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

Module: Specialized Lecture (e-learning)

Module code: W4-2F-21-BP.18

1. Number of the ECTS credits: 3

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
2F_BP.18_1	has in-depth knowledge of selected branches of theoretical, experimental and applied physics	KF_W02	4
2F_BP.18_2	knows and understands the description of physical phenomena within the framework of selected theoretical models; can independently reconstruct the basic physical laws	KF_W05	3
2F_BP.18_3	can acquire information from literature, databases and other sources; is familiar with basic scientific journals in physics; can integrate acquired information and interpret it, draw conclusions and formulate and justify opinions	KF_U12	5
2F_BP.18_4	can formulate precise questions to deepen their own understanding of a topic or to find missing elements of reasoning	KF_K02	3
2F_BP.18_5	understands the need for systematic reading of scientific and popular science journals in order to broaden and deepen knowledge of physics	KF_K04	5

3. Module description

Description	The course is designed to enhance students' knowledge of physics's latest developments and learn about current research trends. The lecture will cover the most important, new developments in theoretical physics, experimental physics, instrumentation, simulation methods, and applied physics. A set of subjects to choose will cover theoretical physics, atomic and molecular physics, solid-state physics, astrophysics, particle physics, and nuclear physics and their applications. The topics of the lecture will be proposed yearly for the acceptance of the didactic council of physics.
Prerequisites	No prerequisites

4. Assessment of the learning outcomes of the module			
code	**type**	**description**	**learning outcomes of the module**
2F_BP.18_w_1	Credit	Verification in accordance with the requirements specified in the syllabus.	2F_BP.18_1, 2F_BP.18_2, 2F_BP.18_3, 2F_BP.18_4, 2F_BP.18_5

5. Forms of teaching						
code	**form of teaching**			**required hours of student's own work**		**assessment of the learning outcomes of the module**
	type	**description (including teaching methods)**	**number of hours**	**description**	**number of hours**	
2F_BP.18_fs_1	lecture	Content of the lecture presented in verbal form supported by visualization (multimedia presentation). Focusing on conceptually difficult material and indicating sources. Illustrating content with examples.	30	Familiarization with the lecture topics using existing method packages: textbooks, scripts, websites, etc. Preparation for the credit depending on the form taken.	50	2F_BP.18_w_1