

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Outline: DATA BASE MANAGEMENT I  
Code No.: EDP 215-5  
Program: BUSINESS DATA PROCESSING  
Semester: FOUR  
Date: JANUARY, 1986  
Author: BOB LAILEY

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APPROVED:

  
Chairperson

56-01-10  
Date

DATA BASE MANAGEMENT I

EDP 215-5

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Course Name

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Course Number

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 analyzed 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
- 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:

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

Tests (3 x 20)	60%	<u>Grading:</u>	A -- 80 to 100%
Assignment #1	10%		B -- 70 to 79%
Assignment #2	25%		C -- 55 to 69%
Participation	5%		R -- 0 to 54%
	<u>100%</u>		

NOTE: A student who has achieved an average grade of 75% or better 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.

**PART A**

<u>REFERENCE</u>	<u>TOPIC</u>	<u>DESCRIPTION</u>
Kroenke Chapter 1	1	<u>Introduction</u> - database processing - advantages & disadvantages - components of a Business Database System
Kroenke Chapter 3	2	<u>File Organization</u> - sequential file processing - indexed sequential files - direct file organization
Kroenke Chapter 4	3	<u>Data Structures</u> - flat files - logical record relationships - physical representation - secondary keys
Kroenke Chapter 5	4	<u>Database Design</u> - generalization and aggregation - logical database design - physical database design
Kroenke Chapters 9,10	5	<u>CODASYL Data Base</u> - overview - architecture of a CODASYL database - data definition - data manipulation - schema and sub-schema description

<u>REFERENCE</u>	<u>TOPIC</u>	<u>DESCRIPTION</u>
Kroenke Chapter 11	6	<u>Functions of a Database Management System</u> - responsibility for functions - concurrent processing - database recovery - security and privacy
<p><u>PART B:</u> The following topics pertain specifically to the SEED Database Management System and will be discussed concurrently with the theoretical concepts in PART A.</p>		
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