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#### 1. Course Information

The **ISTQB® Certified Tester AI Testing (CT-AI)** certification is an advanced-level programme designed to equip professionals with the knowledge and skills required to test Artificial Intelligence (AI) and Machine Learning (ML)-based systems effectively.

This course provides a comprehensive understanding of AI fundamentals, machine learning concepts, and the unique challenges associated with testing AI-based systems. Participants will learn how to validate AI systems, ensure quality, address risks such as bias and non-determinism, and leverage AI to enhance software testing processes.

CT-AI is aligned with modern digital transformation initiatives, where AI is increasingly embedded across enterprise systems, making it essential for quality engineering professionals to understand AI testing strategies.

This course prepares participants for the **ISTQB® CT-AI certification examination** and supports career advancement in AI-driven quality engineering.

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#### 2. Who Should Attend This Course

This course is suitable for:

- Software testers and QA professionals
- Test analysts, test engineers, and test consultants
- Data analysts and AI practitioners
- Software developers working with AI/ML systems
- Test managers and project managers
- User Acceptance Testers (UAT)
- IT and digital transformation professionals

Recommended for:

- Quality managers and software development managers
  - Business analysts and operations teams
  - IT directors and management consultants
  - Professionals seeking exposure to AI testing and AI in testing
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#### 3. Topics Coverage (4-Day Course)

##### Chapter 1: Introduction to Artificial Intelligence

- Fundamentals of AI and its applications
- Current trends and future outlook

##### Chapter 2: Quality Characteristics for AI-Based Systems

- AI-specific quality attributes
- Reliability, fairness, transparency

### **Chapter 3: Machine Learning (ML) – Overview**

- ML concepts and lifecycle
- Supervised vs unsupervised learning

### **Chapter 4: ML – Data**

- Data preparation and quality
- Bias, data integrity, and risks

### **Chapter 5: ML Functional Performance Metrics**

- Model evaluation metrics
- Accuracy, precision, recall, and beyond

### **Chapter 6: ML – Neural Networks and Testing**

- Neural networks fundamentals
- Testing challenges in deep learning systems

### **Chapter 7: Testing AI-Based Systems Overview**

- AI testing lifecycle
- Test strategies for AI systems

### **Chapter 8: Testing AI-Specific Quality Characteristics**

- Bias detection and mitigation
- Ethics, explainability, and transparency

### **Chapter 9: Methods and Techniques for Testing AI Systems**

- Test design techniques for AI
- Validation and verification approaches

### **Chapter 10: Test Environments for AI Systems**

- Infrastructure and tools
- Data pipelines and simulation environments

### **Chapter 11: Using AI for Testing**

- AI-driven test automation
- Intelligent test generation and optimization

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## **■ PAGE 2 – LEARNING OUTCOMES & DETAILS**

### **4. By the End of This Course, Participants Will Be Able To:**

Upon successful completion, participants will be able to:

- Understand the current state and future trends of AI
- Explain key concepts of AI and machine learning in testing contexts

- Identify challenges in testing AI-based systems, including bias, ethics, and non-determinism
  - Design and execute effective test strategies for AI systems
  - Evaluate machine learning models using appropriate performance metrics
  - Contribute to the development of AI testing frameworks and environments
  - Recognize requirements for AI testing infrastructure
  - Apply techniques to validate AI system quality and reliability
  - Understand how AI can enhance software testing processes
  - Support organizations in adopting AI-driven quality engineering practices
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## 5. Course Duration

**Duration:** 4 Days

**Total Contact Hours:** 28 Hours

**Mode:**

- Face-to-Face (F2F)
  - Virtual Instructor-Led Training (VILT)
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## 6. Exam Information (ISTQB® CT-AI)

**Certification Body:**

Malaysian Software Testing Board (MSTB)  
(Local representative of ISTQB®)

**Exam Format:**

- Multiple Choice Questions
- Duration: ~60 minutes
- Pass Mark: ~65% (subject to ISTQB guidelines)

**Certification Validity:** Lifetime

**Certification Level:** Advanced / Specialist

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## 7. Pre-Requisites

- Must hold **ISTQB® Certified Tester Foundation Level (CTFL)** certification
  - Basic understanding of software testing principles
  - Familiarity with software development concepts is recommended
  - Prior exposure to AI/ML concepts is beneficial but not mandatory
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## 8. Additional Information

**Training Approach**

- Instructor-led, interactive sessions
- Real-world AI testing use cases
- Hands-on discussions and practical examples
- Exam-focused preparation and guidance

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### **Delivery Options**

- Public training programmes
- Corporate / in-house training
- Customised AI testing workshops

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### **Materials Provided**

- Official ISTQB® CT-AI training materials
- Sample exam questions
- Course completion certificate

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### **Why Choose This Course?**

- ✓ Globally recognized **AI Testing certification by ISTQB®**
- ✓ Critical skillset for **AI, ML, and data-driven systems**
- ✓ Supports career growth in **AI Quality Engineering**
- ✓ Industry-relevant for **banking, telecom, healthcare, and tech sectors**
- ✓ Future-ready capability for **AI-driven digital transformation**