



## UNIVERSITY OF MITROVICA “ISA BOLETINI”

<b>Course Curriculum Model (Syllabus)</b>		
<b>Faculty:</b>	Faculty of Mechanical and Computer Engineering	
<b>Department:</b>	Computer Science and Engineering	
<b>Level:</b>	VI	
<b>Code of the course:</b>	205-CSE	
<b>Course:</b>	Database Systems	
<b>Course Status:</b>	Obligatory	(mandatory)
<b>Semester:</b>	III	(winter)
<b>Number of hours per week:</b>	2+2	
<b>ECTS:</b>	5	
<b>Time / location:</b>		
<b>Year of studies:</b>	II	
<b>Lecturer:</b>	Ass. Berat Ujkani, PhD Cand.	
<b>Assistant:</b>		
<b>Contact details:</b>	Lecturer	Assistant
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<b>Content</b>	During this course is expected to be presented the basic knowledge related to database systems. This includes understanding of database design, their implementation, and their appearance while using Entity relations diagrams.
<b>Purpose</b>	Considering the importance of databases nowadays for many different applications, the development of this course is an important factor in the development of technology and also in a better operation- related activities to institutions, organizations and companies.
<b>Accessibility</b>	<ul style="list-style-type: none"> <li>• The students will be able to learn DMBS logic, application and concepts</li> <li>• The students will become proficient at modelling databases at a conceptual and physical level of design.</li> <li>• The students will be able to develop database schemas that enforce data integrity</li> <li>• The students will become knowledgeable in the creation, altering, and manipulation of tables, indexes, and views using relational algebra and SQL.</li> <li>• The students will be able to apply normalization of databases</li> <li>• Students will be able to design a DB according to the requirements of a given application</li> </ul>

Program	weeks	Lecture
	<b>First week:</b>	Database-System Applications
	<b>Second week:</b>	Structure of Relational Databases
	<b>Third week:</b>	The Relational Algebra
	<b>Fourth week:</b>	Overview of the SQL Query Language
	<b>Fifth week:</b>	Intermediate
	<b>Sixth week:</b>	SQL Data Types and Schemas
	<b>Seventh week:</b>	Advanced SQL
	<b>Eighth week:</b>	Functions, Procedures and Triggers
	<b>Ninth week:</b>	Database Design Using E-R Model
	<b>Tenth week:</b>	Extended E-R Features
	<b>Eleventh week:</b>	Features of Good Relational Designs and Normal Forms
	<b>Twelfth week:</b>	Application Programs and User
	<b>Thirteenth week:</b>	Big Data Storage Systems
	<b>Fourteenth week:</b>	Query Processing
	<b>Fifteenth week :</b>	Transformation of Relational Expressions
<b>Literature</b>	<b>Principal literature:</b> <ul style="list-style-type: none"> <li>● A. Silberschatz, H. Korth, S. Sudarshan, Database System Concepts, 7<sup>th</sup> Edition, 2020</li> </ul> <b>Recommended Literature:</b> <ul style="list-style-type: none"> <li>● Carlos Coronel, Steven Morris, and Peter Rob, "Database Systems: Design, Implementation, and Management", 9th Edition, 2010</li> <li>● Hector Garcia-Molina, Jeffrey D. Ullman and Jennifer Widom, Database systems: The complete book, 2009.</li> </ul>	
<b>Teaching methodology</b>	Learning outcomes will be met by lectures, demonstrations, presentations, in-class exercises, in class practice and programming project. Students are expected to read assigned material prior to attending lectures in order to allow them participate actively with comments and questions during lectures.	

**Contribution to student workload (which should correspond to student learning outcomes  
- 1 ECTS credit = 25 hours)**

<b>Activity</b>	<b>Hours</b>	<b>Days/weeks</b>	<b>Total</b>
Lectures	2	15	30
Exercise sessions (with TA)	2	15	30
Practical work	0	0	0
Office hours	1	15	15
Fieldwork	0	0	0
Midterms, seminars	2	2	4
Homework	2	2	4
Self-study	1	20	20
Final exam preparation	2	9	18
Time spent in exams	2	1	2
Projects, presentations, etc	2	1	2
<b>Total</b>			<b>125</b>

**Evaluation**

<b>Teaching methodology:</b> (according to the Statute and Regulation for studies of UMIB)	
Tests / Colloquia	60%
Practical test during exercises	10%
Seminary work	-
Interpretation and presentation of artistic creativity and other works	-
Assignments and other courses during the semester	10 %
Professional activities	-
Others (specify) -	-
Final exam	20%

**Academic policies**

The Professor sets the criteria for regular attendance at lectures and exercises and the rules of ethics such as keeping calm in class, turning off cell phones, entering the hall on time, etc.

The students are expected to behave in correct and professional manner. They can cooperate and discuss papers and projects among themselves, but the submitted papers and projects need to be unique and individual. Each student will be graded individually, based on evaluation methods. No copying between students or the presentation of solutions received from unauthorized books or other online resources will be tolerated. Eventual cases of violation of academic conduct and norms will be reported to the management of the Faculty.

The achieved performance will be evaluated according to the following table:

<b>Points</b>	<b>Grade</b>
50 - 59.9	6
60 - 69.9	7
70 - 79.9	8
80 - 89.9	9
90 - 100	10

**Mitrovica**

**Course provider:**

Ass. Berat Ujkani, PhD Cand.

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(Signature)