GLOBAL SUMMER PROGRAMME 2027

IS1055S BUSINESS DATA MANAGEMENT

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COURSE DESCRIPTION

By precisely documenting, consistently updating, and efficiently tracking data, organizations can tackle challenges and harness the vast potential offered by this sector. Database management systems play a vital and essential role in both the creation and administration of data, serving as critical components for the effective operation and governance of data.

This course will cover the fundamentals of relational database theory, important data management concepts such as data modelling, database design, and database implementation in current business information systems.

Students are expected to apply knowledge learned in the classroom to solve many problems based upon real-life business scenarios, while gaining hands-on experiences in designing, implementing, and managing database systems. The students will be given hands-on class activities to enable a problem-based learning environment.

LEARNING OBJECTIVES

By the end of the course, students will be able to:

- Understand the data requirements in various business domains
- Understand the role of databases in integrating various business functions in an organization
- Understand data modelling, conceptual, logical and physical database design
- Apply the fundamental techniques of data modelling to various scenarios
- Query a database using Structured Query Language (SQL)
- Gain familiarity with a commercial database tool (MySQL)
- Be aware of common issues of business database design and maintenance

PRE-REQUISITES / REQUIREMENTS / MUTUALLY EXCLUSIVE COURSE(S)

This course does not require any pre-requisites.

ASSESSMENT METHODS

Type of Assessment	Weight
Individual assessments • Class participation • Quizzes	55%
Course Project (Teams) • Project proposal • Project prototype and final presentation	45%
Total	**100%**

INSTRUCTIONAL METHODS AND EXPECTATIONS

Instructional Method	Expectations
Lecture: Total 12	Student must attend and participate in the seminar-room lectures
In class individual and team activities	Students are expected to submit the results of the activities in their folders via e-learn
Guided Labs	Non-graded class activities to help students gain skills with the digital tools.
Team Project	2 presentations, 1 functional prototype

CONSULTATIONS

By appointment

RECOMMENDED TEXT AND READINGS

Jeffrey A. Hoffer, Ramesh Venkataraman, Heikki Topi: Modern Database Management, Global Edition, 13th Edition, published by Pearson Education Limited 2020 [Earlier versions are fine too]

Class notes, articles, and references

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All work (whether oral or written) submitted for purposes of assessment must be the student's own work. Penalties for violation of the policy range from zero marks for the component assessment to expulsion, depending on the nature of the offense.

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LESSON PLAN	
LESSONS	**TOPICS**
LESSON 1	*Concept of Data Management and the Database Environment* *Managing Data in the Organization*
LESSON 2	*Business Requirements and Business Rules* *Entity Relationship Modelling*
LESSON 3	*Entity Relationship Modeling* *Project Phase1 Discussion & Consultation*
LESSON 4	*Logical Database Design*
LESSON 5	*Quiz1 – Entity Relationship Modelling* *Project Phase1 Presentation*
LESSON 6	*Guest Speaker – TBC* *Project Phase1Feedback & Consultations* *MySQL Setup & Installation*
LESSON 7	*Quiz2 – Logical Database Design* *SQL: DML*
LESSON 8	*SQL: Single Table*
LESSON 9	*SQL: Join Tables*
LESSON 10	*SQL: Subquery*
LESSON 11	*Quiz3- SQL* *Project Phase2 Implementation & Consultations*
LESSON 12	*Project Phase2 Presentation*