Description of the learning outcomes defined for study programmes in relation to the characteristics of the second level of the Polish Qualification Framework for qualifications at levels 6-7 obtained within the system of higher education and science after obtaining a full qualification at level 4.

FIELD OF STUDY: **Genetics and experimental biology**		
SCIENTIFIC DISCIPLINES: **Biological sciences 100%** (percentage share)		
LEVEL OF EDUCATION: level 6 of the Polish Qualifications Framework (PRK)		
PROFILE OF EDUCATION: general academic		
LEARNING OUTCOMES FOR THE FIELD OF STUDY		
Symbol of the learning outcomes for the study programme	Upon completion of the first-cycle studies at the field of study **Genetics and experimental biology** the graduate will obtain learning outcomes in the following areas:	Reference to the second-cycle PRK characteristics *(kody)*
KNOWLEDGE		
K_W01	Possesses knowledge in chemistry necessary for understanding and interpretation of biological processes.	P6S_WG
K_W02	Possesses knowledge of statistical and informatics methods and tools, and understands their role in the description and interpretation of experiments and biological phenomena and processes.	P6S_WG
K_W03	Knows in detail the structure of cells, tissues, and organisms, as well as their developmental stages.	P6S_WG
K_W04	Has an advanced knowledge of biomolecule structure and functions, and of the biochemical principles of cell functioning.	P6S_WG

K_W05	Has an advanced understanding of the molecular mechanisms regulating physiological processes in the cell and the organism.	P6S_WG
K_W06	Has an advanced understanding of classical genetics and the mechanisms of genetic variations in organisms.	P6S_WG
K_W07	Possesses advanced knowledge of molecular genetics, including gene expression regulation and genetic information transfer, identifies the risks of genetic engineering.	P6S_WG P6S_WK
K_W08	Is familiar with modern research techniques and tools used in genetics, experimental biology, biochemistry, and related fields.	P6S_WG
K_W09	Has an advanced understanding of the molecular and genetic regulatory mechanisms of developmental processes.	P6S_WG
K_W10	Knows current research trends and issues in genetics and experimental biology and their connections with other natural sciences.	P6S_WG
K_W11	Knows recent advances in genetics and experimental biology and understands the need for their application in the context of biodiversity conservation in the natural environment and socio-economic applications.	P6S_WG P6S_WK
K_W12	Understands evolutionary mechanisms and knows the basics of organism classification.	P6S_WG
K_W13	Is familiar with safety rules and procedures for handling biological and chemical agents in laboratory and in the future professional practice.	P6S_WK
K_W14	Has knowledge of intellectual property protection and labour law.	P6S_WK
K_W15	Understands the basics of individual entrepreneurship.	P6S_WK
SKILLS		
K_U01	Conducts biological, chemical, and physical observations and experiments as well as measurements using appropriate methods and equipment, both independently and in a team.	P6S_UW

K_U02	Describes phenomena and analyses experimental data using statistical, computational methods, and algorithms.	P6S_UW
K_U03	Carries out research under scientific supervision, individually or in a team. Applies research techniques and tools used in experimental biology and genetics, plans and organises individual and team work.	P6S_UW
K_U04	Manages and organises individual and group work, actively engaging in the implementation of joint research and project tasks.	P6S_UO
K_U05	Analyses data from various sources, draws accurate conclusions, and interprets biological phenomena and processes using up-to-date knowledge.	P6S_UW
K_U06	Utilises contemporary source materials both traditional and electronic.	P6S_UW
K_U07	Uses up-to-date scientific resources and is able to work with specialistic literature in genetics, experimental biology, and related fields.	P6S_UW
K_U08	Prepares reports in the fields of genetics and experimental biology, and related fields, using available sources of information.	P6S_UW
K_U09	Delivers oral presentations on genetics and experimental biology, as well as related fields.	P6S_UW P6S_UK
K_U10	Uses specialised terminology in discussions and academic debates in experimental biology and genetics, and related fields.	P6S_UK
K_U11	Learns independently topics assigned by the course scientific supervisor using various sources; plans and implements own lifelong learning.	P6S_UU
K_U12	Presents specialised language skills (in a foreign language) in accordance with the requirements specified for the B2 level of the Common European Framework of Reference for Languages	P6S_UK
SOCIAL SKILLS		

K_K01	Understands the importance of lifelong learning and updating the biological knowledge and analyses it critically.	P6S_KK
K_K02	Strives to update knowledge also by seeking expert opinions and is aware of the necessity of professional development and qualification improvement.	P6S_KK
K_K03	Is aware of social responsibilities related to the profession in the field of genetics and experimental biology, is able to co-organise initiatives for the benefit of the community and actively participates in activities promoting science and supporting local development.	P6S_KO
K_K04	Is able to prioritise tasks, while maintaining order and taking responsibility for equipment and entrusted materials.	P6S_KR
K_K05	Knows and follows the health and safety rules at work.	P6S_KR
K_K06	Recognises and addresses the ethical problems related to the profession, is able to critically assess scientific research.	P6S_KR
K_K07	Is prepared for laboratory work, acts and thinks entrepreneurially.	P6S_KO

Explanation of symbols:
PRK - Polish Qualifications Framework
P6S_WG/P7S _WG – code of qualification description component for level 6 and 7 in the second-cycle characteristics of Polish Qualifications Framework
K_W - directional learning outcomes in terms of knowledge
K_U - directional learning outcomes in terms of skills
K_K - directional learning outcomes in terms of social skills
01, 02, 03 and following - the number of the specific learning outcome