

**DATABASE DESIGN AND IMPLEMENTATION II**

COURSE NAME

(Modified on: 03/27/07 by FST)

**CSD303**

COURSE CODE

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



COURSE OUTLINE

Course Title: Database Design and Implementation II

Code No.: CSD303 Semester: 4

Program: Computer Programmer/Programmer Analyst

Author: F. Turco

Date: Jan 2001 Previous Outline Date: Jan 2000

Approved: \_\_\_\_\_  
Dean Date

Total Credits: 4 Prerequisites: **CSD204**

Hours/Week: 4

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& Technology, (705) 759-2554, Ext. 642.*

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**I. COURSE DESCRIPTION:**

This course is a continuation of Database Design and Implementation I where more advanced design and implementation of systems will be completed. A major focus of the course is on the physical implementation of a database using popular platform(s) currently adopted by many organizations. The platforms to be studied this semester will be Microsoft Access 2000 and SQL Server 7.0. A study of database management theory will parallel the application of the theory in lab projects.

The course will extend the concepts of database management to include such topics as other enterprise database models (Hierarchical, Network, Relational products such as DB2 and Oracle), Object Oriented Databases, Internet technology, SQL, backup/recovery, privacy/security and data warehouses / data marts.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

**A. Learning Outcomes:**

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

- 1. Build and program database applications using Microsoft Access 2000.**
- 2. Program using the Structured Query Language (SQL), setup and administer SQL Server.**
- 3. Describe and illustrate other Database Models.**
- 4. Preview the new wave of database implementation with respect to Internet Technology**

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

- 1. Build and program database applications using Microsoft Access 2000.**

***Potential elements of the performance:***

- use Access as a Front-End Development Tool
- understand the Access Programming Language
- work with SQL and Visual Basic within Access 2000
- work with Access Database elements such as objects, collections and properties
- understand Object Oriented Programming and Event Driven Programming
- write database applications using Visual Basic Procedures
- program database applications using Access 2000

***This learning outcome will constitute approximately 40% of the course grade (possible weighting strategy) and take approximately 7 weeks.***

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

**Resources:**

**Microsoft Access 2000 Programming Textbook: Chapters 1, 2, 3, 4, 5, 6, 7, 8, and 9**  
**Professor's handouts, lecture notes, guidance, lab exercises and other material**

**2. Program using the Structured Query Language (SQL) and setup a SQL Server.**

*Potential elements of the performance:*

- understand the evolution of SQL Server and its components, including the installation and configuration of SQL Server and its client components
- work in detail with all of the SQL programming constructs
- understand the concepts of multiprocessing, multitasking, multithreading, and multi-architecture
- understand the Windows NT network components, workgroups, and domains
- install SQL server and client software as well as tools from the client system
- work with SQL Server Enterprise Manager
- build, manage and configure SQL Server Databases
- import and export databases from multiple platforms such as Access

*This learning outcome will constitute approximately 30% of the course grade (possible weighting strategy) and take approximately 4 weeks.*

**Resources:**

**Database Processing Textbook: Chapters 8, 9**  
**Access 2000 Programming: Chapters 1, 7, 18, 19**  
**Professor's handouts, lecture notes, guidance, lab exercises and other material**

**3. Describe and illustrate other Database Models.**

*Potential elements of the performance:*

- review the sharing of enterprise data
- describe concepts such as On Line Analytic Processing (OLAP), data warehousing, and data administration
- define and describe other Database Models and how they apply in business such as the Network Databases, and Hierarchical Databases
- review some of the other command languages such as DB2, CODASYL and IMS's Data Language/I

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

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*This learning outcome will constitute approximately 20% of the course grade (possible weighting strategy) and take approximately 3 weeks.*

**Resources:**

**Database Processing Textbook: Chapters 14, 15, 16**

**Professor's handouts, lecture notes, guidance, lab exercises and other material**

**4. Preview the present and future wave of database implementation with respect to Internet Technology**

*Potential elements of the performance:*

- describe concepts such as Network environments, Three-tier Architecture
- review internet based technologies and how they relate to database driven web sites
- understand the Web Server Data Environment and how to connect databases with the Web

*This learning outcome will constitute approximately 10% of the course grade (possible weighting strategy) and take approximately 2 weeks.*

**Resources:**

**Database Processing Textbook: Chapters 13, 14**

**Access 2000 Programming: Chapter 18, 19, 20**

**Professor's handouts, lecture notes, guidance, lab exercises and other material**

**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:

<b>TOPICS</b>	<b>APPROXIMATE TIME</b>
Access 2000 Programming	7 Weeks
SQL Programming and SQL Server	4 Weeks
Database Models	3 Weeks
Internet Technologies	2 Weeks

**IV. REQUIRED RESOURCES / TEXTS / MATERIALS:**

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**Textbook to be used as reference material:**

1. **“Database Processing” by David Kronke, Prentice Hall, Seventh Edition**
2. **Guide to Microsoft Access 2000 Programming by Peter Norton, Sams Publishing**

**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 database searches and articles.

**V. EVALUATION METHODS:**

Tests and Quizzes	60%
Assignments and Lab work	40%

The tentative breakdown is as follows:

Formal Theory Tests (3 @ 15%)	45%
Quizzes (best 3) (3 @ 5%)	15%
Mini Assignments (4 @ 5%)	20%
Assigned Group Projects (2 @ 10%)	<u>20%</u>
Total	100%

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.

- 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 and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.

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

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- 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.

**ASSIGNMENT/PROJECT SPECIFIC INFORMATION**

1. Assignments/Projects will be assigned to student "assignment/project teams", each consisting of two, three or four students.
2. It is the responsibility of the project team to clarify any system requirements with the user / professor.
3. At various intervals, the instructor will require each assignment/project team to report on the progress made on their respective assignment/project. At that time, each team member will be required to complete a Peer Evaluation Form used to "grade" each team member's contribution to the assignment/project.
4. At the completion of an assignment/project, the respective assignment/project team will present and demonstrate the functionality of their system to the user / professor.
- 5.. The grade assigned to the overall assignment/project and to each team member will be determined using three sources:
  - a) Peer Evaluation Form
  - b) Presentation of project to professor(s)

\*\* Note: When an assignment/project is presented to the professor, each team member may be required to demonstrate his/her assigned task(s). The assignment/project will receive an overall grade and each team member will receive an individual grade which may or may not be equivalent to the overall assignment/project grade or to the grades of other team members.

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

**GRADING DETAILS:**

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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**

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+ 90 - 100%	Outstanding achievement	4.00
A 80 - 89%	Excellent achievement	3.75
B 70 - 79%	Average Achievement	3.00
C 60 - 69%	Satisfactory Achievement	2.00
R Repeat		0.00
U Incomplete:	Course work not complete at Mid-term. Only used at mid-term.	
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 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

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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/dean.
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.

**VIII. DIRECT CREDIT TRANSFERS:**

Students who wish to apply for direct credit transfer (advanced standing should obtain a direct credit transfer form from the Dean’s secretary. Students will be required to provide a transcript and course outline related to the course in question.