

# ISTQB Certified Tester - Specialist Level Testing with Generative AI (CT-GenAI)

Duration: 2 days Live online

## Course Overview

This course provides comprehensive training on leveraging Generative AI (GenAI) in software testing. It covers foundational concepts of AI and LLMs, prompt engineering techniques, risk management, LLM-powered test infrastructure, and organizational strategies for integrating GenAI into test processes.

The course combines theory with hands-on exercises to build practical skills in applying GenAI for test analysis, design, automation, and monitoring.

## Who should attend?

This course is designed for:

- Testers, Test Analysts, Test Automation Engineers, Test Managers, User Acceptance Testers, and Software Developers.
- Project Managers, Quality Managers, Software Development Managers, Business Analysts, IT Directors, and Management Consultants seeking an understanding of GenAI in testing.

## Prerequisites & pre-reading guidelines

Attendees intending to take the ISTQB Certified Tester - Specialist Level Testing with Generative AI examination must hold the Certified Tester Foundation Level certificate.

Familiarity with basic software testing concepts and test automation is strongly recommended.

## How certification is earned

The course and syllabus include a one-hour multiple-choice exam. To earn certification, participants must achieve a score of 65% or higher. This exam is typically scheduled on a separate day, either proctored online or in-class, but not within the four days of the course. Additional time may be granted under certain circumstances, such as for non-native English speakers.

## Course Objectives

By the end of this course, participants will:

- Understand fundamental concepts, capabilities, and limitations of Generative AI in testing.
- Develop practical skills in prompt engineering for software test tasks.
- Identify and mitigate risks of using GenAI, including hallucinations, reasoning errors, and data privacy issues.
- Explore LLM-powered test infrastructure and operational practices (LLMOps, fine-tuning).

## Context

Generative AI is transforming software testing by enabling automation, improving test coverage, and accelerating test cycles.

However, it introduces new challenges such as non-deterministic behaviour, security risks, and environmental impact.

This course equips professionals with the knowledge and skills to harness GenAI responsibly and effectively.

## Related courses

- ISTQB® Foundation Level
- ISTQB® Advanced Level – Test Analyst
- ISTQB® Advanced Level – Technical Test Analyst
- ISTQB® Certified Tester AI Testing
- ISTQB® Specialist Level – Test Automation Engineer

## Course Outline

### 1. Introduction to Generative AI for Software Testing (100 min)

- AI spectrum: Symbolic AI, ML, Deep Learning, GenAI
- Basics of LLMs, tokenization, embeddings, multimodal models
- Applications of GenAI in testing (chatbots vs. LLM-powered tools)

### 2. Prompt Engineering for Effective Software Testing (365 min)

- Structured prompts: role, context, instruction, input, constraints, output format
- Core techniques: prompt chaining, few-shot, meta prompting
- Applying prompts to test analysis, design, automation, monitoring
- Evaluating and refining prompts using metrics

### 3. Managing Risks of Generative AI in Software Testing (160 min)

- Hallucinations, reasoning errors, biases: detection and mitigation
- Data privacy and security risks; compliance with GDPR and AI regulations
- Environmental impact and energy considerations
- AI standards and best practice frameworks (ISO/IEC 42001, EU AI Act)

### 4. LLM-Powered Test Infrastructure for Software Testing (110 min)

- Architectural components of LLM-powered test tools
- Retrieval-Augmented Generation (RAG)
- Fine-tuning and LLMOps for operationalizing GenAI

### 5. Deploying and Integrating Generative AI in Test Organizations (80 min)

- Roadmap for adoption; risks of shadow AI
- Selecting LLMs/SLMs for test tasks
- Change management: building AI skills, evolving roles and processes

## Contact

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