

# Advanced Programming Syllabus

Learn how to create web applications using server-side code called PHP and MySQL databases. You will be creating a clone of Instagram. You will learn how to pull images and content from a database, display it, organize it, and filter it. You will also create an admin portal to upload and manage content to display on your page.

## Part One: PHP

Learn about the programming language PHP and how it is used to create dynamic web pages

- Introduction to PHP
  - What is server-side code
  - What is PHP compared to other programming languages
  - Basic display of code
  - Including external files
  - “Echo” command for displaying content
  - Variables: store and access data dynamically
- Build a dynamic restaurant website
  - Introductions
  - Refactoring code for multi-page display
  - Adding additional pages
- Data types and logic essentials
  - Text strings, numbers, booleans
  - if/else statements
  - Variable validation
  - Refinement of restaurant website
- Arrays
  - Learn how to create usable lists of data
  - Learn what associative arrays are and their benefit
  - Looping through arrays with “for”, “while”, and “foreach”
  - Learn about nested arrays
- Capture and utilize inputs for secure, dynamic pages
  - Learn “get” commands for dynamic page behavior
  - Learn to use forms with “post” to save and secure input data
  - Create recipe app
- Advanced variable types
  - Type checking
  - Type casting
  - Include and require commands

# Databases: MySQL

Learn how to store and pull information from a MySQL database for dynamic web page creation.

- Intro to MySQL/MariaDB
- Creating database tables
  - Column types
  - Indexes
- Posting data to a database from a form
- Pulling data from a database and displaying it on the page
- Cross-site scripting and how to avoid it

## Instagram Site

All these data points will be used to create a facsimile of an Instagram page. Learn to create a secure admin portal for logging in, posting new data, and editing/deleting current data.