Course Outline (Higher Education)

School / Faculty: Faculty of Science and Technology

Course Title: DATABASE MANAGEMENT SYSTEMS

Course ID: ITECH5006

Credit Points: 15.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): (CP611 and CP858 and ITECH1006)

ASCED Code: 029999

Grading Scheme: Graded (HD, D, C, etc.)

Level: Introductory

Objectives:

After successfully completing this course, students should be able to:

Knowledge:

K1. demonstrate an understanding of issues related to integrity and security of database systems;

K2. demonstrate an understanding of emerging trends in database technology;

K3. describe the different models of database management systems (hierarchical, network, relational, object);

Skills:

S1. develop an entity-relationship diagram and use the entity-relation diagram to design a relational database;

S2. demonstrate skills in building a database application using a commercially available database management system development tool;

S3. write application software to manage the database;

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Course Content:

Topics may include:

- Introduction to database management systems, advantages of the database approach, data modelling, schemas, access and security provisions for multi-user databases.
- The relational model, primary and foreign keys, referential integrity, relational algebra, structured query language and normalisation.

- Database systems in the context of information systems, types of information systems, organisation and management theories.
- Human computer interaction fundamentals, visual design standards.
- Database maintenance operations, retrieving information from a database, logical transactions, locking and avoidance of deadlocks, logging, backup and recovery.

Values:

V1. appreciate the importance of Database Management Systems to business.

Learning Task and Assessment:

Participation in lectures, tutorials and computer laboratory classes. Completion of all tutorial and laboratory worksheets for the semester. Students are expected to spend time regularly out of scheduled classes, reading reference material as required, reviewing topics already covered in lectures and preparing for forthcoming topics and laboratory classes and completing assessment tasks. Assessment for this course will be based on a number of tasks. These may include written assignments, programming tasks and laboratory exercises covering the systems development and programming design. An end of semester examination is based on all aspects of the course.

Assessment Task	Assessment Type	Weighting
Practical demonstration of database design, implementation and report presentation skills	Assignments and exercises	40 - 50 %
Class attendance and exercises, reading of reference material and lecture notes	Examination(s)	50 - 60%

Adopted Reference Style:

APA