INFS 1017 DATABASE DESIGN AND MANAGEMENT (WSTC)

Credit Points 10

Coordinator Frank Gutierrez (https://directory.westernsydney.edu.au/search/name/Frank Gutierrez/)

Description In today's data-driven world, an in-depth understanding of database management is vital for aspiring ICT professionals. In this subject, you will gain a comprehensive grasp of Relational Database Management Systems (RDBMS), emphasising their crucial role in modern business. You will acquire essential skills in database modelling and design, including database security and administration, and related ethical considerations. You will also gain experience using Structured Query Language (SQL). Finally, you will put theory into practice by designing, developing, and evaluating a business application database using a commercial RDBMS. This subject not only equips you with the knowledge to manage databases efficiently but also fosters and continues to build your professional communication and teamwork skills.

School Computer, Data & Math Sciences

Discipline Database Management

Student Contribution Band

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

Level Undergraduate Level 1 subject

Restrictions

Students must be enrolled in an existing College Diploma program listed below:

- 7188 Diploma in Culture, Society and Justice
- 7189 Diploma in Health Science
- 7190 Diploma in Business
- 7191 Diploma in Information and Communication Technologies
- 7192 Diploma in Building Design and Construction
- 7193 Diploma in Engineering Studies
- 7194 Diploma in Creative Industries and Communications
- 7195 Diploma in Arts
- 7196 Diploma in Science
- 7197 Diploma in Education Studies

Learning Outcomes

After successful completion of this subject, students will be able to:

1. Demonstrate an understanding of the importance of Relational Database Management Systems (RDBMS).
2. Apply basic skills in database modelling and design, including Entity-Relationship (ER) diagrams and normalisation techniques.
3. Demonstrate the ability to manage transactions and understand the essentials of database security and administration including the foundational ethical considerations that apply in these areas.
4. Utilise Structured Query Language (SQL) for data manipulation.
5. Design, develop, and evaluate a simple database for a small business application using a RDBMS.

Subject Content

- Introduction to Databases Concepts and ANSI 3 level architecture, and Concepts in Data Modelling
- Translating a case study into relational concepts and integrity constraints, and introduction to relational algebra
- SQL basics and Data definition, data manipulation and SQL queries, concepts in generalisation and specialisation
- Database management and security, database normalisation and anomalies, database transaction management and concurrency

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
Report	500 words	15	N	Individual	N
Case Study	1000 words including diagrams	30	N	Individual	N
Applied Project	2000 words or equivalent	30	N	Group	N
Viva Voce	3 – 5 minutes	25	N	Individual	N

Teaching Periods

Spring Block 1 (2025)

Nirimba Education Precinct

On-site

Subject Contact Frank Gutierrez (https://directory.westernsydney.edu.au/search/name/Frank Gutierrez/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS1017_25-SB1_BL_1#subjects)

Penrith (Kingswood)

On-site

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View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS1017_25-SB1_KW_1#subjects)