INFS 2001 DATABASE DESIGN AND DEVELOPMENT

Credit Points 10

Legacy Code 300104

Coordinator Junda Lu (https://directory.westernsydney.edu.au/search/name/Junda Lu/)

Description The main purpose of this subject is to provide students with an opportunity to gain a basic knowledge of database design and development including data modelling methods, techniques for database design using a set of business rules that are derived from a case study and finally implementation of the database using a commercial relational database management system. Through group work and tutorial practicals, students examine a number of important database concepts such as database administration, concurrency, backup and recovery and security whilst developing their professional communication and team work skills.

School Computer, Data & Math Sciences

Discipline Database Management

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 2 subject

Equivalent Subjects INFS 2003 - Database Design and Development (WSTC)

Incompatible Subjects LGYA 4371 - Database Management System for Business Information Systems

Assumed Knowledge

Basic programming skills, including variable declaration, variable assignment, selection statement and loop structure.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Describe components of a database system, advantages and disadvantages of a database system, roles peoples play and the historical development of a database system in the context of a Relational Database Management System (RDBMS).
2. Apply basic skills in database modeling, including ER diagrams and normalization in RDBMS.
3. Explain the basic concepts of relational algebra and apply them in queries.
4. Describe the general concepts of transaction management.
5. Identify concepts in database administration.
6. Describe concepts in database security and backup.
7. Define and manipulate data using structured query language (SQL)
8. Design and develop a database for a business application using a commercial database management system

Subject Content

- Introduction to database concepts and ANSI Spark 3 level architecture.
- concepts in data modeling.
- integration of data and data independence.
- Translating A case Study into relational concepts and integrity constraints.
- introduction to relational algebra.
- data modelling: conceptual, logical and physical database design.
- data Definition and manipulation using SQL.
- EER concepts with generalization and specialization.
- Anomalies in databases and data normalization.
- introduction to database security and administration.
- introduction to transaction management, concurrency and locking.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Case Study	maximum 2000 words in no more than 20 pages	15	N	Group	N
Applied Project	maximum 2000 words (excluding SQL source code) in no more than 20 pages	15	N	Group	N
Practical	Refer to additional information below for details	20	N	Individual	N
Final Exam	2 hours	50	Y	Individual	Y

Teaching Periods

Sydney City Campus - Term 1 (2025)

Sydney City

On-site

Subject Contact Antoinette Cevenini (https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS2001_25-SC1_SC_1#subjects)

Sydney City Campus - Term 2 (2025)

Sydney City

On-site

Subject Contact Antoinette Cevenini (https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS2001_25-SC2_SC_1#subjects)

Spring (2025)

Campbelltown

On-site

Subject Contact Junda Lu (https://directory.westernsydney.edu.au/search/name/Junda Lu/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS2001_25-SPR_CA_1#subjects)

Penrith (Kingswood)

On-site

Subject Contact Junda Lu (https://directory.westernsydney.edu.au/search/name/Junda Lu/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS2001_25-SPR_KW_1#subjects)

Parramatta - Victoria Rd

On-site

Subject Contact Junda Lu (https://directory.westernsydney.edu.au/search/name/Junda Lu/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS2001_25-SPR_PS_1#subjects)

Surabaya Semester 1 (2025)

Surabaya

On-site

Subject Contact Junda Lu (https://directory.westernsydney.edu.au/search/name/Junda Lu/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS2001_25-IS1_SU_1#subjects)

Sydney City Campus - Term 3 (2025)

Sydney City

On-site

Subject Contact Antoinette Cevenini (https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS2001_25-SC3_SC_1#subjects)