 1. Modern trends in the development of sorting and calibrating equipment. 2. Advantages of automating sorting and calibration processes in the restaurant industry.			1 1	

Topic 3				
Lecture 3. Thermal equipment. 1. Main types of heating equipment: stoves, boilers, combi-steamers , steamers. 2. Electric stoves. Purpose, structure, principle actions and regulations safe operation. 3. Steam convection ovens . Purpose, structure, principle actions and regulations safe operation. 4. Deep fryers, grills. Purpose, structure, principle actions and regulations safe operation.	4			[1-10]
Laboratory lesson 3. Performing engineering and technological calculations of thermal equipment. Hotplates .		4		
Independent study. 1. Advantages of using combi steamers in a professional kitchen. 2. Energy efficiency and modern technologies in the production of thermal equipment.			11	
Topic 4				
Lecture 4. Mechanical equipment 1. Types of mechanical equipment for food processing: meat grinders, vegetable cutters, bread slicers, slicers . 2. Meat grinders , cutters . Purpose, structure, principle actions and regulations safe operation. 3. Vegetable cutters. Purpose, structure, principle actions and regulations safe operation. 4. Potato peelers. Purpose, structure, principle actions and regulations safe operation.	4			[1-10]
Laboratory lesson 4. Performing engineering and technological calculations of mechanical equipment. Disc vegetable cutting machines.		4		
Independent study. 1. The benefits of using mechanical equipment to improve the productivity and quality of kitchen work. 2. Current trends in the development of mechanical kitchen equipment.			11	
Topic 5				
Lecture 5. Dosing and forming equipment . 1. Main types of dosing and forming equipment. 2. Machines for forming cutlets. Purpose, structure, principle actions and regulations safe operation. 3. Machines for making dumplings and vareniki . Purpose, structure, principle actions and regulations safe operation. 4. Dough rolling machines . Purpose, structure, principle actions and regulations safe operation.	4			[1-10]
Laboratory lesson 5. Performing engineering and technological calculations dough rolling machine		4		

Independent study. 1. Oil dividers. Purpose, structure, principle actions and regulations safe operation. 2. Cream dispensers. Purpose, structure, principle actions and regulations safe operation.			11	
Topic 6				
Lecture 6. <i>Refrigeration and freezing equipment.</i> 1. Types of refrigeration and freezing equipment: refrigerators, freezers, ice makers. 2. Refrigeration chambers . Purpose, structure, principle actions and regulations safe operation. 3. Freezers. Purpose, structure, principle actions and regulations safe operation. 4. Ice makers. Purpose, structure, principle actions and regulations safe operation.	4			[1-10]
Laboratory lesson 6. <i>Performing engineering and technological calculations of refrigeration and freezing equipment</i>		4		
Independent study. 1. Energy efficiency and environmental aspects of the use of refrigeration equipment in the restaurant industry. 2. Maintenance of refrigeration and freezing equipment.			11	
Topic 7				
Lecture 7. <i>Equipment for washing and drying dishes</i> 1. The main types of equipment for washing and drying dishes: dishwashers, dish dryers, disinfection devices. 2. Dishwashers . Purpose, structure, principle actions and regulations safe operation 3. Dish dryers . Purpose, structure, principle actions and regulations safe operation .	4			[1-10]
Laboratory lesson 7. <i>Performing engineering and technological calculations of equipment for washing and drying dishes.</i>		4		
Independent study. 1. Hygienic requirements and quality standards for washing and drying dishes in restaurant establishments. 2. Advantages and disadvantages of different types of dishwashers.			12	
Topic 8				
Lecture 8. <i>Lifting , transport and auxiliary equipment for catering establishments</i> 1. The importance of lifting and conveying and auxiliary equipment in the organization of production processes. 2. Production, serving and cargo trolleys. Purpose, classification, structure and operating rules 3. Hoists and elevators for transporting raw materials, semi-finished products and finished products. Purpose, structure, principle of operation and rules of safe operation .	4			[1-10]
Laboratory lesson 8. <i>Performing engineering and technological calculations of lifting , transport and auxiliary equipment for restaurant establishments.</i>		4		

Independent study. 1. Modern automated systems for internal product transportation in restaurant establishments. 2. Ergonomic requirements for the placement of auxiliary equipment and the organization of workplaces.			12	
Total	30	30	90	

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 <u>the student perform independently</u>)	Number of hours (days /weeks)
DLO 1. Know the classification, purpose, structure and operating principles of the main types of equipment in restaurant establishments.	Lecture session (teaching lecture material, conversation, demonstration of graphic material) Laboratory session (consideration of technological situations with the provision of recommendations for solving technological production problems)	10	Familiarization with the lecture material before the lecture, studying the material for independent study, as well as completing laboratory work tasks initiated during practical classes.	15
DLO 2. Analyze the impact of technical characteristics and operating modes of equipment on the quality, safety, and technological parameters of food products.		10		15
DLO 3. Justify the choice of modern technological equipment for mechanization, heat treatment, refrigeration storage, and auxiliary processes in restaurant establishments.		10		15
DLO 4 . Develop technological and equipment -technological schemes of production processes with the determination of the necessary equipment and compliance with the requirements for its safe operation.		10		15

DLO 5 . Perform individual and group tasks on the selection, calculation and evaluation of the efficiency of the use of technological equipment in restaurant establishments.		10		15
DLO 6. Interact in a team when solving production and technological tasks related to the design and technical equipment of restaurant establishments.		10		15

5. EVALUATION BY EDUCATIONAL COMPONENT

5.1. Summative assessment

5.1.1. For the assessment of expected learning outcomes, there are

№	Summative assessment methods	Points	Date drafting
Module 1 (35 points):			
1	Completion and defense of laboratory work (4 Lbs , 3 points each)	12 points	after each laboratory session
2	Midterm testing (multiple choice test)	23 points	after studying topics 1-4
Module 2 (35 points):			
4	Laboratory work (4 Lbs , 3 points each)	12 points	after each laboratory session
5	Midterm testing (multiple choice test)	23 points	after studying topics 5-8
	Exam (written)	30 points	Week 15
	Completion of non-formal learning courses (<i>at the student's request</i>)	15 points	During the semester

5.1.2. Criteria evaluation

Component	Evaluation
Working out and defending laboratory work	<i>Each completed laboratory work is valued at 3 points.</i>
Midterm testing (multiple choice test)	<i>The test includes 23 questions (first module) / 23 questions (second module) questions, each of which is worth 1 point.</i>
Exam (written)	<i>The exam includes 2 theoretical questions and 1 problem, each of which is worth 10 points.</i>
Non-formal learning courses	<i>If you have a certificate – 15 points</i>

5.2. Formative assessment:

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

№	Elements of formative assessment	Date
1	Oral survey after studying all topics, during laboratory classes	during laboratory work
2	Feedback in the form of a discussion of midterm testing	7, 15 weeks

3	Feedback in the form of discussion of exam questions	Week 15
4	Feedback in the form of a discussion of the non-formal education course	after listening to the course

The form of final control is ***an exam***. The final number of points for the discipline (maximum 100 points per semester) is determined as the sum of points based on the results of the applicant's work during the semester. A student is not allowed to take the final control for the discipline if he missed and did not complete more than 20% of the classes, has uncompleted modular control stages, has not completed the mandatory list of types of work, tasks (laboratory work) provided for by the working curriculum for the semester for this academic discipline, or has an unsatisfactory rating at the end of the semester (0 - 42 points).

6. LEARNING RESOURCES (LITERATURE)

1. Equipment of restaurant establishments: Methodological instructions for conducting lecture classes for applicants of the educational program " Craft technologies and gastronomic innovations", full-time and part-time forms of obtaining a higher education degree "Bachelor" / compiled by S. P. Bokovets , - Sumy: Sumy National Agrarian University, 2025. - p. 90.
2. Equipment of restaurant establishments: Methodological instructions for conducting laboratory classes for applicants of the educational program " Craft technologies and gastronomic innovations", full-time and part-time forms of obtaining a higher education degree "Bachelor" / compiled by S. P. Bokovets , - Sumy: Sumy National Agrarian University, 2025. - p. 67.
3. Equipment of restaurant establishments: Methodological instructions for conducting independent work for applicants of the educational program " Craft technologies and gastronomic innovations", full-time and part-time forms of obtaining a higher education degree "Bachelor" / compiled by S. P. Bokovets , - Sumy: Sumy National Agrarian University, 2025. - p. 29.
4. Bokovets S.P., Marenkova T.I. (2025). Innovative equipment for small breweries as a factor in increasing production efficiency. Scientific Bulletin of the TSATU. Issue No. 1.
5. Bokovets S.P., Koshel O.Yu. (2025). Modern technologies and equipment for culinary experiments in molecular gastronomy. Scientific Bulletin of the TSATU. Issue No. 1.
6. Gontar T.B., Kycha N.S. Processes and equipment of the food industry [Text]: lecture notes for students of full-time and part-time forms of study in the specialty Vocational education (Food technologies) – Kh.: [b.v.], 2019 – 37 p.
7. Sharan L.O., Levchenko T.M. **Innovative technologies and equipment of the restaurant industry** : a textbook. – Kyiv: Center for Educational Literature, 2024. – 328 p.
8. Romanenko R.P., Kyrilenko S.O. Energy-efficient equipment of restaurant establishments: monograph. – Kyiv: Lira-K, 2023. – 276 p.
9. New technologies and equipment for food and processing industries: materials of the All-Ukrainian scientific and practical online seminar. – Poltava: PDAU, 2025. – 74 p.
10. Koshyk S. O. Innovative equipment in restaurant establishments / S. O. Koshyk, V. Yu. Sklyar // Integration and innovative directions of development of the hospitality industry: collection of abstracts of the XI All-Ukrainian Interuniversity Scientific Conference of students, postgraduates and young scientists , Odessa, May 19-20, 2022 / Odessa National Technological University – Odessa, 2022. – P. 3 - 6.

Review of the Work Program (Syllabus)

Parameter by which the work program (syllabus) of the educational component is evaluated by the guarantor or member group syllabus	Yes	No	Comment
Learning outcomes for the educational component (DOL) correspond to the NQF			
The learning outcomes for the educational component (DRL) correspond to the stipulated PRL (for mandatory OK)			
Learning outcomes for the educational component make it possible to measure and assess the level of their achievement			

Member project groups of EVP G13 “Food Technologies”
(name)

Oksana MELNYK
(full name)

(signature)

The parameter by which the work program (syllabus) of the educational component is evaluated by the teacher of the relevant department	Yes	No	Comment
General information about the educational component is sufficient			
Learning outcomes for the educational component (DOL) correspond to the NQF			
Learning outcomes by educational component (LE) provide an opportunity to measure and assess the level of their achievement			
Learning outcomes (LOs) relate to student competencies, not to the content of the discipline (contain knowledge, skills, abilities, and not to the topics of the discipline curriculum)			
The content of the OK is formed in accordance with the structural and logical scheme			
Learning activity (teaching and learning methods) enables students to achieve expected learning outcomes (ELOs)			
The educational component involves learning through research that is appropriate and sufficient for the appropriate level of higher education.			
The assessment strategy within the educational component is in line with the University/Faculty policy			
The provided assessment methods allow assessing the degree of achievement of learning outcomes by educational component.			
The student workload is adequate to the volume of the educational component.			
The recommended learning resources are sufficient to achieve the learning outcomes (LOs)			
The literature is relevant			

Reviewer (department lecturer) food technology

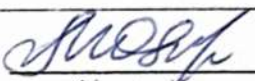
Olha SEREDA
(position, full name)

Review of the Work Program (Syllabus)

Parameter by which the work program (syllabus) of the educational component is evaluated by the guarantor or member group syllabus	Yes	No	Comment
Learning outcomes for the educational component (DOL) correspond to the NQF	✓		
The learning outcomes for the educational component (DRL) correspond to the stipulated PRL (for mandatory OK)	✓		
Learning outcomes for the educational component make it possible to measure and assess the level of their achievement	✓		

Member project groups of EVP G13 "Food Technologies"
(name)

Oksana MELNYK
(full name)


(signature)

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The content of the OK is formed in accordance with the structural and logical scheme	✓		
Learning activity (teaching and learning methods) enables students to achieve expected learning outcomes (ELOs)	✓		
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The student workload is adequate to the volume of the educational component.	✓		
The recommended learning resources are sufficient to achieve the learning outcomes (LOs)	✓		
The literature is relevant	✓		

Reviewer (department lecturer) food technology

Olha SEREDA
(position, full name)



