



TECHNOCATION FREELANCING TRAINING INSTITUTE & SOFTWARE HOUSE

SOFTWARE ENGINEERING DIPLOMA 1 YEAR CERTIFICATION COURSE OUTLINE

Module 1: Introduction to Software Engineering

- First, understand what software engineering means in modern technology.
- Next, learn how developers plan and build useful software.
- Then, explore common roles like developer, tester, and analyst.
- Finally, discuss how software solves everyday problems.

Module 2: Programming Fundamentals

- First, learn basic programming logic and simple algorithms.
- Next, write small programs using variables and conditions.
- Then, practice loops and functions through easy exercises.
- Finally, test programs and correct simple errors.

Module 3: Object-Oriented Programming

- First, understand classes, objects, and basic structures.
- Next, create simple programs using object concepts.
- Then, apply inheritance and encapsulation in examples.
- Finally, review code and improve program design.

Module 4: Web Development Basics

- First, learn how websites work on the internet.
- Next, create pages using HTML and basic CSS.
- Then, design simple layouts and navigation menus.

- Finally, test pages and improve visual structure.

Module 5: JavaScript Programming

- First, understand how JavaScript adds interaction to websites.
- Next, write scripts to handle events and actions.
- Then, create small features like buttons and forms.
- Finally, debug scripts and improve performance.

Module 6: Database Fundamentals

- First, learn how databases store application data.
- Next, create tables and simple records.
- Then, practice SQL queries to retrieve information.
- Finally, organize data for better system performance.

Module 7: Software Development Life Cycle

- First, understand stages of planning and analysis.
- Next, design system structure and requirements.
- Then, develop and test software carefully.
- Finally, deploy and maintain the application.

Module 8: Software Testing Basics

- First, understand why testing improves software quality.
- Next, learn manual testing techniques for applications.
- Then, write simple test cases for programs.
- Finally, identify bugs and report issues clearly.

Module 9: Version Control with Git

- First, understand why developers track code changes.
- Next, create repositories and commit updates.
- Then, collaborate with teams using Git tools.
- Finally, manage project versions effectively.

Module 10: Introduction to APIs

- First, understand how applications share information.
- Next, explore REST APIs and request methods.
- Then, test APIs using simple tools.
- Finally, connect APIs with applications.

Module 11: Software Project Development

- First, plan a small software project carefully.
- Next, design interface and system features.
- Then, develop the application step by step.
- Finally, test and improve the final product.

Module 12: Certification and Final Evaluation

- First, review all modules and important concepts.
- Next, complete final project and written assessment.
- Then, submit work for instructor evaluation.
- Finally, receive Software Engineering Diploma Certification.

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