



COURSE DESCRIPTION

Course code	full-time studies	
	part-time-studies	
Course name	Nowoczesne systemy przetwarzania danych	
Course name in English	Modern data processing systems	
Valid from academic year	2022/23	

PLACEMENT IN THE TEACHING PROGRAM

Field of study	Computer Science
Level of education	1st degree
Studies profile	General
Form and method of teaching classes	Full-time and part-time studies
Specialization	Information Systems
Organizational unit responsible for the course	Katedra Informatyki Stosowanej
Course coordinator	Dr hab inż. Paweł Sitek prof. PŚK
Approved by	Dean of the Faculty of Electrical Engineering, Automatic Control and Computer Science Roman Denziak, KUT prof., DSc, PhD

GENERAL CHARACTERISTIC OF THE COURSE

Course affiliation	General education subject	
Course status	obligatory	
Language	English	
Semester	full-time studies	Semester VII
	part-time-studies	Semester VII
Requirements	Databases	
Exam (YES/NO)	YES	
ECTS	6	

Course form		lecture	classes	laboratory	project	other
Hours per semester	full-time studies	30		30		
	part-time-studies	18		18		

LEARNING RESULTS

Category	Result symbol	Learning results	References to the field of study results
Wiedza	W01	The student knows the basic concepts and models of data warehouses: ROLAP, MOLAP, HOLAP and BigData	INF_W14 INF_W25
	W02	The student has knowledge of the modeling of analytical cubes and the construction of analytical reports and their visualization	INF_W14 INF_W25
	W03	The student has knowledge of BI (Business Intelligence) methods, including basic data mining models	INF_W14 INF_W25
Umiejętności	U01	The student is able to design and implement a data warehouse, prepare data for import, create analytical cubes and generate reports.	INF_U01 INF_U22
	U02	The student is able to use BI tools and methods.	INF_U01 INF_U11
	U03	The student is able to perform analyzes and draw conclusions related to data analysis.	INF_U01 INF_U11
Kompetencje społeczne	K01	The student knows how to prioritize activities.	INF1_K01
	K02	The student is able to work in a team, solve tasks together	INF1_K03

PROGRAM CONTENT

Course form	Course content
lecture	Basic Concepts and Methods for Online Analytical Processing (OLAP)
	Presentation of the individual layers of the OLAP model: integration layers, analysis layers and reporting layers - basic concepts, methods and techniques as well as implementations in the selected OLAP system.
	BI methods and techniques, including basic data mining mechanisms.
laboratory	Design and implementation of a selected data warehouse and preparation of a data set for import.
	Implementation of the integration layer (data import to HD), implementation of the analytical layer (creation of analytical cubes) and implementation of the reporting layer (generation of analytical reports).
	Report visualization and implementation of selected data mining methods.

LEARNING RESULTS VERIFICATION METHODS

Result symbol	Learning results verification methods					
	Oral exam	Written exam	Midterm	Project	Report	Others
W01	X	X				
W02	X	X				
W03	X	X				
U01	X	X			X	
U02	X	X			X	
U03	X	X			X	
K01					X	
K02					X	

ASSESSMENT FORMS AND CRITERIA

Course Form	Assessment Form	Assessment Criteria
lecture	pass with a grade	Obtaining at least 50% of the points in the written and/or oral exam.
laboratory	pass with a grade	Average grade for completing tasks in class and reports.

STUDENT'S VOLUME OF WORK

Bilans punktów ECTS							
Lp.	Activity Type	Student Involvement					unit
		Lec	C	Lab	P	S	
1.	Participation in classes according to the schedule	30	0	30	0	0	h
2.	Other (consultations, exams)	2	0	2	0	0	h
3.	Total with the direct assist of an academic teacher	64					h
4.	Number of ECTS, that students obtains with the direct assist of an academic teacher	3,2					ECTS
5	Hours of unassisted student work	56					h
6	Number of ECTS that student obtains working unassisted	2,8					ECTS
7	Practical classes volume of work	32					h
8	Number of ECTS obtained by student at practical classes	3,2					ECTS
9	Total student's volume of work expressed in hours	120					h
10	ECTS	6					ECTS

REFERENCES

1. Gospodarek T.: Systemy ERP. Modelowanie, projektowanie, wdrażanie, Helion 2015.
2. Landvater D.V., Gray C.D.: MRP II Standard System, Oliver Wight Publications, 1989.
3. Banaszak Z., Kłós S., Mleczko J. :ZINTEGROWANE SYSTEMY ZARZĄDZANIA, PWE ,2016
4. Skrzypek J., Kukuła K., Jędrzejczyk Z.: Badania operacyjne w przykładach i zadaniach, PWN, 2019.

Uwaga: wykaz literatury winien uwzględniać aktualne i dostępne publikacje