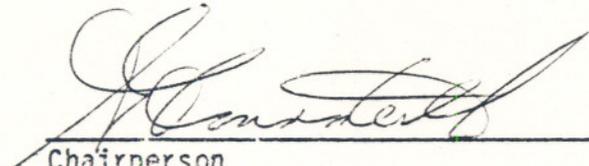


SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: DATA BASE MANAGEMENT II
Code No.: EDP319-4
Program: BUSINESS DATA PROCESSING
Semester: FIVE
Date: 1984 08
Author: DENNIS OCHOSKI

New: X Revision:

APPROVED:  84-06-05
Chairperson Date

DATA BASE MANAGEMENT II

EDP319-4

Length of Course:

4 periods per week for one semester

Required 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:

Managing the Data-Base Environment - James Martin

Database & Data Communications Systems: A Guide for Managers
- Myles E. Walsh

SEED KERNEL User Guide

SEED BLOOM User Guide

SEED HARVEST User Guide

Purpose:

This is a continuation of Data Base Management I.

The course will extend the concepts of database management to include such topics as the use of data dictionaries, the various types of database management systems, backup and recovery, privacy and security, and the role of Database Administration.

Practical applications will be developed to encompass more advanced design and data base access. This again, will be accomplished through the use of SEED.

Specific Objectives:

When this course is completed the student will be able to;

- (1) design, code, and implement an efficient CODASYL data base that functions to its specifications,
- (2) design a data base with respect to other types of database management systems. These will include the relational database and IBM's Data Language/1 database,
- (3) construct a data dictionary by understanding it's importance and use in a database environment,
- (4) implement proper security features into a database system,
- (5) apply the concepts of backup and recovery in maintaining a database system,
- (6) list the functions of Database Administration.

Student Evaluation:

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

Tests (3 x 15)	45%
Individual assignment #1	10%
Individual assignment #2	15%
Major group assignment	25%
Class involvement	5%
	<hr/>
	100%

Assignment Deadlines: each assignment must be handed in ON TIME, otherwise they are subject to a 5% deduction per day late. This will be enforced.

All assignments must be handed in, otherwise the student has not fully completed the course and is subject to receiving an "R" grade.

Grading:

A --	85 to 100%
B --	70 to 84
C --	60 to 69
R --	0 to 59

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

- (1) he/she has a passing final grade and wants to better his/her grade,
- (2) he/she does not have a passing final grade and this grade is 50% or better.

Material to be Covered:

PART A:

<u>TOPIC</u>	<u>DESCRIPTION</u>	<u>REFERENCE</u>
1	<u>Review</u> <ul style="list-style-type: none">- what is database processing- advantages and disadvantages- logical record relationships- trees, simple networks, and complex networks- logical and physical database design- CODASYL data base	Kroenke Chapters 1,4,5,8
2	<u>The Data Base Management System</u> <ul style="list-style-type: none">- definition of a DBMS- objectives of a DBMS- responsibility for functions- choosing a DBMS- impact of DBMS on design decisions	Kroenke Chapter 11 Lecture notes
3	<u>Database Privacy and Security</u> <ul style="list-style-type: none">- types of security exposure- levels and methods of privacy control- enhancing database security, availability, and integrity	Kroenke Chapter 11 Lecture notes

TOPICDESCRIPTIONREFERENCE

- archive files
- check points
- database system restart

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Data Dictionaries

Lecture notes

- definition of a data dictionary
- how a data dictionary system works
- selecting a data dictionary system

6

The Functions of Data Base Administration

- functional responsibilities of the DBA
- database economics and control
- elements of the long-range plan

Kroenke
Chapter 14

7

Relational Data BasesKroenke
Chapter 7,8,12

- data definition
- data manipulation
- normal forms
- design criteria

8

IMS (Data Language/1)Kroenke
Appendix A
Lecture notes

- definition of conceptual hierarchical data base
- the IMS storage data base
- manipulating an IMS data base with DL/1

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Distributed Databases

Lecture notes

- distributed processing
- distributed database
- advantages and disadvantages
- other considerations

PART B: the following topics pertain specifically to the SEED data base and will be discussed concurrently with the theoretical concepts in PART A. All references for these topics are taken from the SEED User Guides.

<u>TOPIC</u>	<u>DESCRIPTION</u>
1	<u>Review</u> <ul style="list-style-type: none">- schemas and subschemas- loading a data base (SPROUT)- updating a data base (DML and COBOL)- BLOOM Report Writer
2	<u>Accessing the Database With COBOL</u> <ul style="list-style-type: none">- Identification Division- Data Division- Procedure Division<ul style="list-style-type: none">- obtaining records- storing records- deleting records- changing records- use of HARVEST to provide easy access to the database
3	<u>Designing Data Base Applications</u> <ul style="list-style-type: none">- development, maintenance, and integrity- application performance- optimizing storage space
4	<u>Maintaining Data Base Integrity</u> <ul style="list-style-type: none">- how journaling works in SEED- creating backup data base files- using DBJRNL to recover, roll forward, or roll backward