PHP & Laravel Curriculum (Detailed Academic Curriculum)

This curriculum outlines a structured PHP and Laravel backend development program delivered under GeekInk Innovation in collaboration with Aqtris Tech. The program is designed for learners with basic knowledge of development tools and focuses on building strong backend engineering skills through progressive instruction and weekly project-based assessments.

Program Structure

- Duration: 12 Weeks
- Schedule: 3 Days per Week
- Class Length: 2 Hours per Day
- Day 1 & Day 2: Teaching Sessions
- Day 3: Assignment & Project Presentation

Week 1 – PHP Fundamentals I

- Day 1: PHP syntax, variables, data types, operators, and execution flow.
- Day 2: Conditional statements and loops with practical exercises.
- Day 3: Presentation of Student Result Checker project.

Week 2 – Functions, Arrays & Forms

- Day 1: Functions, parameters, return values, and reusability.
- Day 2: Arrays, PHP forms, and input sanitization.
- Day 3: Presentation of Student Registration Form project.

Week 3 – Sessions & Authentication

- Day 1: Sessions, cookies, and session security.
- Day 2: Password hashing, login and logout logic.
- Day 3: Presentation of Pure PHP Authentication System.

Week 4 – Database & PHP (PDO)

- Day 1: Database design concepts and MySQL fundamentals.
- Day 2: PDO connections, prepared statements, and CRUD operations.
- Day 3: Presentation of Student Management System project.

Week 5 – PHP Mini Project

- Day 1: Project architecture and code organization.
- Day 2: Error handling, pagination, and search.
- Day 3: Presentation of Simple Blog System (Pure PHP).

Week 6 – Introduction to Laravel

- Day 1: Laravel overview, MVC architecture, and installation.
- Day 2: Folder structure, Artisan commands, and environment setup.
- Day 3: Presentation explaining Laravel architecture and folders.

Week 7 – Routing, Controllers & Blade

- Day 1: Routing, controllers, and request lifecycle.
- Day 2: Blade templating, layouts, and components.
- Day 3: Presentation of Company Website (Laravel).

Week 8 – Database & Eloquent ORM

- Day 1: Migrations, models, and Eloquent ORM.
- Day 2: Relationships, seeders, and factories.
- Day 3: Presentation of Blog Database with relationships.

Week 9 – Authentication & Authorization

- Day 1: Laravel Breeze and authentication flow.
- Day 2: Middleware and role-based access control.
- Day 3: Presentation of Multi-User Blog System.

Week 10 – Validation, Files & Mail

- Day 1: Form validation and custom error handling.
- Day 2: File uploads and email notifications.
- Day 3: Presentation of User Profile Management system.

Week 11 – APIs & Security

- Day 1: REST API concepts and API routing.
- Day 2: Sanctum authentication and security best practices.
- Day 3: Presentation of Laravel REST API tested with Postman.

Week 12 – Capstone Project

- Day 1: Project planning, database design, and architecture review.
- Day 2: Implementation support and debugging.
- Day 3: Final project presentation and defense.

Assessment & Evaluation

- Weekly Projects and Assignments – 60%
- Final Capstone Project – 30%
- Attendance and Participation – 10%

Graduate Learning Outcomes

- Demonstrate strong understanding of PHP programming.
- Build secure and scalable Laravel applications.
- Design and manage relational databases.
- Develop RESTful APIs and implement security best practices.