

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

dBASE PROGRAMMING APPLICATIONS AND LAB
CST 2420

Class Hours: 3.0

Credit Hours: 4.0

Laboratory Hours: 3.0

Date Revised: Fall
1998

Catalog Course Description:

A study of database program development for business applications using Visual dBase. Topics include table creation, data manipulation, forms, reports, labels, queries, data modules, object oriented data manipulation (OODML), event driven applications, rapid application development (RAD) and client-server development.

Entry Level Standards:

The entering student should have a familiarity with the DOS PC operating system and the Windows environment. The student is expected to have moderate programming skills in a high-level language. Problem solving skills will be essential.

Prerequisites:

CST 1110 is a prerequisite. At least one programming course is strongly recommended.

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

Developer's Guide for Visual dBASE 7. Borland International, Inc., 1997.
Language Reference for Visual dBASE 7. Borland International, Inc., 1997.

I. Week/Unit/Topic Basis:

Week	Topic
1	Introduction, Database fundamentals, Object-oriented principles, Overview of xBase vs. OODML, Overview of rapid application development (RAD), The Visual dBase environment
2	Language overview, Creating and modifying tables, Records, and fields, Data types, Operators and expressions
3	Tables and indexes, Locating data
4	Forms and components
5	Forms and components, Menus, Queries
6	Reports, Labels

7	Control structures, Program flow, Expressions and Operators
8	Exam I, Event-driven programs, Object-oriented programming
9	Objects, Classes, Variables, Arrays, Data access objects, Calculated fields
10	String objects, Math objects, Date objects
11	Advanced forms, Form objects
12	Advanced reports, Report objects
13	Array objects, File objects, Debugging
14	Advanced topics, Application projects
15	Application projects
16	Exam Period Exam II

II. Course Objectives*:

- A. Discuss the advantages and disadvantages of using a database management system as opposed to 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. Develop a software application using object-oriented programming techniques and design tools. III, IV, VII, IX, XI, XII
- D. Describe the factors involved in the transformation of a conceptual design into a logical database design and into a physical database design. III, IV, VII, IX, XI, XII
- E. Describe the importance of 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 CST 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. Create a well-documented database application based on client input or industry research. *Communication Outcome, Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Information Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy*
3. Participate in a software development team. *Communication Outcome, Problem Solving and Decision Making Outcome, Transitional Strategy, Active Learning Strategy*

4. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. *Personal Development Outcome*
5. Present a finished product to the class. *Communication Outcome, Transitional Strategy*
6. Participate in a peer review of term projects. *Problem Solving and Decision Making Outcome, Communication Outcome, Transitional Strategy*
7. Use professionally accepted methods and materials in completion of applications. *Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy*

*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. Recognize and use standard relational database and object-oriented terminology. D, F
2. Recognize and perform relational database operations. C, E, F
3. Create user documentation for application programs. C, E, F
4. Use object-oriented prototyping tools to speed program development. B, C, D, F
5. Design and create database forms. A, C, F
6. Design and create printed reports. A, C, F
7. Implement a graphic user interface (GUI) using forms. A, C, F
8. Create properties, event handlers and methods. C, F
9. Integrate application component modules into a complex application. A, B, C, D, E, F

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

V. Evaluation:

A. Testing Procedures: 40% of grade

Two exams will be given during the course of the semester. Dates will be announced in class and each exam will count for 200 points of the final grade.

B. Laboratory Expectations: 20% of grade

Lab assignments will be made during the course of the semester. A late penalty may be imposed on any overdue assignment. Failure to satisfactorily complete all labs may result in a grade of F in the course. Labs will count for 200 points of the final grade.

Lab Schedule:

Week 1: Introduction, navigation, the desktop

Weeks 2- 6: Creating/modifying/organizing tables, forms, menus, queries, reports, labels

Weeks 7-14: Interactive programming, project

Week 15: Project demonstrations

C. Field Work: 40% of grade

An extensive term project will be assigned. Projects will emphasize practical solutions to database problems and will require design, development, and documentation of working database applications. Failure to satisfactorily complete a term project will result in a grade of F for the course. Projects will count for 400 points (40%) of the final grade. A portion of the project grade will be determined by peer evaluation.

D. Grading Scale:

900 - 1000	A
800 - 899	B
700 - 799	C
600 - 699	D
0 - 599	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.

B. Academic Dishonesty:

Plagiarism, cheating, software piracy, non-educational use of computer systems and other forms of academic dishonesty are strictly prohibited.