



Fundamentals of Software Development

Summary

In this course, an introduction to the fundamentals of software development is presented. It gives an overview of where the software industry stands today and which core activities and processes can be distinguished. Topics include software lifecycle models, project planning, requirements engineering, software architecture, construction, test engineering, quality engineering (ISO, CMMI®), configuration management and measurement & analysis (Six Sigma).

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

Anyone directly involved in software engineering. The course is highly recommended for both experienced and less experienced software engineers and software (project) managers.

Criteria

There are no prerequisites for this course. Experience and/or affinity with software engineering are however recommended.

Duration

2 days (4 modules).

Remarks

This course addresses a high market potential/need. It supports organizations gaining their staff a common understanding of fundamentals of software development.



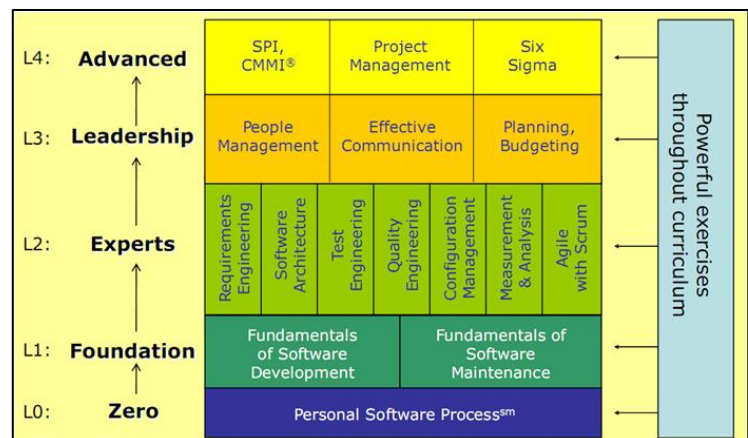
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Our Software Engineering Curriculum





Program

Module 1:

- Software Development
 - o Past, Present, Future
- Software Lifecycle Models
 - o Waterfall, Iterative
 - o Incremental development
- Software Project Planning
 - o Scope, Estimation, Schedule, Risk

Module 2:

- Requirements Engineering
 - o Overview
 - o Elicitation/analysis
 - o Specification
 - o Validation/verification
 - o Prioritization
 - o Management
- Software Architecture
 - o Styles
 - o Design patterns
 - o Views
 - o Rules: cohesion, coupling
 - o Analysis

Module 3:

- Construction
 - o Software Design
 - o Software Implementation
- Test Engineering
 - o Static (non-execution)
 - o Dynamic (execution)

Module 4:

- Quality Engineering
 - o Process engineering
 - o Models and standards
- Configuration Management
 - o Configuration identification
 - o Configuration control
 - o Branch management
 - o Status accounting
 - o Configuration verification
- Measurement & Analysis
 - o Software measurement
 - o Six Sigma



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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.