

# ICT322 Database Systems: Implementation and Administration

**Level:** 3

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY JULY

## **Synopsis:**

This course covers the use of SQL in constructing a new database and in redesigning existing databases. It touches on database administration issues in the context of a multi-user processing environment. SQL Server will be used as the DBMS tool to examine some of the database administration techniques.

## **Topics:**

- Construct the database given the logical model
- Implement business rules via views, stored procedures and triggers
- Assess, plan and redesign the existing database
- Demonstrate the basic techniques of concurrency control and (ACID
- Recommend database security and recovery measures
- Formulate SQL statements to create and manage table structures and views
- Create triggers and stored procedures
- Apply changes to existing databases

## **Textbooks:**

David M. Kroenke and David J. Auer: Database Processing Fundamentals, Design and Implementation (13th ed. ISBN:9781292004860;12th ed. ISBN:9780132570114) 14th edition Pearson  
ISBN-13: 9781292107639

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**Learning Outcome:**

- Construct the database given the logical model
- Implement business rules via views, stored procedures and triggers
- Analyse the data requirements to design databases for new information systems
- Assess the Logical Model for modification anomalies
- Solve common design problems
- Formulate SQL code, including those requiring calculation functions, to query database
- Design a relational database based on the RM principles
- Construct conceptual (ER) and logical models from a statement of requirements

**Assessment Strategies:**

<b>Continuous Assessment Component</b>	<b>Weightage (%)</b>
QUIZ	9
TUTOR-MARKED ASSIGNMENT	21
<b>Sub-Total</b>	<b>30</b>

<b>Examinable Component</b>	<b>Weightage (%)</b>
Written Exam	70
<b>Sub-Total</b>	<b>70</b>

**Weightage Total** **100**