

1.	Field of study	Physics
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2019/2020 (winter term), 2020/2021 (winter term), 2021/2022 (winter term), 2022/2023 (winter term)
4.	Level of qualifications/degree	first-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Code of the learning outcome of the programme	Learning outcomes The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
KNOWLEDGE		
KF_W01	understands the civilisational importance of physics and its applications	2018_P6S_WG
KF_W02	knows the basic concepts and theorems from selected branches of higher mathematics; has knowledge of computational techniques	2018_P6S_WG
KF_W03	knows the basic laws and formulas of selected branches of physics and astronomy	2018_P6S_WG
KF_W04	has a basic knowledge of the various branches of classical physics, including mechanics, electricity and magnetism, optics and structure of the matter, thermodynamics with elements of statistical physics	2018_P6S_WG
KF_W05	has a basic knowledge of classical, relativistic and quantum mechanics as well as electrodynamics	2018_P6S_WG
KF_W06	knows basic issues from atomic and molecular physics, condensed phase physics, nuclear physics, particle physics and astrophysics	2018_P6S_WG
KF_W07	knows and understands the basic physical theories and processes	2018_P6S_WG
KF_W08	knows mathematical formalism useful in constructing and analysing physical models and understands its limitations	2018_P6S_WG
KF_W09	knows the basics of statistics and data analysis	2018_P6S_WG
KF_W10	knows the basics of computational and programming techniques supporting the work of a physicist and understands their limitations	2018_P6S_WG
KF_W11	has a basic knowledge of electronics, can read schematic diagrams, knows the physical basis and the principle of functioning of individual electronic components and simple systems	2018_P6S_WG
KF_W12	knows the construction and the principle of functioning of basic measurement devices and scientific equipment	2018_P6S_WG
KF_W13	knows and understands legal, economic and ethical aspects of scientific activity	2018_P6S_WK
KF_W14	knows and understands basic concepts and principles of intellectual property and copyright protection	2018_P6S_WK
KF_W15	has a basic knowledge of the formation and development of forms of individual entrepreneurship	2018_P6S_WK
KF_W16	knows the basic principles of occupational health and safety	2018_P6S_WK
KF_W17	has a general knowledge of the selected scientific methods and knows the issues characteristic of the discipline of science not related to the programme	2018_P6S_WK
SKILLS		
KF_U01	is able to clearly present basic physical theories and theorems in speech and writing	2018_P6S_UW
KF_U02	is able to use a mathematical apparatus to solve simple physical problems	2018_P6S_UW
KF_U03	is able to explain basic physical processes occurring in the surrounding world based on the laws of physics	2018_P6S_UW
KF_U04	is able to explain the functioning of basic mechanical, electrical and electronic devices based on the laws of physics	2018_P6S_UW

KF_U05	can perform various types of physical measurements and experiments	2018_P6S_UW
KF_U06	is able to analyse and interpret measurement results	2018_P6S_UW
KF_U07	is able to use tools and numerical methods to solve selected issues of physical data analysis and to develop measurement results	2018_P6S_UW
KF_U08	can design and build simple electrical and electronic systems	2018_P6S_UW
KF_U09	can use mathematical formalism to analyse physical models	2018_P6S_UW
KF_U10	can describe basic micro- and macroscopic properties of the matter based on the knowledge gained	2018_P6S_UW
KF_U11	can write a simple computer programme by themselves	2018_P6S_UW
KF_U12	can run and test computer programmes	2018_P6S_UW
KF_U13	is able to prepare a study containing the analysis and discussion of the obtained experimental results	2018_P6S_UW
KF_U14	is able to work individually and in a team; is able to estimate the time required to conduct the commissioned task	2018_P6S_UO
KF_U15	can obtain information from literature, databases and other sources; can integrate and interpret information obtained, draw conclusions and formulate and justify opinions	2018_P6S_UU
KF_U16	has a sufficient level of English (B2) to read the specialist literature, and manuals for IT devices and tools	2018_P6S_UW
KF_U17	is able to clearly present the problem/point of view to the specialist and the layman	2018_P6S_UK
KF_U18	is able to prepare a typical written study on specific physics issues using basic theoretical models	2018_P6S_UK
KF_U19	has the ability to prepare and deliver an oral presentation in their native and English languages, using modern multimedia techniques	2018_P6S_UK
KF_U20	has the ability to self-learn, e.g. to improve professional competence	2018_P6S_UU
KF_U21	has English language skills at the intermediate level in accordance with the requirements (B2/CEFR)	2018_P6S_UK
KF_U22	has the ability to pose and analyse problems based on the acquired content from the discipline of science not related to the programme	2018_P6S_UW
KF_U23	has the ability to understand and create various types of written and oral texts requiring systemic knowledge of the language in relation to its grammatical structures, lexis and phonetics; communicates in a foreign language using different communication channels and techniques to the extent appropriate for the specific area of knowledge	2018_P6S_UK
SOCIAL COMPETENCES		
KF_K01	knows the limitations of their own knowledge and understands the need for further education	2018_P6S_KK
KF_K02	is able to precisely formulate questions in order to deepen their own understanding of a given topic or to find the missing elements of reasoning	2018_P6S_KK
KF_K03	is able to work in a group adopting different roles; understands the division of tasks and the individual's need to fulfil a given task	2018_P6S_KO
KF_K04	understands the need to improve professional and personal competences	2018_P6S_KK, 2018_P6S_KR
KF_K05	understands and appreciates the importance of intellectual honesty in their own and others' actions; acts ethically	2018_P6S_KO, 2018_P6S_KR
KF_K06	understands social aspects of applying the knowledge and skills acquired and the associated responsibility	2018_P6S_KO
KF_K07	is able to listen to a different opinion and professionally discuss the issue in question	2018_P6S_KK
KF_K08	is able to identify priorities for the implementation of the task specified by themselves or others	2018_P6S_KO
KF_K09	can think and act in terms of entrepreneurship (costs, economic effects, profit and loss account, profitability)	2018_P6S_KO
KF_K10	understands the need for an interdisciplinary approach to solving problems, integrating knowledge from different disciplines and practising self-education to deepen the acquired knowledge	2018_P6S_KK