DESCRIPTION OF THE SAFE_05 MODULE IMPLEMENTED AS PART OF THE INTENSIVE FORM OF EDUCATION (IFoE)

Module Name	*Quality systems*			
Language of Instruction	english			
Module Purpose	Transfer of knowledge and practical skills in the principles of operation, implementation and improvement of quality management systems in agriculture and the food industry, taking into account contemporary challenges related to the green transformation and the digitalization of production processes.			
Module Content	Fundamentals and objectives of quality management systems (ISO 9001, HACCP, GMP, GHP). Quality systems in agriculture and the food industry (GLOBALG.A.P., BRC, IFS, QS, organic certifications). The role of digitalization (IoT, blockchain, big data) in monitoring and documenting quality. Quality systems in the context of the European Green Deal and the "Farm to Fork" strategy. Analysis of a sample quality system on a farm or processing plant, identifying elements supporting the green and digital transformation.			
Description of learning outcomes	Effect Symbol	Effect Name Methods	Verification and Documentation	Reference to Directional Effect Set
	KNOWLEDGE (graduate knows and understands)			
	W1	theoretical and practical foundations of quality management systems in agriculture and the food industry, understands their importance for food safety, environmental protection and achieving the goals of green and digital transformation.	Pass with a grade. Report from the classes. Assessment report, archiving of final papers.	SAFE_W01

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	W2	principles of functioning and improvement of quality systems based on the analysis of technological, biological and economic data and is able to link them with modern methods of monitoring and evaluating processes within the framework of sustainable development.	Pass with a grade. Report from the classes. Assessment report, archiving of final papers.	SAFE_W02
	SKILLS (graduate can)			
	U1	independently analyze and evaluate quality management systems in agriculture and the food industry, identifying technological, organizational and environmental problems and proposing solutions in line with the principles of sustainable development and green transformation.	Pass with a grade. Report from the classes. Assessment report, archiving of final papers.	SAFE_U01

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	U2	use modern IT and digital tools to develop, analyse and interpret data on the quality of production processes or food products and formulate conclusions and practical recommendations based on them.	Pass with a grade. Report from the classes. Assessment report, archiving of final papers.	SAFE_U03
	SOCIAL COMPETENCES (graduate is ready to)			
	K1	critically assess the knowledge held and the impact of professional activities undertaken in the field of quality systems on the environment, consumer health and society, as well as to comply with the principles of ethics and professional responsibility.	Statements and discussion	SAFE_K01
	K2	effective cooperation in interdisciplinary teams responsible for ensuring food quality and safety, is able to communicate with representatives of various industries and initiate actions for sustainable development and the public interest.	Statements and discussion	SAFE_K02

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Module crediting method	Passing with a grade	
ECTS credit balance (total, developing practical skills, from classes conducted using distance learning methods and techniques)	Number of contact hours/ECTS points	Number of non-contact hours/ECTS points
	Lectures (hours 1 ECTS points 0,04) Classes (hours 2 ECTS points 0,08)	Reading literature (hours 1 ECTS points 0,04) Preparing for credit (hours 1 ECTS points 0,04)
	Total contact hours 3 hr. 0,12 pt. ECTS	**Total non-contact hours 2 hr. 0,08 pt. ECTS**
Staffing	Anna Krawczuk PhD	
Information on the infrastructure ensuring the implementation of learning outcomes	The "Quality Systems" course takes place in a modern teaching environment, providing students with access to technical and IT infrastructure tailored to the needs of education in agricultural engineering and the food industry. This infrastructure supports the acquisition of knowledge, skills, and social competencies in quality management systems, process digitalization, and sustainable development. Classes are conducted in multimedia classrooms and computer laboratories equipped with workstations with access to analytical software (e.g., Minitab, Power BI) and normative resources (ISO, GLOBALG.A.P., BRCGS, IFS). Students work individually and in teams, conducting analyses and simulations of quality processes and projects utilizing digital technologies such as IoT and blockchain. The facilities meet current teaching standards in the technical and natural sciences and fully support the achievement of learning outcomes. The university also ensures full accessibility for people with disabilities by adapting the space, computer stations, and teaching materials to the diverse needs of students.	
Planned teaching methods	lecture, case study, problem-solving discussion	

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Recommended reading list	International Organization for Standardization. (2015). ISO 9001:2015 – Quality management systems – Requirements. Geneva: ISO. Codex Alimentarius Commission. (2022). General Principles of Food Hygiene (CXC 1-1969, Rev. 2022) – Annex on Hazard Analysis and Critical Control Point (HACCP) System and Guidelines for Its Application. Rome: FAO/WHO. BRCGS. (2022). Global Standard for Food Safety (Issue 9). London: BRCGS Publishing. ISBN 978-1-78490-447-0. GLOBALG.A.P. Secretariat. (2025). Integrated Farm Assurance Standard (Version 6). Cologne: FoodPLUS GmbH. McEntire, J. C., & Kennedy, A. W. (Eds.). (2019). Food Traceability: From Binders to Blockchain. Cham: Springer. https://doi.org/10.1007/978-3-030-10902-8 European Commission. (2020). A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system (COM/2020/381 final). Brussels: European Commission. European Commission. (2019). The European Green Deal (COM/2019/640 final). Brussels: European Commission

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