

## Industrial-Strength Technical Inspections Course Outline

### General Description

This course provides software developers, testers, software project managers, and software quality assurance professionals with the essential ideas, processes, tools and skills they need in order to implement and conduct an effective software review process. This hands-on course uses a combination of lectures and exercises to cover the basic forms of software technical reviews, with an emphasis on technical inspections. The course is based on an extremely mature industrial software review process, refined by two decades of university teaching and research. In addition to the basics, the course presents various subtle checks and balances, only discovered through long industrial practice. The review process is presented, both through theory and a hands-on exercise, based on a sample software development artifact – a Use Case description of an ATM system. The example material includes all the items essential to a thorough technical inspection: the customer requirements, a Use Case standard, a Use Case review checklist, the actual Use Case document, review forms, and a sample review report outline.

Created by Dr. Paul C. Jorgensen, a full professor in the School of Computing and Information Systems at Grand Valley State University, a veteran (survivor?) of a twenty-year career developing and testing telephone switching systems, and the principal of his consulting practice, this course provides software developers, software project managers, software quality assurance professionals, and software testers with the information they need to establish and conduct a tested, successful, industrial-strength software review process. Dr. Jorgensen is the author of *Software Testing – A Craftsman’s Approach (Third Edition)*, he serves as a member of the American Software Testing Qualifications Board ([www.astqb.org](http://www.astqb.org)), and is a co-author of the International Software Testing Qualifications Board Advanced Syllabus 2007.

### Learning Objectives

Through presentation, discussion, and hands-on exercises, attendees will learn:

- the economics of reviews
- reasons to hold reviews

- roles in a technical inspection
- types of reviews
- who does what, and when
- elements of a proven review process
- materials and preparation for a successful review
- review etiquette

## Course Materials

This course includes the following materials:

<i>Name</i>	<i>Description</i>
Course Outline	A general description of the course along with learning objectives, course materials and an outline of the course topics, including approximate timings for each section.
Noteset	A set of PowerPoint slides covering the topics to be addressed.
Base Documents for Course Review Exercise	The review packed includes a Customer Requirements narrative, a Use Case document, and all background material needed for a Use Case technical inspection: a Use Case checklist, a Use Case standard, sample reviewer reporting forms, and a sample review report outline.
Feedback on the review meeting(s)	The course instructor participates in the review meetings as the responsible designer of the Use Case document. After the review meeting, the instructor provides a critique and discussion of the actual review meeting.
Portions of the ISTQB Foundation and Advanced Syllabi	The chapters dealing with the review process are provided.

The printed course materials are provided in a binder in a way which makes it convenient for course attendees to remove portions as needed for reference; e.g., during exercises. Portions of the class materials are distributed at pre-defined, pedagogically appropriate times.

## Session Plan

The course runs for two days, each day is about 360 minutes of class time, from 9:00 to 5:00. For accredited course offerings, material is covered as described. For custom courses, material may be deleted, added, or expanded upon as needed.

Please note that timings are approximate, depending on attendee interest and discussion. All of the lectures include exercises except as noted.

### First Day

#### **1.0 Fundamentals of technical reviews (60 min)**

- Introduction (20 minutes, no exercise)
- 1.1 Relative cost to resolve defects
- 1.2 IBM's Defect Propagation Model
- 1.3 Selected war stories
- 1.4 Reviews in everyday life (Class exercise)
- 1.5 Reasons to have technical reviews

#### **2.0 Roles and responsibilities in a technical review (75 min)**

- 2.1 Review leader
- 2.2 Producer
- 2.3 Recorder
- 2.4 Reviewer
- 2.5 Roles in everyday reviews (Class exercise)
- 2.6 What makes a review credible? (Class discussion)

#### **3.0 Types of reviews (60 min)**

- 3.1 Walkthrough
- 3.2 Inspection
- 3.3 Audit
- 3.4 Reviews in agile development? (Class exercise/discussion)
- 3.5 Comparison of walkthroughs and inspections

#### **4.0 Phases of a proven review process (75 min)**

- 4.1 Commitment planning
- 4.2 Review team selection and introduction
- 4.3 Preparation
- 4.4 Review meeting
- 4.5 Review report
- 4.6 Review disposition
- 4.7 Timing and showstoppers

#### **5.0 Contents of a review packet (45 min)**

- 5.1 Base (defining) document
- 5.2 Producers product

- 5.3 Review-specific checklist
- 5.4 Reviewer ballot
- 5.5 Review agenda
- 5.6 Applicable standard(s) possibly company specific
- 5.7 Review report

**6.0 Use Case Technical Inspection (continuing exercise) (45 min)**

- 6.1 Review team selection
- 6.2 Review packet distribution

**Second Day (420 min)**

- 6.3 Reviewer preparation time (120 min)
- 6.4 Reviewer ballot preparation (30 min)
- 6.5 Review agenda development (60 min)
- 6.6 Review meeting (60 min)
- 6.7 Review report (30 min)

**7.0 Suggestions for effective reviews (60 min)**

- 7.1 Etiquette
- 7.2 Human factors
- 7.3 Process checks and balances
- 7.4 Management participation?

**8.0 Questions and discussion (60 min)**

- 8.1 Analysis of past reviews
- 8.2 Strategies for introducing reviews