Module Details

Module Code:	DBMS C7006
Full Title:	Database Administration 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 the role and core functions of a Database Administrator. They will also have used SQL commands for database security, integrity and backup, as well as having implemented database procedures and triggers. The student will have gained knowledge in the process of selecting and evaluating a DBMS, physical database design and performance management.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	**Module Learning Outcome Description**
MLO1	Control databases using SQL statements for security and integrity.
MLO2	Perform backup and recovery procedures.
MLO3	Perform database tuning.
MLO4	Explain the process of selecting and evaluating Database Management Systems.

Pre-requisite learning
Module Recommendations   *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
Overview of DBA Functions and Responsibilities Selection and Evaluation of DBMS's; Installing the database; Implementing standards, policies and procedures; Running the database at peak performance.
Physical Database Design Examining storage level of database; File structures; Estimating database size.
Backup and Recovery Failure Types; Recovery tools; Database backup.
Security Threats and countermeasures; Access Control; System auditing; Using views.
Maintaining Integrity Using Database Triggers for integrity.
Database Tuning Techniques Indexing; File Clustering; Partitioning; Tracing queries.

Module Assessment

Assessment Breakdown	%
Course Work	50.00%
Project	50.00%

Module Special Regulation

Assessments

Full Time

Course Work

Assessment Type	Class Test	**% of Total Mark**	30
Marks Out Of	0	**Pass Mark**	0
Timing	Week 7	**Learning Outcome**	1,4
Duration in minutes	0		
Assessment Description n/a			

Assessment Type	Multiple Choice Questions	**% of Total Mark**	20
Marks Out Of	0	**Pass Mark**	0
Timing	Week 12	**Learning Outcome**	1,4
Duration in minutes	0		
Assessment Description n/a			

Project

Assessment Type	Group Project	**% of Total Mark**	50
Marks Out Of	0	**Pass Mark**	0
Timing	End-of-Semester	**Learning Outcome**	1,2,3
Duration in minutes	0		
Assessment Description n/a			

No Practical

No Final Examination

Part Time

Course Work

Assessment Type	Class Test	**% of Total Mark**	30
Marks Out Of	0	**Pass Mark**	0
Timing	Week 7	**Learning Outcome**	1,4
Duration in minutes	0		

Assessment Description
n/a

Assessment Type	Multiple Choice Questions	**% of Total Mark**	20
Marks Out Of	0	**Pass Mark**	0
Timing	Week 12	**Learning Outcome**	1,4
Duration in minutes	0		

Assessment Description
n/a

Project

Assessment Type	Group Project	**% of Total Mark**	50
Marks Out Of	0	**Pass Mark**	0
Timing	End-of-Semester	**Learning Outcome**	1,2,3
Duration in minutes	0		

Assessment Description
n/a

No Practical

No Final Examination

Reassessment Requirement

No repeat examination
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

Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact		Every Week	2.00	2
Practical	Contact		Every Week	2.00	2
Directed Reading	Non Contact		Every Week	2.00	2
Independent Study	Non Contact		Every Week	2.00	2
				Total Weekly Learner Workload	8.00
				Total Weekly Contact Hours	4.00

Workload: Part Time

Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact	No Description	Every Week	2.00	2
Practical	Contact		Every Week	2.00	2
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. Addison-Wesley, [ISBN: 1292061189].

Mannino, Michael. (2014), Database Design, Application Development, and Administration, 6th. Chicago Business Press, [ISBN: 0983332428].

Bob Bryla. (2015), Oracle Database 12c DBA Handbook, McGrawHill, [ISBN: 9780071798785].

Craig S. Mullins. (2012), Database Administration: The Complete Guide to DBA Practices and Procedures, 2nd. Addison Wesley, [ISBN: 0321822943].

This module does not have any article/paper resources

Other Resources

[website], Apache. JDO Specifications,
http://db.apache.org/jdo/specifications. html

[website], XQuery,
http://www.w3.org/XML/Query

[website], Object Data Management Group,
http://www.odbms.org/odmg/

[website], PostgreSQL,
http://www.postgresql.org/

[website], Oracle Inc.. Home Page,
http://www.oracle.com