



# Test Engineering

## Summary

This course is designed to give test engineers useful techniques and strategies that enable them to test earlier, with better focus, and more astutely. The techniques and knowledge presented in this class will help test teams get more testing done, and most importantly, get the right testing done at the right time. Attention is paid as well to test planning, tester styles, and models (TMap<sup>®</sup>, TPI<sup>®</sup>, TMM).

The course is composed of lectures and class exercises with ample opportunity for participant questions and discussions. Much of the class time is devoted to exercises in which participants, typically working in small teams, practice the skills being taught.

## Audience

This course is designed for (future) software testers, software managers and project managers.

## Criteria

Course candidates should have a background and some years experience in software engineering. The "Foundation" courses are highly recommended.

## Duration

2 days (4 modules).

## Remarks

None.



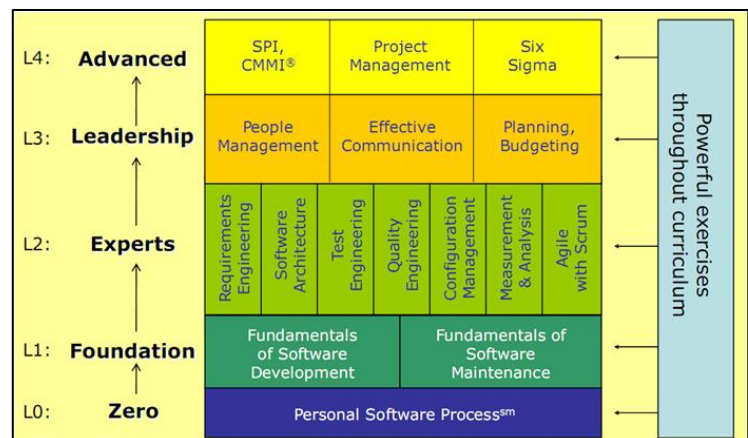
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## Our Software Engineering Curriculum





# Program

## Module 1:

- What is test engineering?
  - o Introduction
  - o Modeling quality
- Static testing techniques
  - o Reviews and inspections
  - o Walkthroughs, deskchecks, pair programming
  - o Formal verification
  - o Automated code analysis

## Module 2:

- Design and implementation practices
  - o Introduction
  - o Simplicity
  - o Modularization
- Structural (white-box) testing
  - o Ordinary algorithms
  - o Numerical algorithms
  - o Coverage

## Module 3:

- Behavioural (black-box) testing
  - o Introduction
  - o Equivalence partitioning
  - o Boundary value analysis
  - o Input combinations
  - o Timing and coordination
- Other tests
  - o Integration testing
  - o System testing
  - o When to stop testing?

## Module 4:

- Test Management
  - o Test Planning
- Tester Styles
  - o Pragmatic, Pioneer, Analysing, Facilitating
- Models and Standards
  - o Cost of Poor Quality
  - o TMap<sup>®</sup>
  - o TPI<sup>®</sup>
  - o TMM



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During the course, 1-2 challenging exercises in each module are used to demonstrate the discussed concepts and techniques. Example solutions to all course exercises are provided.

SE-CURE AG can also customize this course or any of our other standard courses to meet your exact in-house training needs and specifications. For example, class exercises can be tailored to include actual examples from your organization in order to make the training more relevant to your environment.