## 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 introduce students to enterprise-scale database principles and methodologies with emphasis on relational database management systems.

***Learning Outcomes***

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

1. Apply formal relational database theory in the design, development, deployment and use of real database 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.