



FACULTY: *Economic and Social Sciences*
COURSE: *Economics*
LEVEL OF EDUCATION: *first-level studies (bachelor)*
FORM OF EDUCATION: *full-time*
PROFILE: practical

SUBJECT CARD (Syllabus)

Subject name: Databases				ECTS credits: 3		
Lecturer: according to the list of lecturers and the schedule of classes						
Year: 3	Lectures	Seminars	Laboratory exercises	Exercise	BUNA*	Form of credit*
Semester: 6	0	0	0	24	18	ZO
* E – exam; Z – credit; ZO – passing with a grade, BUNA – without the participation of an academic teacher						
Objective of the subject: <i>Acquisition of basic knowledge about economic information systems, their capabilities and the role they play in economic organizations. Getting acquainted with the functioning of selected, nationwide and global economic information systems. Developing the ability to properly create databases and use databases.</i>						
Didactic methods: <i>assimilation in the environment through exercises and independent access to knowledge through the analysis of problems</i>						
Prerequisites: <i>Knowledge of computer science and economics.</i>						
No	Subject matter of the classes					
I	LECTURES: not applicable					
II	SEMINARS: not applicable					
III	LABORATORY EXERCISES: not applicable					
IV	EXERCISE: Information, data, knowledge. Information as an economic category. Economic information. Types of economic information. Functions of information in socio-economic systems. Information systems in economic organizations. Information processes. Information infrastructure of the modern economy. Databases and their types. Use MS Access to enterprise information management. Database objects. Create and modify a table structure. Import data from spreadsheets. Relationships and joins. Queries and their applications, defining criteria and expressions, sorting and limiting the number of records displayed, using information from multiple tables in queries. Define reports and forms. Macro commands. The use of a spreadsheet to analyze economic data compiled in the form of lists. Filter information. Define criteria, advanced filters, and database functions. Creating tables and PivotCharts - apply functions, view information in different cross-sections, view details, customize the form of charts, attach data to charts. Rules for using SQL database servers. Basic SQL statements and their syntax. Search for information using the structured SQL query language. Create queries and subqueries. Application examples. The Business Intelligence system and its role in meeting the information needs of business entities. BI system architecture. Spatial information systems - information resources of systems, rules of creation. Nationwide economic information systems, examples. Economic information offices. Legal aspects of economic information systems.					
V	BUNA: For the collected data, create a database and define its objects.					
Learning outcomes						
Directional effects – symbol and specification				Objective effects – specification		
in the field of KNOWLEDGE:						



P6U_W	P6S_WG	E1_W01 Has a comprehensive knowledge of the place of economics in the system of sciences, its character, methodology and related to other scientific disciplines, knows and understands the basic terminology of economic sciences along with the application of this practical knowledge in business activities.	<p>Defines basic concepts such as information, data, knowledge in the context of economics. Is able to describe the process of designing and creating databases, characterize various data models. Is fluent in the subject of designing relational databases - knows how to list and well characterize the successive phases of this process.</p> <p>Describes economic laws and economic phenomena and their effects applicable to the subject being implemented. Knows the conditions and rules for making optimal decisions. Can reduce the database schema to the appropriate normal form.</p> <p>Discusses databases, information processes, creating and modifying table structures with data. Can apply this knowledge in practice by building data models for selected examples on his own. Knows the basics of SQL and the rules of its use well.</p> <p>Has knowledge of databases applicable in the enterprise, understands the usefulness of the statistical apparatus in the study of phenomena and processes in economics. It discusses the legal aspects of economic information systems.</p>
P6U_W	P6S_WG P6S_WK	E1_W02 Knows and understands economic conditions, forms and standards, as well as phenomena and processes related to the market. Has knowledge of economic structures and institutions, as well as their elements, characteristics and development.	
P6U_W	P6S_WG	E1_W04 Knows and understands at an advanced level the application of selected mathematical, statistical methods and IT tools for the collection, analysis and presentation of economic and social data and their practical application in professional activities.	
P6U_W	P6S_WG	E1_W06 Knows and understands to an advanced degree the ways of applying and analyzing the results of selected quantitative tools in the description of facts, objects and phenomena concerning various areas of economic functioning and complex dependencies, as well as forecasting future scenarios of economic and social activity.	
in terms of <u>SKILLS</u>:			
P6U_U	P6S_UW	E1_U01 Is able to correctly observe and interpret economic phenomena and economic processes in the context of legal, technological, political and cultural changes.	<p>Thinks and concludes rationally, analyzes economic phenomena using databases. Is able to design a simple relational base.</p> <p>Prepares oral presentations in the field of databases. Knows how to apply basic SQL commands to search for data from a database. Can use SQL to create, modify and manage databases.</p>
P6U_U	P6S_UW	E1_U02 Is able to use his theoretical knowledge and effectively and effectively obtain reliable data from primary and secondary sources to analyze specific economic processes and phenomena in the field of economic disciplines.	



P6U_U	P6S_UW	E1_U03 Is able to properly analyze and prepare accounting and financial documentation for decision-making and accounting purposes and analyze and evaluate the processes and economic and social phenomena taking place.	Interprets and analyzes basic cause-and-effect phenomena. Uses standard analysis tools . Has the ability to improve processes in the field of economic sciences.
P6U_U	P6S_UW P6S_UK	E1_U05 Can find and properly select sources of information, critically analyze, evaluate and synthesize this information, and participate in debate, presenting and discussing different opinions and positions.	
in the field of <u>SOCIAL COMPETENCES:</u>			Is characterized by initiative and independence in professional activities using information systems. Creates behaviors adapting to the different situations in which the company finds itself. Can work in a group when creating a project. Prioritizes database usage. Collaborates on a team to co-author and create questions using the structured SQL query language.
P6U_K	P6S_KR P6S_KK	E1_K01 Is ready to critically assess the level of his knowledge; recognizes the importance of knowledge in solving cognitive and practical problems and consults experts in case of difficulty in solving the problem on his own.	
P6U_K	P6S_KO P6S_KR	E1_K02 Is able to actively cooperate in teams, including international ones, and take on various roles with respect for social, cultural and legal norms, and perform responsible roles in the team, being aware of the decisions they make, and also takes responsibility for the results of their work and the whole team.	
P6U_K	P6S_KO P6S_KR	E1_K05 Understands ethical issues in connection with the tasks and business activities performed, is aware of the importance of professional activities, consistent with the principles of professional ethics and respect for the diversity of views and cultures; cares for the achievements and tradition of the profession	



P6U_K	P6S_KO P6S_KR	E1_K06 Is able to think in an entrepreneurial way and skillfully communicate with the environment; adapts to new situations and conditions, acquires resistance to failure and stress.	Demonstrates the ability to formulate judgments in important social and philosophical matters. Independently complements the knowledge in the use of databases.
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Ways to verify the outcome of this learning (*KNOWLEDGE, SKILLS, SOCIAL COMPETENCES*)

Effects(symbol)	Written exam	Oral exam	Colloquium	Essay/Paper	Homework	Individual presentation	Group presentation	Activity in class	Participation in discussion	Individual project	Group project
E1_W01, E1_W02 E1_W04, E1_W06			X					X		X	
E1_U01... U03, E1_U05			X					X		X	
E1_K01... K06								X	X	X	

Form and conditions of passing the subject: classes in the computer lab, activity in classes, participation in discussions, implementation of an individual project, passing in the form of a colloquium and a project subject to assessment

The student's workload to achieve learning outcomes in hours and ECTS credits

Contact hours with an academic teacher

Types of classes	Number of hours
Participation in lectures	
Participation in seminars	
Participation in exercises	24
Participation in laboratory classes	
Consultations (2 hours for the lecture, 1 hour for training group, conv., sem.)	
Sum of	24

Student's own work divided into time (examples of student work forms)

Form of student work	Number of hours
Preparing for classes	12
Writing a paper/project/essay	
Gathering materials and preparing presentations	
Self-reading	30
Preparing for colloquia/tests	24
Preparing for the written/oral exam in a subject	
Preparation for written/oral credit in a subject	
Sum of	66
Total (contact hours + student's own work)	90
	3 ECTS
1.including the number of ECTS credits for contact hours with the direct participation of an academic teacher	0.5 ECTS
2.including the number of ECTS credits for hours carried out in the form of independent work	2.5 ECTS

Classes with a practical profile

Types of classes	Number of hours
Participation in laboratory exercises	



Preparing for practical credit	30
Sum of	
Number of ECTS credits for practical classes	ECTS 1
Basic literature: (<i>up to 3 items</i>) 1. C. Tanimura, SQL for Data Analysis, O'Reilly Media Inc, Beijing [etc.] 2021. 2. R. M. P. Teate, SQL for Data Scientists – A Beginner's Guide for Building Dates for Analysis, John Wiley & Sons Inc, New York 2021.	
<u>Supplementary literature:</u> 1. D. Bell, SQL: A Step-by-Step Guide for Beginners, Guzzler Media LLC, [b.m.] 2019.	
Acceptance of the Vice-Rector:	