SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Outline: DATA BASE MANAGEMENT I

Code No.: EDP215-5

Program: PROGRAMMER AND PROGRAMMER/ANALYST

Semester: FOUR

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Author: DENNIS OCHOSKI

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Chairperson Date

DATA BASE MANAGEMENT I	EDP 215-5
Course Name	Course Number

LENGTH OF COURSE: Five 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:

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 database/database management system is. Database design skills are developed by defining and writing schemes, sub-schemas, and set relationships.

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.

PART A:

The following modules pertain specifically to the theoretical concepts discussed in the course.

Module 1: Introduction to database and the database development process. (Chapters 1 and 2)

Objectives: When this module is completed the student should be able to:

1. distinguish database processing from file processing.
2. understand the advantages and disadvantages of database processing.
3. identify the role that various components of a database system play.
4. define the terms logical and physical record/file, primary and secondary key, unique and nonunique key, schema, subschema, and internal view.
5. describe the stages of systems development.
6. identify alternatives for the various components of a database processing system.
7. identify both subjective and objective techniques for evaluating alternatives.
8. identify the tasks involved in design and implementation of a database processing system.

Module 2: Database structures and design.
(chapters 4 and 5)

Objectives: When this module is completed the student should be able to:

1. distinguish among trees, simple networks and complex networks.
2. understand the difference between flat files and nonflat files.
3. show the relevence of data structures to database processing.
4. illustrate the usefulness of linked lists.
5. understand how trees, simple networks, and complex networks can be represented using linked lists and inverted lists.
6. understand how secondary unique and nonunique keys can be represented using linked lists and inverted lists.
7. understand the complexities of database design.
8. understand the inputs, outputs, and processes for both logical and physical database design.
9. understand the process for database design and implementation.

Module 3: Database models
(chapters 9, 10, 7, and appendix A)

Objectives: When this module is completed the student should be able to:

1. understand the nature of database processing using the CODASYL model.
2. represent trees, simple networks, and complex networks with the CODASYL model.
3. explain relational model terminology.
4. show how trees, simple networks, and complex networks are represented in the relational model.
5. recognize and show results of compatible and noncompatible unions, differences, and intersections.
6. explain IMS (hierarchical) model terminology.
7. show how trees, simple networks, and complex networks are represented on the hierarchical model.

PART 'B': The following topics pertain specifically to the SEED Data Base Management Systems and will be discussed concurrently with the theoretical concepts in Part 'A'.

Objectives: When Part 'B' is completed, the student should be able to:

1) establish relationships between a given set of data attributes

2) document the logical vies of the data structure required by the application

3) synthesize the logical views of the data structure into an overall logical SCHEMA

4) code the logical views (SUB-SCHEMAS) of the data structure and the SCHEMA

5) implement a data base on the VAX

6) use a Query language (HARVEST) against the data base

7) use a Report Generator Language (BLOOM)

8) establish and implement data access and controls on the data base

Student Evaluation:

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

Tests (3 @ 25%)	=	75%
Assignment #1	=	5%
Assignment #2	=	20%
		100%

Grading:

A+	=	90 -	100%
A	=	80 -	89%
B	=	70 -	79%
C	=	60 -	69%
R	=	0 -	59%

Assignment Deadlines:

Assignments must be handed in **ON TIME**, otherwise they are subject to a 10% deduction epr day late. All assignments must be submitted, otherwise the student has not fully completed the course and is subject to receiving an "R" grade.

NOTE: **There will be no re-writes/supplemental test in this course.**