INFS 2009 DATABASE DESIGN AND DEVELOPMENT (UG CERT)

Credit Points 10

Legacy Code 500048

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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 modeling 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. The subject also examines a number of important database concepts such as database administration, concurrency, backup and recovery and security.

School Computer, Data & Math Sciences

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 2001 Database Design and Development INFS 2003 Database Design and Development

Restrictions Students need to be enrolled in 7174 ? Undergraduate certificate of ICT

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 people 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 modelling, including ER diagrams and normalisation 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

1.Introduction to database concepts and ANSI Spark 3 level architecture.
2.Concepts in data modelling
3.Integration of data and data independence
4.Translating a case study into relational concepts and integrity constraints
5.Introduction to relational algebra/calculus
6.Data modelling: Conceptual, logical and physical database design
7.Data definition and manipulation using SQL
8.Concepts in generalisation and specialisation
9.Anomalies in databases and data normalisation
10.Database administration
11.Introduction to database security and encryption
12.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
Portfolio	Portfolio-A 500 words (1,2) 15% Portfolio-B 600 words (3-7) 20%	35	N	Individual	N
Applied Project	1200 words	40	N	Individual	N
Presentation	5 - 10 minutes	25%	N	Individual	N