



GLOBAL SUMMER PROGRAMME 2024

IS105S BUSINESS DATA MANAGEMENT

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A. 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.

B. 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 tools (MySQL)
- Be aware of common issues of business database design and maintenance

C. PRE-REQUISITES / REQUIREMENTS / MUTUALLY EXCLUSIVE COURSES (IF ANY)

This course does not require any pre-requisites.

D. ASSESSMENT METHODS / GRADING DETAILS

Type of Assessment	Weight
Individual assessments <ul style="list-style-type: none"> • Class participation (10%) • Quizzes (45%) 	55%
Course Project (Teams) <ul style="list-style-type: none"> • Project proposal (15%) • Project video (10%) • Project prototype and final presentation (20%) 	45%
Total	100%

E. ACADEMIC INTEGRITY

All acts of academic dishonesty (including, but not limited to, plagiarism, cheating, fabrication, facilitation of acts of academic dishonesty by others, unauthorized possession of exam questions, or tampering with the academic work of other students) are serious offences.

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.

When in doubt, students should consult the instructors of the course. Details on the SMU Code of Academic Integrity may be accessed at <https://oasis.smu.edu.sg/Pages/DOS-WKLSWC/UCSC.aspx>

F. ACCESSIBILITY

SMU strives to make learning experiences accessible for all. If students anticipate or experience physical or academic barriers due to disability, please let the instructor know immediately. Students are also welcomed to contact the university's disability services team if they have questions or concerns about academic provisions: dss@smu.edu.sg.

Please be aware that the accessible tables in the seminar room should remain available for students who require them.

G. 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 video, 1 functional prototype

H. CLASSROOM POLICIES

As required per Singapore Management University

I. IMPORTANT ASSIGNMENT DATES

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|----|---------------------------------------------|-----------|
| 1. | Quiz 1 – ER Modeling | Lesson 4 |
| 2. | Quiz 2 – Logical Design | Lesson 7 |
| 3. | Quiz 3 – SQL | Lesson 11 |
| 4. | Team Project Proposal Presentation | Lesson 5 |
| 5. | Team Project Video/Prototype Presentations: | Lesson 12 |

J. CONSULTATIONS

By appointment

K. RECOMMENDED TEXT / READING LIST / CASE STUDIES LIST

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

LESSON PLAN	
LESSONS	TOPICS
LESSON 1 Tuesday 25 June	Concept of Data Management and the Database Environment
LESSON 2 Wednesday 26 June	Managing Data in the Organization
LESSON 3 Thursday 27 June	Enhanced E-R Model and Business Rules
LESSON 4 Tuesday 2 July	Quiz1 – ER Modelling Logical Design: Relational Model
LESSON 5 Wednesday 3 July	Project Proposal Presentation
LESSON 6 Thursday 4 July	Guest Speaker – TBC SQL: MYSQL setup & installation

LESSON 7 Tuesday 9 July	Quiz2 – Logical Design SQL: DML
LESSON 8 Wednesday 10 July	SQL: Select from Single Table
LESSON 9 Thursday 11 July	SQL: Join Tables
LESSON 10 Tuesday 16 July	SQL: Subquery
LESSON 11 Wednesday 17 July	Quiz3 – SQL Project implementation & consultations
LESSON 12 Thursday 18 July	Project prototype demo, video & presentation Peer reviews