School of Computing and Information Sciences

Course Title: Database Administration **Date:** 4/3/12

Course Number: CTS 4408

Number of Credits: 3

Subject Area: Database	**Subject Area Coordinator:** Antonio Bajuelos **email:** abajuelo@fiu.edu
Catalog Description: Client-server architecture; planning, installation, server configuration; user management; performance optimization; backup, restoration; security configuration; replication management; administrative tasks.	
Textbook: 70-432: Microsoft SQL Server 2008 Implementation and Maintenance Textbook and Lab Manual Set (Microsoft Official Academic Course) Wiley (ISBN: 0470183764)	
References:	
Prerequisites Courses: (COP-4703 or COP-4710)	
Corequisites Courses: None	

Type: Elective

Prerequisites Topics:

- Database architecture
- SQL queries

Course Outcomes:

1. Be familiar with database system architecture
2. Master the planning and installation of enterprise database server
3. Master user management
4. Master backup, restoration
5. Master techniques of security configuration
6. Be familiar with replication management
7. Master administrative tasks
8. Be familiar with performance optimization

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Outline

Topic	Number of Lecture Hours	Outcome
• Enterprise server o client-server architecture o SQL server features o SQL server organization and data storage o Capacity planning o Installation and configuration	6	1,2
• Data management o Database object fundamentals o Data conversions o Bulk insert, bcp, SQL update operations o Data Transformation Services o Data migration planning	6	
• Backup and recovery o Data security o Backup and restoration	6	4
• Security management o Network communications o Server login and user management o Security management and planning	6	3,5
• Replication o Linked servers and Nonlinked servers o Replication concepts o Publishing, distribution, and managing subscriptions o Replication planning and management	6	6
• Performance o Automating management o SQL Server management o Windows monitoring tools o SQL Server monitoring tools o Database optimization	6	3,7

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Course Outcomes Emphasized in Laboratory Projects / Assignments

	Outcome	Number of Weeks
1	Estimation of storage Outcome: 2	2
2	Comparison of index performances Outcome: 3	3
3	Evaluation of replication schemes Outcomes: 6,7	3

Oral and Written Communication: No significant coverage

Number of written reports:

Approximate number of pages for each report:

Number of required oral presentations:

Approximate time for each presentation:

Social and Ethical Implications of Computing Topics

No significant coverage

Topic	Class time	Student performance measures

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Theoretical Contents

Topic	Class time

Problem Analysis Experiences

1. Evaluation of the results of indexes/replication and identifying performance bottlenecks

Solution Design Experiences

1. Estimation of storage needs for a given DB specification
2. Design of database replication strategies