



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	Components of a VBA program Algorithmics Declaration of variables Creating and running macros in the MS Excel environment
Work placement	Not applicable