

Course 312: Introduction to the Capability Maturity Model Integration Framework (3 days)

Course Description...

Building on its success with the Capability Maturity Model (CMM) for Software, the Software Engineering Institute offers the CMMI, which merges concepts and practices from the Software CMM, the Integrated Product Development CMM, and a systems engineering standard from the Electronic Industries Association. The CMMI for software thus has a broader scope than the CMM, and greater potential as a framework for process improvement. However, the increased potential comes at a price of more effort in implementation. This course explores the concepts and capabilities of the CMMI.

Learning Objectives...

- Define the structure and content of the CMMI, including a description of the goals and practices of each Process Area
- Describe the continuous and staged representations of the CMMI, and criteria for selecting a representation for your organization
- Describe methods for implementing the CMMI in an organization

Who should attend...

Audience includes software process engineers, quality assurance professionals, project managers, and software practitioners, with an interest in using the Capability Maturity Model Integration framework to improve software engineering productivity and to build higher levels of quality into their software products.

Prerequisites...

No specific prerequisites are needed.

See next page for a detailed course outline...



Course Outline...

Chapter 1: Introduction to the CMMI

Chapter Objectives

CMMI Concepts

A vehicle for process improvement and assessment

A vehicle for contractor evaluation

Scope: system and software engineering

History

Industry and government acceptance

Success stories and statistics

Process Area Structure

Goals

Commitment to perform

Ability to perform

Generic and specific practices

Directing implementation

Verifying implementation

Capability levels

Staged Representation

Maturity levels

Determining an organization's maturity level

Migrating between maturity levels

Continuous Representation

Exploiting the Continuous Representation

Capability levels

Determining the capability level of a Process Area

Migrating between capability levels

Process Area Categories

Engineering

Process Management

Project Management

Support

Criteria for Choosing a Representation

Internal needs of the organization

Customer expectations

Competitive position

Regulatory constraints

Workshop: choosing a representation

Chapter 2: CMMI Level 2 Process Areas

Chapter Objectives

Characteristics of Level 2 Organizations

Level 2 Process Area Goals, Key Practices, and Interfaces

Requirements Management

Project Planning

Project Monitoring and Control

Supplier Agreement Management

Configuration Management

Process and Product Quality Assurance

Measurement and Analysis



Chapter 3: CMMI Level 3 Process Areas

- Chapter Objectives
- Characteristics of Level 3 Organizations

Level 3 Process Area Goals, Key Practices, and Interfaces

- Requirements Development
- Technical Solution
- Product Integration
- Verification
- Validation
- Organizational Process Focus
- Organizational Process Definition
- Organizational Training
- Integrated Project Management
- Risk Management
- Decision Analysis and Resolution

Chapter 4: Integrated Product and Process Development (IPPD)

Process Areas

- Chapter Objectives
- Characteristics of IPPD

IPPD Process Area Goals, Key Practices, and Interfaces

- Integrated Project Management
- Integrated Teaming
- Environment for Integration

Chapter 5: CMMI Level 4 and 5 Process Areas

- Chapter Objectives
- Characteristics of Level 4 and Level 5 Organizations

Level 4 Process Area Goals, Key Practices, and Interfaces

- Organizational Process Performance
- Quantitative Project Management

Level 5 Process Area Goals, Key Practices, and Interfaces

- Organizational Innovation and Deployment
- Causal Analysis and Resolution

Chapter 6: The Bottom Line

- Course summary
- Course highlights from students' perspective

Please contact your ROI representative to discuss course customization!!!