SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Outline:	DATA BASE MANAGEMENT I
Code No.:	EDP215-5
Program:	COMPUTER PROGRAMMER
Semester:	FOUR
Date:	JANUARY, 1992
Previous Outline Dated:	JANUARY, 1991
Author:	DENNIS OCHOSKI

New: _____   Revision: ___X___

APPROVED: _____   _____
Dean, Business & Hospitality   Date

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TIME: Five periods per week for one semester

TEXTS: 1.   Database Processing: Fundamentals - Design -
                   Implementation by David Kroenke, 3rd edition

              2.   Learning SQL - Wellesley Software

PURPOSE: This is an introductory course in database management
                   systems and database design.

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 creating, object
diagrams, logical relationships among data, schemas, and sub-schemas using
relational Bachman diagrams.

Practical skills are developed through the study and use of Sybase, a
relational database management system. A number of case studies will be
used to illustrate the analysis, design, and implementation of a database
system.

STUDENT EVALUATION:

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

              Tests (3 @ 20%)   60%
              Sybase Assignments (4 @ 10%)   40%
                                                _____
                                                 100%

GRADING:

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

NOTE: There will be NO re-writes in this course due to poor performance.

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PART A:

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

Module 1:   Introduction to database
            (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 and describe the functions of a
                              database management system.

                         4.   identify the role that various components of a
                              database system play.

                         5.   define the terms schema, sub-schema, and internal
                              view.

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Module 2:   Database structures and design.
            (chapters 4 and 6)

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.   develop object diagrams based upon a user's
                 work environment and processing requirements.

            4.   understand the complexities of database design.

            5.   understand the inputs, outputs, and processes for
                 both logical and physical database design.

            6.   understand the process for database design and
                 implementation.

Module 3:   The Relational Model (chapter 5)

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

1. explain relational terminology

2. understand and apply the rules for composing
    relations

3. understand how trees, simple networks and complex
    networks are represented in the relational model

4. understand the concept of normalization and
    apply normal forms to database design in the
    relational model

Module 4:   Physical Structures and the CODASYL MODEL
                (Appendix B and Chapter 13)

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

1. understand physical structures such as
    sequential lists, linked lists, and inverted
    lists

2. understand how trees, simple networks and
    complex networks can be represented using linked
    lists and inverted lists

3. understand how secondary unique and non-unique
    keys can be represented using linked lists and
    inverted lists

4. understand the nature of database processing
    using the CODASYL model

5. represent trees, simple networks, and complex
    networks with the CODASYL model

6. show how trees, simple networks, and complex
    networks are represented in the hierarchical
    model

Module 5: Database Administration
(chapter 7)

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

1. understand the importance of database
administration.

2. define the DBA's role in the management of data
activity.

3. define DBA personnel and placement within an
organization.

PART 'B': The following topics pertain specifically to the Sybase Data
Base Management System (a relational system). These will
be discussed concurrently with the theoretical concepts in
Part "A".

MODULE 1: Sybase Relational Database Management System

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

1. understand and apply the criteria to create a
Sybase database

2. understand the concepts of unions, differences,
intersections, selections, and joins

3. understand and use SQL (structured Query Language)
to make queries, generate reports and update a
Sybase relational database.