



Total credit time: 64 hours

Prerequisites: CSA100

I PHILOSOPHY/GOALS:

In this course, the student will learn database control and fourth generation programming language concepts. The student will also explore integration among software applications.

II STUDENT PERFORMANCE OBJECTIVES:

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

1. Use and explain relational databases
2. Use a fourth generation language to perform operations on a database
3. Utilize an integrated software package

III TOPICS TO BE COVERED

1. Overview of Database Structures
2. Overview of Database Package
3. Relational Database Design and Creation
4. Basic Function and Operations
5. Form Development
6. Data Indexing, Sorting and Location
7. Data Queries
8. Report Development
9. Programming Concepts
10. Object-Oriented Programming
11. User Interface Creation and MDI (Multiple Document Interface)
12. System Design using Multiple Files
13. Standard Software Packages
14. Integrated Software Package

## IV LEARNING ACTIVITIES

## 1. Overview of Database Structures

Upon successful completion of this module, the student will be able to:

- a. define and discuss database theory
- b. define and discuss hierarchical, network and relational structures

REFERENCE: part Chapter Four, hand-outs

## 2. Overview of Database Package

Upon successful completion of this module, the student will be able to:

- a. move around the database package desktop
- b. navigate through the file design tools
- c. use the HELP system

REFERENCE: Chapter One, Chapter Two, Chapter Three

## 3. Relational Database Design and Creation

Upon successful completion of this module, the student will be able to:

- a. define, discuss and compare data types
- b. distinguish among data relationships
- c. design a table
- d. create a relational database

REFERENCE: Chapter Four

## 4. Basic Function and Operations

Upon successful completion of this module, the student will be able to:

- a. add, modify and delete records in files
- b. display data
- c. maintain a database
- d. change the structure and properties of a table

REFERENCE: Chapter Five

## 5. Form Development

Upon successful completion of this module, the student will be able to:

- a. design forms
- b. create and modify forms
- c. associate data tables with forms

REFERENCE: Chapter Six

## 6. Data Indexing, Sorting and Location

Upon successful completion of this module, the student will be able to:

- a. create and modify indexes
- b. sort records
- c. locate areas with find and seek

REFERENCE: Chapter Seven

## 7. Data Queries

Upon successful completion of this module, the student will be able to:

- a. utilize a Query Designer to extract selected data from a single table
- b. utilize a Query Designer to extract selected data from multiple tables

REFERENCE: Chapter Eight

## 8. Report Development

Upon successful completion of this module, the student will be able to:

- a. create a Quick Report
- b. work in a report design window
- c. create reports from single and multiple tables

REFERENCE: Chapter Nine

## 9. Programming Concepts

Upon successful completion of this module, the student will be able to:

- a. define and discuss the advantages of programming
- b. plan a program
- c. discuss data types, arrays, memory variables
- d. describe and discuss the do while/endo loop
- e. analyze problems with the if/endif
- f. define and demonstrate the use of do case/endo
- g. construct and run menus (pp 861-868)
- h. define the modular concept
- i. define and use procedures and functions (subroutines)
- j. develop structured programs

REFERENCE: Chapter Ten, pp 861-868

## 10. Object-Oriented Programming

Upon successful completion of this module, the student will be able to:

- a. discuss objects and object terminology
- b. define and derive classes
- c. discuss the benefits of Object Oriented Programming
- d. use objects in Event-Driven Programming

REFERENCE: Chapter Eleven, Chapter Twelve

## 11. User Interface Creation and MDI (Multiple Document Interface)

Upon successful completion of this module, the student will be able to:

- a. define and discuss windows interface concepts
- b. create forms
- c. validate user input

REFERENCE: Chapter Thirteen, Chapter Eighteen

## 12. System Design using Multiple Tables

Upon successful completion of this module, the student will be able to:

- a. discuss and describe system planning
- b. use multiple tables
- c. set up and use reports programs
- d. construct and use menus and windows

REFERENCE: Chapter Fourteen, Chapter Fifteen,  
Chapter Sixteen, Chapter Seventeen,  
pp. 861-868

## 13. Standard Software Applications

Upon successful completion of this module, the student will be able to:

- a. review and compare basic operations of two wordprocessing applications
- b. review and compare basic operations of two spreadsheet applications
- c. review and compare basic operations of two database applications

REFERENCE: hand-outs

## 14. Integrated Software Package

Upon successful completion of this module, the student will be able to:

- a. discuss and evaluate the uses of an integrated software package
- b. use the package's HELP system
- c. describe and apply moving and copying between documents in the same application
- d. describe and apply moving and copying between documents in different applications
- e. describe and use object linking and embedding (OLE)
- f. compare Linking to Embedding
- g. describe and use importing and exporting

REFERENCE: Chapter 24, hand-outs

## V EVALUATION METHODS

Tests and Quizzes	50%
Assignments	20%
Database Term Project	25%
Participation	05%
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	100%

The tentative breakdown is as follows:

2	Database Test	at	15% each.
1	Integrated Pkge Test	at	10%.
2	Quizzes	at	05% each.
4	Assignments	at	05% each.
1	Database Term Project	at	25%.
	Participation	at	05%.

## \* Participation:

Absenteeism will effect a student's ability to succeed in this course. Participation is encouraged because many things are discussed and learned that may not be specifically evaluated on tests. Absences due to medical or oth unavoidable circumstances should be discussed with the instructor, so that comparable activities can be scheduled. 5% of the final grade will be based on participation.

\* All Assignments must be completed satisfactorily to complete the course. Late hand in penalties will be 5% per day. Assignments will not be accepted past one week late unless there are extenuating and legitimate circumstances.

\* The instructor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.

## \* TERM PROJECT

The term project will consist of maintaining an existing database, creating specific reports, performing utilities and exiting, through a menu system. The database structure, along with the field information and values, will be supplied to the students. More detailed information will be supplied at a later time

GRADING DETAILS1. TESTS

Written tests will be conducted as deemed necessary; generally at the end of each block of work. They will be announced about one week in advance. Quizzes may be conducted without advance warning.

2. ASSIGNMENTS

Assignments not completed by the assigned due-date will be penalized by 5% per day late. All assignments must be completed satisfactorily to complete the course.

3. GRADING SCHEME

A+	90 - 100%	Outstanding achievement
A	80 - 89%	Excellent achievement
B	70 - 79%	Average Achievement
C	55 - 69%	Satisfactory Achievement
U	Incomplete: Course work not complete at Mid-term. Only used at mid-term.	
R	Repeat	
X	A temporary grade that is limited to instances where special circumstances have prevented the student from completing objectives by the end of the semester. An X grade must be authorized by the Dean. It reverts to an R if not upgraded in an agreed-upon time, less than 120 days.	

4. UPGRADING OF INCOMPLETE

When a student's course work is incomplete or final grade is below 55%, there is the possibility of upgrading to a pass when the student's performance warrants it. Participation and assignment completion will have a bearing on whether upgrading will be allowed. A failing grade on all tests will remove the option of any upgrading and an R grade will result. The highest grade on re-written tests or assignments will be 56%.

Where a student's overall performance has been consistently unsatisfactory, an R grade may be assigned without the option of make-up work.

The method of upgrading is at the discretion of the teacher and may consist of one or more of the following options: assigned make-up work, re-doing assignments, re-writing of tests, or writing a comprehensive supplemental examination.

VI PRIOR LEARNING ASSESSMENT

Currently, there are no challenge processes in place.

VII REQUIRED STUDENT RESOURCES

Text: Inside dBASE 5 for Windows  
by: Jay Parsons, et al.  
New Riders Publishing  
ISBN 1-56205-241-1

ADDITIONAL MATERIAL

Software support, Library, Handouts

VIII SPECIAL NOTES

Students with special needs, such as physical limitations, visual impairments, hearing impairments, or learning disabilities, are encouraged to discuss required accommodations, confidentially, with the instructor.

Your instructor reserves the right to modify the course as is deemed necessary to meet the needs of students.



Currently, there are no challenge processes in place.

REQUIRED STUDENT RESOURCES

Inside GEAR 3 for Windows  
Text: Jay Paterson, et al.  
New Riders Publishing  
ISBN 1-55205-341-1

ADDITIONAL MATERIAL

Software support, Library, Handouts

SPECIAL NOTES

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