INFS 7007 SYSTEMS ANALYSIS AND DATABASE MANAGEMENT SYSTEMS

Credit Points 10

Legacy Code 300977

Coordinator Chun Ruan (https://directory.westernsydney.edu.au/search/name/Chun Ruan/)

Description The main purpose of this subject is to provide students with an opportunity to gain knowledge and experience of developing a business information system in a systematic way. This subject examines the general methodology of systems development life cycle, including different phases and various modeling techniques. The subject specialises in the development of a full systems analysis and design documentation by using system development methodologies, including data analysis and modeling methods. It extensively covers database design techniques where students will use a set of business rules obtained from requirements and use case analysis, and database implementation using a commercial database management system. At the same time, student learning, intercommunication and collaborative working skills are enhanced by student participation in tutorial presentations and group assignments.

School Computer, Data & Math Sciences

Discipline Information Systems, Not Elsewhere Classified.

Student Contribution Band HECS Band 2 10cp

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

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate program.

Learning Outcomes

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

1. explain the key role of a system analyst and compare the generic roles and responsibilities of users, developers and managers within the context of business information systems
2. apply various phases of System Development Life Cycle (SDLC) to collaborative projects in a business environment.
3. analyse user and system requirements for producing abstract models on business problems.
4. explain essential components of a Relational Database Management System (RDBMS) and the database ANSI/SPARC 3 level architecture.
5. apply and generalise skills in database modeling, including Entity-Relationship Diagram (ERD), normalization and Global Relation Diagram (GRD).
6. develop a database using the SDLC methodology and implement this system in a commercial database management system such as Microsoft SQL.
7. explain the general concepts of database transactions and concurrency control.

Subject Content

Systems analysis design and the Systems Development Life Cycle (SDLC)
Project creation, selection and management
Requirements analysis and use case analysis
Process modeling and Data Flow Diagram (DFD)
Systems architecture, user-interface design and program design
Systems testing, documentation and transition
Database architecture, ANSI/SPARC 3 level architecture
Data modeling, Entity-Relationship modeling and Relational modeling
Anomalies in databases and data normalization.
Entity-Relationship Diagram (ERD) and Global Relation Diagram (GRD)
Introduction to database transaction management, concurrency and locking.
Database implementation and SQL

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
Quiz	2 hours	35	Y	Individual	Y
Practical	10 in-class tutorial practical exercises. 1 for each week, lasting 10 weeks. Each exercise to be completed no later than the next class.	30	Y	Group	Y
Report	presentation 10 minutes including question time report: maximum 2000 words in no more than 20 pages	35	Y	Group	Y

Teaching Periods

Autumn (2025)
Parramatta - Victoria Rd
On-site
Subject Contact Chun Ruan (https://directory.westernsydney.edu.au/search/name/Chun Ruan/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS7007_25-AUT_PS_1#subjects)

Sydney City Campus - Term 1 (2025)
Sydney City
On-site
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS7007_25-SC1_SC_1#subjects)

Spring (2025)
Parramatta - Victoria Rd
On-site
Subject Contact Chun Ruan (https://directory.westernsydney.edu.au/search/name/Chun Ruan/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS7007_25-SPR_PS_1#subjects)

Sydney City Campus - Term 3 (2025)
Sydney City
On-site
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=INFS7007_25-SC3_SC_1#subjects)