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	**Refraction**
Module code	W4-BF-OO-S1-5-23-41
Number of the ECTS credits	3
Language of instruction	Polish
Purpose and description of the content of education	The aim of the module is to deepen students' knowledge of the study of refraction. Students will learn the guidelines for managing the patient according to the standards of optometric examination developed by the The Polish Optometric Association (PTOO). During the classes, students will learn theoretical knowledge and gain practical skills in the field of: interview, preliminary measurements (interpupillary distance, determination of the dominant eye, pupillary reaction to light and accommodation, eye movements, assessment of spatial vision, color vision and field of view), objective refraction using static retinoscopy and an autorefractometer, assessment of visual acuity, determination of the spherical equivalent, determination of astigmatism, procedures for binocular subjective refraction testing, including the method of binocular balance of accommodation. During the course, students should demonstrate knowledge and understanding, and should be able to discuss and measure refraction in the most appropriate way for a given patient. In addition, as part of the module, students broaden their knowledge of managing patients and correcting their sight with glasses and contact lenses.
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 has a basic knowledge of refraction measurement procedures while determining the theoretical basis of the procedure used. Understands and explains the results obtained using procedures against existing standards.	W05 W07	1 1
E2	The student is able to test refraction including astigmatism and binocular balance.	U03 U04 W05	1 1 1
E3	The student is able to assess the condition of the visual system, recognize vision defects and correct them correctly. In addition, he knows when to refer a patient to another specialist.	U03 U04 W05	1 1 1

		W06	1
E4	The student can carry out the experiment correctly, document and present the results of the determinations and present their interpretation.	U04 U06	1 1
E5	The student knows and understands the principles of laboratory work, takes care of safety and hygiene in the laboratory.	U10 W10	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*
e01	Practical methods	Laboratory exercise / experiment *[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*

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	20	exam	E1	a01
FZ2	laboratory classes	30	course work	E2, E3, E4, E5	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 *reading the literature indicated in the syllabus; reviewing, organizing, analyzing and selecting source materials to be used in class*	Yes
a03	Preparation for classes	Developing practical skills *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)*	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
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class *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*	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*	Yes

		phase/element of the verification of the learning outcomes assigned to the course	
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*	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.