MODULE DESCRIPTION

Module code	full-time studies:	**Z-ZIP1-E-624**
	part-time studies:	**Z-ZIPN1-E-624**
Module name	**Advanced Uses of Spreadsheets**	
Module name in Polish	**Zaawansowane zastosowania arkuszy kalkulacyjnych**	
Valid from academic year	**2019/2020**	

MODULE PLACEMENT IN THE SYLLABUS

Field of study	**MANAGEMENT AND PRODUCTION ENGINEERING**
Level of education	**1st degree**
Studies profile	**General**
Form and method of conducting classes	**Full-time and Part-time**
Specialisation	**Computer Science for Management and Modelling**
Unit conducting the module	**Department of Computer Science Technologies**
Module co-ordinator	**Marzena Nowakowska, PhD, DSc** **Paweł Stąpór, PhD**
Approved by:	**Dariusz Bojczuk, PhD, DSc**

MODULE OVERVIEW

Type of subject / group of subjects	**Specialist subject**
Module status	**Non-compulsory**
Language of conducting classes	**English**
Module placement in the syllabus - semester	**Semester VI**
Initial requirements	**Information Technologies**
Examination (YES/NO)	**NO**
Number of ECTS credit points	**2**

Method of conducting classes		Lecture	Classes	Laboratory	Project	Other
Per semester	full-time studies:	**10**		**20**		
	part-time studies:	**6**		**12**		

TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Category	Symbol	Learning outcomes	Assignations to the directional learning outcomes
Knowledge	W01	A student knows advanced techniques of data management in a spreadsheet.	ZIP1_W05
	W02	Knows spreadsheet tools for data mining and data relationship modeling.	ZIP1_W05
Skills	U01	Can analyze data with the use of spreadsheets.	ZIP1_U01
	U02	Has the ability to select appropriate functions and other spreadsheet tools and use them for data processing and presentation of results.	ZIP1_U07
Social competences	K01	Understands the need for continuous improvement and improvement of professional competences in the field of the use of spreadsheets.	ZIP1_K01

TEACHING CONTENTS

Method of conducting classes	Teaching contents
Lecture	Repetition from a spreadsheet - repetition and consolidation of previously acquired knowledge about the functioning of a spreadsheet (Excel). Data transfer (import, export, data copying). Data processing rules with the use of built-in formulas and functions. Classification of data types and functions relevant to the processing of this data. Processing of various types of data: text, numeric, date and time. Converting types. Managing selected objects in an Excel spreadsheet: cell and range of cells. Management of information about the database structure. Managing sheets in a workbook. Data protection. Automatic identification and removal of data errors. Create charts and graphics.
Laboratory	Records from a spreadsheet; verification of information on the possibility of using a spreadsheet (references to the subject "Information technologies"). Data transfer between Excel file and files of other formats (* .csv, * .txt - column separation characters, * .accdb etc.): • data import using the import wizard (import options), • copying tables from electronic documents, • exporting data using the export wizard, • copying the contents of the sheets to files of other formats. Classification of Excel functions. Data types and principles of data processing of various types with the use of built-in functions. Processing of text data. Processing of numerical data and date and time type. Managing selected objects in an Excel spreadsheet; cell and range of cells. References to these objects by names and addresses, the use of relative and absolute addressing, indirect addressing. Managing information about the database structure (list, data form, filtering information on the list, pivot tables, creating an outline of data). Managing sheets in a workbook, joining and consolidating sheets. Creating charts and graphics, advanced charting techniques, data visualization using conditional formatting, creating sparklines, adding drawings and graphics to sheets.

METODS OF ASSESSING TEACHING RESULTS

Symbol	Methods of checking the learning outcomes *(select X)*					
	Oral exam	Written exam	Test	Project	Statement	Other
W01			X			
W02			X			
U01			X			
U02			X			
K01						X

FORM AND CONDITIONS OF PASSING

Form of classes	Form of credit	Passing conditions
Lecture	Credit with grade	Obtaining at least 50% of the points from the final test during the lecture.
Laboratory	Credit with grade	Obtaining at least 50% of test points during laboratory classes.

STUDENT WORKLOAD

Balance of ECTS points												
No.	Type of student's activity	Student's workload										Unit
		full-time					part-time					
1.	Participation in the activities	Lc	C	Lb	P	O	Lc	C	Lb	P	O	h
		10		20			6		12			
2.	Other (consultation, exam)	2		2			2		2			h
3.	**Number of hours of a student's assisted work**	**34**					**22**					h
4.	**Number of ECTS credit points which are allocated for assisted work**	**1,4**					**0,9**					ECTS
5.	**Number of hours of a student's unassisted work**	**16**					**28**					h
6.	**Number of ECTS credit points which a student receives for unassisted work**	**0,6**					**1,1**					ECTS
7.	**Work input connected with practical classes**	**33**					**33**					h
8.	**Number of ECTS credit points which a student receives for practical classes**	**1,3**					**1,3**					ECTS
9.	**Total number of hours of a student's work**	**50**					**50**					h
10.	**Punkty ECTS za moduł** *1 ECTS=25 hours*	**2**										ECTS

LITERATURE

1. Michael A. (2022), *Microsoft Excel 365 Bible*, John Wiley & Sons, New Jersey.
2. Michael A., Kusleika R, Walkenbach J.(2019), *Excel 2019 Bible*, 1st Edition, Wiley.
3. Price M. (2019), *Excel 2019 in easy steps*, In Easy Steps Limited.