1.	**Field of study**	**Biophysics**
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2023/2024 (winter term), 2024/2025 (winter term)
4.	Level of qualifications/degree	first-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

7.	**General information about the module**
Module name	**Fundamentals of Dielectric Spectroscopy**
Module code	W4-BF-FA-S1-5-23-30
Number of the ECTS credits	1
Language of instruction	Polish
Purpose and description of the content of education	The module aims to familiarize students with the fundamental issues of dielectric physics and measurement methods in a constant and alternating electric field. During the course, the following are discussed: microscopic dielectric parameters, molecular mechanisms of polarization and local field models, and dielectric relaxation processes. The student also learns about the measurement methods and the possibilities of studying the properties of macromolecules and phase transitions using dielectric spectroscopy.
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	The student knows the elementary theory of the interaction of the electric field with dielectric materials.	W08	1
E2	The student knows the basics of the broadband dielectric spectroscopy method, knows how to apply it to the study of biological systems and how to analyze the obtained dielectric measurements.	U04 U05 U06 W07	1 1 1 1
E3	The student knows the theory of particle suspensions in homogeneous fields.	W08	1
E4	The student has knowledge of the application of the phenomenon of electrophoresis to the study of small biological organisms.	K02 U05 U07	1 1 1

9. Methods of conducting classes

Code	Category	Name (description)
a01	Lecture methods / expository methods	Formal lecture/ course-related lecture *a systematic course of study involving a synthetic presentation of an academic discipline; its implementation assumes a*

		passive reception of the information provided

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	lecture	15	exam	E1, E2, E3, E4	a01

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 *reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class*	Yes
b01	Consulting the curriculum and the organization of classes	Getting acquainted with the syllabus content *reading through the syllabus and getting acquainted with its content*	No
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion *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*	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 *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*	Yes
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks *reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade*	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.