UNIVERSITY OF AGRICULTURE IN KRAKOW
FACULTY OF BIOTECHNOLOGY AND HORTICULTURE

Description of the assumed learning outcomes

Annex No. 1 to the Senate Resolution No. 107/2017 dated 21.12.2017

Master program:	**International Master of Horticultural Science**
Degree of studies:	II (master of science)
Title of qualifications:	Master of Science Engineer
Educational profile:	academic
Polish Qualification Framework:	P7S
Classification according to area or area of education:	single area studies, agricultural, forestry and veterinary sciences – area of horticulture science

AREA EFFECTS

Area effects symbol/ references to the educational results for the field of study	Description of an area effect – educational results in the field of agricultural, forestry and veterinary sciences
KNOWLEDGE – the graduate knows and understands:	
R/P7S_WG/1 OGR2_W01	in-depth basic theories in biology and related sciences as well as statistics and experimentation giving theoretical foundations for the key issues of the discipline of horticulture
R/P7S_WG/1 OGR2_W02	in-depth methodology of scientific research
R/P7S_WG/2 R/P7S_WG/3 OGR2_W03	in-depth the complexity of issues related to: biodiversity, the impact of agricultural activities on the natural environment, natural and cultural landscape, the importance of good agricultural practices for shaping and protecting the environment and sustainable development of rural areas
R/P7S_WG/2 R/P7S_WG/3 OGR2_W04	to an extended degree ecological processes occurring in the biosphere, including the relationships between living organisms, as well as between living organisms and inanimate nature, and the resulting practical problems of plant production and the quality of horticultural products
R/P7S_WG/4 OGR2_W05	in-depth techniques and technologies used in horticultural production in the field of major subjects: pomiculture, vegetable growing, ornamental plants and biotechnological methods of plant improvement as well as sciences related to the discipline of horticulture
R/P7S_WG/4 OGR2_W06	development trends in horticultural production and the most important achievements of science and technology applicable to the production and storage of horticultural plants and the improvement of arable crops

Area effects symbol/ references to the educational results for the field of study	Description of an area effect – educational results in the field of agricultural, forestry and veterinary sciences
R/P7S_WG/4 OGR2_W07	ethical, economic and legal conditions related to scientific, didactic and implementation activities in the field of broadly defined horticulture
R/P7S_WK/1 OGR2_W08	the importance and principles of agricultural advisory in relation to cognitive (orientation), decision-making and execution (implementation) problems in horticultural production
SKILLS – the graduate can:	
R/P7S_UW/1 OGR2_U01	independently plan and implement their own learning as well as search, analyze and use information on plant production, including online tools, databases and search engines for scientific publication
R/P7S_UW/1 OGR2_U02	creatively use information from various sources in order to independently formulate the assumptions of the project of scientific experiment in the field of horticulture and to select the optimal research strategy
R/P7S_UW/1 OGR2_U03	perform research and design tasks related to horticultural production, shaping green areas and related issues in the field of agricultural and natural sciences using the experimental and analytical methods learned
R/P7S_UW/1 OGR2_U04	correctly interpret the results and draw conclusions from independently conducted experiments and results of research from other sources presented for the assessment
R/P7S_UW/2 OGR2_U05	use advanced analytical methods, IT technologies, operate specialized equipment used in horticultural and agricultural sciences, including specialized software applicable in horticultural production
R/P7S_UW/2 OGR2_U06	undertake activities based on specialized techniques and methods of their optimization, allowing for the improvement of productivity and quality of horticultural production
R/P7S_UW/3 OGR2_U07	select appropriate methods, techniques, technologies, tools and materials for addressing specific issues related to the horticultural production and shaping green areas
R/P7S_UW/3 OGR2_U08	take actions or modify them using appropriate techniques and technologies, aimed at optimal use of available natural resources in horticultural production in a sustainable manner that does not result in the deterioration of the environment
R/P7S_UW/1 OGR2_U09	independently prepare thesis in the field of horticulture, as well as agricultural and natural sciences, using appropriate theoretical approaches based on information obtained from many sources
R/P7S_UK/1 OGR2_U10	prepare an oral presentation on horticultural issues, as well as agricultural and natural sciences, communicate on specialized issues with various recipients and lead a debate
R/P7S_UK/2 OGR2_U11	communicate in a foreign language at B2+ level of the Common European Framework of Reference for Languages and use scientific literature in the field of agricultural sciences, technical studies and prepare texts concerning issues of horticulture
SOCIAL COMPETENCES – the graduate is ready for:	
R/P7S_KK/1 OGR2_K01	critical assessment of received content, recognition of the importance of knowledge in solving cognitive and practical problems, continuous learning and orientation of others in this area

Area effects symbol/ references to the educational results for the field of study	Description of an area effect – educational results in the field of agricultural, forestry and veterinary sciences
R/P7S_KR/1 OGR2_K02	accepting responsibility for one's own work, complying with the rules of working in a team, and taking responsibility for jointly implemented tasks
R/P7S_KR/2 OGR2_K03	recognition of the importance of acting in a professional manner and increasing the importance of social, professional and ethical responsibility for the production of high quality food and the formation and status of the natural environment, developing the professional achievements and maintaining the professional ethos
R/P7S_KO/1 OGR2_K04	fulfilling social obligations, inspiring and organizing activities for the social environment

ENGINEERING COMPETENCES

Symbol	Description of the educational result of engineering competences
KNOWLEDGE – the graduate knows and understands:	
P7S_WG OGR2_W04	to an extended degree ecological processes occurring in the biosphere, including the relationships between living organisms, as well as between living organisms and inanimate nature, and the resulting practical problems of plant production and the quality of horticultural products
P7S_WG OGR2_W05	in-depth techniques and technologies used in horticultural production in the field of major subjects: pomiculture, vegetable growing, ornamental plants and biotechnological methods of plant improvement as well as sciences related to the discipline of horticulture
P7S_WG P7S_WK OGR2_W06	development trends in horticultural production and the most important achievements of science and technology applicable to the production and storage of horticultural plants and the improvement of arable crops
SKILLS – the graduate can:	
R/P7S_UW/1 OGR2_U03	perform research and design tasks related to horticultural production, shaping green areas and related issues in the field of agricultural and natural sciences using the experimental and analytical methods learned
R/P7S_UW/1 OGR2_U04	correctly interpret the results and draw conclusions from independently conducted experiments and results of research from other sources presented for the assessment
R/P7S_UW/2 OGR2_U05	use advanced analytical methods, IT technologies, operate specialized equipment used in horticultural and agricultural sciences, including specialized software applicable in horticultural production
R/P7S_UW/2 OGR2_U06	undertake activities based on specialized techniques and methods of their optimization, allowing for the improvement of productivity and quality of horticultural production
R/P7S_UW/3 OGR2_U07	select appropriate methods, techniques, technologies, tools and materials for addressing specific issues related to the horticultural production and shaping green areas
R/P7S_UW/3 OGR2_U08	take actions or modify them using appropriate techniques and technologies, aimed at optimal use of available natural resources in horticultural production in a sustainable manner that does not result in the deterioration of the environment

Education results

P 7 – **Polish Qualification Framework** – level 7
S – characteristics typical for qualifications acquired in higher education
W – knowledge
G – profundity and scope
K – context
U – skills
W – use of knowledge
K – communication
O – organization of work
U – learning
K – social competences
K – critical assessment
O – responsibility
R – professional role
OGR2 – Education results in the field of *Horticulture*, 2nd degree studies
01, 02, 03 …. – the number of education result