**TestComplete Automation Course Syllabus**

**Module 1: Introduction to Automation & TestComplete**

* Basics of Software Test Automation
* Overview of Test Automation Tools
* What is TestComplete?
* TestComplete Editions and Supported Application Types
* Installing and Setting Up TestComplete
* TestComplete IDE Overview

**Module 2: TestComplete Basics**

* Project Workspace and Project Suite
* Recording and Playing Back Tests
* Test Logs and Results Analysis
* Test Objects and Object Browser
* Name Mapping (Object Repository)

**Module 3: Test Scripting Languages**

* Overview of Supported Scripting Languages (JavaScript, Python, VBScript)
* Choosing a Scripting Language
* Basic Syntax and Control Statements
* Functions and Procedures

**Module 4: Working with UI Elements**

* Object Identification Techniques
* Smart Object Recognition and Property-Based Identification
* Working with Buttons, Checkboxes, Lists, Textboxes, Grids, etc.
* Handling Dynamic Objects

**Module 5: Keyword-Driven Testing**

* Creating Keyword Tests
* Using Operations and Actions
* Converting Keyword Tests to Scripts
* Modular Test Design with Keyword-Driven Approach

**Module 6: Data-Driven Testing**

* Data-Driven Testing Concepts
* Connecting to Excel, CSV, and Databases
* Parameterizing Tests
* Iterating Tests with Multiple Data Sets

**Module 7: Checkpoints and Validation**

* Standard, Property, Table, File, and Database Checkpoints
* Manual and Custom Checkpoints
* Using Regions for Visual Testing

**Module 8: Name Mapping and Aliases**

* Understanding Name Mapping
* Creating and Managing Mapped Objects
* Using Aliases for Easier Scripting
* Troubleshooting Object Identification

**Module 9: Debugging and Error Handling**

* Debugging Test Scripts
* Setting Breakpoints and Watch Variables
* Exception Handling in Scripts
* Logging Custom Messages

**Module 10: TestComplete Frameworks**

* Types of Automation Frameworks
  + Modular
  + Data-Driven
  + Keyword-Driven
  + Hybrid Framework
* Designing a Scalable Framework in TestComplete

**Module 11: Integration with Other Tools**

* Integration with Jenkins for CI/CD
* Integration with Azure DevOps and Git
* TestExecute for Distributed Execution
* Integration with Test Management Tools (like Zephyr)

**Module 12: Advanced Topics**

* Working with Desktop, Web, and Mobile Applications
* Parallel and Distributed Testing
* Scripting Advanced Scenarios
* Using TestComplete’s AI and OCR Capabilities

**Module 13: Real-Time Project and Best Practices**

* Automating End-to-End Test Scenarios
* Building a Complete Test Framework
* Test Execution and Reporting
* Maintenance and Optimization of Test Scripts
* Resume and Interview Preparation