## Databases 2

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| *SMS Code* | IN605001 | *Directed Learning hours* | 60 |
| *Level* | 6 | *Workplace or Practical Learning hours* | 0 |
| *Credits* | 15 | *Self-Directed Learning hours* | 90 |
| Prerequisites | IN505001, IN511001 | *Total Learning Hours* | 150 |
| *This course partially replaces IT206001*  *Name of other Programme: Bachelor of Information Technology (version 2)* | | | |

***Aims***

To give an understanding of the fundamentals of database management systems with emphasis on relational systems.

***Learning Outcomes***

At the successful completion of this course, students will be able to:

1. Demonstrate and apply the formal theory underlying relational database management systems.
2. Construct an appropriate data and database (ERD) model for a specified problem and build the corresponding database.
3. Construct and apply syntactically correct database queries using an appropriate query language.
4. Identify the need for security controls, and implement basic data checking and validation.

***Indicative Content***

* Role of relational databases and relational database management systems
* Formal database theory – relational algebra, functional dependencies and normalisation
* Architecture of relational database management systems
* Query construction and optimisation
* Data modelling
* Design and implementation of relational databases
* Principles of database administration and database security

***Assessment***

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| **Assessment Activity** | **Weighting** | **Learning Outcomes** |
| SQL Worksheet | 10% | 3 |
| XML Worksheet | 10% | 3 |
| Data model | 20% | 2 |
| Build database | 20% | 1,3,4 |
| Examination | 40% | 1,3,4 |

***Resources* Required:**

Churcher, Clare (2007) Beginning database design: From novice to professional. Apress.