PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

SQL SERVER ADMINISTRATION
NETW 2110

Class Hours: 3.0  Credit Hours: 4.0
Laboratory Hours: 3.0  Date Revised: Spring 01

Catalog Course Description:

Topics include planning Microsoft SQL server capacity and security; installing and configuring the SQL server; security configuration and management; data maintenance and management; monitoring performance; and troubleshooting various problems.

Entry Level Standards:

The entering student should be skilled with the Windows 2000 Professional and Server operating systems and Active Directory Services and be able to demonstrate advanced computer knowledge. Problem solving and analytical skills are also important.

Prerequisite:

NETW 1200

Textbook(s) and Other Reference Materials Basic to the Course:

Textbook and Supplies:
3 2" HD Diskettes
3-ring notebook w/pocket

Suggested Optional Supplementals:
Outside reading, magazines, the Internet, vendor materials.

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction, Topic Overview, Schedule; Overview of Microsoft SQL Server</td>
</tr>
<tr>
<td>2</td>
<td>Roles and Responsibilities of the Microsoft SQL Server DBA; Designing a Microsoft SQL Server System; I/O Subsystem Configuration and Planning</td>
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<tr>
<td>3</td>
<td>Server Capacity Planning; Installing Microsoft SQL Server</td>
</tr>
<tr>
<td>4</td>
<td>Managing Microsoft SQL Server Services; Creating Databases; Exam #1 review</td>
</tr>
<tr>
<td>5</td>
<td>Exam #1; Creating Databases; Creating Database Tables</td>
</tr>
<tr>
<td>6</td>
<td>Microsoft SQL Server on the Network; SQL Server and Microsoft Cluster Services</td>
</tr>
</tbody>
</table>
Introduction to Transact-SQL and SQL Query Analyzer; Retrieving Data Using Transact-SQL

Managing Tables Using T-SQL and Enterprise Manager; Creating and Using Defaults, Constraints, and Rules

Creating and Using Indexes; Exam #2 Review

Exam #2; Creating and Using Views; Understanding Transactions and Transaction Locking

Advanced T-SQL; Creating and Managing Stored Procedures

Creating and Using Triggers; Accessing Microsoft SQL Server From the Internet

Loading the Database; Component Services and Microsoft Distributed Transaction Coordinator

Microsoft SQL Server Replication; Transactional Replication; Merge Replication; Using Microsoft SQL Server Analysis Services; SQL Server Administration

Automating Administrative Tasks; Backing Up SQL Server; Restoring/recovering the Database; User and Security Management; Using SQL Query Analyzer and SQL Profiler; Solving Problems; Comprehensive Review for Exam #3

Final Exam

II. Course Objectives*:

A. Demonstrate knowledge of designing/planning a Microsoft SQL Server System. II,III,IV

B. Demonstrate knowledge of installing Microsoft SQL Server and loading the database. II,IV

C. Demonstrate knowledge of managing SQL Server Services. III,IV

D. Demonstrate knowledge of creating databases, database tables. III,IV

E. Demonstrate knowledge of Microsoft SQL Server on a network. III,IV

F. Demonstrate knowledge of Microsoft Cluster Services and SQL Server interactions. II,IV,VIII

G. Demonstrate knowledge of Transact-SQL. II,III,IV,VII

H. Demonstrate knowledge of SQL Query Analyzer and SQL Profiler. III,IV

I. Demonstrate knowledge of T-SQL and Enterprise Manager. III,IV

J. Demonstrate knowledge of Microsoft SQL Server Indexes. III,IV

K. Demonstrate knowledge of database views. III,IV

L. Demonstrate knowledge of transactions and transaction locking. III,IV

M. Demonstrate knowledge of creating and managing stored procedures. III,IV
N. Demonstrate knowledge of triggers. III,IV

O. Demonstrate knowledge of SQL Server on the Internet. III,IV

P. Demonstrate knowledge of component services and Microsoft Distributed Transaction Coordinator. III,IV

Q. Demonstrate knowledge of SQL Server replication, snapshot, transactional, and merge replication. III,IV

R. Demonstrate knowledge of SQL Server Analysis Services. III,IV

S. Demonstrate knowledge of SQL Server administration; automating administrative tasks. III,IV

T. Demonstrate knowledge of backing up and restoring SQL server and the database. III,IV

U. Demonstrate knowledge of user and security management. III,IV

V. Demonstrate client service, teamwork skills and good communications skills to resolve problems and complete tasks. I,II,IX

W. *Roman numerals after course objectives reference goals of the Business and Computer Technology department.

**III. Instructional Processes***:

Students will:


2. Demonstrate knowledge of networking, electronic communication, and associated subjects. Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Information Literacy Outcome


5. Handle and examine modern computing devices. Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy

6. Prepare documents and presentations for management explaining computer networks and communications hardware/software, etc. to meet user requirements. Communication Outcome, Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Information Literacy Outcome, Transitional Strategy, Active Learning Strategy
7. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. *Personal Development Outcome*

*Strategies and outcomes listed after instructional processes reference Pellissippi State’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.*

**IV. Expectations for Student Performance***:

Upon successful completion of this course, the student should be able to:

1. Design a Microsoft SQL Server 2000 system. A,W
2. Plan and configure I/O subsystems for SQL Server. A,B
3. Perform capacity planning for SQL Server installations. A,B
5. Manage Microsoft SQL Server Services. C,W
6. Create databases with SQL Server; load a database. B,D,W
7. Create database tables. D
8. Use Transact-SQL, SQL Query Analyzer, and SQL Profiler. G,H
9. Manage tables with T-SQL and Enterprise manager. I,W
11. Understand and use transactions and transaction locking. L
12. Create and use stored procedures. M,W
13. Create and use triggers. N,W
15. Manage SQL Server access from the Internet. O,W
16. Use Component Services and Microsoft Distributed Transaction Coordinator. P,W
17. Plan and manage server, snapshot, transactional, and merge replication. Q,W
20. Restore and recover the database. T,W
21. Plan and administer user and security policies. U,W
22. Research, identify, and solve common SQL Server performance problems. V,W

*Letters after performance expectations reference the course objectives listed above.*
V. Evaluation:

A. Testing Procedures:

Three (3) examinations each worth 200 points will be given. Each will be cumulative.

B. Laboratory Expectations:

Hands-on learning activities done individually and in teams will also serve as the basis for course evaluation.

C. Field Work:

N/A

D. Other Evaluation Methods:

Other assessment activities worth 400 points will consist of special projects, research papers, team activities, essays, short answer documents, or other work assigned.

E. Grading Scale:

\[
\begin{array}{c|c|c}
\text{Points Range} & \text{Grade} & \text{Percentage Range} \\
\hline
920 - 1000 & A & 92\% - 100\% \\
820 - 919 & B & 82\% - 91.9\% \\
700 - 819 & C & 70\% - 81.9\% \\
650 - 699 & D & 65\% - 69.9\% \\
< - 649 & F & 0\% - 64.99\% \\
\end{array}
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VI. Policies:

Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled required instructional activities. As a minimum, students in all courses MUST BE PRESENT for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.