

Database Management System

IT 261

Bachelor of Information Technology

Prepared by Dr. Khaled Eskaf
Professor of Intelligent System

Lecture: Intro





1-Khaled Eskaf: Professor of Intelligent System.

2-Ph.D. in Computer Science from the University of Salford in the UK.

▪ **Academic Experience:**

3-held several academic positions in Middle East, UK, and Canada.

4-served as assistant professor, department head of the Faculty of Computing and Information Technology at several universities.

▪ **Research Focus:**

5-Researcher in AI, machine learning (ML), deep learning (DL), and robotics

6-Applies intelligent systems in medical fields and climate change

• **Work Experience:**

7- Over 20 years of experience in education at universities and colleges.

8- working in MILA as mentor for graduate students in Canada, and teaching computer science courses and robotics.

9- International Expert Judge for robotics competitions, First Robotics-Canada and MakesX Mbot Robotics competition.



Learning Objectives

This course is centered on the comprehensive study and application of relational database management systems (RDBMS), with a specific focus on analysis, design, normalization, and implementation techniques. It's tailored to provide a robust understanding of how relational databases function and how they can be effectively utilized and managed using MySQL, a popular open-source relational database management system.



By the end of this course, you will not only understand the theoretical aspects of database management but will have also navigated the practical challenges and solutions in MySQL.

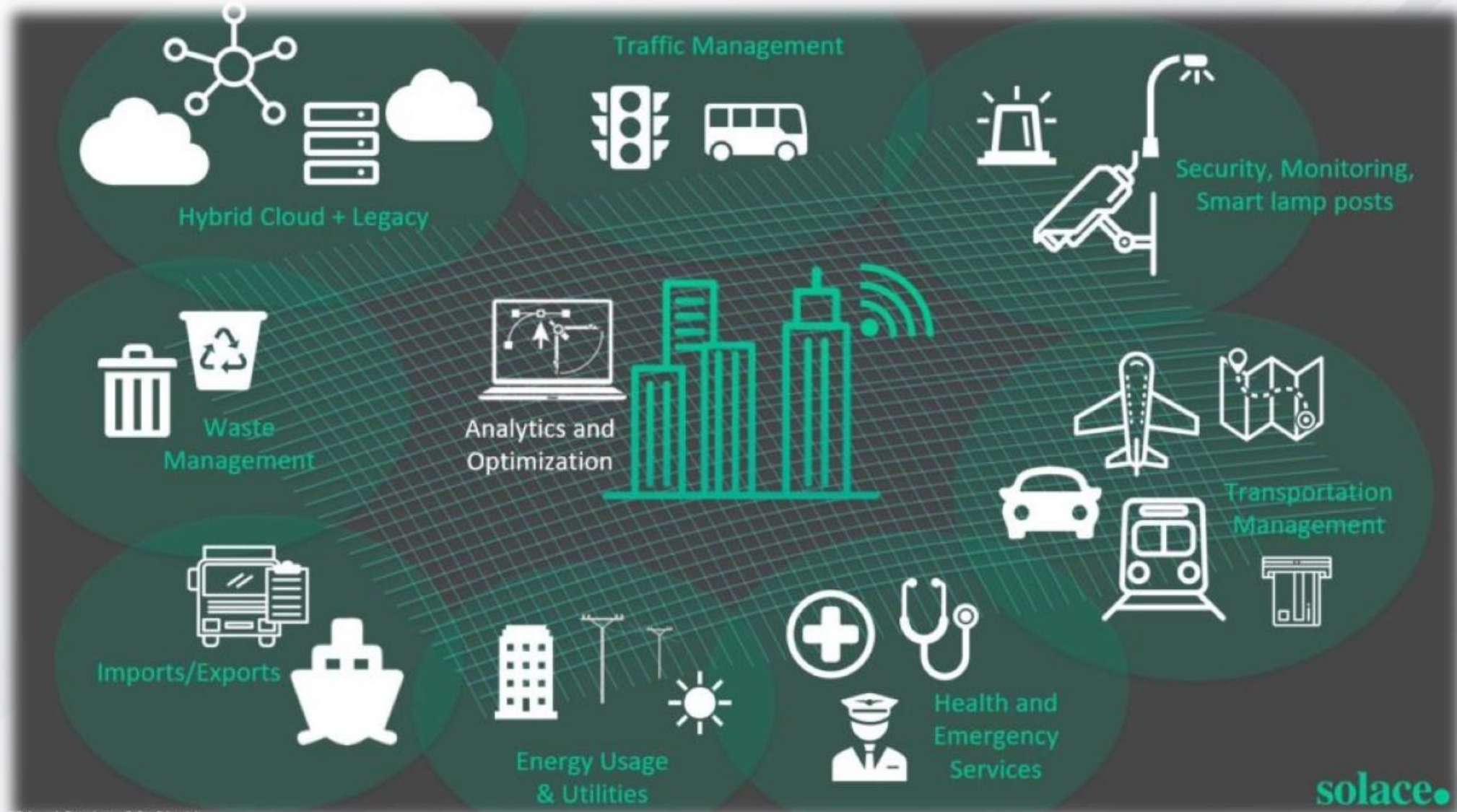


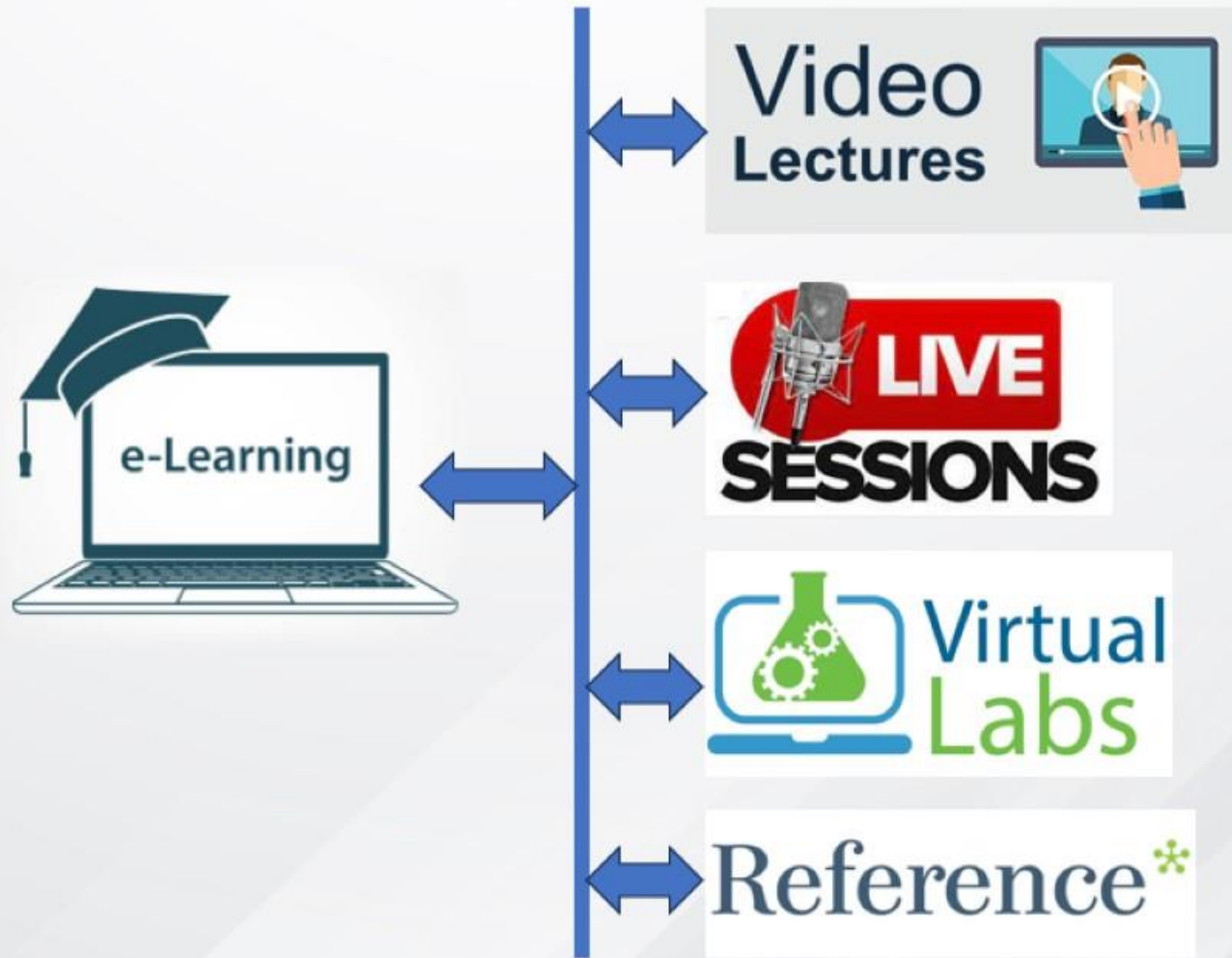


Course Outlines

Week	Topic	Objective	MySQL Practical Activities
1	Introduction to Database Concepts	Understand basic database concepts.	Install MySQL, explore the interface, create a basic database.
2	Relational Data Model	Learn about the relational data model.	Create relational tables in MySQL.
3	Relational Integrity Rules	Understand relational integrity constraints.	Implement primary and foreign key constraints in MySQL.
4	Relational Algebra and Basic SQL	Explore relational algebra and basic SQL commands.	Use basic SQL queries in MySQL.
5	Advanced SQL Queries	Delve into complex SQL operations.	Execute advanced SQL commands in MySQL.
6	Introduction to Database Normalization	Begin learning database normalization principles.	Apply the first normal form (1NF) in MySQL.
7	Advanced Database Normalization	Explore advanced normalization techniques.	Normalize a database in MySQL to 2NF and 3NF.
8	Data Modeling and ER Diagrams	Understand data modeling and ER diagrams.	Create an ER diagram and implement it in MySQL.
9	Database Design for Real-World Apps	Apply database design to real-world scenarios.	Develop a database schema based on a real-world example.
10	Project and Review	Apply all learned concepts in a comprehensive project.	Complete a project in MySQL incorporating all learned skills.

Smart City Data Base Management





توزيع الدرجات - 100%	الأعمال
حضور المحاضرة - حل الأسئلة المصاحبة	محاضرة مسجلة أسبوعيًا- السبت من كل أسبوع
8 درجات لكل اختبار قصير - بمجموع 80 %	اختبار قصير مصاحب للمحاضرة بشكل أسبوعي
الحضور اختياري	حلقة نقاش افتراضية أسبوعية لمناقشة محتوى المحاضرة المسجلة.
20%	الاختبار النهائي

- يتم احتساب الغياب من خلال حل الطالب للاختبار القصير المصاحب للمحاضرة المسجلة الأسبوعية، وإذا تغيب الطالب عن 4 اختبارات قصيرة يعتبر الطالب في هذه الحالة حرمان.
- آخر موعد للاعتذار عن أي اختبار قصير يكون قبل إغلاق موعد الاختبار مع إرفاق الدلائل الثبوتية لأي أعذار قهرية أو مرضية عبر نموذج الأعذار عن اختبار قصير عبر منصة SIS.
- آخر موعد للاعتذار عن الاختبار النهائي يكون قبل موعد عقد الاختبار مع إرفاق الدلائل الثبوتية لأي عذر قهري أو طبي عبر نموذج الأعذار عن اختبار نهائي عبر منصة SIS، ولن يتم احتساب أي أعذار بعد نهاية الموعد.
- يحق لإدارة الجامعة مراعاة بعض الظروف القهرية.



Thank You