

**Computer Programming Department**  
**Business/Public Service Division**  
**GREENVILLE TECHNICAL COLLEGE**

**COURSE SYLLABUS**

**Course Title:** Relational Database

**Course Number:** IST 272

**Lecture hours per week:** 3.0

**Lab/Clinic Hours:**

**Semester credit hours:** 3.0

**Prerequisite:** CPT113 or CPT 101, MAT 102 or higher

Recommend CPT 186 as a co-requisite

**Catalog 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. *Note: SQL Server is used.*

**Purpose of the course:** To teach the student about database management system concepts and relational database design. Students will get practical experience creating, updating, and retrieving data from a relational database using interactive SQL.

**Required text(s) or other materials:**

1. Murach's SQL Server 2008 for developers; Bryan Syverson & Joel Murach; Murach; ISBN: 978 -1-890774-51-6
2. USB portable storage device such as a flash drive will be needed for coursework storage.
3. **NOTE:** Students in traditional classes must access Blackboard for course-related information. Students in hybrid and online classes will access their online content through Blackboard.

**COLLEGE-WIDE STUDENT LEARNING OUTCOMES**

1. Communication – Students will demonstrate the ability to use active reading and listening skills and to produce effective written and oral communication for varying audiences.
2. Information Technology and Technological Literacy – Students will demonstrate competency in using computer technology within a field of study.
3. Critical Thinking/Reasoning – Students will demonstrate the ability to apply the scientific method, mathematical processes, and research skills to analyze and solve problems/issues by using reflection and reasoning to justify conclusions.
4. Professional and Personal Responsibility – Students will demonstrate the ability to exhibit conduct, attitudes, and etiquette appropriate to the student's community and chosen career. Students will demonstrate the ability to manage time, to use effective interpersonal skills, and to display responsible behavior.

5. Diversity – Students will demonstrate the ability to recognize diversity and to demonstrate respectful conduct and attitudes toward all. Students will demonstrate the ability to explain how global issues impact life, work, and opportunities.

*Approved March 26, 2009*

#### **COMPUTER PROGRAMMING PROGRAM STUDENT LEARNING OUTCOMES**

Upon successful completion of the CPT/Programming program, the graduate will be able to:

1. Students will be able to analyze, design, develop, and document solutions that will satisfy the information needs of business users using established design methodologies and standards.
2. Students will be able to design, create, test, and document logical programming solutions to prescribed specifications following established standards and using current development environments and languages for application development and database management.
3. Students will be able to demonstrate the knowledge and ability to install and maintain microcomputer hardware and operating system software.
4. Students will be able to demonstrate the use of a minimum of three business application software packages.
5. Students will be able to demonstrate fundamental team building, project management, and presentation skills by participating in team projects that include team goals and values, a development methodology for documentation and coding, group presentations, and exposure to topics such as diversity, time management, and goal setting.
6. Students will be able to demonstrate the ability to take initiative, assume responsibility, and work under pressure with minimum supervision by successfully completing "hands-on" computer lab assignments.

#### **IST 272 COURSE OUTCOMES**

Students who successfully complete this course will have demonstrated the skills necessary to accomplish the following objectives with a minimum competency of 70 percent.

1. Demonstrate data manipulation language T-SQL knowledge by completing data manipulation language T-SQL labs.
2. Demonstrate data definition language T-SQL knowledge by completing a data definition language T-SQL lab.
3. Demonstrate understanding of data normalization by completing a data normalization lab.
4. Demonstrate an understanding of ERD diagrams by completing an ERD lab.

*The objectives of the IST 272 course are intended to meet the CPT/Programming program competencies numbered 2 and 7 above.*

## IST 272 – Main Topics

**This is a tentative course outline and subject to change.**

### **Week 1**

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#### **Course Introduction**

Chapter 1: An introduction to relational databases and SQL

### **Week 2**

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Getting Started with SQL Lecture (on Campus Event)

Chapter 2: How to use the Management Studio

### **Week 3**

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Chapter 3: How to retrieve data from a single table

### **Week 4**

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Chapter 4: How to retrieve data from two or more tables

### **Week 5**

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**Test One Covers Chapters 1 – 4.**

### **Week 6**

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Chapter 5: How to code summary queries

### **Week 7**

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Chapter 6: How to code subqueries

### **Week 8**

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Chapter 7: How to insert, update, delete data

### **Week 9**

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**Test Two Covers Chapters 5 – 7.**

**Week 10**

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Chapter 8: How to work with data types and functions

**Week 11**

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Chapter 9: How to design a database

**Week 12**

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On-Campus Data Modeling ERD lab

**Week 13**

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Chapter 10: How to create and maintain databases and tables with SQL statements

**Week 14**

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Test Three Covers Chapters 8 – 10.

**Week 15**

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Research Paper

**COMPREHENSIVE FINAL EXAM**

<b>IST 272 – COURSE SPECIFIC REQUIREMENTS</b>
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**SPECIAL NOTE FOR ALL STUDENTS:** Online students will be REQUIRED to come to the Barton Campus for two on-campus events. The first event will be an ET115 lab assignment. The second event will be the final exam. The average duration of each of these events is anticipated to be three hours or less.

Assignments will require homework time which is spent in the lab in addition to the lab time indicated on the syllabus.

*Tutoring is now available in the Business Division Student Lab located on the Barton Campus in the Engineering Building (#103), Room 115. The hours for tutoring are posted in the lab (ET 115); no appointment is necessary. There are no fees required for this service.*

## IST 272 – EVALUATION AND GRADING INFORMATION

### GRADING POLICY

**Twenty (20) percent** of the final grade will be based on successful completion of lab / homework assignments including a two-page paper that discusses the use of SQL around the world.

Points will be deducted for the following on all lab assignments:

- Incorrect results.
- Documentation that is missing or incomplete.
- Documentation that is not neat, clean, or readable.

**Sixty (60) percent** of the final grade will be based on test grade averages.

**Twenty (20) percent** of the final grade will be based on the comprehensive final examination.

**All assignments (i.e., labs, projects, research papers, etc.) for this course must be completed and submitted to the instructor by the due date established in order to receive credit for the assignment.**

**NOTE: ALL TESTS AND EXAMS ARE RETAINED BY THE INSTRUCTOR.**

Final letter grades will be issued as follows:

A	=	90 - 100	points
B	=	80 - 89	points
C	=	70 - 79	points
D	=	60 - 69	points
F	=	0 - 59	points

### **READ THIS SYLLABUS CAREFULLY**

You should read this syllabus carefully and ask your instructor about *any* aspects that you do not understand. The syllabus is an agreement between you and your instructor concerning course objectives, course content, grading, and other policies and procedures particular to this course. The above information is specific to the course. Three additional documents are provided as attachments and *are considered a part of this syllabus*:

#### **Attachment I:**

Each instructor will provide a supplement to this syllabus. The supplement will include: a week-by-week plan of instruction based on the section in which you are enrolled; your instructor's name, office hours and/or office location; and your instructor's contact information and recommended best methods to contact your instructor.

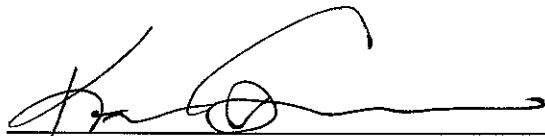
Attachment 2:

The Department responsible for developing and teaching has policies and procedures in place to assure quality instruction for all students. These are attached as "Departmental Policies and Procedures."

Attachment 3:

Please note that it is your responsibility to read the current Student Handbook included in Greenville Technical College's Catalog. (See website.) The Student Handbook addresses specific academic and student conduct policies and procedures. Excerpts from the Student Handbook representing the policies and procedures most often referred to in working with students are provided for your convenience as "Attachment 3."

Approved by:



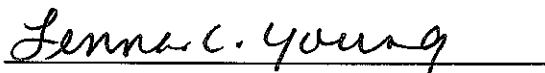
Kim Cannon, Department Head, Computer Programming  
[Kim.Cannon@gvltec.edu](mailto:Kim.Cannon@gvltec.edu), (864) 250-8425, Barton Campus, Building 103, Room 117

Approved by:



Mark Krawczyk, Assistant Dean, Business  
[Mark.Krawczyk@gvltec.edu](mailto:Mark.Krawczyk@gvltec.edu), (864) 250-8404, Barton Campus, Building 103, Room 304

Approved by:



Lenna C. Young, Dean, Business/Public Service  
[Lenna.Young@gvltec.edu](mailto:Lenna.Young@gvltec.edu), (864) 250-8204, Barton Campus, Building 103, Room 104

13 Aug 10  
Date

*This syllabus will remain in effect until revised or reviewed no later than August 2011.*