MAHARISHI INTERNATIONAL UNIVERSITY

CS422

DATABASE SYSTEMS

UMUR INAN, M.Sc.

Assistant Professor of Computer Science

Maharishi International University is an Equal Opportunity Institution.

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CS422
DATABASE SYSTEMS
Course Overview

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1	Introduction to Databases	Relational Model	SQL - DDL	SQL DML 1	SQL DML 2	SQL DML 3
Week 2	Project Day I	Project Day II	Project Day III	Normalization	Indexing	Query Processing
Week 3	Transactions & Isolation Levels	Introduction to NoSQL	Review	Final	Project Day I	Project Day II
Week 4	Project Day III	Project Day IV	Project Day V	Project Presentation		

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Evaluation Criteria

Final	60%
Assignments	10%
Project 1	15%
Project 2	15%
Attendance and Etiquette	0% - **-5%**

Grading Scale

92 - 100	A
88 - 91	A-
84 - 87	B+
79 - 83	B
75 - 78	B-
71 - 74	C+
66 - 70	C
62 - 65	C-
0 - 62	NC

Course Goal

This course will teach you a wide range of these concepts and the underlying principles behind

Databases – designing and working with them. You will learn the fundamental concepts, techniques and best practices used in the design, implementation and management of Databases and the Software solutions built on them. The techniques and tools covered will mostly be centered around, though not limited to, Relational (SQL) Database (e.g. MySQL) and NoSQL database (e.g. MongoDB).

We will study how to analyze and understand a given business domain problem and elicit the correct data requirements from it and use techniques in modern Data modeling to produce an optimal Database design that will form part of a typical software solution.

Topics will include:

- Data modeling – for both Relational and Non-relational data models
- Problem Analysis from requirements specification
- Entity-Relationship modeling
- Steps in Conceptual and Logical Database designing
- Physical database implementation and management
- Structured Query Language
- NoSQL Data modeling and Querying.

Contact Info

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Class Attendance

Attendance at all classes is required because all elements of class lectures, questions, and answers, discussions, laboratory work — contribute to the learning process. Absences are usually excused only if you are sick in bed or have a family emergency.

If you must miss a class, please let your instructor know ahead of time. Call, send an email, or send a note to a friend. There is no such thing as a “personal day.” If you have personal business to take care of, please schedule it for after class or during the days between blocks. At the same time, it may occasionally be necessary for you to miss a class (or part of a class) for some reason other than illness or a family emergency. Please speak with the instructor beforehand, who will be open to considering your needs.

The first lesson of each course is the most important. Students are expected to be present from the first lesson onward. Any student who is not present on the first morning (except for such compelling reasons as illness or family emergency) may be asked to withdraw from the course. Unexcused absences may result in the student receiving a grade of NC (No Credit) for the whole course.

Punctuality

Punctuality is expected and required in the professional world. People commonly lose

their jobs for being late — especially new college graduates unfamiliar with professional expectations. Colleges and universities have come under criticism for not properly preparing students in these values.

Therefore, we place a similarly high value on arriving on time for every class session. If students are late, they disrupt the learning environment and may miss the wholeness of the lesson. Coming late is unprofessional and shows a lack of courtesy to the instructor and fellow students.

Thus, the faculty request that students arrive a couple of minutes early, so everyone is seated and settled when the class begins. Well, begun is half done. Punctuality also extends to returning from the class break in a timely fashion (as announced by the professor at the beginning of the break). The instructor should not need to go out and round up students. If you need to be late to class for some reason beyond your control (a dentist's appointment, for example), please arrange that with me ahead of time.

Class Participation

American companies (and universities) expect employees (and students) to be active participants in discussions about projects and plans. Our classrooms are a great environment to get used to being a more active participant. Being an active participant means volunteering information and asking questions from your side—i.e., raising your hand to make a comment or ask a question without being prompted by the professor. This should always be done in a polite manner, but it is not sufficient to sit silently and passively unless called upon