## Seminar on Software Testing Foundations with ISTQB Certification

Software is getting increasingly important in our lives. This means that we ever more need software quality. **Testing** is a central aspect of assuring quality. It must be improved and be systematic.

Test and evaluation is expensive, often 30 to 50% of software cost and project time. This seminar helps you to improve your testing and save testing costs.

You get the necessary knowledge to plan a structured and systematic evaluation and test of your software. No knowledge about quality assurance is required.

The audience is:
Testers in IT-organizations who want a fundamental knowledge about testing principles and methods
Developers and programmers that test or participate in reviews.
Leaders who want to organize or follow up testing.
Customers who need to organize acceptance testing.

Certification is easiest if you have some software development knowledge. Non-programmers should read the textbook they will get with the course material before trying the certification exam.

## Certification

This seminar prepares you for the exam for the internationally renowned ISTQB Foundation Certificate. More than 100.000 people internationally have passed this exam and its predecessors, the ISEB or ASQF Foundation. These standards have been combined to form a new and better standard in 2005 by the ISTQB (*International Software Testing Qualifications Board)* [www.ISTQB.org], [www.istqb-norge.no]. This organization consists of more than 40 National Boards who collaborate about syllabi, tester certification, and terminology.
The exam will be in English and is internationally valid.

Especially in England, Germany, Switzerland, India, USA and Netherlands it is normal that testers are asked about their certificates. Many software suppliers are asked if their testers are certified.

## Background about ISTQB

ISTQB, *International Software Testing Qualifications Board* coordinates National work groups and makes sure tester training curricula and terminology are consistent.

In Scandinavia there are Boards in Norway, Denmark, Finland and Sweden. They have translated the Foundation syllabus and terminology into National languages and make it possible to take the exam in the corresponding National language. The National Boards also check seminar material and accredit it if its quality is good enough. This seminar and its teacher are accredited by the Norwegian Board.

*ISTQB-Certified-Tester* qualification has three levels. The lowest level is called ”*Foundation Level”.* The next higher is”*Advanced Level” and it means you can independently do testing work. The third level* ”*Expert-Level”* is currently being defined and means that people have very thorough and deep knowledge about the area.

## Seminar contents and structure

The first is basic facts about software testing. Why we test, what testing means, what defects and errors are. How we control cost, as well as general misconceptions and positive principles about testing.

Next we discuss testing in a software life cycle: Where and how testing interfaces with other work. We also present the test process. The different testing level from component testing to acceptance testing, as well as testing during maintenance is discussed.

The next part is about ***static methods***. This means review and automated static analysis. Reviews are manual checks of documents. Static analysis is mostly done on code and needs tools.

Then the longest session will start: **Test design methods**. We discuss black box and white box testing as well as less structured methods. We discuss typical techniques like equivalence partitioning, boundary value analysis, state transition testing and testing of business logic. For white box testing we discuss statement and branch coverage. Experience based testing as well as exploratory testing is presented.

Then, on chapter is about **test management and control**. It is about planning, organizing, measuring, and following up testing, about configuration management, defect and incident management, and risk management. A typical job for a test manager.

Finally there is a session about automated **testing tools**. Which tools there are, what to use them for and typical pitfalls. How to select tools and how to implement them and how not to.

Part of the seminar material is the book: Linz, Spillner, Schaefer, Software Testing Foundations, Rocky Nook, 2007. It is best if you receive the book before the seminar. Then you can follow better, and ask the teacher about what you think is not clear or difficult.

Every seminar day finishes with a mock exam.

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6.1.2 Tool support for management of testing and tests

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6.1.6 Tool support for performance and monitoring

6.1.7 Tool support for specific application areas

6.1.8 Tool support using other tools

6.2 Effective use of tools: potential benefits and risks

6.2.1 Potential benefits and risks of tool support for testing (for all tools)

6.2.2 Special considerations for some types of tool

6.3 Introducing a tool into an organization