SZKOŁA GŁÓWNA
GOSPODARSTWA
WIEJSKIEGO

Study programme

Organic Agriculture and Food Production

Faculty:	Faculty of Agriculture and Ecology
Level of study:	first cycle (bachelor's degree)
Education profile:	General academic
Form of study:	full-time studies
Academic year:	2024/25

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Basic information

Faculty name:	Faculty of Agriculture and Ecology
Major name:	Organic Agriculture and Food Production
Level of study:	first cycle (bachelor's degree)
Profile of study:	General academic
Form of study:	full-time studies
Duration of studies (number of semesters):	6
Number of ECTS required to complete the studies:	180
The number of ECTS points a student obtains during classes conducted with the direct participation of academic teachers or other persons conducting classes:	90,4
Professional title awarded to graduates:	licencjat
ISCED code:	0811
Language of study:	english

Assigning the major to the fields and disciplines to which the learning outcomes relate

Agriculture and horticulture	100%

Major characteristics

Major characteristics

The degree programme provides training in the currently most sought-after fields of organic plant and animal production and food quality.
The studies are conducted in two variants - in Polish or English. Students not only acquire specialist knowledge, but also learn to solve specific problems. Classes are taught by, among others, specialists from abroad, using innovative methods to prepare for future work.
The study programme has been developed in line with the expectations of potential employers in the organic food production sector. A wide range of career prospects opens up before students graduating from this course. Graduates find employment in organic farms, organic food processing plants, national and international trade, certification centres and food inspection bodies.

Learning objectives

The fundamental aim of the training of Polish and international students in the Organic Agriculture and Food Production study is to produce a graduate who will possess the knowledge, skills and competences prescribed for the course, in line with those described for the discipline of agriculture and horticulture.

Education concept

Within the framework of the main education pathways in organic agriculture and food production, such as: sustainable rural development, organic plant and animal production, organic raw materials in food production, food safety, organisation and economics of organic farms, the student has a wide choice of future career in Poland as well as abroad.
Classes in individual courses, including specialised ones, are taught by specialists from WULS, based on their scientific and didactic potential and using the technical facilities of the departments they come from. In addition, part of the classes in vocational courses is conducted at the certified Organic Experimental Field of SGGW in Skierniewice-Miedniewice, where scientific and didactic activities related to food production in the organic system are carried out in accordance with all the regulatory conditions of the market for organic farming products which are in force in the countries of the European Union.
Basic courses such as chemistry, basics of botany, biochemistry and plant physiology as well as computer science are realised in the first year. From the first year onwards, the major courses are also introduced to ecology and agricultural and food production. In the second year of study, major courses related to organic agricultural production are taught. The third year of study deals more broadly with organic food production and social issues related to agriculture and food.
The study offers elective subjects. Two humanities electives are offered in the first year. Students in the first semester choose one of the two subjects offered by the lecturer in the first scheduled class. From semester three onwards, students choose electives from an open optional list offered, which is thematically selected for the semester in accordance with the students' level of knowledge and skills. One course is selected from a list containing between 2 and 5 courses. During the studies, in addition to the humanities faculties, there are 10 electives that deepen the learning outcomes achieved in the basic (compulsory) programme. All learning outcomes are realised by the compulsory subjects and the electives deepen them.

Description of work placement (if provided for in the study programme)

Not included in the curriculum

Graduate profile

Graduates of Organic Agriculture and Food Production will be prepared to take up employment on an organic farm as well as in enterprises, companies and offices related to the functioning of organic agriculture, such as: organic food processing plants, organic food wholesalers and shops, certification bodies, government administration, Agricultural Extension Service, etc. Completion of the first degree enables the graduate to undertake a second degree as well.

Learning outcomes

Knowledge

Code	Content	PRK
ERj_K1_W01	The graduate knows and understands issues in the field of biology, chemistry, mathematics and physics necessary to understand the phenomena and processes occurring in the agricultural production space and the environment	P6S_WG
ERj_K1_W02	The graduate knows and understands knows the phenomena that make up the functioning of living organisms as well as inanimate nature at various levels of its organization	P6S_WG
ERj_K1_W03	The graduate knows and understands statistical methods and IT tools for the assessment and analysis of phenomena and processes occurring in organic farming	P6S_WG
ERj_K1_W04	The graduate knows and understands economic, legal and social issues necessary for organizing organic agricultural production and the functioning of rural communities	P6S_WK
ERj_K1_W05	The graduate knows and understands biological and physiological processes occurring in the plant and plant canopy, taking into account factors determining the quantity and quality of crop yield and their reactions to environmental factors	P6S_WG
ERj_K1_W06	The graduate knows and understands selected ecological, agrometeorological concepts, properties of the soil environment as well as in the field of environmental management and mechanisms occurring in them	P6S_WG
ERj_K1_W07	The graduate knows and understands the essence and mechanisms of regulation of the basic life processes of plants, animals, microorganisms and their interaction with the environment	P6S_WG
ERj_K1_W08	The graduate knows and understands selected methods, techniques and technologies, as well as tools and materials to maximize yield and its quality in organic farming conditions	P6S_WG
ERj_K1_W09	The graduate knows and understands issues in the field of biology, organic nutrition and breeding of basic livestock species	P6S_WG
ERj_K1_W10	The graduate knows and understands issues in the field of environmental protection, analyzes and evaluates the impact of organic agricultural production on the state of the natural environment and the quality of organic food	P6S_WG
ERj_K1_W11	The graduate knows and understands social functions of agricultural space and the natural environment, including the Common Agricultural Policy of the EU and the policy for the development of organic farming in EU countries and in the world	P6S_WK
ERj_K1_W12	The graduate knows and understands biology of cultivated and meadow plants, ecological principles of agricultural technology, ecological technologies of production and plant protection as well as economic opportunities, including their food use	P6S_WG
ERj_K1_W13	The graduate knows and understands properties of selected ecological plant and animal raw materials and methods of their use, as well as planning their production technologies	P6S_WG
ERj_K1_W14	The graduate knows and understands basic economic issues related to the functioning of global markets for agricultural and food products	P6S_WK

Skills

Code	Content	PRK
ERj_K1_U01	The graduate can acquire and gather knowledge in the field of organic farming from various sources, analyze information and draw conclusions and constantly expand the acquired knowledge in the process of self-education	P6S_UW
ERj_K1_U02	The graduate can identify and analyze phenomena and interactions between the achievements of natural sciences, especially in the field of organic farming, including organic food	P6S_UW
ERj_K1_U03	The graduate can identify standard natural, economic and social phenomena at the local and global level	P6S_UW
ERj_K1_U04	The graduate can use selected mathematical and statistical methods to collect, process and analyze data	P6S_UW
ERj_K1_U05	The graduate can analyze and interpret scientific and technical text and experimental facts using language typical for a given discipline of knowledge	P6S_UK
ERj_K1_U06	The graduate can design and perform under supervision research tasks in the field of agriculture and organic food	P6S_UO
ERj_K1_U07	The graduate can obtain and process data and information using information technologies and make decisions with their support	P6S_UO
ERj_K1_U08	The graduate can prepare and present typical written papers and lectures in a foreign language in the field of organic farming in accordance with the requirements set out for level B2 of the Common European Framework of Reference for Languages	P6S_UK
ERj_K1_U09	The graduate can use the mechanisms of the Common Agricultural Policy for the development of organic farms and rural areas	P6S_UK
ERj_K1_U10	The graduate can analyze and optimize the economic effects of organic agricultural and food production	P6S_UW
ERj_K1_U11	The graduate can assess and interpret the basic biological parameters of plants in order to diagnose the physiological-biochemical state of plants	P6S_UW
ERj_K1_U12	The graduate can assess parameters and design modifications of the state of the environment in order to improve plant growth conditions and the state of the natural environment	P6S_UW
ERj_K1_U13	The graduate can describe and design ways to optimize the conditions of organic crop production using knowledge of methods, techniques, technologies, tools and materials and the potential of the environment to maximize the size and quality of the crop	P6S_UW
ERj_K1_U14	The graduate can analyze factors affecting plant and animal productivity, food quality, and the state of the environment and natural resources	P6S_UW
ERj_K1_U15	The graduate can plan business activities in the field of organic agricultural, food and agribusiness production system	P6S_UO
ERj_K1_U16	The graduate can independently plan and implement self-improvement throughout life	P6S_UU
ERj_K1_U17	The graduate can design the production process of organic foodstuffs	P6S_UW

Social competence

Code	Content	PRK
ERj_K1_K01	The graduate is ready to lifelong learning and professional development	P6S_KK
ERj_K1_K02	The graduate is ready to individual and group work, taking on different roles in it, aiming at achieving the set goal	P6S_KO
ERj_K1_K03	The graduate is ready to identify ethical, economic and environmental priorities in its own or other activities related to organic food production at all stages	P6S_KO
ERj_K1_K04	The graduate is ready to act with social, vocational and ethical responsibility for the organic production of quality food, animal welfare and the formation and condition of the environment	P6S_KO
ERj_K1_K05	The graduate is ready to think and act in an entrepreneurial way	P6S_KO
ERj_K1_K06	The graduate is ready to comply with occupational health and safety rules in relation to oneself and employees	P6S_KR

Study plan

Semester 1

W semestrze 1. studenci realizują szkolenie biblioteczne na platformie dostępnej pod adresem https://szkolenia.sggw.pl oraz szkolenie z zakresu dyskryminacji i jej przeciwdziałaniu.

Subject	Number of hours	ECTS points	Form of verification	
OHS training	OHS training: 4	0	Pass	O
Environment protection	Lecture: 15 Laboratory exercises: 15	2	Exam	O
Introduction to organic agriculture	Lecture: 15	1	Pass with grade	O
Chemistry	Lecture: 45 Laboratory exercises: 30	7	Exam	O
Basics of botany with systematic	Lecture: 15 Laboratory exercises: 30	4	Exam	O
Agrometeorology	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	O
Global food production	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	O
Sustainable food production systems	Lecture: 15	1	Pass with grade	O
Informatics	Laboratory exercises: 30	3	Pass with grade	O
Intellectual property protection	Lecture: 7	1	Pass	O
Humanistic elective 1	Lecture: 30	2	Pass with grade	G
The student chooses 1 subject for 2 ECTS from an open list of electives				
Humanistic elective 1	Lecture: 30	2	Pass with grade	F
Foreign language 1	Language course: 60	3	Pass with grade	G
Student wybiera zajęcia z języka obcego				
English	Language course: 60	3	Pass with grade	F
German	Language course: 60	3	Pass with grade	F
Russian	Language course: 60	3	Pass with grade	F
Spanish	Language course: 60	3	Pass with grade	F
Polish	Language course: 60	3	Pass with grade	F
Sum	**371**	**30**		

Semester 2

Subject	Number of hours	ECTS points	Form of verification	
Sustainable development of rural areas	Lecture: 30 Laboratory exercises: 10 Field exercises: 5	4	Pass with grade	O
Agroecology	Lecture: 15 Laboratory exercises: 4 Project exercises: 2 Field exercises: 9	2	Exam	O
Soil science	Lecture: 30 Laboratory exercises: 30	4	Exam	O
Microbiology of soils and plants	Lecture: 15 Laboratory exercises: 15	2	Exam	O
Animals physiology and nutrition	Lecture: 15 Laboratory exercises: 30	3	Exam	O
Basics of plant biochemistry and physiology	Lecture: 15 Laboratory exercises: 30	4	Pass with grade	O
Basics of human nutrition	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Elective 1	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	G
The student chooses 1 subject for 3 ECTS from an open list of electives				
Elective 1	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	F
Humanistic elective 2	Lecture: 30	2	Pass with grade	G
The student chooses 1 subject for 2 ECTS from an open list of electives				
Humanistic elective 2	Lecture: 30	2	Pass with grade	F
Physical education	Physical education: 30	0	Pass	G
Physical education	Physical education: 30	0	Pass	F
Foreign language 2	Language course: 60	3	Pass with grade	G
Student wybiera zajęcia z języka obcego				
English	Language course: 60	3	Pass with grade	F
German	Language course: 60	3	Pass with grade	F
Russian	Language course: 60	3	Pass with grade	F
Spanish	Language course: 60	3	Pass with grade	F
Polish	Language course: 60	3	Pass with grade	F
Confirmation B2 - foreign language	Contact hours: 2	1	Exam	O
Sum	**437**	**30**		

Semester 3

Subject	Number of hours	ECTS points	Form of verification	
Cropping system	Lecture: 15 Laboratory exercises: 30	4	Exam	O
Plant breeding and seed material for organic agriculture	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Controlling and certification system of organic production	Lecture: 15	1	Pass with grade	O
Plant protection management in organic agriculture	Lecture: 30 Laboratory exercises: 15	3	Exam	O
Fertilization in organic system	Lecture: 15 Laboratory exercises: 30	3	Exam	O
Agricultural technologies for organic farming	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	O
Food microbiology	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Raw materials and ecological products	Lecture: 15 Laboratory exercises: 30	3	Pass with grade	O
Mathematical statistic	Lecture: 30 Laboratory exercises: 30	4	Exam	O
Physical education	Physical education: 30	0	Pass	G
Physical education	Physical education: 30	0	Pass	F
Elective 2	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	G
The student chooses 1 subject for 3 ECTS from an open list of electives				
Elective 2	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	F
Elective 3	Lecture: 30	2	Pass with grade	G
The student chooses 1 subject for 2 ECTS from an open list of electives				
Elective 3	Lecture: 30	2	Pass with grade	F
Sum	**435**	**30**		

Semester 4

Subject	Number of hours	ECTS points	Form of verification	
Organic grassland farming	Lecture: 15 Laboratory exercises: 15	3	Exam	O
Organic crops	Lecture: 15 Laboratory exercises: 45	5	Exam	O
Weeds and weed management in organic farming	Lecture: 15 Laboratory exercises: 20 Field exercises: 10	4	Pass with grade	O
Methodology of scientific research	Laboratory exercises: 15	1	Pass with grade	O
Livestock production in organic farming	Lecture: 30 Laboratory exercises: 30	5	Exam	O
Organic vegetable and fruit production	Lecture: 15 Laboratory exercises: 27 Field exercises: 18	5	Exam	O
Food Safety Hazards	Lecture: 15 Laboratory exercises: 6 Project exercises: 9	2	Pass with grade	O
Study trip to organic farm	Lecture: 10 Field exercises: 20	3	Pass with grade	G
Study trip to organic farm	Lecture: 10 Field exercises: 20	3	Pass with grade	F
Elective 4	Lecture: 30	2	Pass with grade	G
The student chooses 1 subject for 2 ECTS from an open list of electives				
Elective 4	Lecture: 30	2	Pass with grade	F
Sum	**360**	**30**		

Semester 5

Subject	Number of hours	ECTS points	Form of verification	
Conversion of the farm into organic system I	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Processing of organic plant raw materials	Lecture: 15 Laboratory exercises: 15	3	Exam	O
Food safety and hygiene	Lecture: 15 Laboratory exercises: 30	4	Exam	O
Ecological aspects of food and nutrition	Lecture: 30 Laboratory exercises: 30	4	Pass with grade	O
Processing of organic animal raw materials	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	O
International agricultural markets	Lecture: 15 Auditorium exercises: 15	2	Pass with grade	O
Diploma seminar	Laboratory exercises: 30	2	Pass with grade	G

Subject	Number of hours	ECTS points	Form of verification	
Diploma seminar	Laboratory exercises: 30	2	Pass with grade	F
Study trip to organic processing plant	Lecture: 10 Field exercises: 20	3	Pass with grade	G
Study trip to organic processing plant	Lecture: 10 Field exercises: 20	3	Pass with grade	F
Elective 5	Lecture: 60	4	Pass with grade	G
Elective 5	Lecture: 60	4	Pass with grade	F
Economics and organization of organic farms	Lecture: 15 Auditorium exercises: 15	3	Pass with grade	O
Sum	**375**	**30**		

Semester 6

Subject	Number of hours	ECTS points	Form of verification	
Conversion of the farm into organic system II	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	O
Herbs in organic farming	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Entrepreneurship in organic business	Auditorium exercises: 30	2	Pass with grade	O
Diploma seminar	Laboratory exercises: 30	2	Pass with grade	G
Diploma seminar	Laboratory exercises: 30	2	Pass with grade	F
Elective 6	Lecture: 45 Laboratory exercises: 45	9	Pass with grade	G
The student chooses 3 subjects for a total of 9 ECTS from an open list of electives				
Elective 6	Lecture: 45 Laboratory exercises: 45	9	Pass with grade	F
Elective 7	Lecture: 30	2	Pass with grade	G
The student chooses 1 subject for 2 ECTS from an open list of electives				
Elective 7	Lecture: 30	2	Pass with grade	F
BSC thesis	Diploma thesis: 0	10	Exam	G
The student chooses the topic of the diploma thesis				
BSC thesis	Diploma thesis: 0	10	Exam	F
Sum	**240**	**30**		

O - Obligatory subjects
G - Mandatory group
F - Elective subjects

Subject name:		Environment protection	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic problems of environmental protection at the global, national and local level, understand the reasons for the impact of agricultural activities on the state of the natural environment and assess the impact of various agricultural production methods on the environment	ERj_K1_W02, ERj_K1_W06
	W2	of the importance of the natural environment in agricultural policy, including the Common Agricultural Policy of the EU. They know the instruments of environmental protection used in relation to agricultural production.	ERj_K1_W06, ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	identify environmental problems and propose instruments and methods of solving them.	ERj_K1_U14
	U2	the mechanisms and instruments of the EU Common Agricultural Policy and environmental policy for the sustainable development of rural areas	ERj_K1_U09
Social competences: (Within the scope of competence, the graduate is ready to)	K1	identify environmental priorities in actions taken by himself or others	ERj_K1_K03
	K2	are aware of the importance of social, professional and ethical responsibility for animal welfare and the shaping and condition of the natural environment	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Environmental practice at individual, local, national and global levels. Showing that due to inappropriate development paths, natural systems are devastated. Methods of environmental protection with particular emphasis on rural areas. Legal framework and instruments and methods of air, soil, water and biodiversity protection.	
Examination methods:		Written exam, Report	

Subject name:		Introduction to organic agriculture	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the legal framework and principles of organic farming. Understands the specificity and separateness of this management methods	ERj_K1_W04
	W2	philosophical trends and the history of organic agriculture.	ERj_K1_W06, ERj_K1_W07
	W3	what non-agricultural development opportunities are possible on organic farm.	ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	assess the possibility of introducing new techniques and solutions to organic production standards	ERj_K1_U02, ERj_K1_U03
	U2	formulate professional opinions of organic development and management	ERj_K1_U09, ERj_K1_U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	propose actions supporting multifunctional development for organic farm	ERj_K1_K03, ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Basic issues related to organic farming, such as: the history of the development of organic farming in the world, in the European Union and in Poland, the principles of the philosophy of organic farming, legal regulations and principles of organic food labeling, the principles of organic farming and processing of organic crops.	
Examination methods:		Test (written or computer based)	

Subject name:		Chemistry	ECTS: 7
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Physical and chemical properties of appropriate inorganic and organic compounds sufficiently enough to study organic agriculture and food production.	ERj_K1_W01
Skills: (In terms of skills, the graduate can)	U1	write chemical equations, calculate percent and molar concentration, calculate pH, reaction yield, is able to isolate and purify organic compounds	ERj_K1_U01
	U2	perform quantitative chemical analysis (such as titration, pH evaluation) using different analytical methods, carries out laboratorial work necessary for examining the properties and evaluating the quality of biological sample, interprets the results of chemical experiments, can work both independently and as part of a team	ERj_K1_U03, ERj_K1_U05
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to adhere to the principles of occupational health and safety regulations working individually or as a part of a team, to organize his own work and to take responsibility for its effects	ERj_K1_K02, ERj_K1_K06
Course content ensuring the achievement of learning outcomes:		Structure, physical and chemical properties of inorganic and organic compounds. Chemical calculations (process yields, concentrations) and laboratory activities related to reaction processes, purification of organic compounds, titration	
Examination methods:		Written exam, Report, Test (written or computer based)	

Subject name:		Basics of botany with systematic	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Has a basic knowledge on structural and functional organization, and functioning of plants, in particular those of agricultural importance, on different levels of their organization Has general knowledge on agricultural plant's metagenesis and generative reproduction as well as knows basic morphological and taxonomic features of the most common angiosperm plants	ERj_K1_W01, ERj_K1_W02
Skills: (In terms of skills, the graduate can)	U1	Describes typical biological processes and plants using scientific language and terminology Uses basic research tools and devices and is able to produce own research samples Can prepare properly-documented research report concerning structure and functioning of plants on the basis of own theoretical knowledge and self-conducted experiment	ERj_K1_U01, ERj_K1_U02, ERj_K1_U03, ERj_K1_U04
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Implements rules of safety at work when working alone or in a group; organizes own and team work and takes the responsibility for effects of these works	ERj_K1_K01, ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Structure, organization and functions of plant's cells, tissues and organs with emphasis on agriculturally important plants and components of agricultural yield. Metagenesis of seed plants and their generative reproduction (development of flower, gametophytes, seeds and fruits). Basics of plant taxonomy and main features of evolutionary lineages of terrestrial plants.	
Examination methods:		Written exam, Report	

Subject name:		Agrometeorology	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Basic knowledge of meteorology necessary to understand the phenomena and processes which are taking place in the agricultural production and environment	ERj_K1_W01
	W2	Basic knowledge of statistical methods and IT tools for assessing and analysing phenomena and processes occurring in organic farming	ERj_K1_W03
	W3	Basic knowledge of atmosphric processes which are taking place in the plant and plant crops taking into account factors determining the size and quality of the yield	ERj_K1_W05
	W4	Basic agrometeorological concepts, as well as in the field of environmental formation and the mechanisms occurring in them	ERj_K1_W06
	W5	Basic methods allowing for the maximization of yield and its quality in the conditions of organic farming	ERj_K1_W08
Skills: (In terms of skills, the graduate can)	U1	to use basic mathematical and statistical methods to collect, process and analyse data	ERj_K1_U04
	U2	Analyses and interprets the read scientific and technical text and empirical data using the language typical of a given discipline of knowledge	ERj_K1_U05
	U3	Analyses factors affecting the productivity of plants, animals and the state of the environment and natural resources	ERj_K1_U14
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Work individually and in a group, assuming different roles in it, aiming to achieve the assumed goal	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Concepts in the field of meteorology and climatology. Climate changes on a microscale and global scale. The specificity of the microclimate of agricultural habitats in local and regional terms. Focus on agro-climatic indicators and meteorological phenomena harmful to agriculture.	
Examination methods:		Written credit, Project, Report	

Subject name:		Global food production	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	range of economic knowledge about the functioning of global markets for agricultural and food products.	ERj_K1_W14
Skills: (In terms of skills, the graduate can)	U1	analyze and assesses the economic effects of organic production	ERj_K1_U10
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to work individually and in a group, assuming different roles in it, aiming to achieve the assumed goal.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Food production in a global context by providing an understanding of the economic functioning of the global agricultural and food supply.	
Examination methods:		Project, Report, Assessment of activity during classes	

Subject name:		Sustainable food production systems	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	different systems of the sustainable food production	ERj_K1_W04, ERj_K1_W10
	W2	the role of diversified diet in healthy nutrition	ERj_K1_W02, ERj_K1_W07, ERj_K1_W13
	W3	the selected technologies in sustainable food processing	ERj_K1_W02, ERj_K1_W13
	W4	the local market in terms of the food products produced in the sustainable systems	ERj_K1_W04, ERj_K1_W14
Skills: (In terms of skills, the graduate can)	U1	recognize the products from sustainable food systems in the food stores	ERj_K1_U10, ERj_K1_U15
	U2	explain a difference between particular sustainable food systems	ERj_K1_U02, ERj_K1_U15
	U3	is able to plan a proper menu containing food product from sustainable systems	ERj_K1_U15, ERj_K1_U17
Social competences: (Within the scope of competence, the graduate is ready to)	K1	is able to work individually and in a group, taking different roles and aiming to achieve the assumed goal	ERj_K1_K02, ERj_K1_K05
Course content ensuring the achievement of learning outcomes:		Sustainable food production systems run with a beneficial impact on the environment, contributing to food and nutrition security and healthy living for present and future generations. Sustainable food production systems such as Fair Trade, Slow Food, local food production, traditional and regional food, organic production. Balanced diets and their role in human nutrition.	
Examination methods:		Written credit	

Subject name:		Informatics	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the needs and scope of application of information technologies	ERj_K1_W03
	W2	the way of licensing and using computer software	ERj_K1_W03
Skills: (In terms of skills, the graduate can)	U1	explain the relationships between the data and the information obtained and processed	ERj_K1_U01
	U2	choose the right graphic form of data presentation	ERj_K1_U01, ERj_K1_U04
	U3	acquire, explore and process data and prepare reports on their basis	ERj_K1_U01, ERj_K1_U04, ERj_K1_U07
	U4	use text and graphic presentation tools	ERj_K1_U01, ERj_K1_U04, ERj_K1_U07
	U5	analyze data with particular emphasis on tabular data	ERj_K1_U01, ERj_K1_U04, ERj_K1_U07
Social competences: (Within the scope of competence, the graduate is ready to)	K1	continuous development and updating of information on the use of computer software	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Fundamentals of information technology, viewer about software and hardware resources. The use of information systems (including network resources) for the transfer and acquisition of information. Using a text editor. Data analysis and processing using a spreadsheet. Creating reports, tabular and graphical, and using the built-in spreadsheet functions.	
Examination methods:		Written credit, Assessment of activity during classes	

Subject name:		Intellectual property protection	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	legal basis for protection of intellectual property in the international area	ERj_K1_W04
	W2	international general principles and conditions for granting (maintaining) industrial property rights and copyright	ERj_K1_W04
Skills: (In terms of skills, the graduate can)	U1	determine the possible forms of legal protection of the effects of his/her research work	ERj_K1_U10
	U2	identify illicit practices in the use of other people's intellectual property	ERj_K1_U10
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to plan the implementation of his/her R&D results, considering the international intellectual property rights	ERj_K1_K05
Course content ensuring the achievement of learning outcomes:		Forms of intellectual property protection in the international space. Protection of the effects of research and development (R&D) work by students from different countries of the world.	
Examination methods:		Assessment of activity during classes	

Subject name:		English	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment.	ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	describe phenomena, processes, procedures.	ERj_K1_U08
	U2	conduct correspondence and take notes.	ERj_K1_U08
	U3	give explanations, give reasons, express opinions or make plans.	ERj_K1_U08
Social competences: (Within the scope of competence, the graduate is ready to)	K1	prepare and deliver presentations.	ERj_K1_K05
	K2	work in a team and conduct a discussion.	ERj_K1_K02
	K3	communicate correctly in most situations of everyday life and professional life without preparation.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment. Grammar structures: correct use of word forms and sentence structures, word formation. Language functions: practising communication, pronunciation and spelling.	
Examination methods:		Written credit, Essay, Assessment of activity during classes	

Subject name:		German	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment.	ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	describe phenomena, processes, procedures.	ERj_K1_U08
	U2	conduct correspondence and take notes.	ERj_K1_U08
	U3	give explanations, give reasons, express opinions or make plans.	ERj_K1_U08
Social competences: (Within the scope of competence, the graduate is ready to)	K1	prepare and deliver presentations.	ERj_K1_K05
	K2	work in a team and conduct a discussion.	ERj_K1_K02
	K3	communicate correctly in most situations of everyday life and professional life without preparation.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment. Grammar structures: correct use of word forms and sentence structures, word formation. Language functions: practising communication, pronunciation and spelling.	
Examination methods:		Written credit, Essay, Assessment of activity during classes	

Subject name:		Russian	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment.	ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	describe phenomena, processes, procedures.	ERj_K1_U08
	U2	conduct correspondence and take notes.	ERj_K1_U08
	U3	give explanations, give reasons, express opinions or make plans.	ERj_K1_U08
Social competences: (Within the scope of competence, the graduate is ready to)	K1	prepare and deliver presentations.	ERj_K1_K02
	K2	work in a team and conduct a discussion.	ERj_K1_K02
	K3	communicate correctly in most situations of everyday life and professional life without preparation.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment. Grammar structures: correct use of word forms and sentence structures, word formation. Language functions: practising communication, pronunciation and spelling.	
Examination methods:		Written credit, Essay, Assessment of activity during classes	

Subject name:		Spanish	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment.	ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	describe phenomena, processes, procedures.	ERj_K1_U08
	U2	conduct correspondence and take notes.	ERj_K1_U08
	U3	give explanations, give reasons, express opinions or make plans.	ERj_K1_U08
Social competences: (Within the scope of competence, the graduate is ready to)	K1	prepare and deliver presentations.	ERj_K1_K02
	K2	work in a team and conduct a discussion.	ERj_K1_K02
	K3	communicate correctly in most situations of everyday life and professional life without preparation.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Vocabulary connected with education, work, science, health, culture and entertainment, sport, technology, information exchange and environment. Grammar structures: correct use of word forms and sentence structures, word formation. Language functions: practising communication, pronunciation and spelling.	
Examination methods:		Written credit, Essay, Assessment of activity during classes	

Subject name:		Polish	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	vocabulary connected with family, everyday life, housing, transport, work, education, nutrition, services, health, sport and natural environment.	ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	communicate on the elementary level in spoken and written forms.	ERj_K1_U08
	U2	describe everyday phenomena.	ERj_K1_U08
	U3	express opinions, give reasons or make plans.	ERj_K1_U08
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work in a team.	ERj_K1_K02
	K2	communicate in different situations of everyday life.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Vocabulary connected with family, everyday life, housing, transport, work, education, nutrition, services, health, sport and natural environment. Grammar structures: correst use of word forms and sentence structures, word formation. Language functions: practising communication, pronunciation and spelling.	
Examination methods:		Written credit, Essay, Assessment of activity during classes	

Subject name:		Sustainable development of rural areas	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	issues in the field of integration of goals in environmental protection policy with goals of rural development; objectives and principles of national and international policy in this regard	ERj_K1_W04, ERj_K1_W11
	W2	sustainable development objectives in rural areas and instruments to use in supporting this form of development, including planning of landscape ecological structure / land use structure in aspects of biological diversity and ecological balance	ERj_K1_W04, ERj_K1_W11
	W3	local potential useful in ensuring sustainable development and instruments to use in this process; risks resullting from making wrong decisions; neccessity of adaptation to climate change, including use of RES (renewable energy sources)	ERj_K1_W04, ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	set action priorities in reference to social, economic and environmental development ensuring implementation of this development in accordance with principles of sustainability, including adaptation to climate change	ERj_K1_U03, ERj_K1_U09
	U2	formulate professional opinions in matters of sustainable development in rural areas	ERj_K1_U03, ERj_K1_U09
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to act supporting sustainable development in rural areas	ERj_K1_K05
	K2	to cooperate in teams solving problems concerning sustainable development and presenting achieved results	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		The importance of rural areas for sustainable development. Ways of integrating social, economic and natural goals ensuring sustainable development of rural areas. Instruments to support this form of development.	
Examination methods:		Test (written or computer based), Project, Assessment of activity during classes	

Subject name:		Agroecology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	agroecological and interactions of biotic and abiotic factors in agricultural systems	ERj_K1_W01, ERj_K1_W02, ERj_K1_W04, ERj_K1_W06, ERj_K1_W08
	W2	the scope of knowledge on the conservation of resources in agriculture	ERj_K1_W01, ERj_K1_W02, ERj_K1_W06
Skills: (In terms of skills, the graduate can)	U1	critically evaluate modern agricultural practices	ERj_K1_U01, ERj_K1_U03
	U2	evaluate the environmental impact of current agricultural systems and potential changes in agricultural systems	ERj_K1_U01, ERj_K1_U03
Social competences: (Within the scope of competence, the graduate is ready to)	K1	assessment of the environmental impact of the use of specific agricultural methods	ERj_K1_K01, ERj_K1_K03
Course content ensuring the achievement of learning outcomes:		Agroecology and protection of natural resources in agriculture. Fundamentals of sustainable agricultural practices and cultivation of selected species.	
Examination methods:		Written exam, Report, Assessment of speeches during classes	

Subject name:		Soil science	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	phenomena and processes in the soil environment	ERj_K1_W01, ERj_K1_W03
	W2	features and factors determining the properties of the soil environment and correctly interprets the relationships between the soil environment, plant and ecosystem	ERj_K1_W01, ERj_K1_W03
	W3	scope of soil protection needs	ERj_K1_W01, ERj_K1_W02
Skills: (In terms of skills, the graduate can)	U1	design and perform research tasks in the field of soil science under supervision	ERj_K1_U01, ERj_K1_U03
	U2	measure and evaluate the parameters and design a modification the condition of the soil environment in order to improve the conditions plant growth and soil environment	ERj_K1_U01, ERj_K1_U03
Social competences: (Within the scope of competence, the graduate is ready to)	K1	for individual work as well as cooperation and work in a group taking different roles in it to achieve the set goal	ERj_K1_K01
	K2	for social, professional and ethical responsibility for the condition of the soil environment	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Soil-forming factors shaping soils; soil processes shaping their physical and chemical properties; valuation and utility classification. Methods of determination of soil properties and their morphological structure. Self-assessment of suitability, fertility and fertility of soils.	
Examination methods:		Written exam, Written credit, Report, Assessment of work in the laboratory, Assessment of activity during classes	

Subject name:		Microbiology of soils and plants	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	function of microbial diversity for the environment, including soil, water, compost, silage, plants as well as organic plant cultivation	ERj_K1_W02, ERj_K1_W07
	W2	importance of microorganisms in the biogeochemical cycles of elements in nature and the processes of humification, composting and production of organic fertilizers, plant growth promotion and biocontrol.	ERj_K1_W02, ERj_K1_W07
Skills: (In terms of skills, the graduate can)	U1	the use of classic microbiological techniques to assess the microbiological quality of soil, water, air and silages. the isolation of microorganisms from soil, water and plants	ERj_K1_U12, ERj_K1_U14
Social competences: (Within the scope of competence, the graduate is ready to)	K1	the use of suitable safety rules and hygienic of work which leads to the development of suitable habits of working with soil and farm animals,	ERj_K1_K06
Course content ensuring the achievement of learning outcomes:		The role played by microorganisms (bacteria, actinomycetes and fungi) in processes related to agriculture: decomposition of organic matter, including water-soluble and insoluble substances (cellulose, hemicellulose, starch, lignin) in the soil environment, humus formation, production of composts and fertilizers organic. The role of microorganisms in the biogeochemical cycles of natural elements, such as carbon, nitrogen, sulfur, phosphorus, iron, etc. Various processes of fermentation of both agricultural and horticultural products.	
Examination methods:		Written exam, Written credit	

Subject name:		Animals physiology and nutrition	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Biochemical and physiological basics of the functioning of the various systems in the organism, with a particular focus on the digestive tract, as well as the influence of feed nutrients on the maintenance of proper homeostasis of the animal organism.	ERj_K1_W01, ERj_K1_W02, ERj_K1_W07
	W2	Issues in the field of feed production, its conservation, evaluation of quality and nutritional value.	ERj_K1_W05, ERj_K1_W09, ERj_K1_W13
	W3	Features of the feed that determine its good utilization by animals.	ERj_K1_W09, ERj_K1_W10, ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	Correctly select feeds for diets and concentrate mixtures for various species of livestock animals in the conditions of organic production.	ERj_K1_U01, ERj_K1_U02, ERj_K1_U14, ERj_K1_U15
	U2	Use the animal nutrition standards and nutritional recommendations, and can formulation the rations and mixtures according to the particular requirements of animals.	ERj_K1_U01, ERj_K1_U06, ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Application of the acquired knowledge and data obtained from the current literature and from experts in the preparation of oral presentations and written works with the use of computer techniques.	ERj_K1_K04, ERj_K1_K05
	K2	Implementation of individual or group tasks.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Structure and functions of: cells, tissues, organs and body systems, with particular emphasis on the digestive systems of farm animals. Assessment of the quality and selection of feed, standardization and composition of food rations depending on the species of farm animals and the direction of production. Methods of production, storage and preservation of fodder in organic production.	
Examination methods:		Written exam, Written credit, Presentation	

Subject name:		Basics of plant biochemistry and physiology	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	biochemical and physiological processes in plants	ERj_K1_W05
	W2	mechanisms regulating the general vital functions of plants and animals	ERj_K1_W07
	W3	the basic methods, techniques, tools and materials used to solve simple tasks in the field of study	ERj_K1_W08
Skills: (In terms of skills, the graduate can)	U1	to evaluate and interpret the basic biological parameters of plants in order to diagnose the physiological and biochemical status of plants	ERj_K1_U11
	U2	assess the nutritional value, including the content of bioactive components and use it in the production of organic food	ERj_K1_U16
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to work individually and in a group, assuming different roles in it, aiming to achieve the assumed goal	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		The molecular structure of living organisms and the occurrence, characteristics and regulation of general metabolic pathways, necessary to understand the basic life functions of plant and animal organisms. Life processes and functioning of plants, regulatory mechanisms during plant growth and development and the impact of environmental factors on these processes.	
Examination methods:		Written credit, Test (written or computer based), Assessment of work in the laboratory	

Subject name:		Basics of human nutrition	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	properties of food raw materials, as well as the principles of their use in human nutrition	ERj_K1_W05, ERj_K1_W06, ERj_K1_W07, ERj_K1_W09, ERj_K1_W13
	W2	demand for energy and nutrients in different population groups	ERj_K1_W02
	W3	the methods of assessing the human nutritional status	ERj_K1_W02, ERj_K1_W07
Skills: (In terms of skills, the graduate can)	U1	assess the nutritional value of food, including the content of bioactive compounds and use this knowledge in planning human nutrition	ERj_K1_U06
	U2	plan a menu adapted to the nutritional requirements of a specific population group	ERj_K1_U02, ERj_K1_U06
Social competences: (Within the scope of competence, the graduate is ready to)	K1	individual and group work, assuming different roles and striving to achieve the assumed goal	ERj_K1_K01, ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Methods of assessing food consumption and principles of proper nutrition. Diagnostic methods of nutritional status. The most important mistakes in nutrition and the relationship between diet and health. Typical diet-related diseases.	
Examination methods:		Written credit, Report, Assessment of speeches during classes	

Subject name:		Physical education	ECTS: 0
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how physical exercise affects the development and functioning of the body.	
	W2	the aspects of morphological, anatomical and physiological foundations of the functioning of the human body and the consequences and risks associated with lack of physical activity.	
	W3	how physical activity affects health at every stage of life.	
	W4	the relationship between effort and systematic work and the effect obtained.	
Skills: (In terms of skills, the graduate can)	U1	analyze the level of own physical fitness, correctly interpret and identify problems occurring during the performance of tasks and make the right decisions to solve them.	
	U2	prepare the body for the effort, control and assess the state of the body's efficiency, use the acquired movement habits in the correct performance of everyday motor activities.	
	U3	use various forms of physical activity taking into account the current state of health, physical capabilities and age.	
	U4	cooperate in a team with commitment and full responsibility in order to achieve a specific result.	
	U5	undertake tasks adequate to their own talents and abilities.	
Social competences: (Within the scope of competence, the graduate is ready to)	K1	control their own physical development at every stage, taking care of the body in health and illness.	
	K2	build social relationships and knows how to use it to achieve individual and team goals.	
	K3	take responsibility for the state of their own health and that of others, including their own family in the future.	
Course content ensuring the achievement of learning outcomes:		Familiarizing the student with safety rules in physical education classes. Provide the student with basic movements, movement and body function during the selected motor activity. Familiarizing the student with the rules and regulations in the selected sport discipline. Familiarizing the student with the organization and conduct of competitions as part of the selected physical activity.	
Examination methods:		Assessment of activity during classes	

Subject name:		Confirmation B2 - foreign language	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Skills: (In terms of skills, the graduate can)	U1	Use a foreign language at the B2 level.	ERj_K1_U08
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written exam	

Subject name:		Cropping system	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	current aims of agriculture and specific characters of plant production, natural environment and climatic and soil conditions for agriculture	ERj_K1_W06, ERj_K1_W11
	W2	systems of plant and tillage management and farming system	ERj_K1_W12
	W3	the role of soil organic matter and physical soil condition in soil quality and plant growth	ERj_K1_W06
Skills: (In terms of skills, the graduate can)	U1	evaluate the impact of different crops and tillage operations on soil organic matter and soil physical properties	ERj_K1_U05, ERj_K1_U06, ERj_K1_U14
	U2	optimize the organization of plant production at farm level in accordance with maintaining or improving environment and soil quality	ERj_K1_U08, ERj_K1_U12, ERj_K1_U13, ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	participate in the discussion in a language that is understandable and appropriate to the situation.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Current goals of agriculture and systems of cultivation of agriculture and plants, use of agricultural land in the world, plant production factors and the consequences of decisions made, especially those affecting the natural environment. Soil cultivation systems and their importance for the quality of the soil environment. Possibilities of improving soil fertility and quality, increasing the humus content. Principles of arranging crop rotation - a key element of the ecological economy.	
Examination methods:		Written exam, Written credit	

Subject name:		Plant breeding and seed material for organic agriculture	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	selected biological and physiological processes occurring in the plant and the plant canopy, taking into account the factors determining the size and quality of the yield.	ERj_K1_W05
	W2	methods, techniques and technologies as well as tools and materials allowing to maximize the yield and its quality in the conditions of organic farming.	ERj_K1_W08
Skills: (In terms of skills, the graduate can)	U1	identify and analyze phenomena and interactions between the achievements of natural sciences, especially in the field of organic farming, including organic food.	ERj_K1_U02
	U2	describe and design ways to optimize the conditions of organic plant production using the knowledge of methods, techniques, technologies, tools and materials as well as the potential of the environment in order to maximize the size and quality of the crop.	ERj_K1_U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	is aware of the importance of social, professional and ethical responsibility for ecological food production of high-quality food, animal welfare and the shaping and condition of the natural environment.	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Principles of classical genetics, issues of plant breeding and seed reproduction for organic farming. Selection of breeding methods suitable for the needs of organic farming, varieties suitable for cultivation in an organic system, local varieties and their importance for organic farming.	
Examination methods:		Written credit	

Subject name:		Controlling and certification system of organic production	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	economic functioning of world markets for agricultural and food products.	ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	to analyze and evaluate the economic effects of organic production.	ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to work individually and in a group, taking on different roles in the group, aiming to achieve the set goal.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Production, processing, trade and maintenance under various organic certification standards, with particular emphasis on European Union regulations and the control system and certification of organic production. Audit of certification bodies. Implementation and critical evaluation of own and other people's actions in order to improve the proposed solutions.	
Examination methods:		Project, Assessment of activity during classes	

Subject name:		Plant protection management in organic agriculture	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	knows the biology of the main pathogens and pests of crop plants	ERj_K1_W01, ERj_K1_W02, ERj_K1_W05
	W2	knows the issues related to plant protection organization	ERj_K1_W11
	W3	knows methods of control of major diseases and pests of plants	ERj_K1_W05, ERj_K1_W07, ERj_K1_W08, ERj_K1_W10, ERj_K1_W12
Skills: (In terms of skills, the graduate can)	U1	can identify pests and monitor their numbers	ERj_K1_U12, ERj_K1_U13, ERj_K1_U14
	U2	can identify the most important plant diseases based on etiology and symptoms	ERj_K1_U13, ERj_K1_U14
Social competences: (Within the scope of competence, the graduate is ready to)	K1	is ready to plan the protection of organic crops against pathogens and pests	ERj_K1_K03, ERj_K1_K04, ERj_K1_K06
Course content ensuring the achievement of learning outcomes:		Plant diseases and pests; methods of combating them, including biological control, acceptable on organic farms and the principles of creating and maintaining biological balance on an organic farm.	
Examination methods:		Written exam, Written credit	

Subject name:		Fertilization in organic system	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Nutrient resources in organic farming	ERj_K1_W02, ERj_K1_W10
	W2	Plant nutrients and their importance in shaping the quality of biomass of cultivated plants	ERj_K1_W05, ERj_K1_W07
	W3	Techniques for recycling and reuse of organic matter on and off the farm	ERj_K1_W08
Skills: (In terms of skills, the graduate can)	U1	Preparation of the balance of nutrients	ERj_K1_U14, ERj_K1_U16
	U2	Develop a critical viewpoint on fertilization methods	ERj_K1_U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Developing fertilization patterns for production	ERj_K1_K04
	K2	Preservation of the natural and productive soil functions and the need to produce high-quality crops	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Fertilization of plants, taking into account the nutritional needs of plants, soil properties and fertilizers. Principles of plant fertilization in organic farming, the impact of organic and conventional economy on the chemical composition of plants. Fertilizers used in organic farming, composting and compost use. Other fertilizers (animal and vegetable) that can be produced on an organic farm. Mineral fertilizers approved for use in organic farming.	
Examination methods:		Written exam	

Subject name:		Agricultural technologies for organic farming	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic methods, techniques and technologies as well as tools and materials allowing for the maximization of yield and its quality in conditions of organic farming	ERj_K1_W08
	W2	general knowledge of ecological breeding of basic livestock species and needed equipment	ERj_K1_W09
	W3	basic knowledge of environmental protection, the impact of organic agricultural production on the condition of the natural environment and the quality of organic food	ERj_K1_W10
Skills: (In terms of skills, the graduate can)	U1	acquire knowledge in the field of organic farming from various sources, analyze information and apply	ERj_K1_U01
	U2	identifies and analyzes phenomena and interactions between the achievements of natural sciences, especially in the field of organic farming, including organic food, including techniques and methods improving organic agriculture	ERj_K1_U02
Social competences: (Within the scope of competence, the graduate is ready to)	K1	is aware of the importance of social, professional and ethical responsibility for the ecological production of high-quality food, animal welfare and shaping and condition of the natural environment using specialized equipment and machines	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Machines and devices used in organic farming and with techniques used in organic plant and animal production. Methods of soil cultivation increasing humus content, reducing wind erosion, methods of mechanical weed control in various crops, methods of mechanization of plant harvesting processes, methods of mechanization of animal production recommended in the ecological system (according to animal welfare).	
Examination methods:		Written credit, Report, Assessment of speeches during classes	

Subject name:		Food microbiology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the microflora of various types of food and understand the dangers related to their presence and knows the methods of their elimination	ERj_K1_W01, ERj_K1_W07, ERj_K1_W13
	W2	microbiological processes of spoilage of raw materials and food products, and analyzes the factors influencing the microbiological quality of food.	ERj_K1_W01, ERj_K1_W07, ERj_K1_W13
	W3	beneficial microorganisms and their role in food fermentation	ERj_K1_W01, ERj_K1_W07, ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	use basic and quick diagnostic methods in assessment of the microbiological quality of raw materials and various types of food	ERj_K1_U14, ERj_K1_U16, ERj_K1_U17
Social competences: (Within the scope of competence, the graduate is ready to)	K1	counteracting food spoilage in the professional and private environment	ERj_K1_K02, ERj_K1_K06
Course content ensuring the achievement of learning outcomes:		Characteristic groups of microorganisms causing contamination of raw materials and various types of food products, the influence of factors on the microbiological quality of food, characteristics of food-borne pathogens and the role of beneficial microorganisms in food fermentation.	
Examination methods:		Written credit, Report	

Subject name:		Raw materials and ecological products	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the properties of plant and animal raw materials, including organic raw materials	ERj_K1_W13
	W2	the principles and methods of using plant and animal raw materials, including organic raw materials	ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	analyze the factors influencing the quality of organic raw materials and products and assess the nutritional value, including the content of bioactive compounds, and use this knowledge in the production of organic food	ERj_K1_U14
	U2	analyze and interpret a read scientific and technical text as well as experimental facts using the language typical for a given discipline of knowledge	ERj_K1_U05
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to work individually and in a group, taking different roles and aiming to achieve the assumed goal	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Characteristics of the basic groups of food raw materials of plant and animal origin. Commodity characteristics of organic vegetables, fruits, root crops and cereals as well as meat, milk and eggs. Evaluation of selected raw materials in terms of their suitability for direct consumption, processing and storage.	
Examination methods:		Test (written or computer based), Report, Presentation	

Subject name:		Mathematical statistic	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Has knowledge of the selection of basic statistical methods (in the range necessary for elementary applications).	ERj_K1_W03
Skills: (In terms of skills, the graduate can)	U1	has the ability to use computational programs in analysing natural phenomena	ERj_K1_U04
	U2	is able to demonstrate the skills of statistical analysis in relation to his biological knowledge, performing basic statistical analysis and presenting the resulting conclusions	ERj_K1_U04
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Seeks to use and expand their knowledge based on statistical analysis	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Fundamentals of statistics and main methods of analyzing data from observations and experimental studies. Description, analysis and interpretation of biological data and the ability to select statistical methods for proper inference based on variable types.	
Examination methods:		Written exam, Written credit, Assessment of activity during classes	

Subject name:		Organic grassland farming	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the general principles of management and rational fertilization of meadows and pastures, the most common ways of forage conservation from grassland (hay and silage), basic causes of sward degradation of meadow and pasture, the most important methods of grassland renovation.	ERj_K1_W05, ERj_K1_W08, ERj_K1_W10, ERj_K1_W12, ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	recognize and determine the fodder value of basic plant species on grasslands, choose the basic species of grasses and legumes for habitat conditions and way of utilization, design simple grassy-clover mixtures	ERj_K1_U01, ERj_K1_U05, ERj_K1_U14
	U2	design a pasture for rotational grazing system (determine the number of paddocks, area of paddock and area of the whole pasture) for a specified number of ruminants, measure and assess the basic yield parameters of meadow sward, calculate the yield and determine its value.	ERj_K1_U06, ERj_K1_U09, ERj_K1_U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to formulate professional opinions about the usefulness of grasslands for production of fodder on the basis of the vegetation, to formulate professional opinions on the establishment and management on grassland in organic farms.	ERj_K1_K02, ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Ecological principles of development and use of meadows and pastures, the importance of grasslands in ecological farms, species used when establishing grasslands depending on the type of use, type of soil and local habitat conditions. Grassland vegetation and meadow vegetation in their natural habitats and the possibilities of farming in meadows and pastures in ecological farms.	
Examination methods:		Written exam, Written credit, Oral credit, Assessment of activity during classes	

Subject name:		Organic crops	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Agricultural plant species (field crops) and their economic role	ERj_K1_W05, ERj_K1_W12
	W2	habitat requirements of individual field crop species	ERj_K1_W07, ERj_K1_W08, ERj_K1_W12
	W3	organic cultivation technologies for individual agricultural crop species	ERj_K1_W12
Skills: (In terms of skills, the graduate can)	U1	recognize seeds and plants of crops at different stages of development	ERj_K1_U06, ERj_K1_U13
	U2	discuss the morphological structure of plants and their chemical composition in different stages of development, know how to choose the right species and variety for organic cultivation under specific habitat conditions.	ERj_K1_U01, ERj_K1_U05, ERj_K1_U09, ERj_K1_U10
	U3	argue effectively and be an active participant in discussions about the importance of organic crop production in agribusiness.	ERj_K1_U13, ERj_K1_U14, ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	make decisions about the level of agrotechnical factors used to optimize cultivation technology.	ERj_K1_K02, ERj_K1_K03, ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Organic plant production, origin, economic importance and directions of use of field crop plant species, their growth and development against the background of soil and climatic requirements, botanical and biological characteristics and possible variability of plants in a field, cultivars and principles of their zoning as well as ecological production technologies and their impact on the yield of individual species.	
Examination methods:		Written exam, Written credit, Oral credit	

Subject name:		Weeds and weed management in organic farming	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the biology, occurrence and economic harmfulness of weeds and the relationship between crops and weeds	ERj_K1_W01, ERj_K1_W02
	W2	the possibilities of weed control in organic farming	ERj_K1_W05, ERj_K1_W12
Skills: (In terms of skills, the graduate can)	U1	recognizes the most important weed species and estimates the weed infestation	ERj_K1_U06, ERj_K1_U13, ERj_K1_U14
	U2	determines the methods of weed control depending on the crop and weed infestation	ERj_K1_U06, ERj_K1_U13, ERj_K1_U14
Social competences: (Within the scope of competence, the graduate is ready to)	K1	an active attitude in the field of self-education	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Biology and occurrence of weeds in cultivated plants and their economic harmfulness. Evaluation of weed infestation depending on habitat conditions and the possibility of weed control in organic farming.	
Examination methods:		Written credit, Project, Assessment of activity during classes, Oral credit	

Subject name:		Methodology of scientific research	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the phenomena that make up the functioning of living organisms as well as inanimate nature at various levels of its organization	ERj_K1_W01
Skills: (In terms of skills, the graduate can)	U1	acquire and accumulate knowledge in the field of organic farming from various sources, analyze information and make conclusions, and constantly expand the acquired knowledge in the process of self-education	ERj_K1_U01
	U2	identifies and analyzes phenomena and interactions between the achievements of natural sciences, especially in the field of organic farming, including organic food.	ERj_K1_U02
Social competences: (Within the scope of competence, the graduate is ready to)	K1	understands the need for lifelong learning and professional development	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Preparing and conducting scientific research. Searching for and using scientific literature, preparing scientific presentations, as well as starting discussions and defending one's own views.	
Examination methods:		Presentation, Assessment of activity during classes	

Subject name:		Livestock production in organic farming	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the species of ruminant and monogastric animals and understands their different physiology and their use in organic farming. Knows the factors affecting the quality of raw material of animal origin.	ERj_K1_W02, ERj_K1_W04, ERj_K1_W09
Skills: (In terms of skills, the graduate can)	U1	is able to carry out activities related to running organic farms (selection of location, selection of animals, provision of fodder and welfare, legislative criteria).	ERj_K1_U01, ERj_K1_U02, ERj_K1_U05, ERj_K1_U08, ERj_K1_U09
Social competences: (Within the scope of competence, the graduate is ready to)	K1	assess the actual state of development of organic animal production.	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Methods of improving animal production in organic farming and the conditions of keeping individual animal species, nutrition, use and rearing, in accordance with the requirements of applicable legal acts, welfare and environmental protection.	
Examination methods:		Written exam, Oral credit	

Subject name:		Organic vegetable and fruit production	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	issues on the biology of fruit species.	ERj_K1_W01
Skills: (In terms of skills, the graduate can)	U1	assess the possibilities of introducing new cultivation techniques and systems in the production of fruit species.	ERj_K1_U01
	U2	critically evaluate various cultivation systems.	ERj_K1_U12
	U3	develop a cultivation plan for field production systems of fruit species.	ERj_K1_U14
Social competences: (Within the scope of competence, the graduate is ready to)	K1	take responsibility for the production of high-quality organic food.	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Concepts related to organic fruit production. Principles of ecological cultivation of fruit species, botanical characteristics and cultivation requirements of specific species of fruit plants.	
Examination methods:		Written exam, Written credit	

Subject name:		Food Safety Hazards	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the range of food hazards, their occurrence in food and effects on human health, the main sources of foodstuffs' contamination, the methods of elimination and reduction of their occurrence and the main techniques used in monitoring and diagnostics of food hazards.	ERj_K1_W10, ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	analyze and assess the problem of the occurrence of chemical and physical hazards in food and its scale on the basis of data from the activities of the official food control authorities and/ or available scientific research.	ERj_K1_U05, ERj_K1_U07, ERj_K1_U14
Social competences: (Within the scope of competence, the graduate is ready to)	K1	comply with occupational health and safety rules in relation to oneself and employees	ERj_K1_K06
Course content ensuring the achievement of learning outcomes:		Biological, chemical and physical threats to food, their sources, with particular emphasis on organic farming products. Characteristics of the impact of food processing and storage on the level of contaminants and pathogens and methods of reducing the risk of their collection.	
Examination methods:		Test (written or computer based), Written credit, Presentation	

Subject name:		Study trip to organic farm	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Has basic knowledge of the legal framework and principles of organic farming. Understands the specificity and separateness of this management methods.	ERj_K1_W04, ERj_K1_W11, ERj_K1_W14
	W2	Has knowledge about philosophical trends and the history of organic agriculture.	ERj_K1_W04, ERj_K1_W11
	W3	Knows what non-agricultural development opportunities are possible on organic farm.	ERj_K1_W04, ERj_K1_W11
Skills: (In terms of skills, the graduate can)	U1	Can assess the possibility of introducing new techniques and solutions to organic production standards.	ERj_K1_U06, ERj_K1_U10
	U2	Can formulate professional opinions of organic development and management.	ERj_K1_U10, ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Can propose actions supporting multifunctional development for organic farm.	ERj_K1_K03, ERj_K1_K05
	K2	Can use traditional and modern methods to optimize the organic production process.	ERj_K1_K01, ERj_K1_K03, ERj_K1_K05
Course content ensuring the achievement of learning outcomes:		Understanding the organic food production system and the links between theory and practice. Visiting farms and analyzing several cases of organic systems and practices.	
Examination methods:		Written credit, Presentation	

Subject name:		Conversion of the farm into organic system I	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Has basic knowledge about the rules of conversion from conventional to organic production methods	ERj_K1_W07, ERj_K1_W08, ERj_K1_W11, ERj_K1_W12
Skills: (In terms of skills, the graduate can)	U1	Can plan the overal concept of farm conversion depending on the type of production and local conditions	ERj_K1_U09, ERj_K1_U10, ERj_K1_U13, ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Can make decision about the method of farm conversion to the ecological direction.	ERj_K1_K02, ERj_K1_K03, ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Farm management in the period of conversion from conventional to organic production methods. Legal regulations and general conversion rules depending on the location, type of farm and possible directions of production.	
Examination methods:		Written credit, Project	

Subject name:		Processing of organic plant raw materials	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	knows the organic properties of raw materials of plant origin, as well as methods and principles of their safe application; plans the technologies of their production taking into account biological, chemical and physical threats to food safety	ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	demonstrates knowledge of advanced food production technologies in fruit- vegetable and cereal industries taking into account potential food safety hazards and ways to eliminate the resulting risk	ERj_K1_U17
Social competences: (Within the scope of competence, the graduate is ready to)	K1	is aware of the importance of social, professional and ethical responsibility for the organic production of high-quality food and the shaping and state of the natural environment	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Criteria for the processing of ecological raw materials of plant origin. Separation of rules and procedures in organic and conventional processing. Selected processing technologies used in the fruit and vegetable and grain industry, including machinery and equipment. Ecological processing in the world and in Poland. Organic food market of plant origin.	
Examination methods:		Written exam, Written credit	

Subject name:		Food safety and hygiene	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	knows and understands the principles of safe food production including biological, chemical and physical food hazards	ERj_K1_W13
	W2	knows and understands the legal conditions for the production and processing of organic food in terms of safety and hygiene	ERj_K1_W04
Skills: (In terms of skills, the graduate can)	U1	can prepare documentation of food safety and quality systems	ERj_K1_U08, ERj_K1_U17
Social competences: (Within the scope of competence, the graduate is ready to)	K1	is ready to take the responsibility for ecological production of high quality food	ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Food hygiene understood as creating conditions for the production of high-quality food, which is above all safe from the point of view of consumer health.	
Examination methods:		Written exam, Project, Report, Presentation, Assessment of work in the laboratory	

Subject name:		Ecological aspects of food and nutrition	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	has knowledge about organic production and its impact on the quality of the produced agricultural crops	ERj_K1_W02, ERj_K1_W13
	W2	has knowledge about the wholesomeness, nutritional, sensory, and for storage quality of organic raw materials of plant and animal origin	ERj_K1_W02, ERj_K1_W13
	W3	knows the basic methods of techniques, tools and materials for the determination of the content of chemical compounds in raw materials and plant products	ERj_K1_W08
	W4	knows the organic food labelling system and the distribution channels and the national market for organic production	ERj_K1_W04, ERj_K1_W08, ERj_K1_W14
Skills: (In terms of skills, the graduate can)	U1	identifies and standardises phenomena affecting production, food quality, animal and human health, the state of the environment and natural resources	ERj_K1_U02, ERj_K1_U17
	U2	is able to assess the suitability of routine methods and tools for solving a simple engineering task of a practical nature, specific to his/her field of study, and to select and apply the appropriate method and tools	ERj_K1_U02, ERj_K1_U05, ERj_K1_U06, ERj_K1_U07
Social competences: (Within the scope of competence, the graduate is ready to)	K1	is aware of the importance of social, professional and ethical responsibility for the production of quality food, animal welfare and the shaping and condition of the environment	ERj_K1_K03, ERj_K1_K04
	K2	can interact and work in a group, taking on a variety of roles	ERj_K1_K02, ERj_K1_K05
	K3	is aware of the importance of and understands the non-technical aspects and implications of engineering activities, including their impact on the environment, and the associated responsibility for decision-making.	ERj_K1_K04, ERj_K1_K05, ERj_K1_K06
Course content ensuring the achievement of learning outcomes:		Ecological aspects of food and nutrition. The relationship between the environment and food quality and between food quality and human health. Organic agricultural production methods as safer and more environmentally friendly, as well as a guarantee of better crop quality. Assess food quality through holistic criteria, including environmental and social impact. Organic food as part of a healthy eating formula.	
Examination methods:		Written credit, Presentation	

Subject name:		Processing of organic animal raw materials	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	criteria for the processing of organic raw materials of animal origin. Understands the distinctness of rules and procedures in organic and conventional processing.	ERj_K1_W04
	W2	selected processing technologies used in the meat and dairy industry.	ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	apply appropriate technologies for the processing of organic raw materials of animal origin.	ERj_K1_U17
Social competences: (Within the scope of competence, the graduate is ready to)	K1	individual and group work, assuming different roles in it, aiming to achieve the set goal.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		Criteria for the processing of organic raw materials of animal origin. Separateness of rules and procedures in organic and conventional processing. Selected processing technologies used in the meat and dairy industry, including machines and devices.	
Examination methods:		Written credit, Short test papers and / or reports on laboratory classes	

Subject name:		International agricultural markets	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	economic issues about the functioning of world markets for agricultural and food products	ERj_K1_W14
Skills: (In terms of skills, the graduate can)	U1	to analyze and evaluate the economic effects of organic production.	ERj_K1_U10
Social competences: (Within the scope of competence, the graduate is ready to)	K1	individual and group work, assuming different roles in it, aiming to achieve the set goal.	ERj_K1_K02
Course content ensuring the achievement of learning outcomes:		International trade in agricultural and food products, both in terms of exports and imports. Practical professional skills in prospective analysis of economic factors, e.g. such as price volatility. How these factors affect food chain stakeholders on an annual or medium-term basis and are used to prepare and negotiate political, including trade, decisions.	
Examination methods:		Assessment of activity during classes, Project, Assessment of speeches during classes	

Subject name:		Diploma seminar	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the phenomena that make up the functioning of living organisms as well as inanimate nature at various levels of its organization	ERj_K1_W01
Skills: (In terms of skills, the graduate can)	U1	to acquire and gather knowledge in the field of organic farming from various sources, analyze information and inferences, and constantly expand the acquired knowledge in the process of self-education	ERj_K1_U01
	U2	identifies and analyzes phenomena and interactions between the achievements of natural sciences, especially in the field of organic farming, including organic food	ERj_K1_U02
Social competences: (Within the scope of competence, the graduate is ready to)	K1	understands the need for lifelong learning and professional development	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Verification of the working hypothesis set in the bachelor's thesis, presenting the results of the work, conducting a substantive discussion on the presented results, evaluating the presentation, discussing selected aspects of knowledge in the field of the subject of the work being carried out.	
Examination methods:		Presentation	

Subject name:		Study trip to organic processing plant	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Has a basic knowledge of the legal framework and principles of organic production. Understands the specificity and distinctiveness of this farming method	ERj_K1_W04, ERj_K1_W11
	W2	Has an understanding of the principles governing businesses in the organic products sector	ERj_K1_W04, ERj_K1_W14
	W3	Knows the constraints and opportunities for the processing and distribution of organic products	ERj_K1_W04, ERj_K1_W11, ERj_K1_W14
Skills: (In terms of skills, the graduate can)	U1	Be able to evaluate the possibility of introducing new techniques and solutions to organic production standards	ERj_K1_U13, ERj_K1_U15
	U2	Be able to formulate professional opinions on the development of organic food processing and distribution	ERj_K1_U13, ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Propose actions which support the development of an organic enterprise	ERj_K1_K01, ERj_K1_K05
	K2	Apply traditional and modern methods to optimise the organic production process	ERj_K1_K01, ERj_K1_K03, ERj_K1_K05
	K3	Evaluate health risks for consumers in the organic production chain	ERj_K1_K04, ERj_K1_K06
Course content ensuring the achievement of learning outcomes:		Organic production system with particular emphasis on processing and trade. Links between theory and practice. Visiting companies involved in the processing and distribution of organic food and analyzing their functioning.	
Examination methods:		Written credit, Presentation	

Subject name:		Economics and organization of organic farms	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the concept of economics and organization of farms	ERj_K1_W04
	W2	the factors of production and investment activity in farms	ERj_K1_W14
Skills: (In terms of skills, the graduate can)	U1	perform an analyses and assessment of production activity and economic results of a farm	ERj_K1_U03
	U2	prepare calculation of profitability of production	ERj_K1_U10
Social competences: (Within the scope of competence, the graduate is ready to)	K1	recognize of the importance of knowledge in the field of economics and organization of enterprises and use of its sources	ERj_K1_K03
Course content ensuring the achievement of learning outcomes:		Problems of functioning of farms and agricultural enterprises and their relations with the environment. Evolution of socio-organizational and legal forms of farms and agricultural enterprises, production factors, the basis for measuring production and economic effects, economic calculation, useful in making decisions related to the selection of production activities, selection of technology and the level of production intensity. Characteristics of Polish agriculture against the background of the European Union. Methods of farm resources analysis and plant and animal production analysis. Categories of production, costs, inputs and income on a farm. Preparation of agricultural calculations, gross margin account, economic account. Time value of money. Methods of assessing the effectiveness of investments, VAT in agriculture.	
Examination methods:		Written credit, Assessment of activity during classes	

Subject name:		Conversion of the farm into organic system II	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Has knowledge about the rules of conversion from conventional to organic production methods	ERj_K1_W07, ERj_K1_W08, ERj_K1_W10, ERj_K1_W11, ERj_K1_W12
Skills: (In terms of skills, the graduate can)	U1	Can plan the farm conversion depending on the type of farm	ERj_K1_U09, ERj_K1_U12, ERj_K1_U13, ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Can make decision about the method of farm conversion to the ecological direction.	ERj_K1_K02, ERj_K1_K03, ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Advanced knowledge of farm conversion from conventional to organic production methods, taking into account the environmental and economic effects on the farm.	
Examination methods:		Written credit, Project	

Subject name:		Herbs in organic farming	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the terminology used in herbal production; the importance of biodiversity among medicinal and aromatic plants (MAPs); the most important groups of biologically active compounds present in MAPs, and their activity; factors affecting the quality of herbal raw materials; methods of their quality assessment; rules of organic cultivation and collection of wild-growing species and postharvest treatment of herbal raw materials.	ERj_K1_W04, ERj_K1_W05, ERj_K1_W08, ERj_K1_W10, ERj_K1_W12, ERj_K1_W13
Skills: (In terms of skills, the graduate can)	U1	identify the most important medicinal and aromatic plants (MAPs) and their raw materials; use herbal raw materials in organic production; obtain herbal raw materials from organic cultivation and wild-growing plants, including their post-harvest processing; carry out care treatments in organic cultivation of these plants; carry out a basic assessment of the quality of herbal raw materials.	ERj_K1_U11, ERj_K1_U13, ERj_K1_U14, ERj_K1_U15, ERj_K1_U16
Social competences: (Within the scope of competence, the graduate is ready to)	K1	act in accordance with the principles of ethics in organic production of medicinal and aromatic plants and to keep an active attitude in the learning process.	ERj_K1_K01, ERj_K1_K02, ERj_K1_K03, ERj_K1_K04
Course content ensuring the achievement of learning outcomes:		Characteristics of herbal plants, with particular emphasis on medicinal and aromatic plants, and an indication of their economic importance. Agrotechnics of cultivated medicinal plants and principles of wild herbs collection. The most important characteristics of the quality of raw materials derived from medicinal plants (especially in terms of biologically active compounds present in them). Practical identification of plants and selected herbal raw materials. Methods of treatment and processing of herbal raw materials. Methods of assessing the quality of herbal raw materials (macroscopic, microscopic, chemical and instrumental assessment). Visit to farms involved in the cultivation of medicinal and aromatic plants.	
Examination methods:		Written credit, Test (written or computer based), Assessment of activity during classes	

Subject name:		Entrepreneurship in organic business	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Knows the general principles of creating, developing and operating enterprises	ERj_K1_W12, ERj_K1_W14
Skills: (In terms of skills, the graduate can)	U1	Interprets market situations and the related opportunities for action	ERj_K1_U09, ERj_K1_U10
	U2	Can work both individually and in a team with the awareness of responsibility for his work and the effects of team activities.	ERj_K1_U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Competence to act in an entrepreneurial manner, taking into account the public interest and preserving environmental values.	ERj_K1_K05
Course content ensuring the achievement of learning outcomes:		The concept and essence of entrepreneurship. Entrepreneur and enterprise. Types of enterprises. Organizational and legal forms of enterprises. Project planning. Providing resources and conditions for implementing the entrepreneurial plan. Managing a small business. Institutions and forms supporting entrepreneurship. An innovative enterprise. Risk and ways to deal with it. Local and international entrepreneurship.	
Examination methods:		Project, Assessment of activity during classes	

Subject name:		Diploma seminar	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the phenomena that make up the functioning of living organisms as well as inanimate nature at various levels of its organization	ERj_K1_W01
Skills: (In terms of skills, the graduate can)	U1	to acquire and gather knowledge in the field of organic farming from various sources, analyze information and inferences, and constantly expand the acquired knowledge in the process of self-education	ERj_K1_U01
	U2	identifies and analyzes phenomena and interactions between the achievements of natural sciences, especially in the field of organic farming, including organic food	ERj_K1_U02
Social competences: (Within the scope of competence, the graduate is ready to)	K1	understands the need for lifelong learning and professional development	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Verification of the working hypothesis set in the bachelor's thesis, presenting the results of the work, conducting a substantive discussion on the presented results, evaluating the presentation, discussing selected aspects of knowledge in the field of the subject of the work being carried out.	
Examination methods:		Presentation	

Subject name:		BSC thesis	ECTS: 10
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	knows the phenomena that make up the functioning of living organisms as well as inanimate nature at various levels of its organization	ERj_K1_W01
Skills: (In terms of skills, the graduate can)	U1	is able to acquire and gather knowledge in the field of organic farming from various sources, analyze information and inferences, and constantly expand the acquired knowledge in the process of self-education	ERj_K1_U01, ERj_K1_U03
	U2	identifies and analyzes phenomena and interactions between the achievements of natural sciences, especially in the field of organic farming, including organic food	ERj_K1_U02, ERj_K1_U05, ERj_K1_U06
Social competences: (Within the scope of competence, the graduate is ready to)	K1	understands the need for lifelong learning and professional development	ERj_K1_K01
Course content ensuring the achievement of learning outcomes:		Preparing a literature review on a selected topic, planning an expert opinion or experiment, conducting it using known available methods, taking measurements and analyzing the results. Description of the entire procedure with a review of the literature in the bachelor thesis.	
Examination methods:		Oral exam	

Programme indicators

2024/25/S_D/1/ROL/ERj/all

Name	Value
Potwierdzenie – na podstawie planu studiów, że student realizuje zajęcia z dziedziny nauk humanistycznych i/lub społecznych, którym przypisano nie mniej niż 5 punktów ECTS	15
Potwierdzenie – na podstawie planu studiów, że student ma możliwość wyboru zajęć, którym łącznie przypisano liczbę punktów ECTS nie niższą niż 30% ECTS określonych dla programu tych studiów	55/180 (30.56%)
Potwierdzenie, że program studiów o profilu ogólnoakademickim obejmuje zajęcia związane z prowadzoną w uczelni działalnością naukową, w wymiarze większym niż 50% liczby punktów ECTS, określonej dla programu tych studiów	92/180 (51.11%)
Potwierdzenie, że liczba punktów ECTS uzyskanych w programie studiów poprzez realizację zajęć z wykorzystaniem metod i technik kształcenia na odległość jest nie wyższa niż 75% ogólnej liczby punktów ECTS w programie studiów o profilu ogólnoakademickim	0/180 (0%)
Liczba godzin w programie	2218