MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY NATIONAL AGRARIAN UNIVERSITY

EDUCATIONAL AND PROFESSIONAL PROGRAM

"FOOD SAFETY AND QUALITY"

FIELD OF STUDY 18 "Production and technologies"

SPECIALTY 181 "Food Technologies"

HIGHER EDUCATION LEVEL First (Bachelor's degree)

«APPROVED BY»
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Doctor of Science, Professor
_____ V.I. Ladyka
N10 «26» 04 2021

Sumy 2021

LETTER OF AGREEMENT

EDUCATIONAL AND PROFESSIONAL PROGRAM

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INTRODUCTION

The educational and professional program "Food Safety and Quality" for the preparation of applicants for higher education at the first (Bachelor's) level in the specialty "Food Technologies" contains 240 ECTS credits required to obtain the appropriate degree of higher education; list of graduate competencies; normative content of training of applicants for higher education, formulated in terms of learning outcomes; forms of certification of applicants for higher education.

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CONTENT

1. Profile of the educational program "Food Safety and Quality" in specialty 181 - "Food Technology"

1 - General information	
Full name of the higher educational institution and structural unit	Sumy National Agrarian University Faculty of Food Technology
Degree of higher education and title of qualification in the original language	Degree of higher education - Bachelor Qualification - Bachelor of Food Technology
The official name of the educational program	Food Safety and Quality
Type of diploma and volume of the educational program	Bachelor's degree, single, 240 ECTS credits, term of study 3 years and 10 months Bachelor's degree, single, 120 ECTS credits, term of study 1 year and 10 months on the basis of a bachelor's degree (EQL of a junior specialist) To provide EC and FC with ECTS credits provided by the VO-130 standard
Availability of accreditation	Accredited for the first time
Cycle / degree	NQF of Ukraine - level 6, FQ-EHEA - the first cycle, EQF-LLL - level 6
Prerequisites	Complete general secondary education, bachelor's degree
Language of instruction	Ukrainian
Validity period of the educational program	until 2025
Link to the educational program	http://docs.snau.edu.ua/documents/education/programms/food/181_Harchovi_tehnology_Bakalavr.pdf
2 - The purpose of the educational program	
Training of highly qualified specialists in the production of safe and high-quality food products, able to solve complex specialized and practical problems, to develop and implement food safety and quality management systems; take a creative approach to solving technical and technological problems in the field of production and management of food safety and quality.	
3 - Characteristics of the educational program	
Description of the subject area	Object: technological processes and food products. The purpose of training: to shape applicants' competencies required for professional activities in the field of production, safety management and food quality. Theoretical content of the subject area: basic concepts

	and principles of design and operation of food enterprises and restaurants, food quality and safety management system, essence and parameters of technological processes of safe and quality food production, principles of development of new and improvement of existing food technologies, rules of application of the current legislative and regulatory framework and the system of analysis of marketing activities in production conditions; study of patterns of formation of the range of food products. Methods, techniques and technologies to be mastered by the applicant for higher education in practice: a set of organizational and technological measures to improve the efficiency of food enterprises and restaurants, methods and techniques of food safety and quality control, planning and calculation of material and financial needs and labor resources. Tools and equipment: modern technological and laboratory equipment and devices, computer equipment and software.
Orientation of the educational program	Educational and professional. Based on modern scientific and practical knowledge in the field of food technology. The program is focused on a competitive specialist training to improve the efficiency of enterprises and institutions of the food industry, with a methodology aimed to monitor the safety and quality of food, planning and calculating the need for material, financial and labor resources, software application
The main focus of the educational program and specialization	Special education in the field of safe and quality food production; provision of theoretical knowledge and practical skills at enterprises and institutions of the food industry; practical training at the leading enterprises for food production; dual education. Keywords: safe products, quality products, general technologies, innovative technologies, competitiveness.
Peculiarities of the program	The bachelor's degree program provides with the in-depth knowledge and critical approach necessary to arrange and control food production, by making effective professional decisions, solving current problems and problems of the industry.
4 – Graduates' eligibility to employment and further education	
Employment eligibility	The Bachelor of Food Technology has a high level of practical training, special knowledge, in-depth specialized professional training and can hold the

	position of a specialist and manager in the field of restaurant business, food and processing industry, tourism; manager in restaurants, cafes, bars, canteens, at enterprises that prepare and deliver ready-to-eat food; professional in the field of sanatorium-resort business
Further training	Graduates have the right to continue their studies to obtain higher education at the second (master's) level of higher education and acquire additional qualifications in the system of postgraduate education
5 - Teaching and assessment	
Teaching and learning	Student-centered problem-oriented learning. Classes are held in the form of lectures, laboratory, practical classes, consultations, self-study. Lectures have an interactive scientific and cognitive nature. Practical and laboratory classes are conducted using common methods (situational tasks, business games, presentations preparation using modern professional software). Educational and methodological support and counseling of individual work is carried out through the university information and educational environment Moodle.
Assessment	Assessment of the quality of mastering within the educational and professional program includes current and final control of knowledge and final assessment. Current assessment in lectures, seminars, practical and laboratory classes (oral examination or written express control). Students' reports including discussions, reports on laboratory work, tests, test control, practice reports, presentations, essays, etc. Final control - examination, test (assessment based on the results of current control). Final certification - fulfillment and defense of the qualifying paper.
6 - Program competencies	
Integral competence	Ability to solve complex specialized and practical problems of technical and technological nature, characterized by complexity and uncertainty of conditions in the production conditions of food industry, restaurant business and in the learning process, which involves the application of theoretical foundations and methods of food technology.
General Competences (GC)	C01. To know and understand the subject area and professional activity C02. Ability to learn and master modern knowledge

	C03. Ability to show initiative and flexibility. C04. Skills in the use of information and communication technologies C05. Ability to search and analyze information from various sources C06. Ability to evaluate and ensure the quality of work performed. C07. Ability to work in a team. C08. Ability to work independently. C09. Safety skills. C10. Striving to preserve the environment. C11. Ability to communicate in the national language both orally and in a written form C12. Ability to communicate in a foreign language C13. The ability to use the rights and fulfill the duties as a member of society, to recognize the values of civil society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine. C14. Ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies to ensure a healthy lifestyle
Professional competencies of the specialty	C15. Ability to implement technology safe and high-quality food products based on understanding the essence of the transformation of the main components of food raw materials during the technological process. C16. Ability to manage technological processes using hardware and software. C17. Ability to arrange and control the quality and safety of raw materials, semi-finished products and food products using modern methods. C18. Ability to ensure the safety and quality of products on the basis of relevant standards and within food safety management systems during their production and sale. C19. Ability to develop new and improve existing food technologies taking into account the principles of nutrition, resource saving and intensification of technological processes. C20. Ability to compile business documentation and

	perform technological and economic calculations. C21. Ability to select and operate technological equipment, to compile hardware-technological schemes for the production of safe and high-quality food products. C22. Ability to conduct research in specialized laboratories to solve applied problems. C23. Ability to design new or upgrade existing production (production sites). C24. Ability to develop draft regulations using current legislation and reference materials. C25. Ability to develop and implement effective methods of work organization, to be responsible for the professional development of individuals and / or groups of individuals. C26. Ability to form a communication strategy in the field of food technology, to lead a professional discussion. C27. Ability to increase production efficiency, implement modern management systems. C28. Ability to perform professional activities in accordance with quality standards and requirements of the food safety management system (FSMS). C29. Ability to analyze and effectively apply domestic and European approaches in quality and safety management at different stages of food production, to carry out production expertise, to harmonize regulations and assess the compliance of systems. C30. Ability to analyze the effectiveness of customer service.
7 - Program learning outcomes (PLO)	
	PLO1. To know and understand the basic concepts, theoretical and practical problems in the field. PLO2. To show creative initiative and improve professional level by means of unremitting education and self-learning. PLO3. To be able to apply information and communication technologies for information support of professional activity and conducting research of applied nature. PLO 4. To find and process research and technical information from various sources and use it to solve specific technical and technological problems. PLO 5. To know the scientific basis of technological

	processes of safe and high-quality food production and the laws of physicobiochemical and microbiological transformations of the main components of food raw materials during technological processing. PLO 6. To know and understand the main factors influencing the synthesis and metabolism of food components and the role of nutrients in human nutrition. PLO 7. To arrange, control and manage technological processes when processing raw materials into food products, including the use of technical means of automation and control systems. PLO 8. To be able to develop or improve existing food safety management systems taking into account global trends / norms. PLO 9. To be able to develop draft specifications and technological instructions for food. PLO 10. To implement food safety management systems. PLO 11. To determine the compliance of quality indices of raw materials, semi-finished products and finished products with regulatory requirements using modern methods of analysis (or control). PLO 12. To be able to design new and modernize existing enterprises, shops, production sites using computer-aided design systems and software. PLO 13. To choose modern equipment for technical tools of new or reconstructed enterprises (production units), to know the principles of its operation and rules of operation, to make hardware and technological schemes for the production of food products of the designed range. PLO 14. To increase production efficiency by introducing resource-saving and competitive technologies, to analyze the state and dynamics of demand for food products. PLO 15. To introduce modern enterprise management systems. PLO 16. To keep to safety rules and take technical and organizational measures to arrange safe working conditions during production activities. PLO 17. To arrange the process of waste disposal and ensure environmental cleanliness of production. PLO 18. To have basic skills in conducting theoretical

	and / or experimental research performed individually and / or as part of a research team. PLO 19. To increase work efficiency by combining independent and team work. PLO 20. To be able to conclude business documentation in the national language. PLO 21. To be able to present the results of activity to a professional audience and the general public in order to present ideas, problems, solutions and personal experience in the field of food technology. PLO 22. To carry out business communications in the professional sphere in Ukrainian and foreign languages. PLO 23. To have the skills to arrange the work of individual production units of the enterprise and coordinate their activity. PLO 24. To carry out technological, technical, economic calculations in the development and introduction of food products to the consumer market, to keep records of material resource costs. PLO 25. To identify creative initiative on market transformation of the economy. PLO 26. To form and defend the worldview and public position, to act socially responsibly and consciously. PLO 27. To preserve and increase the achievements and values of society, lead a healthy lifestyle. PLO 28. To be able to implement food safety management systems (FSMS) in enterprises and establishments of the food industry. PLO 29. To identify, analyze, assess risks, develop measures in order to regulate them and develop documentation of quality and safety management systems in accordance with the requirements of the international standards. PLO 30. To carry out sanitary and hygienic control and be able to use this knowledge for the design or reconstruction of enterprises and institutions of the food industry.
Form of certification	Certification is carried out in the form of public defense of the qualification paper, which involves independent solution of a specialized task of design or research nature. There can be no academic plagiarism, falsification or cheating in the qualification paper. Qualification paper should be posted on the website of the higher educational establishment or its structural

	unit, or in the repository of the higher educational establishment
8 - Resource support for program implementation	
Academic staff	Academic staff of the Faculty of Food Technologies of SNAU allows to train applicants for higher education and meets regulatory requirements
Logistics	Material and technical support of the Faculty of Food Technologies of SNAU allows to train applicants for higher education and meets regulatory requirements. To ensure the educational process we use: library; laboratories: "Interdepartmental scientific-practical laboratory of chemical and microbiological researches of foodstuff", "Educational-scientific laboratory of Innovative technologies and safety and quality of foodstuff", "Educational-scientific laboratory of the equipment of food productions", "Educational-scientific laboratory of designing of new kinds of foodstuff" ," Training laboratory of food technology ", which are equipped with technical means and specialized equipment, research and industrial installations and devices, production equipment, inventory and utensils; offices; sports complex; food factory; computer classes; hostel; medical centre
Information and training support	The educational process of training of higher education applicants is fully provided with methodical and informational materials of lectures, practical classes, seminars, laboratory classes, term projects (papers), tasks for individual work of students, questions for current and final control, programs and bases for practice , as well as the availability of reading rooms, textbooks, manuals, professional periodicals.
9 - Academic mobility	
National credit mobility	National credit mobility of students, post-graduates, PhD students, research and teaching staff of the University, including training, internships, academic and practical training, research, teaching and advanced training is organized on the basis of partnership agreements between the University and universities of Ukraine in accordance with the Regulations on the implementation of the right of students of Sumy National Agrarian University to academic mobility
International credit mobility	The University has concluded agreements on international academic mobility with the following universities:

	Weihenstephan-Triesdorf University of Applied Sciences (Germany), Warsaw University of Life Sciences (Poland), Xi'an University of Technology, Hezhou University, Guizhou University, Zhejiang Agriculture and Forestry University, Henan Institute of Science and Technology, Gansu Agricultural University (China).
Training of foreign applicants for higher education	It is possible for foreign citizens to study provided that the student has previously studied the Ukrainian language.

2. List of components of the educational and professional program and their logical sequence

2.1. List of EP components

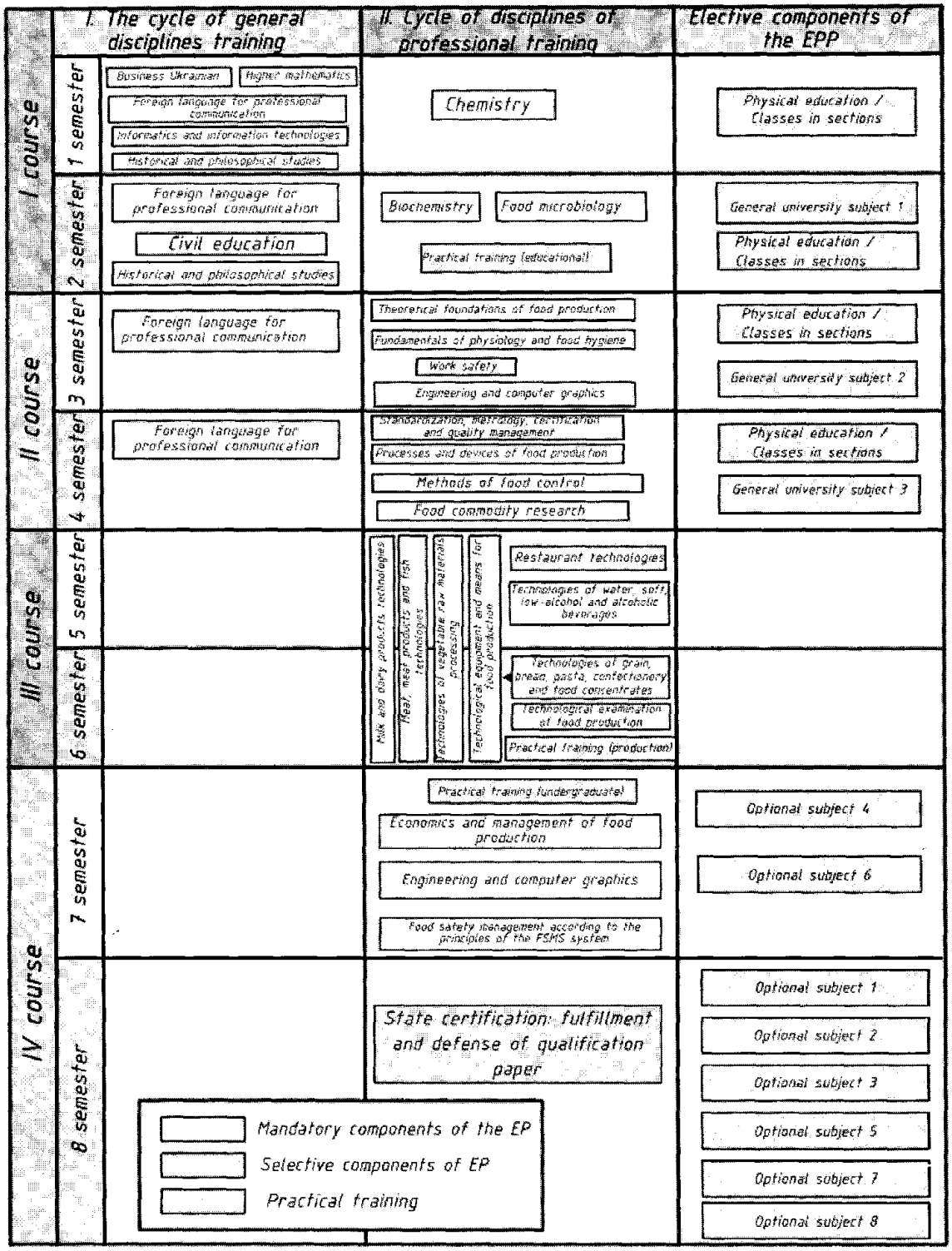
Code a / d	Components of the educational program (academic disciplines, term projects (papers), practices, qualification paper)	Number of credits	Form of final control
Mandatory components of the EP			
I. Set of general training subjects			
MC1.	Historical and philosophical studies	5,0	Examination
MC 2.	Business Ukrainian	5,0	Examination
MC 3.	Foreign language for professional communication	10,0	Examination
MC 4.	Higher mathematics	5,0	Examination
MC 5.	Informatics and information technologies	5,0	Examination
MC 6.	Civil education	5,0	Differential credit
II. Set of professional training subjects			
MC 7.	Standardization, metrology, certification and quality management	5,0	Examination
MC 8.	Theoretical foundations of food production	5,0	Examination
MC 9.	Food commodity research	5,0	Differential credit
MC 10.	Food microbiology	5,0	Examination
MC 11.	Methods of food control	5,0	Examination
MC 12.	Fundamentals of physiology and food hygiene	5,0	Examination
MC 13.	Chemistry	5,0	Examination
MC 14.	Biochemistry	5,0	Examination
MC 15.	Processes and devices of food production	5,0	Examination
MC 16.	Economics and management of food production	5,0	Examination
MC 17.	Technological equipment and means for food production (including term project)	10,0	Examination, fulfillment

			and defense of TP
MC 18.	Meat, meat products and fish technologies	10,0	Examination
MC 19.	Restaurant technologies	5,0	Differential credit
MC 20.	Milk and dairy products technologies	10,0	Examination
MC 21.	Technologies of grain, bread, pasta, confectionery and food concentrates	5,0	Differential credit
MC 22.	Technologies of vegetable raw materials processing	5,0	Differential credit
MC 23.	Technologies of water, soft, low-alcohol and alcoholic beverages	5,0	Differential credit
MC 24.	Work safety	5,0	Examination
MC 25.	Engineering and computer graphics	5,0	Differential credit
MC 26.	Food production engineering (including term project)	5,0	Examination, fulfillment and defense of TP
MC 27.	Technological examination of food production	5,0	Differential credit
MC 28.	Food safety management according to the principles of the FSMS system	5,0	Examination
MC 29.	Practical training		
	- educational	5,0	Differential credit
	- production	5,0	Differential credit
	- undergraduate	5,0	Differential credit
MC 30.	State certification: fulfillment and defense of qualification paper	5,0	Certification by the examination board
Total volume of mandatory components:		**180 ECTS credits**	
Optional EP components			
Optional subject of HEE			
OC1.	General university subject 1	5,0	Credit
OC 2.	General university subject 2	5,0	Differential credit
OC 3.	General university subject 3	5,0	Differential credit
OC 4.	General university subject 3	5,0	Differential credit
Optional subjects of research and professional direction of the applicant			

OC 5.	Optional subject 1	5,0	Differential credit
OC 6.	Optional subject 2	5,0	Differential credit
OC 7.	Optional subject 3	5,0	Differential credit
OC 8.	Optional subject 4	5,0	Differential credit
OC 9.	Optional subject 5	5,0	Differential credit
OC 10.	Optional subject 6	5,0	Differential credit
OC 11.	Optional subject 7	5,0	Examination
OC 12	Optional subject 8	5,0	Examination
Total volume of optional components:		**60 ECTS credits**	
TOTAL VOLUME OF EDUCATIONAL PROGRAM		**240 ECTS credits**	

2.2. Structural and logical scheme of EP

A brief description of the logical sequence of studying the mandatory components of EP



3. Form of certification of applicants for higher education

Certification of applicants of the first (Bachelor's) level according to the educational program "Food Safety and Quality" is carried out in the form of public defense of qualification paper and finishes with the issuance of a standard document on awarding a qualification "Bachelor of Food Technology".

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

	MC1	MC 2	MC 3	MC 4	MC 5	MC 6	MC 7	MC 8	MC 9	MC 10	MC 11	MC 12	MC 13	MC 14	MC 15	MC 16	MC 17	MC 18	MC 19	MC 20	MC 21	MC 22	MC 23	MC 24	MC 25	MC 26	MC 27	MC 28	MC 29	MC 30
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C 30																+											+	+		

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

	MC1	MC 2	MC 3	MC 4	MC 5	MC 6	MC 7	MC 8	MC 9	MC 10	MC 11	MC 12	MC 13	MC 14	MC 15	MC 16	MC 17	MC 18	MC 19	MC 20	MC 21	MC 22	MC 23	MC 24	MC 25	MC 26	MC 27	MC 28	MC 29	MC 30
PLO 1								+										+	+	+	+	+	+						+	+
PLO 2	+	+	+		+	+																							+	+
PLO 3		+	+	+	+																									
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The list of normative documents EPP is based on

1. Law of Ukraine dated 01.07.2014 № 1556-VII "On Higher Education" [Access mode: https://zakon.rada.gov.ua/laws/show/1556-18];

2. Law of Ukraine dated 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 dated April 29, 2015 № 266 "On approval of the list of fields of knowledge and specialties in which the training of higher education applicants 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 dated 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. Standard of higher education in the specialty 181- "Food Technology" in the field of knowledge 18 - "Production and Technology" for the first (Bachelor's) degree of higher education. Approved and put into effect by the order of the Ministry of Education and Science of Ukraine dated 18.10. 2018 № 1125 [Access mode: https://mon.gov.ua/storage/app/media/vishcha-osvita/zatverdzeni%20standarty/12/21/181-kharchovi-tekhnologii-bakalavr.pdf];

8. Regulations on educational programs at Sumy National Agrarian University dated October 15, 2019 [Access mode: https://snau.edu.ua/wp-content/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;

10. International Standard Classification of Education (ISCED 2011): UNESCO Institute for Statistics [Access mode: http://www.uis.unesco.org/education/ documents / isced-2011- 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 sector of higher education Methodical Council of the Ministry of Education and Science of Ukraine (Minutes dated March 29, 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];

14. National Education Glossary: Higher Education [Access mode: 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_Rozvitok_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 _Guide-2015_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];

18. QF-EHEA - Qualification Framework of the European Higher Education Area [Access mode: http: //www.ehea.info/article-details.aspx? ArticleId = 67];

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

20. TUNING (for acquaintance with special (professional) competences and examples of standards [Access mode: http://www.unideusto.org/tuningeu/]).