

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

**INTRODUCTION TO DATABASE DESIGN
CSIT 1810**

Class Hours: 3.0

Credit Hours: 4.0

Laboratory Hours: 3.0

Revised: Fall 06

NOTE: This course is not designed for transfer credit.

Catalog Course Description:

A study of database management systems and their impact on information technology. Topics include database models, data modeling techniques, conceptual and physical design, storage techniques and data administration. Special emphasis will be put on relational systems and application of query languages using relational operations. Laboratory exercises will include database application design and development using desktop development tools.

Entry Level Standards:

The entering student should have a familiarity with the Windows environment. The student is expected to have moderate programming abilities in a high-level language. Problem solving skills will be essential. The student should be able to keyboard at least 23 words per minute.

Prerequisite:

CSIT 1110 or GIS 1010 or WEB 2200

Textbook(s) and Other Course Materials:

Database Systems: Design, Implementation and Management; (6th. Edition), by Rob, Peter and Carlos Coronel, Course Technology, 2004.

New Perspectives on Microsoft Office Access 2003 (2nd Edition), Adamski, Joseph and Kathleen Finnegan, Course Technology, 2006.

I. Week/Unit/Topic Basis:

Week	Topic
1	Database Systems
2	Database Models
3	The Relational Database Model
4-5	Entity-Relationship Modeling
6	Normalization
7	Introduction to SQL
8-9	SQL Queries, Creating Tables and Views in SQL

9	Database Design
10	Transaction Management and Concurrency
11-12	Distributed Systems
12-13	Object-Oriented Databases
13-14	Data Warehouses, Data Mining
14	Databases in E-Commerce, Web Database Design
15	Final Exam

II. Course Objectives*:

- A. Understand the advantages and disadvantages of using a database management system rather than conventional filing methods. II III IV VII IX XI XII
- B. Recognize the language of data definition and data manipulation and its importance. III IV VII XI
- C. Recognize the components of a database model and appreciate how implementations as systems may vary from the model. III IV VII IX XI XII
- D. Understand the factors involved in the transformation of a conceptual design into a logical data base design and to a physical database design. III IV VII IX XI XII
- E. Appreciate the database administration function. I II III IV V IX XI XII
- F. Use a database management package including use of a query language. III IV VI VIII IX

*Roman numerals after course objectives reference goals of the Computer Science and Information Technology program.

III. Instructional Processes*:

Students will:

- 1. Use professional tools to produce software components and documentation. *Technological Literacy Outcome, Transitional Strategy, Active Learning Strategy*
- 2. Practice to analyze and solving problems using structured analytical techniques. *Technological Literacy Outcome, Active Learning Strategy*
- 3. Use professionally accepted methods and materials in completion of applications. *Technological Literacy Outcome, Transitional Strategy, Active Learning Strategy*

*Strategies and outcomes listed after instructional processes reference TBR'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. Explain the similarities and differences of hierarchical, network, and relational data models.

C, D, E

2. Perform database normalization. D, E
3. Develop Entity-Relationship Models. D, E
4. Describe the functions of database administration. E
5. Develop applications using a development tool. F
6. Define schema and subschema and explain the generic terminology associated with them. B, C, D, E
7. Use a query language. B D E F
8. Implement a database using real-world case studies. A D E F

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

V. Evaluation:

A. Testing Procedures:

A minimum of three tests is recommended. Tests will cover material presented in class. Tests are not to be missed without a valid excuse.

B. Laboratory Expectations:

Lab attendance is required. Assignments will be given and must be completed and handed in at the designated date and time.

C. Field Work:

N/A

D. Other Evaluation Methods:

Class participation, quizzes and homework will also comprise the final grade for the course.

E. Grading Scale:

93 – 100 % of total points possible	A
88 – 92 % of total points possible	B+
83 – 87 % of total points possible	B
78 – 82% of total points possible	C+
73 – 77 % of total points possible	C
65 – 72 % of total points possible	D
Below 65 % of total points possible	F

VI. Policies:

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled 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 (*Pellissippi State Catalog*).

B. Academic Dishonesty:

Plagiarism, cheating and other forms of academic dishonesty are prohibited. A student guilty of academic misconduct, either directly or indirectly through participation or assistance, is immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions that may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course.

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.

D. Other Policies:

Computer Usage Guidelines:

College-owned or –operated computing resources are provided for use by students of Pellissippi State. All students are responsible for the usage of Pellissippi State’s computing resources in an effective, efficient, ethical and lawful manner. (Pellissippi State Catalog)

1. Plagiarism, cheating, software piracy, non-educational use of computer systems and other forms of academic dishonesty are strictly prohibited. A student caught cheating or infracting specific rules will be given a grade of "F" for the course.
2. Make-up exams: All exams are required, and make-ups will be allowed only in the rarest of cases. In the event of an emergency, notification of the instructor must be made in advance.
3. It is the student's responsibility to request help from the instructor prior to an assignment's due date.