# Course Outline

## Course Objectives

Upon finishing this course, trainees will be able to work in a software testing team as they will:

- Have a thorough understanding about software testing process
- Have a comprehensive understanding about techniques for effective identifying test cases, test planning, test execution and result reporting, …
- Have practical experience of testing a software
- Have essential working skills such as team-work, communication, presentation, email writing, problem solving, …
- Can use English at work

## Required Skills/Knowledge

N/A

## Methodology

The following training methodologies will be applied:

- Classroom lectures for theoretical
- Project assignment
- Seminar
- Self study with teacher’s guidance

## Course Outline

1. **Software Testing Overview (8 hours)**
   - Introduction of Software Testing
   - Verification & Validation, QA & QC
   - Software Testing Lifecycle & V-model
   - Levels of Testing
     + Unit Test
     + Integration Test
     + System Test
     + Acceptance Test
   - Types of Testing
     + Functional Testing
     + Non-Functional Testing
     + Structural Testing
     + Confirmation & Regression Test
   With exercises for confirming trainee’s understanding

2. **Test Automation Overview (2 hours)**
   - Data-Driven Framework
   - Data-Driven Scripting Technique
   - Key-word Driven Scripting Technique
   - Automation demos
   With exercises for confirming trainee’s understanding

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**Trung tâm Đào tạo TMA (TTC – TMA Training Center)**

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| **3. Software Testing Techniques (6 hours)**                          | - Black-box Testing Techniques:  
  + Equivalence Partitioning  
  + Boundary Values Analysis  
  + Decision Table  
- White-box Testing Techniques:  
  + Statement Coverage  
  + Decision Coverage  
  + Multiple Condition Coverage  
- Experience-based Testing Techniques:  
  + Error Guessing  
  + Exploratory Testing  
With exercises for confirming trainee’s understanding                  |
| **4. Software Testing Process (18 hours)**                            | - Requirements Management  
- Test Planning  
- Test Preparation  
- Test Execution  
- Post Testing  
With exercises for confirming trainee’s understanding                  |
| **5. Practice (40 hours)**                                            |                                                                                                                                 |
| **Course Slides**                                                      | Software Testing Overview.ppt  
  Software Testing Techniques.ppt  
  Software Testing Process.ppt  
  Test Automation Overview.ppt |
| **Course Demos/Case Studies**                                         | TBD                                                                            |
| **Project Assignment**                                                 | TBD                                                                            |
| **Exercises**                                                          | Refer to: Software Testing - Exercises.doc                                    |
| **References**                                                        | 1. Foundation of Software Testing: ISTQB Certification (Dorothy Graham, Erik Van Veenendaal, Isabel Ivan, Rex Black) |
|                                                                       | 2. Software Testing Techniques (Boris Beizer)                                |
|                                                                       | 3. Effective Software Testing: 50 Specific Ways To Improve Your Testing (Elfriede Dustin) |
|                                                                       | 4. Testing Computer Software (Cem Kaner, Jack Falk, Hung Quoc Nguyen)       |