

York Technical College Course Syllabus

Course Information

Course Prefix/Number:	IST 272
Course Title:	Relational Database
Lecture Hours/Week:	3.0
Lab Hours/Week:	0.0
Credit Hours/Semester:	3.0

[DL Attendance/VA Statement](#)
[Textbook Information](#)

Course Description: This course provides a comprehensive foundation in both SQL and relational database design and implementation. Dynamic and embedded SQL programming techniques are emphasized.

Course Competencies:

Upon successful completion of this course, the student should be competent to perform the following tasks:

Module 1 – SQL Server Basics and Transact-SQL

Describe SQL Server and its features.

Demonstrate knowledge of SQL Server components and architecture.

Utilize SQL Server programming tools.

Identify Transact-SQL syntax elements including identifiers, variables, functions, data types, expressions, and comments.

Develop and execute Transact-SQL statements including batches, stored procedures, and triggers.

Module 2 – SQL Database Development

Identify system requirements.

Demonstrate knowledge of database design including normalization and relationships.

Develop a logical data model by identifying entities, their attributes, relationships, and constraints.

Plan a SQL Server database including goals, data types, and business rules.

Install SQL Server.

Create a SQL Server database including creating tables.

Ensure data integrity.

Apply constraints including primary key, unique, foreign key, and check constraints.

Access and modify data using SELECT, INTO, FROM, WHERE, GROUP BY, HAVING, and ORDER BY clauses.

Employ joins, unions, and subqueries to retrieve data.

Insert and delete data from a SQL Server database.

Module 3 – SQL Database Advanced Topics

Import and export data.

Demonstrate knowledge of distributed queries.

Retrieve data using cursors.

Develop and implement stored procedures.

Develop and implement triggers.

Create, modify, and delete views.

Create and implement indexes.

Manage SQL Server transactions and locks.

Describe concurrency problems.

Define isolation levels.

Describe and administer SQL Server security.

Design and implement a security plan.

Monitor and tune SQL Server databases.

Minimal Standards/Performance Objectives

Students must read the assigned material prior to class and complete all assignments. The instructor will discuss the concepts and demonstrate the methods as appropriate. Students must participate in independent as well as team activities. Students may exempt a module by completing both theory and performance pre-assessments, if applicable, with a score of at least 80% on each assessment. Students who do not exempt the modules through pre-assessment must complete each module, learning activities, and post-assessment. Modules must be completed in order. Computer Technology students must attain a grade of "C" or better in this course for the degree and certificates.

Course Requirements

Attendance

The student will attend class as stated in the York Technical College Handbook's attendance policy. Online students will participate in discussions and complete all assigned activities in a timely manner as evidence of virtual class attendance.

Academic Integrity

The student is bound by the policies stated in the York Technical College *Catalog and Handbook*. A student violating these policies will be subject to academic discipline.

Evaluation Strategies and Grading

Grades will be based on the weighted average of the three module assessments.

The following scale will be the standard:

Score:	Grade:
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
<60	F

Final Grade:

Module 1 Assessment		% Module Grade	Course Grade
Theory Test (maximum of 2)	100	50%	
Homework & Learning Activities	100	30%	
Discussions	<u>100</u>	<u>20%</u>	
Module Grade		100%	15.0%
Module 2 Assessment			
Performance Tests/Projects (maximum of 3)	100	30%	
Theory Test	100	20%	
Homework & Learning Activities	100	30%	
Discussions	<u>100</u>	<u>20%</u>	
Module Grade		100%	50.0%
Module 3 Assessment			
Performance Test (maximum of 3)	100	30%	
Theory Test	100	20%	
Homework & Learning Activities	100	30%	
Discussions	<u>100</u>	<u>20%</u>	
Module Grade		100%	35.0%
Final Grade			100.0%

Entry Level Skills

Keyboarding ability and fundamentals of the Windows operating system.

Prerequisites

CPT 242—Minimum grade of “C”

Co-Requisites

None

SP2005