

# Course Outline

**Title:** DATABASE DESIGN

**Code:** ITECH3202

**Formerly:** CP621

**Faculty / Portfolio:** Faculty of Science

## Program Level:

	AQF Level of Program					
	5	6	7	8	9	10
Level						
Introductory						
Intermediate						
Advanced			✓			

**Pre-requisites:** (CP611 or ITECH1006)

**Co-requisites:** Nil

**Exclusions:** (CP621)

**Progress Units:** 15

**ASCED Code:** 029999

## Learning Outcomes:

### Knowledge:

- K1.** describe and explain how business functions and data requirements are analysed;
- K2.** distinguish between different models of database management systems that may be utilised for managing business functions and data;
- K3.** analyse the ways in which business functions and data requirements are implemented;
- K4.** describe how distributed models can be used to implement database management systems;

### Skills:

- S1.** analyse a particular business problem;
- S2.** design and implement a solution to a particular business problem;
- S3.** analyse, interpret and design database models for a given scenario;
- S4.** operate a commercially available database management system;

### Application of knowledge and skills:

- A1.** design and implement a solution to a particular business problem;
- A2.** utilise available industry standard packages, such as a Computer-Aided Software Engineering (CASE) tool, to design and implement a database management system;
- A3.** utilise a commercially available database management system to implement, query and maintain a database;

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### Values and Graduate Attributes:

#### Values:

- V1. appreciate the value of information and data analysis; and
- V2. discuss the social and technical considerations of database driven application within organizations.

#### Graduate Attributes:

Attribute	Brief Description	Focus
Continuous Learning	Utilising a blended learning approach facilitated by case studies and scenarios requiring the storage, management of data and use access.	Medium
Self Reliance	Students will participate in self-directed learning environment to develop their technical and theoretical expertise in the field of database management systems.	Medium
Engaged Citizenship	Students will utilise database management tools currently in use within industry.	Medium
Social Responsibility	Students continue to develop their knowledge regarding the concepts of information privacy and security.	Medium

#### Content:

Topics may include:

- Components of database systems.
- The distributed model including client/server.
- The entity-relationship approach to design.
- CASE (Computer-Aided Software Engineering) tools.
- Selection and Implementation of appropriate DBMS structures.
- Graphical User Interface design and implementation; and
- Relationship between Business functions and database systems.

#### Assessment:

Students will be given the opportunity to become familiar with analysing, modeling and implementing business information and data requirements. The laboratory exercises allow students to implement technologies discussed in lectures which should contribute towards a deeper understanding of the lifecycle of database driven applications.

Skills in using CASE tools for analysis and modeling, creating a relational database and graphical user interface will be addressed in the computer laboratories. The practical application of skills will prepare students for the major assignment.

Comprehending all aspects of the analysis, design and implementation of database driven applications should be assisted by taking detailed notes of lectures and progressively summarizing these in preparation for the semester examination.

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
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S1, S2, S3, S4, A1, A2, A3	Class activities, lectures, self-directed or group exploration	Exercises/Assignments	40 - 50%
K1, K2, K3, K4, S1, S2, S3	Review and practice of skills and knowledge	Examination and/or test(s)	50 - 60%

### Adopted Reference Style:

APA

### Presentation of Academic Work:

<https://federation.edu.au/students/assistance-support-and-services/academic-support/general-guide-for-the-presentation-of-academic-work>