SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: **Software and Data Management**

Code No.: **CSM300**   **Semester:** **5**

Program: **Computer Systems Support Technology**

Author: **F. Turco**

Date: **Aug 1999**   **Previous Outline Date:** **New**

Approved: _____ _____
                        Dean   **Date**

Total Credits: 5   **Total Credit Hours: 90**

Prerequisites: Completion of the Computer Systems Support Technician or approval of the Dean

Length of Course: 60 Hours for 4 hours a week for 15 weeks comprised of:

2 -   2 hour theory / lab class with the professor per week

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C O U R S E   O U T L I N E

I.   COURSE DESCRIPTION:

This course is develops the students understanding of the issues associated with managing software and data. The student will study a variety of environments and the software issues such as legal requirements to save data, the rights to privacy and the freedom of information act. The student will also study the software issues of licensing, copyright, and third party liability. Students will also learn database concepts, data modelling and data normalization techniques. They will investigate and use database and web technologies in the creation, implementation and use of support based systems. They will use SQL to create, maintain and create queries from help desk / call centre systems.

II.   LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE:

(Generic Skills Learning Outcomes placement on the course outline will be determined and communicated at a later date)

A.   Learning Outcomes:

1.   Review the issues associated with the storage of computer data and the use of software.
2.   Explain what data base design concepts are and how they work.
3.   Research and evaluate a variety of support databases such as help desk and call centre systems.
4.   Design a simple support system using various data base modelling and normalization techniques.
5.   Build a simple database and use SQL to extract relevant information from it.
6.   Research and evaluate various emerging technologies such as e-commerce, ODBC, Data Warehousing, Intranet/Internet Databases.

B.   Learning Outcomes and Elements of the Performance:

Upon successful completion of this course the student will demonstrate the ability to:

1.   Review the issues associated with the storage of
computer data and the use of software.

   Potential elements of the performance:
   - Discuss the legal requirements for organizations to save data.
   - Research the Freedom of Information Act and how it can impact on storage of information.
   - Discuss the rights to privacy of information, and how it can impact on how an organization stores data.

II. <u>LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE (Continued)</u>:

- ■ Review the issues of copyright associated with computer software, and how it affects the organization.
- ■ Review the various licensing techniques used with software products,and the situations in which they might be used.
- ■ Discuss the various types of maintenance agreements that can be reached with software vendors, and the general process of upgrading software products.

This learning outcome will constitute 10 % of the course's grade. (Possible weighting strategy)

2.   Explain what data base design concepts are and how they work.

Potential elements of the performance:
- ■ Describe and appreciate the process of data and database design and why it is so important in support systems.
- ■ Describe and apply various data modelling techniques in creating a simple database (such as entity relationships, semantic objects and data normalization).
- ■ Define and describe various forms of data and how they relate to each other.

This learning outcome will constitute 15 % of the course's grade. (Possible weighting strategy)

3.   Research and evaluate a variety of support databases such as help desk and call centre systems.

Potential elements of the performance:
- ■ Define and describe the characteristics of the various support tools.
- ■ Research and obtain related information on a variety of products currently being used.
- ■ Evaluate and prepare a formal presentation on how these tools work.

This learning outcome will constitute 20 % of the course's grade. (Possible weighting strategy)

4.   Design a simple support system using various data base modelling and normalization techniques.

Potential elements of the performance:
- ■ Develop and implement in a team atmosphere, various models of data and databases.
- ■ Describe and apply the process of modelling.
- ■ Design the appropriate tables and their data definitions.
This learning outcome will constitute 15 % of the course's grade. (Possible weighting strategy)

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II.   LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE (Continued):

B. **Learning Outcomes and Elements of the Performance:**

5.   Build a simple database and use SQL to extract relevant information from it.

   Potential elements of the performance:
   ■ Build the appropriate tables and their associated keys and definitions.
   ■ Build the appropriate forms and code for data entry.
   ■ Populate the tables with a reasonable representation of data.
   ■ Use SQL queries to extract data from the tables.

   This learning outcome will constitute 25 % of the course's grade. (Possible weighting strategy)

6.   Research and evaluate various emerging technologies such as e-commerce, ODBC, Data Warehousing, Intranet/Internet Databases.

   Potential elements of the performance:
   • Research the impact OF E-COMMERCE to the support role.
   • Research how Intranet and Internet Database applications work.
   • Describe what ODBC is and how it works.
   • Describe various improvements in technology such as OBJECTS, Database Warehousing.

   This learning outcome will constitute 15 % of the course's grade. (Possible weighting strategy)

III.   TOPICS TO BE COVERED

   • Note: These topics sometimes overlap several areas of skill development and are not necessarily intended to be explored in isolated learning units or in the order below.

SPECIFIC TOPICS	APPROXIMATE TIME
1. Storage Issues	1 WEEK
2. Database Concepts	2 WEEKS
3. Support Systems	4 WEEKS
4. Database Design	3 WEEKS
5. SQL Programming	4 WEEKS
6. Emerging Data Management Technologies	2 WEEKS

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:

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No official textbook for this course although many Database
Concept books can be acquired through the internet and/or the
library.
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ADDITIONAL RESOURCE MATERIALS

Additional reference material will either be given to the students or placed in the library for the student's use.
Handouts, Guidance, and Material as it relates to the individual topics.
Use of research modes such as INTERNET, Library Data Base Searches, and articles.

REQUIRED INDIVIDUAL STUDENT RESOURCES

Participation & Teamwork   Box of Disks
Individual Research   Documentation

V.   EVALUATION METHODS:

Tests	40%
Quizzes / Mini Participation Assignments	20%
Assignments and Lab Work	40%

The tentative breakdown is as follows:

2	Formal Theory Tests	at 20 % each
2	Quizzes (best 2 out of 3)	at 5 % each
5	Mini Participation Assignments	at 2 % each
4	Minor Assignments	at 5 % each
2	Major Assignments	at 10 % each

Some minor modifications to the above percentages may be necessary. The professor reserves the right to adjust the mark up or down 5% based on attendance, participation, leadership, creativity and whether there is an improving trend. Students must have passing grades in the tests and assignments portion to pass the entire course.

V.   **EVALUATION METHODS(Continued):**

*   Students must complete and pass both the test and assignment portion of the course in order to pass the entire course.

*   All Assignments must be completed satisfactorily to complete the course. Late hand in penalties will be 5% per day. Assignments will not be accepted past one week late unless there are extenuating and legitimate circumstances.

* The professor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.

* A student who is absent for 3 or more times without any valid reason or effort to resolve the problem will result in action taken.

NOTE: If action is to be taken, it will range from marks being deducted to a maximum of removal from the course.

V. EVALUATION METHODS (Continued):

GRADING DETAILS

1. TESTS

Written tests will be conducted as deemed necessary; generally at the end of each block of work. They will be announced about one week in advance. Quizzes may be conducted without advance warning.

2. ASSIGNMENTS

Assignments not completed by the assigned due-date will be penalised by 5% per day late. All assignments must be completed satisfactorily to complete the course.

3. GRADING SCHEME

A+	90 - 100%	Outstanding achievement
A	80 - 89%	Excellent achievement
B	70 - 79%	Average Achievement
C	60 - 69%	Satisfactory Achievement
U	Incomplete:	Course work not complete at Mid-term.
		Only used at mid-term.
R	Repeat	
X	A temporary grade that is limited to instances where special circumstances have prevented the student from completing objectives by the end of the semester. An X grade must be authorised by the Chairman. It reverts to an R if not upgraded in an agreed-upon time, less than 120 days.	

4. UPGRADING OF INCOMPLETE

When a student's course work is incomplete or final grade is below 60%, there is the possibility of upgrading to a pass when the student's performance warrants it. Attendance and assignment completion will have a bearing on whether upgrading will be allowed. A failing grade on all tests will remove the option of any upgrading and an R grade will result. The highest grade on re-written tests or assignments will be 60%.
Where a student's overall performance has been consistently unsatisfactory, an R grade may be assigned without the option of make-up work.
The method of upgrading is at the discretion of the teacher and may consist of one or more of the following options: assigned make-up work, re-doing assignments, re-writing of tests, or

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          writing a comprehensive supplemental examination.

VI. SPECIAL NOTES

1. All students should be aware of the Special Needs Office in the College. If you have any special needs such as being visually impaired, hearing disabled, physically disabled, learning disabilities you are encouraged to discuss required accommodations confidentially with the Professor and/or contact the Special Needs Office, Room E1204, Ext. 493, or 717, or 491 so that support services can be arranged for you.

2. Your professor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

3. It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

4. Plagiarism

    Student should refer to the definition of "academic dishonesty" in the "Statement of Student Rights and Responsibilities". Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor.

5. Substitute course information is available at the Registrar's office.

6. Students must achieve a passing grade in **both** the assignment and the test portions of the course.

7. The topics will not necessarily be covered in the order shown in this course outline.

VII.   PRIOR LEARNING ASSESSMENT

    Students who wish to apply for advanced credit in the course should consult the professor.