

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: DATA BASE MANAGEMENT I

Code No.: EDP215-5

Program: BUSINESS DATA PROCESSING

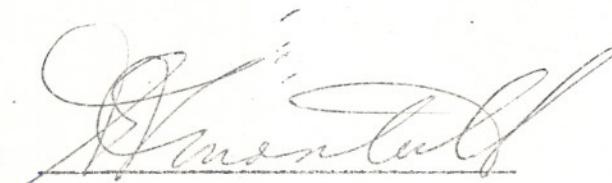
Semester: FOUR

Date: 1986 01

Author: DENNIS OCHOSKI

New: \_\_\_\_\_ Revision: X

APPROVED:



Chairperson

Date:

85-06-07

DATA BASE MANAGEMENT I

EDP215-5

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Length of Course: 5 periods per week for one semester

Texts : Database Processing - David Kroenke  
SEED A.D.S. (Application Development System) Pocket Guide  
SEED D.S.O. (Decision Support Option) Pocket Guide

Other References : Principles of Data-Base Management - James Martin  
SEED KERNEL User Guide  
SEED BLOOM User Guide  
SEED HARVEST User Guide

Purpose :

This is an introductory course in Database Management systems.

The course begins with a study of the necessary terminology and concepts to gain an appreciation of what a data base management system is. Data base design skills are developed by defining and writing schemas, sub-schemas and set relationships, and also by the drawing of Bachman diagrams.

Practical skills are developed through the study and use of SEED, a CODASYL data base, including its data manipulation language, online inquiry, and report generator.

Objectives :

This course extends the concepts of structured analysis and design to include the data base environment. At the conclusion of the course, the student, having analysed a business application will be able to accomplish the following :

- a) the definition of a data base and its purpose,
- b) establish relationships between a given set of data attributes,
- c) document the logical views of the data structures required by the application,
- d) synthesize the logical views of the data structures into an overall logical SCHEMA,
- e) code the logical views of the data structures (SUB-SCHEMA) and the SCHEMA, for a data base system,

Objectives cont'd :

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- f) implement a database on a computer,
- g) develop and implement COBOL programs that use a database,
- h) use a Query language against the database,
- i) use a Report Generator language.

Student Evaluation :

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The student's final grade will consist of the following components :

Tests (3 x 20)	60%	Grading :	A -- 85 to 100%
Assignment #1	10%		B -- 70 to 84
Assignment #2	25%		C -- 60 to 69
Participation	5%		R -- 0 to 59
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	100%		

Note : a student who has achieved an average grade of 75% or better  
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on the first two tests will be exempt from writing the third test. In this case each test will be worth 30% of the semester's grade.

Assignment Deadlines : each assignment must be handed in ON TIME, otherwise they are subject to a 10% deduction per day late.

Note : A student will be allowed to do a re-write if:

- (1) he/she has a passing final grade and wishes to better that grade,
- (2) he/she does not have a passing final grade and that grade is 50% or better, and,
- (3) he/she has completed all assignments.

Material to be covered :

PART A:

<u>REFERENCE</u>	<u>TOPIC</u>	<u>DESCRIPTION</u>
Kroenke Chapter 1	1	<u>Introduction</u> <ul style="list-style-type: none"><li>- database processing</li><li>- advantages and disadvantages</li><li>- components of a Business Database System</li></ul>
Kroenke Chapter 3	2	<u>File Organization</u> <ul style="list-style-type: none"><li>- sequential file processing</li><li>- indexed sequential files</li><li>- direct file organization</li></ul>
Kroenke Chapter 4	3	<u>Data Structures</u> <ul style="list-style-type: none"><li>- flat files</li><li>- logical record relationships</li><li>- tree, simple, and complex relationships</li><li>- physical representation</li><li>- secondary keys</li></ul>
Kroenke Chapter 5	4	<u>Database Design</u> <ul style="list-style-type: none"><li>- generalization and aggregation</li><li>- logical database design</li><li>- physical database design</li></ul>
Kroenke Chapter 9,10	5	<u>CODASYL Data Bases</u> <ul style="list-style-type: none"><li>- overview</li><li>- architecture of a CODASYL database</li><li>- data definition</li><li>- data manipulation</li><li>- schema and sub-schema descriptions</li></ul>

REFERENCE -----	TOPIC -----	DESCRIPTION -----
Kroenke Chapter 11	6	<u>Functions of a Database Management System</u>  - responsibility for functions - concurrent processing - database recovery - security and privacy

PART B : the following topics pertain specifically to the SEED Database Management System and will be discussed concurrently with the theoretical concepts in PART A.

Lecture Notes SEED User Guides	1	<u>Data Definition Language</u>  - schemas and sub-schemas
Lecture Notes SEED User Guides	2	<u>Accessing and Updating the Database with COBOL</u>  - Identification Division format - Environment Division format - Data Division format - Procedure Division format - SEED Data Manipulation Language - retrieving, storing, deleting, and changing records
Lecture Notes SEED User Guides	3	<u>SEED Utilities</u>  - the use of HARVEST to provide easy access to the database - BLOOM Report Writer