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

COURSE OUTLINE

Course Title: **Web DBMS**

Code No.: **CSD320**   **Semester:**   **5**

Program: **Computer Programmer/Programmer Analyst**

Author: **F. Turco**

Date: Sep 2000   Previous Outline Date:

Approved: _____ _____
                          Dean   **Date**

Total Credits: 5   **Prerequisites:**   CSD303
Hours/Week: 4

I.   **COURSE DESCRIPTION:**

    This course will broaden the student's knowledge of various popular database implementations.
    The focus will be to use their previous database experiences and implement these skills in database

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)
 driven web sites. A variety of mediums and technologies will be examined and used throughout
the course to expose students to the major alternatives and confusion that exists in Web based
 DBMS's.

The course covers the concepts and practical aspects of creating a web site and web database
Processing. It will also reacquaint the student with relation database concepts, SQL, HTML and
more importantly how they relate to creating a database driven web site. Students will be expected
to create and manage a variety of web servers (such as Personal Web Server, IIS, an Apache).
They will also be required to code and work with a variety of scripting languages (such as VB
scripting and Javascript) in the creation of client-side and server-side scripts. We will also work
with a variety of "add-on" technologies that allow databases to communicate with web pages such
as Active Server Pages and ColdFusion .

The ultimate goal of the course is the creation and implementation of a soundly designed database
that is totally integrated in a realistic and well designed web site. The students will be expect to
work together as team members in developing a fully integrated web site using Javascripting,
Frames, Forms, SQL, Active Server Pages as well as using an alternative development
environment that includes ColdFusion as the Web DBMS engine.

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. **Learn the web based database processing environment .**
2. **Install and manage a Web Server, ColdFusion Server, ASP Server, SQL Server and administer a Web Site.**
3. **Design and implement a Web based database using SQL Server.**
4. **Develop Client Side Scripts using Javascript that interface with both ColdFusion and Active Server Pages.**
5. **Develop Server Side Scripts using Active Server Pages and ColdFusion.**
6. **Design, code and implement a fully integrated database driven web site in the Active Server Page environment as well as the ColdFusion environment.**

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)

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

1. **Learn the web based database processing environment .**

    Potential elements of the performance:

    - define and describe Web Basics such as:
        i) Architecture of the World Wide Web
        ii) Web Addressing
        iii) Client / Server Architecture
    - describe the difference between static and dynamic Web pages
    - explore different technologies that can be used to create dynamic Web Pages that interact with a database
    - explore different technologies used to create the Web site
    - create simple web database access using Microsoft Access

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

    Resources:
       Textbook: Chapters 1 and 2
       Professor's handouts, guidance, lab exercises and material

2. **Install and manage a Web Server, ColdFusion Server, ASP Server, SQL Server and administer a Web Site.**

    Potential elements of the performance:

    - describe in detail what role each server product plays in creating and maintaining an appropriate web site
    - install, differentiate and investigate the various web servers such as Microsoft's Personal Web Server, Apache and Internet Information Server (IIS)
    - install, differentiate and investigate the various Server Side programming protocols such as Active Server Pages and ColdFusion
    - install and investigate SQL Server

    This learning outcome will constitute approximately 15% of the course grade (possible weighting strategy) and take approximately 2 weeks.

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)
Resources:
    Textbook: Chapter 5 and references to other material and specific pages as discussed in class
    Professor's handouts, guidance, lab exercises and material

3.   **Design and implement a Web based database using SQL Server.**

    Potential elements of the performance:

- define and apply analysis and database design principles to create effective normalized database relations (using both Semantic Object and Entity Modelling)
- create the relations and populate them on the Server
- use SQL programming to add, modify, delete and view data from the Client
- create simple Web Based Client queries to access the server database using competing technologies such as Access 2000, ColdFusion(enhanced SQL), Active Server Pages with raw SQL
- work with more advanced HTML features such as Frames, Forms, Cascading Syle Sheets

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

    Resources:
      Textbook: Chapter 3, 4, 6 and previous course material and experience
      Professor's handouts, guidance, lab exercises and material

4.   **Develop Client Side Scripts using Javascript that interface with both ColdFusion and Active Server Pages.**

    Potential elements of the performance:

- create HTML forms
- learn about client-side scripting and all the options available
- create a client-side script using Javascript
- validate HTML form inputs using client-side scripts
- create cookies using client-side scripts

This learning outcome will constitute approximately 15% of the course grade (possible weighting strategy) and take approximately 2 weeks.

    Resources:
      Textbook: Chapters 7, Internet research on Javascripts

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)
     Professor's handouts, guidance, lab exercises and material

5.   **Develop Server Side Scripts using Active Server Pages and ColdFusion.**

Potential elements of the performance:

- create dynamic Web pages that retrieve and display database data using Active Server Pages and ColdFusion
- process form inputs using Active Server Pages and ColdFusion
- create a Web application using client and server-side scripts in both the Active Server Page and ColdFusion environment
- learn how to share data values among different pages in a Web application
- insert, update, and delete database records using Active Server Pages and Coldfusion

This learning outcome will constitute approximately 15% of the course grade (possible weighting strategy) and take approximately 2 weeks.

Resources:
    Textbook: Chapters 8, Internet research on ColdFusion and Active Server Pages
    Professor's handouts, guidance, lab exercises and material

6.   **Design, code and implement a fully integrated database driven web site in the Active Server Page environment as well as the ColdFusion environment.**

Potential elements of the performance:

- Design, define and create the appropriate tables on the SQL server to complete our project
- Design, code, test and implement the appropriate client and server side scripts required in this database driven web project
- Build the appropriate html pages to interface with the databases and the web application
- Install the web site in both competing environments

This learning outcome will constitute approximately 40% of the course grade (possible weighting strategy) and take approximately 6 weeks.

Resources:
    Textbook: Chapters 8, Internet research on ColdFusion and Active Server Pages
    Professor's handouts, guidance, lab exercises and material

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)

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 learing units or in the order below:**

TOPICS	APPROXIMATE	TIME
1. Web Based Database Processing	2 Weeks	
2. Install Server Products	2 Weeks	
3. Design Web Databases	2 Weeks	
4. Client Side Scripts	2 Weeks	
5. Server Side Scripts	2 Weeks	
6. Web Application Development	6 Weeks	

IV.   REQUIRED RESOURCES / TEXTS / MATERIALS:

Textbook to be used as reference material:

1. "Database-Driven Web Sites" by Mike Morrison Joline Morrison, Course Technology ISBN 0-619001556-X

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 seraches and articles.

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)

V.   EVALUATION METHODS:

Tests and Quizzes   40%
Assignments and Lab work   60%

The tentative breakdown is as follows:

Formal Theory Tests (2 @ 15% each)   30 %
Quizzes (best 2 of 3   @   5% each)   10 %

Assignments (6 @ 5%)   30%
Assigned Group Projects (2 @ 15%)   30%

 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.
- 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.

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)

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

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.

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)

3.   GRADING

Grade		Definition	Grade Point Equivalent
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
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 authorized by the Dean. It reverts to an R if not upgraded in an agreed-upon time, less than 120 days.	

5.   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 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.

WEB DBMS   **CSD320**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)

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.

DATABASE DESIGN AND IMPLEMENTATION I   **CSD204**
COURSE NAME   COURSE CODE
(Modified on: 03/27/07 by FST)