LAGUARDIA COMMUNITY COLLEGE
CITY UNIVERSITY OF NEW YORK
DEPARTMENT OF MATHEMATICS, ENGINEERING, and COMPUTER SCIENCE

MAC270 – ADVANCED TOPICS IN COMPUTER SCIENCE (3 CREDITS/4 HOURS)

Course Description

This hands on PHP/MySQL Programming course provides the knowledge necessary to design and develop dynamic, database-driven Web pages using PHP. Includes writing server-side PHP scripts for the web, forms and browser I/O, authentication with PHP. Database concepts, introduction to SQL statements and the use of MySQL Database. Students will learn to use free open source development tools (such as WAMP, Xamp, notepad++, brackets, etc.…)

Learning Outcomes

Upon successful completion of this course, a student will meet the following outcomes:

1. Develop server-side PHP scripts for publishing on the web applications.
2. Employ control structures, functions, arrays to build web applications.
3. Validate and authenticate for security
4. Implement connectivity between PHP and MySQL Database
5. Use Database command to develop data-driven web pages

Instructional Outcomes

Upon successful completion of this course, a student will be able to:

1. Develop server-side PHP scripts for web applications
2. Use control structure to create PHP applications
3. Validate and authenticate with attention to security
4. Write SQL command to connect to database
5. Write Database commands to develop data-driven web applications

GRADING:

Tests	20%
Projects	40%
Homework (Class)	10%
Final	30%

RECOMMENDED BOOKS

PHP and MySQL web development, fifth edition
Java script, sixth edition
Java script by example
CSS in 24 hours

COURSE OUTLINE

HTML

1. Introduction, Elements, Tags, Text Formatting, Attributes, Text Links, Comments, Lists, Images, Tables, Forms, Input Text Fields, Password, Reset, Submit
2. Select, Upload, Text areas, Paragraphs, Headings, Line Breaks,

CSS

1. CSS Syntax. CSS Styling, Styling Backgrounds, Styling Text, Fonts, Links.
2. Styling Lists , CSS Box Model, CSS Border, CSS Outline, CSS Padding andFloating
3. CSS Align, CSS Navigation Bar, CSS Image Gallery, CSS Attribute Selectors

JAVASCRIPT AND JQUERY

1. What is JavaScript?, Structure of a JavaScript Code, Datatypes, Variables & Operators, Looping & Conditional Statements,
2. Arrays, Numbers, Strings, Dates
3. Create functions using JQuery
4. Use JQuery to manipulate HTML elements.

CONFIGURING AND USING MYSQL

1. MySQL as a Client/Server Solution
2. Introduction to MySQL Capabilities as a Powerful RDBMS
3. Installing and Configuring MySQL
4. Connecting to MySQL
5. PHP Functions Specific to MySQL
6. Executing SQL Calls
7. Select
8. Insert
9. Fetch
10. Update
11. Delete
12. Using PHP MyPHPadmin to configure MySQL

PHP

1. Why use PHP and MySQL?
2. How PHP Works and php.ini File
3. Basic PHP Syntax
   1. PHP Tags, PHP Statements, Whitespace and Comments,
4. Variables
   1. Variable Types, Variable Names (Identifiers), Type Strength
   2. Hello Variables!, Variable Scope, Superglobals, Constants
   3. Variable-Testing and Manipulation Functions
5. PHP Operators
6. Single Quotes vs. Double Quotes
7. Flow Control
   1. If Conditions
   2. Loops
   3. While, do...while, for, break and continue
8. Functions
   1. Built-in Functions, Scope, Static Variables, Arguments,
   2. Dynamic Function Calls
9. Arrays
   1. Enumerated Arrays
   2. Initializing Arrays, Appending to an Array, Reading from Arrays
   3. Looping through Arrays
   4. Associative Arrays
   5. Initializing Associative Arrays, Reading from Associative Arrays
   6. Looping through Associative Arrays, Super global Arrays
10. String Manipulation
11. Formatting Strings
    1. Concatenation, String Manipulation Functions, Examples of String Functions
    2. Form Processing and Code Organization
12. PHP and HTML Forms
13. Database Concepts
    1. MySQL Databases
       1. Introduction To SQL Syntax, Creating tables in MyQSL
       2. Inserting, retrieving and deleting data.
       3. Managing database using SQL commands
14. Connect and Query a Database
    1. mysqli() Overview, mysqli Methods and Properties
    2. Inserting and Updating Records
    3. mysqli Prepared Statements
15. Authentication with PHP and SQL
16. Form Validation Functions with Regular Expressions
17. Session Control and Cookies
18. File System Management
    1. Uploading Files via an HTML Form
    2. Getting File Information