

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
SUMY NATIONAL AGRICULTURAL UNIVERSITY

EDUCATIONAL PROFESSIONAL PROGRAM

"FOOD TECHNOLOGIES"

LEVEL OF HIGHER EDUCATION Second ( master's )  
(name of higher education level)

DEGREE OF HIGHER EDUCATION Master  
(name of higher education degree)

FIELD OF KNOWLEDGE 18 "Production and technology"  
(code and name of the field of knowledge)

SPECIALTY 181 Food technologies  
(code and name of the specialty)

"APPROVED"

Academic Council of Sumy NAU

"28" 03. 2022

(Protocol №11)

Chairman of the Academic Council

Rector

Academician of NAAS of Ukraine

 V.I. Ladyka

The educational program is implemented from

"01" 09. 2022

Rector

Academician of NAAS of Ukraine

 V.I. Ladyka

(order № 77-K from " 1 " 09 2022

Sumy 2022

**LETTER OF APPROVAL**  
Educational and professional program

Vice-rector for scientific and pedagogical  
and educational work



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## **FOREWORD**

Developed by a working group consisting of:

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Melnyk O., Ph.D., Associate Professor of Technology of Nutrition Department;

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### **Reviewers:**

1. Kondrakova G., HR Director of Globinsky Meat Processing Plant.
2. Panasyuk O., Chief Technologist of PJSC Myronivsky Hliboproduct.
3. Krasnopolova O., Director of Culinary Studio "OK".

# 1. Profile of the educational program " Food technologies" specialty 181 "Food Technologies"

<b>1 - General information</b>	
Full name of the higher educational institution and structural subdivision	Sumy National Agrarian University Faculty of Food Technology
Higher education degree and title of qualification in the original language	Degree of higher education - master. Qualification - Master of Food Technology
The official name of the educational program	Food technology
Type of diploma and scope of educational program	Diploma Master, a single, 90 ECTS credits term of study 1 year 4 months
Availability of accreditation	
Cycle / level	HPK of Ukraine - level 7 , FQ-EHEA - the second cycle, QF-LLL - level 7
Prerequisites	Availability of a bachelor's degree in food technology or a bachelor's degree , specialist, master's degree in another educational program
Language of instruction	Ukrainian
Term of the educational program	3 rock and
Internet address of the permanent placement of the description of the educational program	<a href="https://fht.snau.edu.ua/metodichna-robota/osvitnij-riven-magistr/osvitni-programi/">https://fht.snau.edu.ua/metodichna-robota/osvitnij-riven-magistr/osvitni-programi/</a>
<b>2 - The purpose of the educational program</b>	
Training of highly qualified, competitive specialists in the field of production and technologies with high social and personal qualities and the ability to conduct research and professionally solve professional problems at the enterprises of the industry and restaurants.	
<b>3 - Characteristics of the educational program</b>	
Subject area (field of knowledge, specialty, specialization (if available) )	18 Production and technology 181 " Food Technology "

Orientation of the educational program	Educational and professional
Objectives of the program	Formation of special skills and knowledge that provide students with research skills using a set of research and innovation, organizational, technological and marketing methods, techniques and technologies to improve the functioning and development of food enterprises and organizations in the industry.
The main focus of the educational program and specialization	OP provides the formation of masters' skills in solving problems in the industry, planning and conducting research on the development and improvement of technologies for food and culinary products, analysis of the results and implementation of developments in food companies.
Features of the program	<ol style="list-style-type: none"> <li>1. Formation of professional competencies with the help of theoretical and methodological and applied issues of the food industry;</li> <li>2. Possession of skills of a choice of research methods, modification of existing and development of new, proceeding from the set tasks;</li> <li>3. Ability to build models of systems and processes, use modern optimization programs in a particular field of knowledge;</li> <li>4. Ability to apply modern methods of experimental research, the ability to plan an experiment and process the results, analyze and interpret them, draw conclusions. Ability to draw up the results in the form of reports, abstracts, articles, reports. Some experience in conducting patent research and registration of application materials for intellectual property;</li> <li>5. Possession of methods of organization and control of the appropriate level of quality and safety of food products, environmental safety and resource conservation of technological processes of production;</li> <li>6. Skills and methods of teaching and;</li> <li>7. Execution of design and research works related to the study of technological processes, introduction of new and improvement of existing technologies for the production of food and culinary products at food enterprises and restaurants.</li> </ol>
<b>4 - Suitability of graduates for employment and further study</b>	

Suitability for employment	<p>Graduates are able to perform professional work in various linear and functional divisions of organizations of all forms of ownership and organizational and legal forms, as well as educational, scientific, consulting, consulting, design and design organizations and institutions; subdivisions of state and municipal administration bodies in accordance with the National Classification of Ukraine "Classification of Professions" SC 003: 2010:</p> <p>1222.1 Chief specialists - managers and technical managers of production units in industry</p> <p>1222.2 Chiefs (other managers) and masters of production sites (divisions) in industry</p> <p>2149 Professionals in other fields of engineering case</p> <p>2310 Teachers of universities and higher educational institutions</p> <p>2320 Teachers of secondary schools</p> <p>2359 Other training professionals</p> <p>2471 Quality control professionals</p> <p>2482 Professionals in the hotel and restaurant business</p> <p>In addition, the master's level involves the professional activities of graduates in the positions of head of the technological laboratory, head of the sanitary-technological laboratory, laboratory engineer, design engineer, chief project technologist, chief administrator, head of the research unit.</p>
Further training	<p>Graduates have the right to continue their studies at the third educational and scientific level of higher education "Doctor of Philosophy «, to acquire additional qualifications in the system of postgraduate education.</p>
<b>5 - Teaching and assessment</b>	
Teaching and learning	<p>- student-centered learning, self-study, problem-oriented learning, individual-creative and competence, system-functional approach;</p> <p>- lectures, laboratory work, seminars, practical classes in small groups, independent work on the basis of textbooks and abstracts, consultations with teachers, preparation of qualifying work (on the recommendation of the head of the educational program)</p>
Evaluation	<p>Assessment of the quality of mastering the educational-professional program includes an accumulative point-rating system, which provides for the assessment of students for all types of classroom and extracurricular learning activities aimed at obtaining program learning</p>

	outcomes: input, current, phased, modular, final control, exams, testing, credit for research practice. Execution of term papers / projects, final certification - public defense of the qualification work or state qualification exam.
<b>6 - Program competencies</b>	
Integral competence (IC)	Ability to solve complex problems and problems in food technology in professional activities and / or in the learning process, which involves research and / or innovation and is characterized by uncertainty of conditions and requirements.
General competence (GC)	<p>GC1. Ability to search, process and analyze information from various sources.</p> <p>GC2. Ability to conduct research at the appropriate level.</p> <p>GC3. The ability to generate new ideas (creativity), to show initiative and ingenuity.</p> <p>GC4. Ability to act socially responsibly and consciously.</p> <p>GC5. Ability to work in an international context.</p>
Professional competencies of the specialty (PC)	<p>PC1. Ability to organize production and practically implement scientific developments taking into account energy efficiency and resource conservation and improvement of food quality.</p> <p>PC2. Ability to develop and implement commercial and scientific and technical projects in the field of food technology, taking into account technical, commercial, legal and labor protection and environmental issues.</p> <p>PC3. Ability to protect intellectual property in the field of food technology.</p> <p>PC4. Ability to develop programs for the development and effective functioning of food industry enterprises and restaurants, including in the context of foreign economic relations.</p> <p>PC5. Ability to present and discuss the results of research and design solutions, including in a foreign language, at scientific seminars and conferences on the development of food technology, to prepare scientific reports, prepare scientific publications.</p> <p>PC6. Ability to organize a system of quality control and safety of food raw materials, semi-finished products and food products, to ensure the quality and safety of food products during the introduction of technological innovations in the enterprises of the industry.</p>

	<p>PC7. Ability to apply mathematical methods and models in applied research, to optimize technological processes for the development of innovative technological solutions in food production.</p> <p>PC8. Ability to organize production and practically implement scientific developments taking into account energy efficiency and resource saving and improving the quality of food products.</p> <p>PC9. Ability to develop and implement commercial and scientific and technical projects in the field of food technology, taking into account technical, commercial, legal and labor protection and environmental issues.</p>
<b>7 - Program learning outcomes (PLO)</b>	
<p>PLO 1. Find, systematize and analyze the necessary information in the scientific and technical literature, electronic databases and other sources of information at the stage of choosing a problem or research topic to solve professional and scientific problems in the field of food technology.</p> <p>PLO 2. Demonstrate initiative and ingenuity in the development and implementation of technical and technological innovations. Be able to independently make non-standard decisions of a creative nature, take responsibility for them, generate new ideas and implement them in practice, demonstrate the ability to adapt.</p> <p>PLO 3. Apply special equipment, modern software, methods and techniques that are acceptable in certain areas of food technology, when performing research in educational, scientific and industrial laboratories.</p> <p>PLO 4. Choose and apply the most suitable methods of mathematical modeling and optimization in the development of scientific and technical projects in the field of food technology.</p> <p>PLO 5. To develop and implement innovative technological solutions to solve existing problems and further development of the food industry, to develop foreign economic relations of enterprises of the industry and restaurants.</p> <p>PLO 6. To develop programs of development and functioning of the enterprises of branch, to introduce rational methods of management of industrial processes, to plan need for resources. To form and implement own models of professional activity taking into account the best experience of the organization of scientific and industrial activity.</p> <p>PLO 7. Have specialized knowledge and take into account in practice the trends of scientific and technical development of food science, choose the most promising and rational areas of scientific and technical activities, clearly communicate their knowledge and conclusions to specialists and non-specialists.</p> <p>PLO 8. Analyze and formalize the results of scientific and production tests in the form of scientific and technical documentation, scientific reports, security documents, articles, abstracts of scientific conferences.</p>	



PLO 9. Have practical skills of business professional communication in Ukrainian and one of the foreign languages, be able to logically formulate opinions, present the results of their own scientific and practical activities.

PLO 10. To plan and manage innovative scientific projects of fundamental and applied direction taking into account the current state of science and technology in food technology, to conduct research, analyze the results and draw conclusions.

PLO 11. To use professional knowledge in the field of food quality and safety management for the development and implementation of HACCP and ISO product quality and safety management systems.

PLO 12. Have an information and communication base for the development and implementation of innovations, taking into account the basics of economics, marketing and management.

PLO 13. To know and apply the basic principles of obtaining innovative food products from different types of raw materials, taking into account the social and economic efficiency of scientific development.

***LO defined for this OP in addition to the standard in HE***

PLO 14. Apply knowledge and skills on waste-free technologies in conditions of existing food industry enterprises and restaurants, the use of new methods of canning and storage food products, the use of bioplastics for packaging raw materials, semi-finished products and finished products.

PLO 15. Organize the work of food industry enterprises and restaurants in accordance with the requirements of life safety, resource conservation and environmental safety.

### **8 - Resource support for program implementation**

Staffing	The presence of a support group, professional development of scientific and pedagogical workers, ensuring compliance with the scientific degree or academic title of scientific and pedagogical worker a.
Logistics	Availability of the library; Laboratories: "Interdepartmental Scientific and Practical Laboratory of Chemical and Microbiological Research of Food", "Educational and Scientific Laboratory of Innovative Technologies and Food Safety and Quality", "Educational and Scientific Laboratory of Food Production Equipment ", "Educational and Scientific Laboratory of Designing New Types of Food products ", " Training Laboratory of Food Technology "and offices; sports complex; food factory; computer classes; dormitory; medical point .
Information and educational and methodical support	Availability of methodical support of practical, seminar, laboratory works, tasks for independent work of students, questions for current and final control. Methodical support of course works. Provision of programs

	for internships. Availability of reading rooms, textbooks, manuals, professional periodicals.
<b>9 - Academic mobility</b>	
National credit mobility	Agreement №1864 dated 04.04.2016 "On cooperation in science and education between Sumy National Agrarian University and Kharkiv State University of Food and Trade for 2016-2020.
International credit mobility	Agreement №R-DOP.0161.6.19.2016 on cooperation between Sumy National Agrarian University and the University of Economics in Wroclaw
Training of foreign applicants for higher education	It is possible to teach foreign citizens with the prior study of English by the student.

## 2. The list of components of the educational-professional program and their logical sequence

### 2.1. List of EP components

Code e / s	Components of the educational program (academic disciplines, course projects (works), practices, qualification work)	Number of credits	Form of final control
1	2	3	4
Mandatory components of the EP			
MC1	Business Ukrainian	5,0	Exam
MC2	Personnel management and innovative development of enterprises	5,0	Differentiated offset
MC3	Information technologies and optimization of technical and technological objects of the processing industry, calculation work	5,0	Exam
MC4	Innovative Engineering of Restaurant Business, term paper	5,0	Exam, public defense of term paper before the commission
MC5	Food quality management	5,0	Exam
MC6	Professional practice	8,0	Differentiated offset
MC7	Qualification work (performance and defense)	7,0	Public defense of term paper before the commission
	Uniqueness of EP		
MC8	Scientific research work	10,0	Exam
MC9	Innovative technologies in enterprises of the industry	10,0	Exam, public defense of term paper before the commission
MC10	Scientific bases of waste-free technologies of food industry	5,0	Differentiated offset
The total amount of mandatory components:		65 credits ECTS	
Selective components of EP			
Discipline chosen by the Institution of Higher Education			
SK1	Elective discipline 1	5,0	Differentiated offset

<i>Disciplines of scientific and professional orientation at the choice of the applicant</i>			
SC2	Elective discipline 2	5,0	Differentiated offset
SC3	Elective discipline 3	5,0	Exam
SC4	Elective discipline 4	5,0	Differentiated offset
SC5	Elective discipline 5	5,0	Exam
<b>The total amount of sample components:</b>		<b>25 credits ECTS</b>	
<b>TOTAL VOLUME OF EDUCATIONAL PROGRAMS</b>		<b>90 credits ECTS</b>	

## 2.2. Structural and logical scheme of EP

A brief description of the logical sequence of studying the components of the educational program

Code e / s	Components of the educational program (academic disciplines, course projects (works), practices, qualification work)	Semester		
		1	2	3
Mandatory components of the EP				
MC1	Business Foreign Language	*		
MC2	Personnel management and innovative development of enterprises	*		
MC3	Information technologies and optimization of technical and technological objects of the processing industry, calculation work	*		
MC4	Innovative engineering, term paper	*		
MC5	Food quality management	*		
MC6	Proffessional practice		*	
MC7	Qualification work (performance and defense)			*
MC8	Scientific research work	*	*	
MC9	Innovative technologies in enterprises of the industry, term paper		*	*
MC10	Scientific bases of waste-free technologies of food industry			*

<b>Selective components of EP</b>				
<i>Discipline chosen by the Institution of Higher Education</i>				
SC1	Elective discipline 1			*
<i>Disciplines of scientific and professional orientation at the choice of the applicant</i>				
SC2	Elective discipline 2		*	
SC3	Elective discipline 2		*	
SC4	Elective discipline 2			*
SC5	Elective discipline 2		*	

\* According to the Law of Ukraine "On Higher Education", students have the right to choose disciplines within the limits provided by the relevant educational program and working curriculum, in the amount of not less than 25 percent of the total number of ECTS credits provided for this level. education. At the same time, applicants of a certain level of higher education have the right to choose disciplines offered for other levels of higher education, in agreement with the head of the relevant faculty or department. " Elective disciplines can be formed into blocks, then the student selects a block of disciplines, after which all disciplines of the block become mandatory for study. It is recommended to use both block forms of choice and completely free choice of disciplines by students.

### **3. Form of certification of applicants for higher education**

Attestation of graduates in the educational-professional program "Food Technology" of the second (master's) level is carried out in the form of defense of a master's thesis that ends with the issuance of a standard document on awarding a master's degree with a master's degree. Certification is carried out openly and publicly at a meeting of the Examination Commission for state certification of higher education.

#### 4. Matrix of correspondence of program competences to components of the educational program

	MC1	MC2	MC3	MC4	MC5	MC6	MC7	MC8	MC9	MC10
IR	+	+	+	+	+	+	+	+	+	+
GK1	+		+				+	+	+	
GK 2							+	+		
GK 3		+				+	+	+	+	+
GK 4		+			+		+			+
GK 5	+		+				+	+		+
PC1				+			+	+		
PC 2			+	+			+	+	+	+
PC 3							+		+	+
PC 4		+		+	+	+	+		+	+
PC 5	+					+	+	+	+	
PC 6					+	+	+		+	
PC 7			+				+	+		+
PC 8			+	+	+	+	+		+	+
PC 9		+		+		+	+			

## 5. Matrix of providing program learning outcomes (PLO) with the relevant components of the educational program

	MC1	MC2	MC3	MC4	MC5	MC6	MC7	MC8	MC9	MC10
PLO1	+		+		+		+	+		+
PLO2						+	+	+	+	
PLO3				+		+	+	+		+
PLO4			+				+		+	
PLO5						+	+	+		+
PLO6		+			+	+	+		+	
PLO7				+		+	+	+		+
PLO8	+				+		+	+	+	
PLO9	+						+		+	
PLO10			+	+			+	+	+	
PLO11					+	+	+		+	
PLO12		+					+			
PLO13		+					+		+	+
PLO14						+		+		+
PLO15				+		+	+		+	

### The list of normative documents on which OPP is based

1. Law of Ukraine of 01.07.2014 № 1556-VII "On Higher Education" [Access mode: <https://zakon.rada.gov.ua/laws/show/1556-18> ];
2. Law of Ukraine of 05.09.2017 "On Education" - [Access mode: <http://zakon5.rada.gov.ua/laws/show/2145-19> ];
3. Resolution of the Cabinet of Ministers of Ukraine of April 29, 2015 № 266 "On approval of the list of branches of knowledge and specialties in which the training of higher education students is carried out" [Access mode: <http://zakon4.rada.gov.ua/laws/show/266-2015-n> ];
4. Resolution of the Cabinet of Ministers of Ukraine dated 30.12.2015 № 1187 "On approval of the License conditions for educational activities of educational institutions" [Access mode: <http://zakon4.rada.gov.ua/laws/show/1187-2015-p> / page ]

5. Resolution of the Cabinet of Ministers of Ukraine of 23.11.2011 № 1341 "On approval of the National Qualifications Framework" [Access mode: <http://zakon4.rada.gov.ua/laws/show/1341-2011-p> ];
6. National Classifier of Ukraine: «Classifier of professions DK 003: 2010DK 003: 2010 [Access mode: <http://www.dk003.com> ];
7. TUNING (for acquaintance with special (professional) competences and examples of standards [Access mode: <http://www.unideusto.org/tuningeu/> ]).
8. Regulations on educational programs at Sumy National Agrarian University dated October 15, 2019 [Access mode: <https://snau.edu.ua/wpcontent/uploads/2019/12/%D0%9F%D0%BE%D0%BB%D0%BE%D0%B6%D0%B5%D0%BD%D0%BD%D1%8F-%D0%BF%D1%80%D0%BE-%D0%9E%D1%81%D0%B2%D1%96%D1%82%D0%BD%D1%96-%D0%BF%D1%80%D0%BE%D0%B3%D1%80%D0%B0%D0%BC%D0%B8-%D0%A1%D0%9D%D0%90%D0%A3-1.pdf>];
9. Standards and recommendations for quality assurance in the European Higher Education Area (ESG) [Access mode: [http://ihed.org.ua/images/doc/04\\_2016\\_ESG\\_2015.pdf](http://ihed.org.ua/images/doc/04_2016_ESG_2015.pdf)];
10. - International Standard Classification of Education (ISCED 2011): UNESCO Institute for Statistics [Access mode: <http://www.uis.unesco.org/education/documents/isced2011-en.pdf>];
11. - ISCED Fields of Education and Training 2013 (ISCED-F 2013): UNESCO Institute for Statistics [Access mode: <http://www.uis.unesco.org/Education/Documents/isced-fields-of-education-training-2013.pdf>].
12. - Methodical recommendations for the development of standards of higher education, approved by the order of the Ministry of Education and Science of Ukraine dated 01.06.2017 № 600 (as amended by the order of the Ministry of Education and Science of Ukraine dated 21.12.2017 № 1648), approved by the higher education sector -methodical Council of the Ministry of Education and Science of Ukraine (Minutes of 29.03.2016 № 3);
13. - Development of educational programs. Methodical recommendations [Access mode: [http://ihed.org.ua/images/doc/04\\_2016\\_rozroblennya\\_osv\\_program\\_2014\\_tempus\\_office.pdf](http://ihed.org.ua/images/doc/04_2016_rozroblennya_osv_program_2014_tempus_office.pdf) ];
14. - National educational glossary: higher education [Access mode: [http://ihed.org.ua/images/doc/04\\_2016\\_glossariy\\_Visha\\_osvita\\_2014\\_tempus-office.pdf](http://ihed.org.ua/images/doc/04_2016_glossariy_Visha_osvita_2014_tempus-office.pdf)];
15. - Development of the quality assurance system of higher education in Ukraine: information-analytical review [Access mode: [http://ihed.org.ua/images/doc/04\\_2016\\_RozvitMC\\_sisitemi\\_zabesp\\_yakosti\\_VO\\_UA\\_2015.pdf](http://ihed.org.ua/images/doc/04_2016_RozvitMC_sisitemi_zabesp_yakosti_VO_UA_2015.pdf)];
16. - European credit transfer savings system: User's Guide [Access mode: [http://ihed.org.ua/images/doc/04\\_2016\\_ECTS\\_Users\\_Guide2015\\_Ukrainian.pdf](http://ihed.org.ua/images/doc/04_2016_ECTS_Users_Guide2015_Ukrainian.pdf)].
17. - EQF-LLL - European Qualifications Framework for Lifelong Learning [Access mode: [https://ec.europa.eu/ploteus/sites/eac-eqf/files/brochexp\\_en.pdf](https://ec.europa.eu/ploteus/sites/eac-eqf/files/brochexp_en.pdf)];
18. - QF-EHEA - Qualification Framework of the European Higher Education Area [Access mode: <http://www.ehea.info/article-details.aspx?ArticleId=67>];



19. - Rashkevich YM Bologna process and a new paradigm of higher education  
[Access mode: file: /// D: / Users / Dell / Downloads /  
BolonskyiProcessNewParadigm HE.pdf].