

1.	Field of study	Physics
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2025/2026 (winter term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	General information about the module	
Module name		Master Thesis Laboratory I
Module code		W4-FZ-BP-S2-2-25-06
Number of the ECTS credits		4
Language of instruction		English
Purpose and description of the content of education		Under the course scope and the supervisor's guidance, a student acquaints with the problem realised within the thesis framework, research methodology, and professional literature. Then the student will work on the topic of the thesis. Student activities can include calculations, data collection and processing, interpretation, and discussion of obtained results. Depending on the thesis topic's choice, the course may consist of theoretical research, experimental research, applied research or computer simulations.
List of modules that must be completed before starting this module (if necessary)		not applicable

8.	Learning outcomes of the module			
Code	Description	Learning outcomes of the programme		Level of competenc (scale 1-5)
E1	understands the importance of physics and its applications in the advancement of science and the development of new technologies	KF_W01		4
E2	has in-depth knowledge of condensed phase physics, quantum mechanics, statistical, theoretical and experimental physics	KF_U03		3
		KF_W02		3
		KF_W03		3
E3	knows the theoretical models and mathematical formalisms and computer methods necessary to solve the problems undertaken in the thesis	KF_W05		3
		KF_W06		3
		KF_W07		3
E4	is able to use research apparatus, conduct experiments and select an appropriate measurement method for a specific problem and the expected effect	KF_U04		3
		KF_U05		3
		KF_U06		3
		KF_W08		3
		KF_W09		3

E5	is capable of critically analyzing and interpreting research findings	KF_U08 KF_U09 KF_U10	3 3 3
E6	student is able to independently prepare a report on research results, assess their significance in comparison with other results obtained from the literature, draw conclusions and formulate opinions	KF_U11 KF_U12	3 3
E7	student is able to listen to others and engage in a meaningful discussion about an issue	KF_K03 KF_K05 KF_K07 KF_U15	5 3 4 4
E8	understands the need for further education, can implement the process of self-education	KF_K01 KF_U17	5 5

9. Methods of conducting classes		
Code	Category	Name (description)
e01	Practical methods	Laboratory exercise / experiment <i>[also conducted as fieldwork] a method of practical application of knowledge; implemented in three stages: the recognition of a problem induced by the task content, the formulation of the problem and the attempt to solve it accompanied by the assessment of the effects; the goal is to acquire skills, abilities and habits, and to consolidate the acquired knowledge so that it becomes operational; the laboratory method assumes greater independence of learners than carrying out an experiment</i>

10. Forms of teaching					
Code	Name	Number of hours	Assessment of the learning outcomes of the module	Learning outcomes of the module	Methods of conducting classes
FZ1	laboratory classes	30	course work	E1, E2, E3, E4, E5, E6, E7, E8	e01

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
a02	Preparation for classes	Literature reading / analysis of source materials <i>reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class</i>	No
a03	Preparation for classes	Developing practical skills <i>activities involving the repetition, refinement and consolidation of practical skills, including those developed during previous classes or new skills necessary for the implementation of subsequent elements of the curriculum (as preparation for class participation)</i>	Yes
b01	Consulting the curriculum and the organization of classes	Getting acquainted with the syllabus content <i>reading through the syllabus and getting acquainted with its content</i>	No
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class <i>exploring the studied content, inquiring, considering, assimilating, interpreting it, or organizing knowledge obtained from the literature, documentation, instructions, scenarios, etc., used in class as well as from the notes or other materials/artifacts made in class</i>	Yes

c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>a set of activities aimed at performing an assigned task, to be executed out of class, as an obligatory phase/element of the verification of the learning outcomes assigned to the course</i>	Yes
d01	Consulting the results of the verification of learning outcomes	Analysis of the corrective feedback provided by the academic teacher on the results of the verification of learning outcomes <i>reading through the academic teacher's comments, assessments and opinions on the implementation of the task aimed at checking the level of the achieved learning outcomes</i>	No

Information on the details of the module implementation in a given academic year can be found in the syllabus available in the USOS system: <https://usosweb.us.edu.pl>.