APPROVED

# DBMS C7007: Database Development

## Module Details

| | |
|---|---|
| **Module Code:** | DBMS C7007 |
| **Full Title:** | Database Development APPROVED |
| **Valid From::** | Semester 1 - 2019/20 ( June 2019 ) |
| **Language of Instruction:** | English |
| **Duration:** | 1 Semester |
| **Credits::** | 5 |
| **Module Owner::** | Stephen Larkin |
| **Departments:** | Unknown |
| **Module Description:** | Students completing this module will understand and be able to apply database design techniques. They will have designed and implemented a database system and carried out data manipulation and data definition statements. |

| Module Learning Outcome | |
|---|---|
| *On successful completion of this module the learner will be able to:* | |
| **#** | **Module Learning Outcome Description** |
| MLO1 | Apply database design techniques. |
| MLO2 | Explain the Relational Model and apply Relational Integrity Rules. |
| MLO3 | Construct Data Manipulation Statements. |
| MLO4 | Construct Data Definition Statements. |

| Pre-requisite learning |
|---|
| ***Module Recommendations***<br>*This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).* |
| No recommendations listed |

| Module Indicative Content |
|---|
| **The Relational Data Model**<br>History, Mathematical Relations, Relational Algebra; ANSI-SPARC Database Schema |
| **Database Analysis and Design**<br>Database Development Process (Conceptual, Logical, Physical); Data Redundancy and Update Anomalies; Functional Dependencies, Identification of Primary Key; Normalisation Process (up to Third Normal Form) |
| **Integrity Constraints - Definition and Application**<br>Nulls, Entity, Referential, Domain, General/Business |
| **SQL: Data Manipulation**<br>Simple Queries, Sorting, Aggregate Functions; Grouping, Subqueries; Simple Joins; Update, Insert, Delete |
| **SQL: Data Definition**<br>Creating and Managing Tables; Required Data, Domain Constraints, General Constraints; Entity Integrity, Referential Integrity Application; Creating and using Sequences; Views and Access Control |
| **SQL: Functions**<br>Using Character and Number functions; Data and conversion functions |

## Module Assessment

| Assessment Breakdown | % |
|---|---|
| Course Work | 100.00% |

| Module Special Regulation |
|---|
| |

### Assessments

## Full Time On Campus

**Course Work**

| | | | |
|---|---|---|---|
| **Assessment Type** | Continuous Assessment | **% of Total Mark** | 30 |
| **Marks Out Of** | 0 | **Pass Mark** | 0 |
| **Timing** | Week 8 | **Learning Outcome** | 1,2,3,4 |
| **Duration in minutes** | 0 | | |
| **Assessment Description** | Practical Lab Test | | |
| **Assessment Type** | Multiple Choice Questions | **% of Total Mark** | 20 |
| **Marks Out Of** | 0 | **Pass Mark** | 0 |
| **Timing** | Week 12 | **Learning Outcome** | 1,2,3,4 |
| **Duration in minutes** | 0 | | |
| **Assessment Description** | n/a | | |
| **Assessment Type** | Continuous Assessment | **% of Total Mark** | 50 |
| **Marks Out Of** | 0 | **Pass Mark** | 0 |
| **Timing** | End-of-Semester | **Learning Outcome** | 1,2,3,4 |
| **Duration in minutes** | 0 | | |
| **Assessment Description** | Group Project | | |

No Project

No Practical

No Final Examination

## Part Time On Campus

**Course Work**

| | | | |
|---|---|---|---|
| **Assessment Type** | Continuous Assessment | **% of Total Mark** | 30 |
| **Marks Out Of** | 0 | **Pass Mark** | 0 |
| **Timing** | Week 8 | **Learning Outcome** | 1,2,3,4 |
| **Duration in minutes** | 0 | | |
| **Assessment Description** | Practical Lab Test | | |
| **Assessment Type** | Multiple Choice Questions | **% of Total Mark** | 20 |
| **Marks Out Of** | 0 | **Pass Mark** | 0 |
| **Timing** | Week 12 | **Learning Outcome** | 1,2,3,4 |
| **Duration in minutes** | 0 | | |
| **Assessment Description** | n/a | | |
| **Assessment Type** | Continuous Assessment | **% of Total Mark** | 50 |
| **Marks Out Of** | 0 | **Pass Mark** | 0 |
| **Timing** | End-of-Semester | **Learning Outcome** | 1,2,3,4 |
| **Duration in minutes** | 0 | | |
| **Assessment Description** | Group Project | | |

No Project

No Practical

No Final Examination

| Reassessment Requirement |
|---|
| **No repeat examination**<br>*Reassessment of this module will be offered solely on the basis of coursework and a repeat examination will not be offered.* |

## Module Workload

| Workload: Full Time On Campus | | | | | |
|---|---|---|---|---|---|
| *Workload Type* | *Contact Type* | *Workload Description* | *Frequency* | *Average Weekly Learner Workload* | *Hours* |
| Practical | Contact | | Every Week | 4.00 | 4 |
| Directed Reading | Non Contact | | Every Week | 2.00 | 2 |
| Independent Study | Non Contact | No Description | Every Week | 2.00 | 2 |
| | | | | Total Weekly Learner Workload | 8.00 |
| | | | | Total Weekly Contact Hours | 4.00 |

| Workload: Part Time On Campus | | | | | |
|---|---|---|---|---|---|
| *Workload Type* | *Contact Type* | *Workload Description* | *Frequency* | *Average Weekly Learner Workload* | *Hours* |
| Practical | Contact | No Description | Every Week | 4.00 | 4 |
| Directed Reading | Non Contact | No Description | Every Week | 2.00 | 2 |
| Independent Study | Non Contact | No Description | Every Week | 2.00 | 2 |
| | | | | Total Weekly Learner Workload | 8.00 |
| | | | | Total Weekly Contact Hours | 4.00 |

## Module Resources

*Supplementary Book Resources*

**Connolly, Thomas & Begg, Carolyn. (2015), Database Systems, 6th. Pearson, [ISBN: 1292061189].**

**Stephen Morris, Peter Rob, Carlos Coronel, Keeley Crocket. (2013), Database Principles: Fundamentals of Design, Implementations and Management, 2nd. Cengage Learning, Inc, [ISBN: 140806636X].**

**Tim Gorman. (2014), Beginning Oracle SQL, 3rd. Apress, [ISBN: 9781430265566].**

*This module does not have any article/paper resources*

*Other Resources*

**Website, w3schools,**
**http://www.w3schools.com/sql/**

**website, SQL Course,**
**http://www.sqlcourse.com/**

**website, sql.org,**
**http://www.sql.org/**

**website, sql zoo,**
**http://www.sqlzoo.net/**

**website, Oracle Tutorial,**
**http://www.oracletutorial.com/**

**website, Firebird,**
**http://firebird.sourceforge.net/**

**website, Berkley DB,**
**http://www.sleepycat.com/**