



ATMIYA UNIVERSITY

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER APPLICATIONS

MASTER OF COMPUTER APPLICATIONS

Course Code	Course Name	Credits
20MCACC204	Web Development using Laravel Framework.	03

❖ Aim of the Course:

- 1 This course is actually working on various attributes of web development.
- 2 The students would learn various web development techniques of this PHP framework and thus fulfil the industrial requirements.

❖ Course Overview and Context:

- 1 The Course contains various units divided which explains its core context.
- 2 The first 2 units covers the basics of Object-oriented PHP and introduction of the Laravel framework.
- 3 After getting the firm grip on the core concepts of Laravel and PHP in first 2 units, it then drives the students to more advanced skill level concepts of Laravel Framework.

❖ Course Outcomes:

S #	Course Outcome	Cognitive Level
1	To Understand the Actual Implementation of Object-Oriented Programming with Application.	<i>Understand</i>
2	To Compute the functions in desired manner which is often supported by in-built functions of the framework.	<i>Apply</i>
3	Creating database structure which is smartly built and do not need to re-create or modify DB settings.	<i>Remembering</i>
4	To Construct a model to produce high-quality and customized applications in quick time.	<i>Remembering</i>
5	To Implement authentication by Bcrypt hashing algorithm for generating an encrypted representation of a password.	<i>Apply</i>
6	To Understand the Actual Implementation of Object-Oriented Programming with Application.	<i>Understand</i>
7	To execute and determine the functions in desired manner which is often supported by in-built functions of the framework.	<i>Apply</i>

❖ Content of the Course:

Unit 1: Object Oriented Programming in PHP, Introduction of Laravel, Installation, Configuration, Project Structure, Composer

- **Object Oriented Programming in PHP**
- Namespace, Predefined Variables, Exceptions, Autoloading Classes, Anonymous Classes
- Object Iteration, Magic Methods, Object Cloning, Comparing Objects, Type Hinting, Objects and References, Chaining methods
- **Introduction:** What is Laravel, Features, MVC Architecture
- **Installation:** Basic Requirements for Laravel, Use of Composer, Laravel Install Using Composer, Finding and installing new Packages
- **Configuration:** Introduction, Environment Configuration, Protecting Sensitive



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Configuration, Maintenance Mode, Database Configuration.

- **Structure of Laravel application:** Root Directory structure, Application Directory Structure.

Unit 2: Artisan, Route and

- **Artisan Console:** Artisan Command Line Tool, Generating Commands, Artisan Migration, Command Structure.
- **Routing in Laravel:** Types of Route files, Route Basics, Route Parameters, Restricting the route parameters, Named Routes, Route Groups, Route Model Binding, Rate Limiting, Accessing the Current Route, Routing Controllers, Passing Parameters, Advance Routing, Handling HTTP exceptions, performing redirections, Returning views.
- **Controllers:** Introduction, Basic Controllers, Using View, Request Parameters, Controller Middleware, Resource Controller.

Unit 3: Blade Template, Form and Validation

- **Blade Template:** Introduction, Components & Slots, Displaying Data, Control Structures, Including Sub-Views, Stacks, Service Injection, Extending Blade, Blade Operators, Creating a master view.
- **Forms:** Creating Forms, Adding Labels, Generating Inputs, Generating Buttons, Secret Inputs, CSRF Token, Form Macros
- **Validation:** Defining the Routes, Creating The Controller, Writing The Validation Logic, Displaying The Validation Errors, Array Validations, Creating New Validators, Error Messages & Custom Errors
- **Available Validators:** Accepted, After (Date), Alpha, Alpha Dash, Alpha Numeric, Array, Before (Date), Between, Boolean, Date, DateFormat, Different, Digits, Digits Between, E-Mail, Exists (Database), Image (File), In, Integer, Max, Min, Not In, Numeric, Regular Expression, Required, String Custom Validation Rules.

Unit 4: Migrations, SQL Interaction and Query Builder &

- **Migrations:** Database Connections, Generating Migrations, Migration Structure, Creating Tables & Columns, Rolling Back Migrations, Column Modifiers, Writing Seeders
- **SQL Interaction:** Introduction, Running Raw SQL Queries, Database Transactions
- **Query Builder:** Retrieving Results, Chunking Results, Aggregates, Selects, Raw Expressions, Joins, Sub-Query Joins, Where Clauses
- **Query Builder – Secure:** Cross-site request forgery, escaping content to prevent cross-site scripting, Avoid SQL injection

Unit 5: Eloquent ORM and API, Authentication and Security

- **Eloquent ORM Models:** Defining Models, Table Name & Primary Keys, Timestamps, Retrieving Models, Mass assignment, Inserting, Updating Models & Deleting Models, Relationships, Collections, Mutators, Soft deletion, Query Scopes
- **Relationships:** One to One, Many to Many, Has many through, Polymorphic relations, Many to Many polymorphic relations
- **API Resources:** Introduction, Generating Resources, Writing Resources
- **API Authentication:** Passport Tokens
- **Authenticating users:** Creating the user model, Creating the necessary database schema, Authentication routes and views, Middleware, validating user input i.e. Form



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requests.

❖ Learning Resources:

Sr #	Textbook References Internet Links
1	Laravel 5 Essentials, Martin Bean, Packet Publishing, ISBN 978-1-78528-301-7. (UNIT 2 to 5)
2	Laravel: Code Happy 2012, Dayle Rees published by Packt Publishing (UNIT 2 to 5)
3	Object-Oriented Programming with PHP5, December 2007, HasinHayder, Published by Packt Publishing.(UNIT 1)
4	Learning Laravel's Eloquent, 2015 by Francesco Malatesta published by Packt Publishing (Unit 5)
5	Online Laravel 5.x Documentation (https://laravel.com/docs/5.x)

❖ Assignments:

Sr #	Description	Available From (Date)	Submission Date
1	Preparing a website for demonstrating CRUD Operation	4 th Week of Teaching	Within a week
2	Preparing a website for demonstrating entire concepts of the syllabus.	8 th Week of Teaching	Withing a week.