University of Silesia in Katowice

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

7.	**General information about the module**	
Module name		**Telecommunications in biomedical mechatronics**
Module code		08-IBSI-S1-17-5-TMB
Number of the ECTS credits		5
Language of instruction		Polish
Purpose and description of the content of education		Materiał modułu "Telekomunikacja w mechatronice biomedycznej" wymaga poznania i zrozumienia podstaw teoretycznych oraz nabycia praktycznych umiejętności posługiwaniem się tą wiedzą. Podstawy teoretyczne to przede wszystkim przyswojenie i zrozumienie pojęć związanych z przedmiotem, nabycie umiejętności kojarzenia oraz zastosowania omawianych zagadnień. Jest to też umiejętność odpowiednio efektywnego i szybkiego odszukiwania wymaganych informacji w literaturze. Umiejętności praktyczne nabywa się poprzez analizę przykładowych algorytmów oraz samodzielne rozwiązywanie zadań. Moduł zatem stanowi swoiste połączenie między wiedzą teoretyczną, ogólnymi przykładami a umiejętnością profilowania wybranych metod (zagadnień) i wiedzy w praktycznym wykorzystaniu.
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)**
K_1	Rozpoznaje i klasyfikuje sygnały cyfrowe		W15	5
K_2	Wyjaśnia standardowe metody, techniki, narzędzia i materiały stosowane w telekomunikacji i teletransmisji		W15	2
K_3	Klasyfikuje informacje z literatury oraz innych źródeł dotyczących telekomunikacji w mechatronice		U01	1
K_4	Rozwiązuje zadania obejmujące telekomunikację, teletransmisję sygnałów w medycynie		U16	5
K_5	Przedstawia i interpretuje uzyskane wyniki		U08	4
K_6	Oblicza i interpretuje parametry sygnałów dyskretnych		U27	3
K_7	Wykonuje prace indywidualne i zespołowe		U02	2

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
a03	Lecture methods / expository methods		**Description** *a description of objects, phenomena, processes or people; it involves specifying the structure and characteristic features of the object, phenomenon, or process being described; it is usually accompanied by a demonstration of the described object or by its models, drawings, tables, charts, etc.; a description may take the form of an explanation, classification, justification or comparison*
c06	Demonstration methods		**Demonstration-imitation** *a presentation of a model way of performing specific activities accompanied by a commentary; it aims at triggering imitation activities in an individual or in a group of participants observing the activities of the person teaching the course until the right habit is formed through regular exercise; the demonstration-imitation method is combined with a physical practice of activities/behaviours*
d01	Programmed learning methods		**Working with a computer** *e.g., Webquest; implementation of educational tasks using electronic and digital devices, computer programs and Internet applications; the academic teacher acts as a consultant; students' work is carried out step by step according to the plan laid own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline*
d03	Programmed learning methods		**Working with another teaching tool** *e.g. using websites in any way or according to the rules set by the teacher; or making use of other subject-specific tools*

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**
k_fs_1	lecture	30	exam	K_1, K_2, K_3, K_4, K_5, K_6, K_7	a01
k_fs_2	laboratory classes	30	course work	K_1, K_2, K_3, K_4, K_5, K_6, K_7	a03, c06, d01, d03

11.	The student's work, apart from participation in classes, includes in particular:		
Code	**Category**	**Name (description)**	**Is it part of the BUNA?**
a01	Preparation for classes	Search for materials and review activities necessary for class participation *reviewing literature, documentation, tools and materials as well as the specifics of the syllabus and the range of activities indicated in it as required for full participation in classes*	No
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*	No
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)*	No
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation *developing, preparing and assessing the usefulness of tools and materials (e.g. aids, scenarios, research tools, equipment, etc.) to be employed in class or as an aid when preparing for classes*	No
b01	Consulting the curriculum and the organization	Getting acquainted with the syllabus content	Yes

	of classes	reading through the syllabus and getting acquainted with its content	
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
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*	Yes

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.