Unit of Study: BIS1002 Data and Information Management

Overview:

This unit provides a solid foundation for the design, implementation, and management of database systems. Managing organizational data and information stored in various systems are introduced focusing on the role of data and information management within the firm and developing database management systems. It highlights the skills required to identify and model organizational data and information using data modelling techniques. Topics covered include: logical and physical design of database systems; SQL language and data warehousing. Key implementation and management concepts, including building the necessary processes and systems to transform the data and information into meaningful knowledge in several contemporary industrial scenarios and make effective decisions.

Course(s)	Diploma of Business Information Systems Bachelor of Business Information Systems Bachelor of Information Technology
Credit Points	6 credit points
Duration	12 weeks (10 teaching weeks; 1 revision week; 1 final assessment week)
Level	Undergraduate Introductory
Student Workload	Students should expect to spend approximately 10 hours per week over 12 weeks (totalling approximately 120 hours) on learning activities for this unit.
Mode(s) of Delivery	On campus, Blended
Pre-Requisites	N/A
Unit Coordinator	As per current timetable
Contact Information	Consultation: 1 hour scheduled session

Unit Learning Outcomes

On successful completion of this unit, students will be able to:

ULO-1: Understand and evaluate the role of database management systems in information technology applications within organisations.

ULO-2: Identify organisational requirements for data and develop data models using conceptual data modelling techniques.

ULO-3: Explain and apply database design techniques for relational database systems.

ULO-4: Derive a physical design for a database from its logical design.

Weekly Schedule

Detailed information for each week's activities can be found on Unit's Weekly Modules in Canvas.

Week	Topic
Week 1	Introduction to Database Management System
Week 2	Conceptual Modelling and Entity-Relationship diagram
Week 3	Conceptual Modelling and Enhanced Entity-Relationship diagram
Week 4	Logical Database Design and Relational Model
Week 5	Physical Design. MySQL database.
Week 6	Database normalization
Week 7	SQL
Week 8	Advanced SQL
Week 9	Data Warehousing (Part 1)
Week 10	Data Warehousing (Part 2)
Week 11	REVISION
Week 12	FINAL ASSESSMENT

Assessments

1. All assessments are compulsory.
2. To pass the unit students must:
    - achieve a total of 50% or more of marks offered; and
    - pass all individual invigilated assessments; and
    - have attempted all assessments.

    Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision.
3. The Board of Examiners may grant a supplementary assessment where a student:
    - achieves a total of 45% or more; and
    - has passed all individual invigilated assessments in the unit; and
    - has attempted all assessments; and
    - has a recommendation for supplementary assessment by the Unit Coordinator and the Head of Discipline.

    Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision. Attendance and engagement in class will be considered.
4. APIC awards common result grades as set out in the Award of Grade Policy.
5. Detailed information for each assessment can be found on the Unit's Home Page and in the Assessment Brief.

Assessment Task	Type	Weighting	Due	Length	ULO
Assessment 1: Database Interrogation Practical exercises assess students' ability to apply theoretical learning to practical, real world situations on a weekly basis.	Individual  Invigilated 	40%	Weeks 2, 4, 6, 8, 10	2500 words	ULO-1 ULO-2 ULO-3 ULO-4
Assessment 2: Applied Project -1 Design a relational database system for a specify organization. The design covers ERD, modelling the rules of organisation, entities and attributes and relationships.	Individual 	30%	Week 7	2500 words	ULO-1 ULO-2 ULO-3
Assessment 3: Applied Project –2 Design and implement and physical data-based system according to specified requirements. The design convers the process of logical and physical design. The students have to implement the proposed design and demonstrate the use of SQL language.	Group 	30%	Week 12	2500 words	ULO-1 ULO-2 ULO-3 ULO-4

equiv. – equivalent word count based on the Assessment Load Equivalence Guide. It means this assessment is equivalent to the normally expected time requirement for a written submission containing the specified number of words.

Course Reserve

Course Reserve includes all required resources and reading material for the unit of study. You can access Course Reserve via APIC Library or via the Course Reserve link on the unit's homepage.

Prescribed text(s):

Hoffer, JA, Ramesh, V & Topi, H 2020, *Modern database management*, 13th edn, Global edn, Pearson, New York.

Recommended Readings:

Pathak, N 2007, *Database Management System*, Global Media, viewed 10 Sep 2021, E-book Central (ProQuest).

Stair, R, & Reynolds, G 2017, *Fundamentals of Information Systems*, Cengage, viewed 10 Jan 2021, E-book Central (ProQuest).

Olson, DL 2018*, Data Mining Models*, 2nd edn, Business Experts Press, US.

Other Recommended Resources:

The Data Warehousing Institute: www.twdi.org

SQL online training - 1: www.sqlcourse.com

SQL online training – 2: www.sqlcourse2.com

Diagram drawing tool: https://app.diagrams.net

SQLite web site: https://sqlite.org

W3schools SQL: https://www.w3schools.com/sql/

Tutorialspoint SQL: https://www.tutorialspoint.com/sql/index.htm

Academic integrity

Ethical conduct and academic integrity and honesty are fundamental to the mission of APIC and academic misconduct will not be tolerated by the College. It is the responsibility of every student to make sure that they understand what constitutes academic misconduct and to refrain from engaging in it. Please refer to APIC's Academic Integrity Policy for further details.

Other Important Information and Links

Special consideration If your academic work is impacted by significant documented illness, hardship, or other adverse circumstances beyond your control, you may make an application for Special Consideration. Please refer to the Assessment Policy for further details.	**Late submission** Penalties apply when work is submitted after the due date without approval. Please refer to the Assessment Policy for information about late submission.
Assessment appeals If you are concerned about a mark you have received for an assessment or final grade, you may apply to formally appeal the grade. Please see the Assessment Policy for further details.	**Award of grades** APIC awards common result grades, set out in the Award of Grade Policy.
Expectations of student conduct Students are expected to conduct themselves in a manner that is consistent with a safe and respectful study environment. More information can be found in the Student Code of Conduct.	**Study resources** APIC Library and Student Learning Support resources and services can be accessed via the Student Lounge or your Dashboard on the OLS (Canvas).
Student Services The Student Services team provides administrative support for students and handles enquiries about enrolment, timetables, important dates and submitting forms. More information can be found on the Student Services page on the OLS (Canvas).	**Key dates** Key dates through the academic year, including teaching periods, census, payment deadlines and exams can be found on the Academic Calendar section of the APIC website.

Changes and Updates to the Unit of Study Guide

This Unit of Study Guide may be updated and amended from time to time. Students will be notified of any changes to the unit via the Online Learning System (Canvas) space for the unit.

This Unit of Study Guide was last modified on 31st August 2022.