



Subject card

Subject name and code	Informatics, PG_00039085						
Field of study	Chemistry in Construction Engineering						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2022/2023		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Physical Chemistry -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Adam Kloskowski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	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	30		4.0		16.0	50
Subject objectives	The aim of the course is introduce students with the basic programming tools based on Visual Basic for Applications. Preparing it for use of computer techniques in solving engineering problems and research						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_K03		Students learn to collaborate in a group when developing more complex tasks.		[SK1] Assessment of group work skills [SK3] Assessment of ability to organize work		
	K6_U07		The student can write simple computer programs using the VBA package		[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment		
	[K6_W01] has a basic knowledge from some branches of mathematics and physics useful for formulating and solving simple problems in the field of environmental technologies and modern analytical methods		He knows the basic numerical methods and has the ability to apply them in engineering calculations.		[SW1] Assessment of factual knowledge		
Subject contents	Programming Fundamentals: program structure, programming supporting tools: compiler, linker, debugger, compilers and interpreters for example Visual Basic for Applications (VBA). The key elements of the VBA: keywords, data types, simple and user-defined array variables, objects, operators: arithmetic, relational, logical, assignment , conditional and choice instructions; iterative instructions. Use Excel spreadsheet to input data and presentation of results. Structured programming and object-oriented programming selected items in VBA. Numerical methods in engineering calculations: solving nonlinear equations, interpolation, integration, differentiation.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Written exam		50.0%		50.0%		
	Project		100.0%		50.0%		
Recommended reading	Basic literature		W. Ufnalski, K. Mądry, "Excel dla chemików...i nie tylko", WNT 2000. J. Walkenbach, "Excel 2007 PL. Biblia", Helion 2007. David Bourg, Excel w nauce i technice. Receptury, Helion 2006.				
	Supplementary literature		materials on the web, programs" manuals and helps				
	eResources addresses		Adresy na platformie eNauczanie:				

Example issues/ example questions/ tasks being completed	<p>Components of a VBA program</p> <p>Algorithmics</p> <p>Declaration of variables</p> <p>Creating and running macros in the MS Excel environment</p>
Work placement	Not applicable