2024 / 25

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South East Technological University

Module Descriptor

Database Administration (Computing and Mathematics)

Database Administration (A13584)

Short Title: Database Administration
Department: Computing and Mathematics
Credits: 5 **Level:** Advanced

Description of Module / Aims

This module will provide students with the skills to be a Database Administrator (DBA) in an organisation. The module will provide students with the knowledge to be able to successfully design, create and manage a database architecture with a diverse set of tools and technologies, which will enable them to provide database services to support the database needs of different types of end users who are using heterogeneous databases.

Programmes

		stage/semester/status
COMP-0327	BSc (Hons) in Information Technology Management (WD_KITMA_B)	1 / 8 / E
COMP-0327	BSc (Hons) in Information Technology (WD_KINTE_B)	4 / 2 / E

Indicative Content

- The role of the DBA
- The database architecture
- Managing Files
- Managing Memory
- Managing Processes
- Locking & Latching
- Concurrency Control & Multi-versioning

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Install a database architecture.
2. Manage and modify the file system.
3. Manage and modify the processes.
4. Manage and optimise the memory structures.
5. Manage the locking mechanisms.
6. Appraise appropriate concurrency control mechanisms.
7. Administer the database architecture.

Learning and Teaching Methods

- The students will be introduced to the theory of the module in lectures.
- The lectures will be interactive and discursive in nature.
- Some topics will be supported with appropriate case studies and examples.
- The theory will be applied in a series of practicals that will be problem solving focused and work towards a predefined assignment, all of which is to be completed by the end of the semester.

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	24	
Practical	24	
Independent Learning	87	

Assessment Methods

	Weighting	Outcomes Assessed
Continuous Assessment	50%	
Assignment	50%	4,5,6
Final Written Examination	50%	1,2,3,7

Assessment Criteria

<40%: Unable to interpret and describe key concepts of the design and development of a database architecture and implement a usable DBMS configuration.

40%–49%: Be able to interpret and describe key concepts of the design and implementation of a database architecture and implement a usable configuration.

50%–59%: Ability to discuss key concepts of a database architecture and ability to discover and integrate related knowledge in other disciplines like security and networks.

60%–69%: Be able to solve problems in regards to Database architecture by experimenting with the appropriate skills and tools.

70%–100%: All the above to an excellent level. Be able to analyse and design solutions to a high standard for a range of both complex and unforeseen problems through the use and modification of appropriate complex skills and tools.

Essential Material(s)

- Kyte, T. and T. Kuhn. *Expert Oracle Database Architecture*. 2nd. New York: Appress, 2014.

Requested Resources

- Room Type: Computer Lab