

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	Database Systems				
Head of course	PhD Marin Kaluža, College Professor				
Study programme	Professional undergraduate study Information Science				
Status of a course	Obligatory				
Year of study	2	Semester	IV	ECTS credits	5
Teaching plan (L + E + S+ Pr)	2L+2E				
Goals of a course					
Acquiring knowledge and competences on design procedures, methods of structuring, and capabilities and limitations of databases. Acquiring competencies in the application of SQL in managing structure and data in a relational database.					
Conditions for enrolling course					
Fundamentals of informatics, Logical elements of information, Modelling of data and processes					
Learning outcomes on a level of a study programme which includes course					
Outcome 2: Apply business information system design methods. Outcome 4: Develop an application solution for the Internet and desktop environment. Outcome 6: Apply appropriate business information system protection techniques. Outcome 11: Apply mathematical and statistical methods in information science. Outcome 12: Apply engineering methods and principles in information science. Outcome 14: Participate in teamwork. Outcome 15: Independently present professional content in written and spoken form in Croatian and English.					
Expected learning outcomes on a level of a course					
1. Distinguish constructs of conceptual, logical and physical data models. 2. Describe the physical structure of the database and explain the differences between a traditional file organization and DBMS database organization. 3. Construct a normalized data model, and use SQL to create a database scheme. 4. Use SQL to manipulate the data and structure in a database. 5. Explain the process and distinguish database development steps. 6. Investigate some of the offered specific capabilities and applications of the database system, and present the results of research learning.					
Content of a course					
Concept and definition of databases. Logical link between data. Relational databases, relational models of data. Updating a relation, the goal of modelling relational databases. Relational operators, functions of dependence, fuzzy dependence and dependent links. DE compilation of relational scheme. Normal form, non-normalized relational databases. Databases with incomplete information. Logic and databases. Object-oriented databases. SQL. Systems for managing databases. Updating databases. Integrity and security of databases. Distributed databases. Through exercises students implement what they learn during lectures. Practical part of the exercises is carried out on the corresponding systems of database management.					
Teaching modes	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____		
Comments					
Students' obligations					

Grading, evaluation and monitoring of students' work continuously during lectures and exams

Grading is based upon evaluation of course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of students.

Continuous check-up:

Outcomes	Theoretical exam	Practical exam 1	Practical exam 2	Seminar work and presentation	Threshold	Max
Outcome 1	10%				5%	10%
Outcome 2	10%				5%	10%
Outcome 3		20%			10%	20%
Outcome 4		5%	25%		15%	30%
Outcome 5	10%				5%	10%
Outcome 6				20%	10%	20%
Percentage of ECTS	1,5	1,25	1,25	1		
Total	30%	25%	25%	20%	50 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Exam term:

Outcomes	Theoretical part	Practical part SQL (computer exam), Seminar work and presentation	Max
Outcome 1	10%		10%
Outcome 2	10%		10%
Outcome 3		20%	20%
Outcome 4		30%	30%
Outcome 5	10%		10%
Outcome 6		20%	20%
Percentage of ECTS	1,5	3,5	
Total	30%	70%	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Grading:

A student has passed the exam if he has acquired at least 50% of anticipated credits of a specific learning outcome.

If a student has passed learning outcomes of all courses, the accomplished credits (percentages) of all passed learning outcomes are being added, while the final grade is defined upon following table:

Range of credits (percentages)	Numerical grade	ECTS grade
90,00 – 100,00	Excellent (5)	A
75,00 – 89,99	Very good (4)	B
60,00 – 74,99	Good (3)	C
50,00 – 59,99	Sufficient (2)	D
0,00 – 49,99	Insufficient (1)	F

Obligatory literature

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| <ol style="list-style-type: none">1. Kaluža, Marin: Sustavi baza podataka, Skripta, Veleučilište u Rijeci, Rijeka, 2008.2. Materials used in lectures and exercises from the course Database Systems; available on Moodle. |
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Additional literature

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| <ol style="list-style-type: none">1. Pavlić, M.: Oblikovanje baza podataka, Sveučilište u Rijeci, Rijeka, 2011.2. Pavlić, M: Informacijski sustavi, Sveučilište u Rijeci, Rijeka, 2009. |
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