

## **Estimating Software Projects**

### **Course Summary**

#### **Description**

This course provides a through introduction to the techniques of software estimation. The course consists of three parts. Part 1 provides an overview of software techniques and methodologies. Part 2 covers the various estimation techniques that are widely used with a focus on understanding the techniques and how to apply them, the goal of part 2 is to develop competency with estimating skills. Part 3 is focused on the project dynamics and the team / organization aspects of estimation in practices that provides students to develop skills to navigate politics and negotiate estimates for projects.

#### **Topics**

- Estimation vs. Planning
- Sources of estimation errors
- Fundamental estimation techniques
- Counting vs. judging
- Calibrating historical data
- Relative size estimating techniques
- Proxy based estimates
- Group based expert judgments
- Applying multiple approaches
- Estimating size, effort, and schedules
- Presetting estimates to stake holders
- Skillful negotiation and communications
- Getting beyond politics

#### **Audience**

This course is designed for IT professionals with an understanding of the software development process who wish to develop their estimation and planning skills.

#### **Prerequisites**

Students should be able to understand the various roles involved in software development projects.

#### **Duration**

Three days

## **Estimating Software Projects**

### **Course Outline**

#### **I. Estimation Overview**

- A. This module provides an overview of the estimation starting with an analysis of what estimates are and how they differ from project plans.
- B. The module teaches what key characteristics of good estimators are, and an analysis of the estimation errors will be discussed.

#### **II. Estimation Techniques**

- A. This module covers the key estimation techniques that can be used on projects.
- B. Also covers the selection criteria (size, style, accuracy, development stage) that can be used to determine which estimation technique to use.
- C. Estimation techniques covered include counting techniques, calibration of historical data, expert judgment, decomposition and re-composition, relative size, estimation by analogy, proxy based estimates, combination multiple estimation approaches.

#### **III. Estimation in practice**

- A. This modules deal with how estimation techniques fit within the larger software development lifecycle. Issues with size estimating; effort estimating, and schedule estimation will be discussed.
- B. Along with the techniques for presenting estimates and dealing with the politics and negotiations of estimates between stakeholders.