



Subject card

Subject name and code		Metrology II, PG_00039482						
Field of study		Mechatronics, Mechatronics						
Date of commencement of studies		October 2020	Academic year of realisation of subject			2021/2022		
Education level		first-cycle studies	Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study		Full-time studies	Mode of delivery			at the university		
Year of study		2	Language of instruction			Polish		
Semester of study		4	ECTS credits			3.0		
Learning profile		general academic profile	Assessment form			exam		
Conducting unit		Department of Manufacturing and Production Engineering -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)		Subject supervisor		dr inż. Sławomir Szymański				
		Teachers		dr inż. Sławomir Szymański dr inż. Michał Dobrzyński dr inż. Wojciech Blacharski				
Lesson types and methods of instruction		Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
		Number of study hours	15.0	0.0	30.0	0.0	0.0	45
		E-learning hours included: 0.0						
Learning activity and number of study hours		Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours		Self-study		SUM
		Number of study hours	45	5.0		25.0		75
Subject objectives		Understanding the construction and operation of measuring instruments and learning of measurement methods quantities.						
Learning outcomes		Course outcome		Subject outcome		Method of verification		
		K6_W07		The student presents measurement methods, defines instruments and measuring systems, takes measurements		[SW1] Assessment of factual knowledge		
		K6_U06		Student can plan experiments, simulations and analyses, evaluate results and draw conclusions		[SU3] Assessment of ability to use knowledge gained from the subject		
Subject contents		The content will include: the importance of dynamic measurements in a machining process, the basic mechanical quantities in the dynamic measurements, the measurement methods for the combined quantities and indirect quantities in the measurement systems, analogue to digital signal processing- conditions and errors in a/d processing, the characteristics and parameters in the dynamic measurements, an autocorrelation and spectral analysis of the dynamic measurement quantities, the dynamic measurement systems- the measurement data recording, analysis and conclusive results. Coordinate measuring technique.						
Prerequisites and co-requisites		No requirements						
Assessment methods and criteria		Subject passing criteria		Passing threshold		Percentage of the final grade		
		Written exam		60.0%		100.0%		
Recommended reading		Basic literature		1. A. Boryczko: Podstawy pomiarów wielkości mechanicznych. Wydawnictwo PG, Gdańsk 2010W. 2. Nawrocki W.: Sensory i systemy pomiarowe. Poznań, Wydawnictwo Politechniki Poznańskiej 2006. 3. Ratajczak E.: Współrzędnościowa technika pomiarowa. Oficyna Wydawnicza Politechniki Warszawskiej. W-wa 2005. 4. Jakubiec W., Malinowski J.: Metrologia wielkości geometrycznych.PWN. W-wa 2004 . 5. Lesiak P., Świsulsk D.i: Komputerowa technika pomiarowa. Warszawa, Agenda Wydawnicza PAK 2002.				
		Supplementary literature		1. Tumański S.: Technika pomiarowa. Warszawa, PWN 2007. 2. MarksWojciechowska Z. i inni: Systemy pomiarowe, Łódź, Wydawnictwo PŁ 1999. 3. Świsulski D.: Systemy pomiarowe. Wydawnictwo PG 2004.				

	eResources addresses	
Example issues/ example questions/ tasks being completed	Types of measurement methods and their applications.	
Work placement	Not applicable	