PHP Programming with MySQL

Course Outline

**Class:** WA180 – PHP Programming with MySQL

60 hours

**Instructor: Jane Sferrazza**

**Text:**  PHP Programming with MySQL: The Web Technologies Series, 2nd Edition  
 Don Gosselin

CENGAGE Learning

**Prerequisite:** WA120 - Programming with JavaScript & jQuery

WA150 – Data Development Utilizing Database Design and SQL

**Equipment:** Each student shall be equipped with a desktop computer with the technical characteristics configured to run the programs used throughout the program:

* 20 desktop computers (including 24” monitors and mice) minimum
* Quad Core processor with Microsoft Windows 7, 8.x, or 10,
* Minimum 16 GB Ram
* Minimum 500 GB HD
* Internet access.

**Grading System:**

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|  | | **Grading Scale** | | |
| Classwork, Homework, Participation, Attendance | 30% | 90–100 | A | I - Incomplete |
| Exams/Quizzes | 10% | 80–89 | B | T - Transfer Credit |
| Presentation/Projects | 30% | 70–79 | C | E - Exempt |
| Final Test | 30 % | 65–69 | D | W - Withdrew |
|  | **100%** | Below 65 | F | I - Incomplete |

**Course Description:**

The course covers the basics of PHP and MySQL programming, as well as advanced topics including PHP object-oriented design and development, and how to build web sites that incorporate authentication and security. After the students complete this course, they are ready to use PHP and MySQL to build professional quality, database-driven Web sites. This course requires the SQL course as a prerequisite.

**Overview:** This class meets for a total of 60 hours. Day classes are six hours per day, Monday through Friday.

**Objectives:** Upon successful completion of this course, the student will be able to:

1. Use PHP functions and control structures
2. Manipulate Strings with PHP
3. Handle user input
4. Work with files and directories
5. Manipulate arrays
6. Work with MySQL
7. Manage state Information
8. Develop Object Oriented PHP
9. Configure a personal web server
10. Format strings
11. Understand security aspects
12. Understand error handling and debugging

**Requirements:** 1. Meet attendance and academic criteria.

2. Completion of all assignments.

3. Completion of the Final Project.

**Graded Work:** The test average and quiz average each comprise 50% of the final grade point average. Quiz grades are based upon completion of the assignment in the time allotted, ability to follow instructions, observance of safety rules and neatness of work area.

**Attendance:** Daily attendance is required. If you anticipate an absence, consult with your instructor.

Be aware that each absence will require an equal amount of make-up time. Each student is required to maintain a minimum attendance of 85% for each course:

* If you miss more than 15% of the total hours in any one course, you will be required to make-up enough missed hours to meet the minimum course attendance requirement of 85%.
* If at the end of the cycle your attendance is less than 85% you will receive an incomplete (I) for the course, and will have 5 business days immediately following the end of the cycle to make-up the hours missed, otherwise your grade will change from an incomplete to an F, and you will be required to retake the course.
* If you miss more than 30% of the total hours in any one course, you will receive a W (withdrawal) and will be required to retake the course.

**Make-up Work:** All missed work is required to be completed as soon as possible. If you need extra help, it is your responsibility to make an appointment with your instructor at a mutually agreeable time.

**Supplies:** Hunter Business School provides all the necessary supplies.

### **Lesson Plan**

##### Day 1 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| --- | --- |
| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 1: Introduction to PHP |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Create PHP scripts * Create PHP code blocks * Work with variables and constants * Study data types * Use expressions and operators |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:45 AM   * Introduction to PHP, slides 2-23   10:45 AM – 11 AM   * Break   11 AM – 12:00 PM   * Lab, slide 24   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * Data Types, slides 25-29 * Arrays, slides 30-40 * Expressions and Operators, slides 41-60 * Summary, slide 61-65 * Lab, slide 66 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 2 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 1: Functions and Control Structures |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Study how to use functions to organize your PHP code * Learn about variable scope * Make decisions using if statements, if...else statements, and switch statements * Repeatedly execute while statements, do...while statements, for, and foreach statements * Learn about include and require statements |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:30 AM   * PHP functions, slides 2-9 * Conditional statements, slides 10-20   10:30 AM – 10:45 AM   * Break   10:45 AM – 12:00 PM   * Lab, slide 21   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * PHP Loops, slides 22-37 * Including files, slide 38 * Summary, slides 39-42 * Lab, slide 43 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 3 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 3: Manipulating Strings |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Construct text strings * Work with single strings * Work with multiple strings and parse strings * Compare strings * Use regular expressions |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:45 AM   * Working with strings, slides 2-34   10:45 AM – 11 AM   * Break   11 AM – 12:00 PM   * Lab, slide 35   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * Regular expressions, slides 36-56 * Summary, slide 57-61 * Lab, slide 62 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 4 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 4: Handling User Input |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Learn about autoglobal variables * Build XHTML Web forms * Process form data * Handle submitted form data * Create an All-in-One form * Display dynamic data based on a URL token |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:30 AM   * Building and processing web forms, slides 2-21   10:30 AM – 10:45 AM   * Break   10:45 AM – 12:30 PM   * Lab, slide 22   12:30 PM – 1:30 PM   * Lunch break   1:30 PM – 3 PM   * Emailing the web form, slides 23-25 * All-in-one forms, slides 26-28 * Web page templates, slides 29-33 * Summary, slide 34-37 * Lab, slide 38 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 5 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 5: Working with Files and Directories |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Understand file type and permissions * Work with directories * Upload and download files * Write data to files * Read data from files * Open and close a file stream * Manage files and directories |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:45 AM   * Working with Files and Directories, slides 2-24 * Uploading, storing and downloading files, slides 25-32   10:45 AM – 11 AM   * Break   11 AM – 12:00 PM   * Lab, slide 33   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * Reading and writing files, slides 34-53 * Managing files and directories, slides 54-58 * Summary, slide 59-65 * Lab, slide 66 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 6 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 6: Manipulating Arrays |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Manipulate array elements * Declare and initialize associative arrays * Iterate through an array * Find and extract elements and values * Sort, combine, and compare arrays * Understand multidimensional arrays * Use arrays in Web forms |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:45 AM   * Introduction to PHP Arrays, slides 2-4 * Adding and removing array elements, slides 5-17 * Searching and sorting arrays, slides 18-30   10:45 AM – 11 AM   * Break   11 AM – 12:00 PM   * Lab, slide 31   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * Combining and comparing arrays, slides 32-35 * Multidimensional arrays, slides 36-43 * Using arrays in web forms, slides 44-46 * Summary, slide 47-50 * Lab, slide 51 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 7 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 8: Manipulating MySQL Databases with PHP |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Connect to MySQL from PHP * Work with MySQL databases using PHP * Create, modify, and delete MySQL tables with PHP * Use PHP to manipulate MySQL records * Use PHP to retrieve database records |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:45 AM   * Connecting to MySQL DB, slides 2-7 * Executing SQL statements, slides 8-18   10:45 AM – 11 AM   * Break   11 AM – 12:00 PM   * Lab, slide 19   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * Selecting records from a table, slides 20-37 * Summary, slide 38-41 * Lab, slide 42 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 8 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 9: Managing State Information |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Learn about state information * Use hidden form fields to save state information * Use query strings to save state information * Use cookies to save state information * Use sessions to save state information |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:45 AM   * Understanding State Information, slides 2-8 * Using hidden form fields and query string, slides 9-11 * Using Cookies, slides 12-28   10:45 AM – 11 AM   * Break   11 AM – 12:00 PM   * Lab, slide 29   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * Using Session, slides 30-37 * Summary, slide 38-41 * Lab, slide 42 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 9 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Chapter 10: Object Oriented PHP |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | After completion of the lesson, students will be able to:   * Study object-oriented programming concepts * Use objects in PHP scripts * Declare data members in classes * Work with class member functions |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * Question and Answer interactions * Class exercises |
| **Lesson Plan** | 9 AM – 10:45 AM   * Object Oriented Programming with PHP, slides 2-6 * Working with Objects, slides 7-22   10:45 AM – 11 AM   * Break   11 AM – 12:00 PM   * Lab, slide 23   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 3 PM   * Access Specifiers, slides 24-26 * Serialization, slides 27-29 * Member functions, Constructors and Destructors, slides 30-36 * Accessor functions, slides 37-38 * Summary, slide 39-42 * Lab, slide 44 |
| **Review / Assessment:** | 2 Lab assignments are planned to assess students understanding of the material. Optional homework might be given to students to complete the labs. |

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### **Lesson Plan**

##### Day 10 of 10

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| **Name:** |  |
| **Date:** |  | **Department:** |  |

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| **Subject:** | PHP Programming with MySQL |
| **Subject Topics:** | Final Exam |
| **# of Students in the Class:** |  |
| **Previous Requirements:** | WA120 - Programming with JavaScript & jQuery  WA150 - Data Development Utilizing Database Design and SQL |
| **Aim / Objective:** | * N/A |
| **Technology:** | * Overhead projector |
| **Materials:** | * PowerPoint presentation |
| **Teacher/Student Input:** | * N/A |
| **Lesson Plan** | 9 AM – 9:15 AM   * Online Store requirements overview, slides 2-5   9:15 AM – 12:00 PM   * Online store design, implementation and testing   12:00 PM – 1:00 PM   * Lunch break   1:00 PM – 2 PM   * Online store implementation and testing * Online Store presentation |
| **Review / Assessment:** | N/A |

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