

Welcome to



IT CENTER SCHOOL OF TECHNOLOGY



Web Development Course

Milestone July - Dec 2024



COURSE OBJECTIVES

The objective of **Web Development Course** is to provide a comprehensive understanding of web development, including both frontend and backend development. Students will learn key technologies such as HTML, CSS, JavaScript, PHP, SQL/MySQL, Visual Studio Code, XAMPP server, Git/Github and implement these in creating responsive and dynamic web applications. The course also includes an overview of the software development lifecycle, with hands-on projects to reinforce learning. Additionally, students will gain proficiency in using the Bootstrap framework, understand MySQL database operations, and essential web application security techniques in developing secure web applications. Lastly, the course concludes with a final project that integrates all acquired skills, preparing students to develop secure and functional web applications.

CAREER OBJECTIVES

The career objective of the **Web Development Course** is to equip students with the essential skills and knowledge required to excel in the field of web development. Upon completion, students will be prepared for roles such as Frontend Developer, Backend Developer, Full Stack Developer, Web Designer, Software Security Engineers, or Web Application Developer. The comprehensive curriculum ensures that students can confidently utilize key technologies and tools, implement secure and responsive web applications, and understand the full software development lifecycle. This foundation will enable them to pursue career opportunities in various industries, contribute to innovative projects, and adapt to the evolving demands of the tech industry.

TOOLS REQUIRED

For student to complete and participate in this course, the following tool are required:

1. Must have Laptop/Desktop Computer
2. Must have Wi-Fi / Data
3. Visual Studio Code Installed
4. XAMPP installed
5. Git installed
6. Ability to use Google Meet

RESOURCES/MATERIALS AND ASSESSEMENTS

1. Learning materials (Notes or Video provided)
2. Assignments, Assessment and Projects

WEEKLY COURSE OUTLINE

Frontend Development

WEEK 1

Introduction

- An overview of web development
- Difference between websites (Static & Dynamic) and web applications
- Importance of responsive design
- Web applications advantages & disadvantages
- Introduction to concept of client-side vs server-side development.
- Overview of web development technologies (HTML, CSS, JavaScript, PHP, SQL/MySQL, XAMPP, Visual Studio Code, Git/Github)

WEEK 2

HTML elements, properties and attributes

- HTML description
- Understand HTML elements and tags (paragraphs, headings, links, lists, images, tables, div, forms, input, buttons, navigation bars, style, etc.)
- Understand HTML properties (width, height, color, font-size, font-family, font-weight, text-align, margins, padding, borders, background-color, background-image, float, display, etc.)
- Understand HTML attributes
- HTML syntax & structure

WEEK 3

HTML forms and tables implementation

- Implementation of html structure
- Implementation of frames, image attachment, hyperlinks, buttons, navigation bars, listings, etc.
- Implementation of html forms
- Implementation of html tables

WEEK 4

Software Project Development Processes

- Phase 1:** Requirements gathering
- Phase 2:** Design
- Phase 3:** Development/Implementation/Coding
- Phase 4:** Testing
- Phase 5:** Maintenance
- Phase 6:** Deployment

Project: Phase 1

- Design user portfolio website
- Understand the content implementation on home/landing page, services, about, contacts pages respectively

WEEK 5

CSS over overview and its application in html structure

- Define CSS and its importance
- Understand types of CSS styling (Inline, internal and external)
- Understand the CSS syntax & structure
- Application of CSS properties (color, font-size, margins, padding, borders, text-align, float, inline-block ...)
- Basic CSS Grid and Flexbox concepts for layout management

WEEK 6

Project: Phase 2

- Navigation bar and footer design with CSS
- Formatting Landing/home page with CSS
- Application of CSS grid and flexbox

WEEK 7

JAVASCRIPT Introduction

- Brief description of JavaScript and its importance
- Understand syntax & structure of JavaScript
- Understand JavaScript variable declaration, comments, operators, data types
- Understand JavaScript control statements with demo
 - ✓ Conditional Statements (if, if else, switch case)
 - ✓ Loops (for, while, do-while)

WEEK 8

JAVA SCRIPT Practices

- Declare variables, comments, operators, data types
- Able to implement control statements
 - ✓ Conditional Statements (if, if else, switch case)
 - ✓ Loops (for loop, while, do-while)

WEEK 9

Bootstrap Framework

- Brief description of bootstrap framework
- Importance of bootstrap framework in web application development

- Understand how to use and integrate bootstrap in a projects

Backend Development

WEEK 10

PHP Introduction

- Brief description of PHP
- Importance and features of PHP in web development
- Understand and describe XAMPP server technology for databases
- Understand syntax & structure of PHP
- Understand PHP variable declaration, comments, operators, data types
- Understand PHP control statements with demo
 - ✓ Conditional Statements (if, if else, switch case)
 - ✓ Loops (for loop, while, do-while)

WEEK 11

SQL Data Definition Language(DDL) and Data Manipulation Language (DML)

- MYSQL connectivity.
- DDL commands (create, alter, drop, truncate, rename)
- DML commands (select, insert, update, delete, search)

WEEK 12

SQL Data Definition Language(DDL) and Data Manipulation Language (DML)

- MYSQL connectivity.
- DDL commands (create, alter, drop, truncate, rename)
- DML commands (select, insert, update, delete, search)

Week 13

Web Application Security Techniques

- Brief description of web application security and its importance
- Understand different type of hackers and their motivation
- Understand secure communication, access logs and monitoring, secure authentication and authorization
- Understand code security practices
- Understand importance of web penetration testing
- Understand importance of database encryption and data encryption techniques
- Understand ways of input validation and sanitization (to prevent SQL injection, other injection attacks)

Week 14

Web Application Practical's

- Data and database encryption
- SQL Injection attack prevention

Week 15

FINAL PROJECT

GOOD LUCK!!!