

**Subject card**

<b>Subject name and code</b>	Principles of Electronics - classes, PG_00131453						
<b>Field of study</b>	Marine Hydrography						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2024/2025		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study Subject group related to practical vocational preparation		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	1	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	2	<b>ECTS credits</b>			0.0		
<b>Learning profile</b>	practical	<b>Assessment form</b>			credit		
<b>Conducting unit</b>							
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		mgr inż. Przemysław Wenderholm				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	0.0	4.0	0.0	0.0	0.0	4
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	4		1.0		1.0	6
<b>Subject objectives</b>	Transfer of knowledge in the field of: construction, operating principles, parameters and characteristics of basic semiconductor devices, including optoelectronic devices and basic operational amplifier systems, generators, digital systems						
<b>Learning outcomes</b>	<b>Course outcome</b>		<b>Subject outcome</b>			<b>Method of verification</b>	
	[HML3-U01] plan and conduct experiments, including computer simulations, interpret the results obtained and draw conclusions		Is able to: - plan and carry out measurements of static characteristics of basic semiconductor devices - plan and carry out testing of electronic system - to determine the operating point of a transistor - calculate the parameters of operational amplifiers			[SU3] text preparation/written work	
<b>Subject contents</b>	Semiconductor materials. Semiconductor elements. Operational amplifiers. Generators. Digital systems.  Determine the operating point of a transistor. Calculate the parameters of operational amplifiers.						
<b>Prerequisites and co-requisites</b>							
<b>Assessment methods and criteria</b>	<b>Subject passing criteria</b>		<b>Passing threshold</b>		<b>Percentage of the final grade</b>		
	test		51.0%		100.0%		

Recommended reading	Basic literature	1. RUSEK W., PASIERBIŃSKI J.: Electronic components and circuits in questions and answers. WNT, Warsaw 2006.2.
	Supplementary literature	1. BARANOWSKI J., NOSAL Z.: Electronic circuits. Part I - Analog circuits. Helion. 2. FILIPKOWSKI A.: Analog and digital electronic circuits. Helion.
	eResources addresses	
Example issues/ example questions/ tasks being completed	To bias a diode in conduction, you must. To bias a pn junction in the reverse direction, you must. The capacitance of a capacitive diode depends on. The output characteristic of a bipolar transistor is. The operational amplifier has the following inputs. The parameters of sinusoidal waveform generators include. What do we mean by the operating point of a transistor.	
Work placement	Not applicable	

Document generated electronically. Does not require a seal or signature.