POZNAN UNIVERSITY OF TECHNOLOGY

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Advanced functions od spreadsheet [S1Log2>ZFAK]

Course

Field of study	Year/Semester
Logistics	1/1
Area of study (specialization)	Profile of study
–	general academic
Level of study	Course offered in
first-cycle	polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
0	30	0
Tutorials	Projects/seminars	
0	0	

Number of credit points

2,00

Coordinators

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Lecturers

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Prerequisites

High school knowledge in the field of computer science and science. Basic computer and office skills. Ability to work in a laboratory group.

Course objective

Students should become proficient in using a spreadsheet in the field of engineering calculations with the use of various types of functions, including selected optimization issues. They should also be able to analyze data on the basis of created charts or reports.

Course-related learning outcomes

Knowledge:
1. Student should know the basic issues in the field of mathematics and statistics, which can be used in

the creation of computational formulas in the study of the structure of economic and logistic phenomena [P6S_WG_04]
2. Student should know the basic management issues specific to logistics and supply chain management [P6S_WG_08]

Skills:
1. Student should be able to identify and formulate a design (engineering) task of a practical nature, characteristic for logistics [P6S_UO_01]
2. Student should be able to choose the right tools, spreadsheet functions and methods of solving the problem within logistics and supply chain management, and be able to use them effectively [P6S_UO_02]

Social competences:
1. Student should be aware of the importance of the application of a spreadsheet and knowledge of logistics and supply chain management in solving cognitive and practical problems [P6S_KK_02]
2. Student should be aware of initiating activities related to the formulation and transfer of information using a spreadsheet and cooperation in the society in the area of logistics [P6S_KO_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Laboratory: Formative assessment consists of grades that students receive for carrying out practical tasks during two 1.5-hour tests during the laboratory on a computer in an MS Excel spreadsheet, checking the mastery of the skills acquired during the classes (entering formulas using appropriate functions, creating graphs and reports). The first test takes place in the middle of the semester and the second one at the last laboratory. A certain number of points are awarded for each task. Passing a given test with a positive grade requires obtaining at least 51% of the total number of points. Summary grade from the laboratory, which the student receives at the end of the semester, issued as the average of the partial grades obtained by the student for individual tests. The correctness and completeness of the results achieved are taken into account for the evaluation.

Programme content

Laboratory: Working with sheets of an MS Excel spreadsheet workbook (moving, copy, renaming). Format data in cells. Create formulas with mathematical and statistical functions using relative, absolute and mixed addresses. Formulas with conditional expressions in an MS Excel spreadsheet. Financial functions in an MS Excel spreadsheet. Text expressions in MS Excel spreadsheet. Expressions with date and time functions in an MS Excel spreadsheet. Expressions with counting functions in MS Excel spreadsheet. Creating charts in an MS Excel spreadsheet. Databases in MS Excel spreadsheet (autofilter, advanced filter, subtotal report, pivot table report. Expressions with lookup functions in an MS Excel spreadsheet. Macros in Excel in an MS Excel spreadsheet. Conditional formatting in an MS Excel spreadsheet.

Teaching methods

Laboratory: Methods of practical education, aimed at acquiring knowledge and applying specific skills in practical application, allowing students to assess the usefulness of the presented content and the developed skills in everyday life and professional career: 1. Programmed methods, consisting in working with a selected tool (MS Excel spreadsheet) allowing for efficient familiarization with the content of education, enabling students to obtain and learn new facts, quickly obtain a general view on a given issue, applied with the use of a computer and with the use of e-learning tools. 2. Practical methods, consisting in performing the tasks given by the teacher, enabling the development of the skills of effective action, implementation of theory into practice and gaining new experience in action (practical laboratory exercises). 3. A multimedia presentation illustrated with examples and showing how to perform tasks.

Bibliography

Basic:
1. Wrotek W., Excel 2019 PL. Kurs, Helion, Gliwice 2014 i 2019.
2. Walkenbach J., Excel 2010 PL. Najlepsze sztuczki i chwyty. Vademecum Walkenbacha, Helion, Gliwice,

2012.

Additional:
1. Walkenbach J., Alexander M., Analiza i prezentacja danych w Microsoft Excel. Vademecum Walkenbacha, Helion, Gliwice, 2014.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	20	1,00