

**COURSE TITLE:** Dynamic, Database-Driven Web Sites

**COURSE NUMBER:** CP560

**CREDIT:** 1

**GRADE LEVEL:** 11, 12

**COURSE LENGTH:** 1 Semester

**COURSE DESCRIPTION:**

Students learn to create database-driven Web sites, using PHP scripting with MySQL, and Coldfusion.

**PREREQUISITES:**

Digital Works, Exploring Web Technologies, Advanced Web Development

**INSTRUCTIONAL MATERIALS:**

Texts: PHP, Whitehead and Desamero

PHP for the World Wide Web: Visual Quickstart Guide, Ullman

Dreamweaver MX: PHP Web Development, Downes-Powell, Green and Mairlot

SQL Tips and Techniques, King

MySQL: Visual Quickstart Guide, Ullman

Teacher-designed mini-projects and Web site projects

Lessons and tutorials included with software

Web site tutorials and articles on current resources

**SOFTWARE:**

PHP, MySQL, Coldfusion

**INSTRUCTIONAL STRATEGIES:**

Direct instruction, demonstration, graphic organizers, application exercises, projects, cooperative groups, case studies, guest speakers, videos, Internet

**ASSESSMENTS:**

Daily work performance, teacher observation, rubric, checklist, classroom discussion, projects, research relevant to topic, application performance, exams

**COURSE OBJECTIVES:**

Upon successful completion of this course the student should be able to:

1. use the PHP scripting language to demonstrate knowledge of server side scripting syntax
2. identify and use basic server side scripting statements to link an existing database file to the Web.
3. identify the basic components of a relational database management system
4. understand the three-tier hierarchical model of a relational database management system
5. identify the need for a relational database management system
6. understand and use the basic features of a relational database management system
7. create and connect to a database
8. use functions and techniques to create Web applications using a server side scripting language
9. Create Web applications using Coldfusion
10. identify basic legal and ethical issues related to Web design and development
11. identify career roles, requirements, salaries, and outlooks
12. demonstrate leadership, problem solving, and teamwork skills

**I. PHP Basic Syntax** Identify and use basic script syntax structure  
 Send data, text, HTML to the browser  
 Create comments  
 Assign values to variables of various types  
 Identify and use constants, expressions, and types  
 Convert from one type to another  
 Create an HTML form using GET, Post, and receive data from a form.  
 Perform arithmetic operations on numbers  
 Increment and format numeric variables  
 Use mathematical functions  
 Use Strings and String Library Functions  
 Use IF, ELSE, ELSEIF and SWITCH Control Structures  
 Use Looping Structures: While and For  
 Create Arrays, add and access array items  
 Sort an array  
 Transform between Arrays and Strings  
 Create an Array from a Form  
 Create an access a multidimensional array  
 Define, match, and replace patterns in a regular expression.  
 Create and Call functions that Take and Return Arguments  
 Understand and Set File Permissions  
 Write to and Read from Files  
 Create and maintain Directories  
 Upload, rename, and delete files  
 Object Oriented Programming - write programs using Objects, Classes, and Methods  
 Object Oriented Programming - get information about an Object  
 Object Oriented Programming - Check for Classes and Methods in a Script

**II. Components of a Database Driven Web Site** differentiate between various web scripting technologies, assessing the relative strengths and weaknesses of each  
 given a real-world customer case-study, recommend a specific database/scripting software solution that reflects an ability to differentiate between the various software available  
 create a database driven web page which utilizes industry-based standards and practices, and that demonstrates knowledge of database record retrieval, modification, and deletion  
 Identify the basic components of a relational database management system  
 Understand the three-tier model of a relational database management system: DBMS and Database, Server-Side Scripting Language, and Client Web Browser  
 Identify the need for a relational database management system  
 Understand the basic features of a Database  
 Understand and use a Table  
 Understand and use Attributes  
 Understand and use Rows  
 Understand and use Relational Model  
 Understand and use RDMS  
 Understand and use SQL  
 Understand and use Constraints, Primary Key, Index  
 Understand and use Entity-Relationship Modeling  
 Understand and use MySQL Command Interpreter  
 Insert, Update, and Delete Data  
 Query Data  
 Sort and Group Data  
 Understand and use Functions

**III. Relationship between Server-Side Scripting and a Database Driven Web site** Identify and use server-side scripting statements to link a database file to the Web  
 Understand SQL Database Structure  
 Use PHP to link an SQL database to the Web  
 Send Data to the Database  
 Retrieve Data From the Database

**IV. Comprehensive Web Applications** Create and use Cookies  
 Use Include and Require Functions  
 Use HTTP Headers  
 Sending Email  
 Debug, logging errors to a File  
 Debug, sending error messages

**V. Cold Fusion** Students will utilize Cold Fusion to create a content management system  
 Students will utilize Cold Fusion to create an e-Commerce shopping cart application.

**METHODS OF EVALUATION OF COMPETENCIES:**

Evaluation of student mastery of course competencies will be accomplished using the following grading scale:

A = 90 - 100 %

B = 80 - 89%

C = 70 - 79%

D = 60 - 69%

F = 0 - 59%