COURSE SHEET

Advanced Database Systems

Academic year 2023-2024

	1. About the program	
1.1	University	University of Piteşti
1.2	Faculty	Sciences, Physical Education and Computer Science
1.3	Department	Mathematics-Computer Science
1.4	Field of study	Informatics
1.5	Cycle of studies	Master
1.6	Study Program / Qualification	Advanced techniques for information processing/ Advanced techniques for
1		information processing

2. Discipline data

A la a vot the a second associate

2.1	2.1 Name of the discipline				Adv	anced Database Sy	/stems				
2.2	2.2 The holder of the course activities			Lect	Lecturer, PhD, Tudose Cristina Vasilica						
2.3	2.3 Holder of laboratory activities			Lect	urer, PhD, Tudose	Cristina Va	silica				
2.4	Year of study	1	2.5	Semester	2	2.6	Type of assessment	E	2.7	Discipline regimen	0

3. Estimated total time

3.1	1	2	3.2	of which course	1	3.3	laboratory	1
3.4	14	28	3.5	of which course	14	3.6	laboratory	14
Distribution of the time fund							ore	
Study	/ by textbook, course support, biblio	graphy a	nd note	S				35
Addit	ional documentation in the library, c	n special	lized ele	ectronic platforms a	and in the	e field		35
Preparation of seminars/ laboratories, themes, papers, portfolios, essays							30	
Tutoring							7	
Examination							15	
Other activities							-	
3.7 Total hours of self-study 122								
3.8	Total hours per semester		1	50				

3.8Total hours per semester3.9Number of credits

4. Preconditions (where applicable)

4.1	Curriculum
4.2	Skills

Ability to analyze and synthesize, programming skills

6

5. Conditions (where applicable)

5.1	Conduct of the course	Room with video projector
5.2	Conducting the seminar/laboratory	Laboratory room with video projector and computer equipment

6. Acquired specific skills

Professional skills	Operation with scientific concepts and methods in the field of information processing in information systems; Development of theoretical concepts and practical methods regarding the process of development and maintenance of computer applications; Advanced information processing; Realization of it projects in an interdisciplinary context;
Transversal competences	Applying the rules of organized and efficient work, of responsible attitudes towards the scientific-professional field, for the creative capitalization of one's own potential, respecting the principles and norms of professional ethics; Efficiently carrying out the activities organized in an interdisciplinary team by assuming execution and leadership functions, with the development of empathic capacities of inter-personal communication, networking and collaboration with various groups; Elaboration of own professional development project; the use of effective methods and techniques for learning, information, research and capacity development, for valuing knowledge, for adapting to the requirements of a dynamic society and for communicating in Romanian and English.

7. The objectives of the discipline

7.1 The general	► The acquisition by students of the basic knowledge, methods and techniques regarding the
objective of the	Advanced Database Systems as well as the modalities of implementation and application to
discipline	concrete situations.
	Cognitive objectives:
	Knowledge of the fundamental principles that govern Oracle Server.
7.2 Specific	Procedural objectives:
objectives	Training skills and ability to work with Oracle databases.
-	Attitudinal objectives:
	Rigor in the design of databases and the implementation of algorithms

8. Contents

8.1	. Course	Nr. hours	Teaching methods	Observations Resources used		
1	Oracle database architecture: Physical storage structures, Logical storage structures	2				
2	SQL: The data definition language, The data manipulation language, Transaction control instructions. Database security: Privileges, roles, users.	4	Explication Description and exemplification			
3	Concurrent access to data and maintaining their consistency: transactions, read consistency, multiversion model, maintaining write consistency, locks, Interlocking.	2	Demonstration Problematization Heuristic	projector Documentary support		
4	PL/SQL - procedural extension of SQL: The structure, features and basic syntax of PL/SQL, The block structure of PL/SQL, Interaction with Oracle; SQL commands in PL/SQL, Control structures, Cursors and how to use them triggers procedures functions and packages	4	conversation Exercise	E-learning platform Zoom		
5	Oracle Application Express (Oracle APEX)	2				
	 F. Ipate, M. Popescu: Dezvoltarea Aplicatiilor de Baze de Date cu Oracle 8 si Forms 6, Editura All, 2000. I. Popescu, L. Velcescu, A. Alecu, G. Florea: Programare avansata in ORACLE 9i, Editura Tehnica, 2003. M. Fotache, C. Strimbei, L. Cretu: Oracle 9i2. Ghidul dezvoltarii aplicatiilor profesionale, Editura Polirom, 2003. V. Al. Grosu, B. Nedelcu, A. Jigau, Baze de date. Indrumar de laborator. Mediul Oracle, Editura Matrixrom, 2018 Oracle® Database - Database Concepts 19C, https://docs.oracle.com/en/database/oracle/oracle-database/19/cncpt/ Oracle Tutorial - https://www.oracletutorial.com/ APEX Tutorials - https://apex.oracle.com/en/learn/tutorials/ V. Paun, C. Tudose - Course notes 					
8.2	2. Applications – Laboratory	Nr.	Teaching	Observations		
1	Privileges, roles, users. Examples	2	Explication Description and exemplification	Blackboard Computer		
2	SQL Examples	4	Case study Exercise Problematization	Video projector Documentary		
3		<u> </u>	Individual support themes E-learning			
Ľ	PL-SQL Examples	6	themes	E-learning		
4	PL-SQL Examples Using APEX	6 2	themes Group work Debate	E-learning platform Zoom		
4 Bil	 PL-SQL Examples Using APEX Diography 1. F. Ipate, M. Popescu: Dezvoltarea Aplicatiilor de Baze de Date of 2. I. Popescu, L. Velcescu, A. Alecu, G. Florea: Programare avansa 3. M. Fotache, C. Strimbei, L. Cretu: Oracle 9i2. Ghidul dezvoltarii a 4. V. Al. Grosu, B. Nedelcu, A. Jigau, Baze de date. Indrumar de la 2018 5. Oracle® Database - Database Concepts 19C, https://docs.oracle database/19/cncpt/ 6. Oracle Tutorial - https://www.oracletutorial.com/ 7. APEX Tutorials - https://apex.oracle.com/en/learn/tutorials/ 8. V. Paun, C. Tudose – Course notes 9. V. Paun, C. Tudose – Laboratory notes 	2 cu Oracle 8 ata in ORA aplicatiilor j borator. M e.com/en/d	themes Group work Debate si Forms 6, Editura CLE 9i, Editura Teh orofesionale, Editura ediul Oracle, Editura atabase/oracle/orac	E-learning platform Zoom All, 2000. nica, 2003. a Polirom, 2003. a Matrixrom, le-		
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Activity Type	10.1 Assessment criteria		10.2 Assessment methods	10.3 Percent of final grade
10.4 Course	Final evalu	lation	Practical test (algorithms and problems)	50%
10.5 Seminar/ Laboratory	Activity (solving proposed problems) Homework		Verification of solutions, practical test Homework check	20% 30%
10.6 Min	imum	* Marks of at least 5 for the laboratory	activity, for the homework and	for the final evaluation

performance standard	 (50% solving the requirements); final grade at least * Set of minimal knowledge for passing the final et - knowledge of the basic principles of Oracle data SQL, PL/SQL. 	st 5. xam: bases, and the fundamental elements of
Data of completion	Course helder	l eksystem (kelder

Date of completion 19.09.2023

Course holder Lect. PhD Cristina Vasilica Tudose Laboratory holder Lect. PhD Cristina Vasilica Tudose

Date of approval in the DepartmentDirector Department (provider)19.09.2023Assoc.prof. PhD Doru CONSTANTIN

Director Department (*beneficiary*) Assoc.prof.PhD Doru CONSTANTIN