



Measurement & Analysis

Summary

This course is designed to provide an introduction to the basics of software metrics and how to establish a software metrics program. The objective of this course is to provide a practical, start-to-finish process of “how to” select, design and implement metrics at different levels:

- Technical level (engineering);
- Tactical level (project);
- Strategic level (organization).

This course starts with a basic overview of software measurement theory and how to derive goals (GQM). The roles and benefits of measurements are discussed, standards and models related to software metrics are surveyed and a simple implementation step-by-step process is introduced.

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) process and measurement engineers, SEPG leaders, 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).

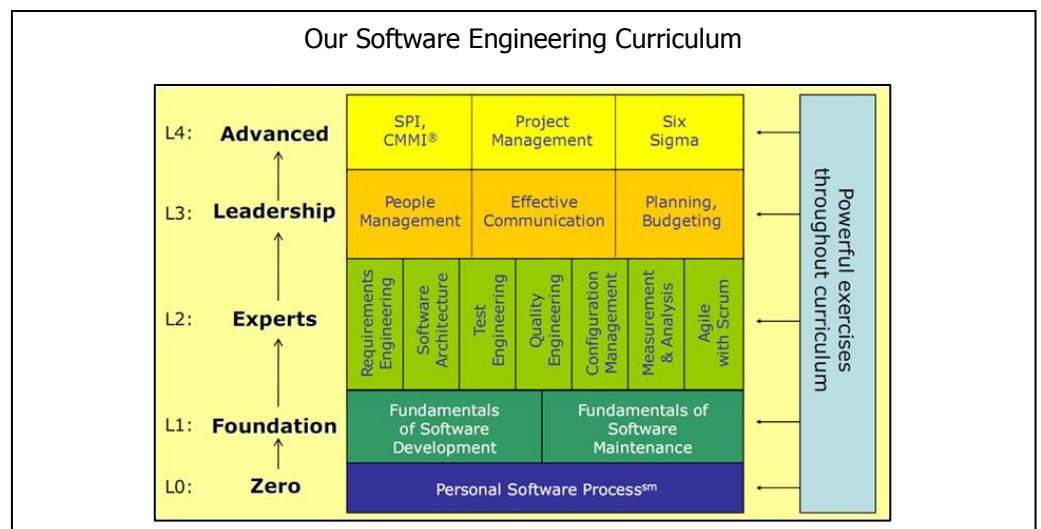


SE-CURE AG

Weissenbergstrasse 3
P.O. Box 340
CH-3775 Lenk, Switzerland

T: +41 (33) 733 4682
F: +41 (33) 733 4681
E: info@se-cure.ch

www.se-cure.ch





Program

Module 1:

- What is Measurement & Analysis?
 - o Objects of measurement
 - o Points of view
 - o Reasons to measure
- Goal-based Measurement Model
 - o Measurement model (GQM)
 - o Avoiding suboptimization

Module 2:

- Measurement Basics
 - o Properties of Numbers
 - o Meaningfulness
 - o Small Sample Size
 - o Independent Variables
- Technical View
 - o Product measures
 - o Process measures
 - o Defect containment

Module 3:

- Tactical View
 - o Project performance metrics
 - o Earned value analysis
 - o Project dashboard
- Strategic View
 - o Strategy planning
 - o Balanced Scorecard
 - o KPIs for software

Module 4:

- Pitfalls and Antidotes
- Six Sigma
- Measurement & Analysis Plan
 - o M&A organization
 - o Measurement process

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.



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