

## ICT5151 Data and Information Management

### Unit Description

Over the past two decades, data has become a strategic asset for most organisations. Databases are used to store, manipulate, and retrieve data in nearly every type of organisation, including business, health care, education, government, and libraries. Database technology is routinely used by individuals on personal computers and by employees using enterprise-wide distributed applications. Databases are also accessed by customers and other remote users through diverse technologies, such as automated teller machines, web browsers, smartphones, and intelligent living and office environments.

This unit provides a solid foundation for the design, implementation, and management of database systems. It highlights the skills required to identify and model organisational data and information using data modelling techniques. Students will learn that the key to successful database implementation is the proper design of databases to fit within a larger strategic view of the data environment. Students will also gain the hands-on skills to make them attractive to employers. The main emphasis in this unit is on a design and implementation of Relational Databases. In addition, this unit covers Big Data Analytics and NoSQL, including Hadoop technologies.

<b>Credit Points</b>	8 credit points
<b>Duration</b>	12 weeks (10 teaching weeks and 2 revision and assessment weeks)

### Unit Learning Outcomes

On successful completion of this unit, students will be able to:

1. Justify the role that database management system plays in the storage and retrieval of structured, semi-structured, and unstructured data.
2. Model complex business requirements using Entity Relationship methodologies.
3. Design physical databases.
4. Construct appropriate SQL statements to create, query and manipulate databases.
5. Rationalise transaction handling in the context of relational databases.