

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



COURSE OUTLINE

COURSE TITLE: Web DBMS

CODE NO. : CSD320 **SEMESTER:** 5

PROGRAM: COMPUTER PROGRAMMER/PROGRAMMER ANALYST

AUTHOR: Dennis Ochoski

DATE: July/16 **PREVIOUS OUTLINE DATED:** July/15

APPROVED: "Colin Kirkwood" July/16

	DEAN	DATE
TOTAL CREDITS:	<u>5</u>	
PREREQUISITE(S):	<u>CSD220, CSD212</u>	
HOURS/WEEK:	<u>3</u>	

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I. COURSE DESCRIPTION:

This course will broaden the student's knowledge of database implementations. The focus will be to use their previous database skills and experiences and apply them to database driven web sites. A combination of technologies will be examined and used throughout the course to expose students to the alternatives that exist in web-based database applications.

The course covers the concepts and practical aspects of creating a web site and web database processing. It will also reacquaint students with relational 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 web server (Apache). They will be required to code and work with the scripting language, PHP(the "PHP Hypertext Preprocessor"), in the creation of server-side scripts.

The ultimate goal of the course is the creation and implementation of a soundly designed database that is integrated in a realistic and well-designed web site. The students will be expected to work together as team members in developing a fully integrated website.

II. TOPICS:

1. Introduction to PHP
2. Programming with PHP
3. Creating Dynamic Web Sites
4. Error Handling and Debugging
5. Using PHP with MySQL
6. Common Programming Techniques
7. Web Application Development
8. Cookies and Sessions
9. Security Methods
10. User Registration
11. E-Commerce

III. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Understand the web based database processing environment, and, basic syntax and programming constructs of the PHP scripting language (chapters 1 & 2).

This learning outcome will comprise approximately 5% of the course.

Elements of the performance:

- learn the syntax for coding PHP
- learn how to send data to the Web browser
- learn how to use strings and numeric variables, and, constants
- learn how and when to use single vs. double quotation marks
- learn how to use basic debugging steps
- use PHP to handle submitted values
- use conditionals and mathematical operators, arrays, and loops

2. Understand the web based database processing environment and build dynamic web sites (chapter 3).

This learning outcome will comprise approximately 10% of the course.

Elements of the performance:

- use external files to compartmentalize some HTML or PHP code
- create sticky forms
- create and use programmer defined functions

3. Understand error handling and debugging (chapter 8).

This learning outcome will comprise approximately 10% of the course.

Elements of the performance:

- identify, display, and debug various error types
- create custom error handlers
- use PHP, SQL, and MySQL debugging techniques

4. Use PHP and MySQL together to access and manipulate databases (chapter 9).

This learning outcome will comprise approximately 30% of the course.

Elements of the performance:

- connect to MySQL via PHP scripts
- execute queries and retrieve query results
- secure a MySQL connection
- hide PHP error messages from the user
- validate user data
- count returned records
- update records with PHP

5. Demonstrate common PHP-MySQL programming techniques (chapter 10).

This learning outcome will comprise approximately 10% of the course.

Elements of the performance:

- send values to a script
- use hidden form inputs
- edit existing records
- paginate query results
- sort query results

6. Web application development using PHP (chapter 11).

This learning outcome will comprise approximately 5% of the course.

Elements of the performance:

- use PHP to send email
- handle file uploads through an HTML form, using PHP and JavaScript together
- use the header() function to manipulate the Web browser
- use date and time functions present in PHP

7. Incorporate cookies, sessions and security methods (chapters 12 & 13).

This learning outcome will comprise approximately 10% of the course.

Elements of the performance:

- create login pages and functions
- use cookies and sessions
- improve session security
- prevent spam
- validate data and files by type
- prevent cross-site scripting (XSS) attacks
- use the filter extension
- prevent SQL injection attacks

8. Implement both a user registration and a shopping cart application (chapters 18 & 19).

This learning outcome will comprise approximately 20% of the course.

Elements of the performance:

- create templates and write configuration scripts
- create a home page for registration
- activate an account
- login and logout of an account
- manage passwords
- create both administrative and public interfaces
- create a product catalog
- create a shopping cart
- record orders

IV. REQUIRED RESOURCES / TEXTS / MATERIALS:

The specific book information for this course text is as follows:

Title: PHP and MySQL for Dynamic Web Sites: Visual QuickPro Guide,
4th Edition, by Larry Ullman
Peachpit Press (via Pearson Publishing)

eText: ISBN-13 978-0-133-78185-4

Print: ISBN-13 978-0-321-78407-0

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Other References

1. <http://php.net/>
 2. <http://dev.mysql.com/doc/refman/5.5/en/index.html>
- Documentation

PHP Documentation
MySQL

V. EVALUATION METHODS:

Tests/Assignments	Weight
Assignments	20%
Tests	60%
Project	<u>20%</u>
	100%

The following semester grades will be assigned to students in postsecondary courses:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 - 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	below 50%	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field /clinical placement or non-graded subject area.
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

VI. OTHER EVALUATION CONSIDERATIONS

1. In order to pass this course the student must obtain an overall test/quiz average of **50%** or better, as well as, an overall assignment average of **50%** or better. A student who is not present to write a particular test/quiz, and does not notify the professor beforehand of their intended absence, may be subject to a zero grade on that test/quiz.
2. There will be **no** supplemental or make-up quizzes/tests in this course.
3. Assignments must be submitted by the due date according to the specifications of the professor. Late assignments will normally be given a mark of zero. Late assignments will only be marked at the discretion of the professor in cases where there were extenuating circumstances.
4. Any assignment/projects submissions, deemed to be copied, will result in a **zero** grade being assigned to **all** students involved in that particular incident.
5. It is the responsibility of the student to ask the professor to clarify any assignment requirements.
6. The professor reserves the right to modify the assessment process to meet any changing needs of the class.

VII. SPECIAL NOTES

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *It is the departmental policy that once the classroom door has enclosed, the learning process has begun. Late arrivers may not be granted admission to the room.*

Absences due to medical or other unavoidable circumstances should be discussed with the professor. Students are required to be in class on time and attendance will be taken within the first five minutes of class. A missed class will result in a penalty in your marks unless you have discussed your absence with the professor as described above. The penalty depends on course hours and will be applied as follows:

Course Hours	Deduction
5 hrs/week (75 hrs)	1.0% /hr
4 hrs/week (60 hrs)	1.5% /hr
3 hrs/week (45 hrs)	2.0% /hr
2 hrs/week (30 hrs)	3.0% /hr

VIII. COURSE OUTLINE ADDENDUM

The provisions contained in the addendum located on D2L form part of this course outline.