WEB 250: DATABASE DRIVEN WEBSITES

COURSE DESCRIPTION:

Prerequisites: None
Corequisites: None

This course introduces dynamic (database-driven) website development. Topics include the use of basic database CRUD statements (create, read, update and delete) incorporated into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards.
Course Hours per Week: Class, 2. Lab, 2. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

A. Create server-side scripts that perform CRUD operations.
B. Demonstrate use of Integrated Development Environments.
C. Explain Client-Server architecture and the Model-View-Controller (MVC) design pattern.

OUTLINE OF INSTRUCTION:

I. PHP
   A. Client Server Architecture
   B. Server side scripting using PHP and simple forms
   C. Server side code fundamentals with variables, loops, and conditions

II. Database
   A. Query servers (RDBMS) and File Servers
   B. phpMyAdmin
   C. SQL primer: DDL and DML
   D. Post-query processing and presentation on web browser

III. Build an Integrated Development Environment (IDE)
   A. GIT, source management skills
   B. Atom: Configurable text editor
   C. Code Analysis (lint)
   D. Build and Test Framework

IV. Model-View-Controller Design
V. Advanced PHP
   A. Arrays, handling strings, files and objects
   B. HTML forms, form creation tools
C. Form validation, submission and processing
D. Handling numbers and dates
E. Cookies and sessions
F. Libraries
G. Security and authentication
H. Searching with Regular Expressions
I. Implementing a Shopping Cart

VI. Packages and Frameworks
A. Overview of PDO, mysqli, MySQL extensions
B. Industry standard frameworks e.g. Laravel, Codeception