INTRODUCTION TO PROGRAMMING FOR WEB DEVELOPMENT

COURSE 6
Programming Servers and Databases with PHP and MySQL

This course is one in a series of six from A&D Tutoring that, taken together, are designed to give students having *no prior experience of modern computer programming or Web technologies* the threshold knowledge and skills needed to succeed at advanced formal training in software and Web development. The first three courses in the series develop a core of computer programming (using the Python and JavaScript languages) and Web coding (using HTML, CSS, and JavaScript), which this and the two remaining courses build upon.

Description
PHP is used by around 80% of all websites to program their servers for aspects of interactivity — for example, to retrieve and store user information submitted in browsers through contact or order forms, or to manage the content on blogs. MySQL is used to query and manipulate the records in databases saved on servers. Both languages rank among the top ten by frequency of use in the programming industry. In this course, you will work through practical examples and projects to understand how PHP programming embedded in HTML code is used to complete many webpages; how databases are structured and how MySQL unlocks them; and how PHP and MySQL can be combined in Web applications that rely on databases. Duration is 100 hours of instructor contact time.

Upon successful completion of this course, you will be able to:
- use the XAMPP software distribution to turn your PC into a (local) Apache web server including a PHP interpreter and MySQL database functionality;
- program with PHP embedded in HTML and CSS to serve browser requests, process user forms, handle files and images on servers, and manage uploads through browsers;
- analyze and write PHP code that gets and sets cookies and tracks persistent data in browser sessions;
- conceptualize and design relational databases, and use MySQL to create databases with multiple tables and interdependent records and fields linked through primary and foreign keys;
- use MySQL to send simple or complex queries to relational databases and to update or manipulate records and tables;
- use PHP to query MySQL databases;
- use PHP and MySQL on an Apache host to control access to webpages (creating and storing usernames and passwords) and to serve personalized webpages based on user input.

Prerequisites
- Courses 1, 2, and 3 of this series, or comparable prior experience in programming with Python (or a similar language) and coding for the Web with HTML, CSS, and JavaScript.
- All-round familiarity with the Microsoft Windows operating system, command-line interfaces (e.g., PowerShell or Command Prompt), basic text editors, and Visual Studio Code. Some knowledge of Git Bash and GitHub.com (Course 4 of this series) could be beneficial but is not required.