



DESCRIPTION OF THE OBJECT

FIELD OF STUDY	Management
SPECIALISATION	Accounting and finance in the company
MODE OF STUDY	Full-time studies / Part-time studies
SEMESTER	6

Name of the subject	IT accounting
Hourly dimension of particular forms of classes	Full-time studies – 30 Part-time studies - 18
	• lectures Full-time studies – 10; Part-time studies – 8
	• other forms Full-time studies – 20; Part-time studies - 10

Learning objectives:	<ul style="list-style-type: none"> – presenting detailed rules of data warehouse organisation – to become familiar with the practical use of data warehouses in financial and accounting systems – to present Business Intelligence systems and their use in financial management – presenting problems connected with data acquisition and unification in accounting and financial management – acquiring skills of algorithmization of information control problems and conversion of financial-accounting data – acquiring skills of creating analyses and summaries in accounting from unformatted information
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Learning outcomes for the subject			
Number	Learning outcomes, a student who has successfully completed the course will be able to:	Reference of learning outcomes for the programme	The reference to the learning outcomes for the area
EK_W01	Characterise the concept of data warehouses used in accounting from an organisational and IT point of view	K_W01	P6S_WG
EK_W02	Describe the architecture of Business Intelligence systems and their basic features	K_W02	P6S_WG
EK_U03	Analyse data needed to produce statements in financial management and accounting from the point of view of their formal and factual correctness	K_U03	P6S_UW
EK_U04	Use ready-made financial and accounting analyses in management and Business Intelligence systems to evaluate the company	K_U08	P6S_UW

EK_U05	Evaluate the selection of appropriate IT solutions in accounting and financial management when creating a data warehouse	K_U05	P6S_UW
EK_K06	Perceive the relationship between the reliability of the data in the warehouses and the validity of the financial and accounting analyses created	K_K02	P6S_KK

Content number	Educational/ curricular content	Reference to learning outcomes for the subject
	Lectures	
T_01	Principles of data warehouse organization, characteristics of a data warehouse, types of financial and accounting information collected in data warehouses, fundamentals of the organization of transactional data sets, relations between financial and accounting data in data warehouses, formats for obtaining numeric data	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06
T_02	Characteristics of Business Intelligence systems, features and components of BI systems, principles of analytical processing, OLAP cubes, principles for creating queries in the construction of analyses, algorithmization of problems in management accounting	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06
T_03	Conversion of input data, principles of unification of numeric data formats and date formats, creation of time layers in the construction of multidimensional analyses in financial management and accounting, basics of algorithmic problems for the analysis of financial and accounting data	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06
T_04	Input data control, algorithms for control of structured data (e.g. PESEL, NIP), Benford distribution and its use for evaluation of random data, use of simple applications for information control, advanced functionalities in Excel used in data analysis, calculation scenarios	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06

	Exercises	
T_05	Analysis of financial and accounting data in Excel, creation of time layers in mass data, analysis of multidimensional data using pivot tables, basics of macro building in Excel, algorithmization of problems	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06
T_06	Information control, algorithms for control of identification data (PESEL, NIP), practical construction of algorithms in Excel, assessment of the correctness of text data, processing and analysis of text data	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06
T_07	Practical rules for the unification of numeric data formats and date formats in Excel, conversion of numeric data into text and text into numeric for analytical purposes in accounting and financial management	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06

T_08	Creation of algorithms for substantive control of data in accounting, analysis of facts, descriptions and metadata in data warehouses, practical analysis of mass data - creation of queries to databases, use of Visual Basic	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06
T_09	Assessment of randomness of data sets in accounting, use of Benford distribution to assess randomness, analysis of randomness in multidimensional databases, analysis of randomness in time strata	EK_W01 EK_W02 EK_U03 EK_U04 EK_U05 EK_K06

Methods and forms of teaching	Educational and curricular content
Lecture with multimedia presentation of selected issues	
Conversation lecture	T_01 – T_04
Problem-based lecture	T_01 – T_04
Informative lecture	
Discussion	
Working with text	
Case study method	T_05 – T_09
Problem-based learning	
Didactic/simulation game	T_05 – T_09
Exercise method	T_05 – T_09
Workshop method	
Project method	
Multimedia presentation	
Audio and/or video demonstrations	
Activation methods (e.g. brainstorming, SWOT analysis technique, decision tree technique, „snowball” method, constructing „mind maps”)	
Other (which ones?) - ...	
...	

Evaluation criteria in relation to particular learning outcomes				
Learning outcome	For assessment 2	For assessment 3	For assessment 4	For assessment 5
EK_W01	Student cannot characterise the concept of a data warehouse	The student is able to characterise the concept of a data warehouse	The student is not only able to characterise the concept of a data warehouse, but is also able to indicate examples of applications of data warehouses in accounting	The student is not only able to characterise the concept of a data warehouse as an organisational and IT undertaking, but is also able to discuss examples of warehouses used in accounting and financial management
EK_W02	The student is not able to describe the architecture of Business Intelligence	The student is able to describe the architecture of	The student is not only able to describe the architecture of	The student is not only able to describe the architecture of Business

	systems and does not know their definitions	Business Intelligence systems	Business Intelligence systems and basic components of BI systems, but is also able to give a minimum of 1 definition of a BI system	Intelligence systems and their basic components, but is also able to give at least 3 different definitions of BI and examples of applications in accounting and financial management
EK_U03	The student is unable to analyse the correctness of the data used in accounting	The student is able to analyse the correctness of the data used in accounting by means of ready-made analyses in Excel	The student is able to analyse the correctness of the data used in accounting from the formal and contentual point of view and is able to use Excel to analyse the data	The student is not only able to analyse the correctness of the data which are the basis of statements in finance and accounting from the formal point of view, but also from the substantive point of view, he/she is able to create independently a data correctness analysis in Excel
EK_U04	The student is not able to use ready-made financial and accounting analyses embedded in management systems	The student is able to use ready-made financial and accounting analyses embedded in management systems for management purposes	The student is not only able to use ready-made financial and accounting analyses embedded in management systems for management purposes, but is also able to interpret the obtained results for company evaluation	The student is not only able to use ready-made financial and accounting analyses embedded in management and BI systems for management purposes, but is also able to interpret the obtained results for company evaluation
EK_U05	The student is not able to evaluate the selection of appropriate IT solutions to create a data warehouse	The student is able to assess the selection of appropriate IT solutions for the creation of an indicated, exemplary data warehouse	Students will not only be able to evaluate the selection of appropriate IT solutions for creating a data warehouse, but they will also be able to give examples of data collected for accounting purposes	The student is not only able to evaluate the selection of appropriate IT solutions for creating a data warehouse in accounting and financial management, but is also able to give an example of the use of a selected solution
EK_K06	The student does not perceive the relationship between the reliability of the data in the warehouses and the validity of the analyses created	The student perceives the relationship between the reliability of the data in the warehouses and the validity of the analyses created	The student not only perceives the relationship between the reliability of data in warehouses and the validity of the analyses created, but is also able to discuss the consequences of accepting erroneous results on the decision-making process	The student not only perceives the relationship between the reliability of data in warehouses and the validity of the analyses created, but is also able to discuss the consequences of accepting erroneous results on the decision-making process in accounting and financial management

Verification of learning outcomes	EK symbols for the module/subject					
	W01	W02	U03	U04	U05	K06
Written examination						
Oral examination						
Written credit	X	X	X	X	X	X
Oral credit						
Written colloquium						

Oral colloquium						
Test						
Project						
Written work						
Report						
Multimedia presentation						
Work during exercise	X	X	X	X	X	X
Other (which?) -						

Hourly teaching load and student workload	Full-time studies	Part-time studies
1. Lectures (joint participation of academics and students)	10	8
2. Other forms (joint participation of academic staff and students)	20	10
3. Consultation with the teacher	-	-
Total 1+2+3	30	18
4. Internships (carried out by students on their own)	—	—
5. Student's own work (including homework and project work, preparation for a credit/exam)	20	32
Total 4+5	20	32
SUMMARY 1+2+3+4+5	50	50
Total ECTS credits according to the study plan	2	

Reference literature	<ul style="list-style-type: none"> - Januszewski Arkadiusz, <i>Funkcjonalność informatycznych systemów zarządzania</i>, T.1, Wydawnictwo Naukowe PWN, 2008. - Januszewski Arkadiusz, <i>Funkcjonalność informatycznych systemów zarządzania</i>, T.2, Wydawnictwo Naukowe PWN, 2008. - Mazurek Krzysztof, <i>Zastosowanie technik informatycznych w zarządzaniu</i>, Skrypt WSHiU, 2010.
Complementary literature	<ul style="list-style-type: none"> - Dokumentacja programu COMARCH BUSINESS INTELLIGENCE w formie elektronicznej (pliki PDF) - Dokumentacja programu COMARCH OPTIMA w formie elektronicznej (pliki PDF) - Prezentacje slajdów wykorzystane w trakcie wykładów (w formie dokumentów PDF) - Materiały wdrożeniowe systemów zarządczych (w formie plików PDF) - Wybrane akty prawne <ul style="list-style-type: none"> - Ustawa o rachunkowości, - Ustawa o ochronie danych osobowych, - Ustawa o ochronie praw autorskich, - Rozporządzenie Ministra Pracy i Polityki Socjalnej dot. BHP (w formie plików PDF) - Nowoczesne zarządzanie. Magazyny Comarch ERP – dostępne w formie elektronicznej na stronie www.NZ.comarch.pl <p>(wszystkie materiały uzupełniające dostępne dla studentów poprzez samodzielne pobieranie z serwera FTP)</p>