eogogicsinc

Course ID	Course Title
SWPE	**Software Project Estimation**
Course Duration	
2 days	

Related Courses
- Software Project Management (SWPM, 2 days)
- Principles of Software Engineering (SWENG1, 2 days)
- Software Engineering: An Advanced Tutorial (SWENG2, 3 days)

Aimed At

Information Technology (IT) practitioners, including managers, analysts, developers, and testers who may be called upon to predict the effort, cost, or schedule of a software project

Group Size

5-25

Prerequisites

None

Course in a Nutshell

Woody Allen is reputed to have said, "I can predict anything except the future." Clearly, he would not do well with software projects, where the need and ability to predict effort, cost, and expected project duration are absolutely critical. This course describes two major approaches to project estimation: based on expert opinion, such as analogy and wideband Delphi; and based on mathematical models, such as COSMIC function points and COCOMO.

Customize It!
- Is your organization interested in a specific estimation method, such as wideband Delphi? We can customize the course to focus on your chosen method(s).
- Are you engaged in preparing a historical project database and in calibrating your estimation tool? We can orient the course to one or both of these topics.

Learn How To
- Exploit expert knowledge in the estimation process
- Define the scope of an estimation task
- Predict functional size of software using the COSMIC approach to sizing
- Transform size predictions into effort, cost, and schedule estimates
- Use multiple estimation methods to increase confidence in predictions
- Apply estimation techniques to maintenance activities
- Report estimation results
- Employ historical databases to calibrate estimation models

Course Outline

- Introduction
    - Estimation goals
    - Definitions
    - Expert-based techniques
    - Model-based techniques
    - Assigning confidence levels

- Expert-based techniques
    - Analogy
    - Wideband Delphi
    - Using work breakdown structure

- COSMIC function points: A model-based approach
    - Functional size measurement concepts
    - COSMIC vs. IFPUG function points
    - Determining measurement scope
    - Identifying software boundaries
    - Identifying functional processes
    - Identifying data groups
    - Identifying data movements
    - Calculating functional size
    - Transforming functional size into effort and schedule estimates
    - Local customization

- Other model-based approaches
    - Sizing based on lines of code
    - Published transformation models
    - COCOMO II: An estimation tool

- Course wrap-up
    - Lessons learned
    - Where to go from here
    - Discussions and evaluations

How You Will Learn

- An instructor well versed in both software engineering and project management will present this course in interactive lecture format.
- Along with lecture, we will use short exercises and extended workshops as well as interesting group activities to make the class interesting and practical.
- You will receive a printed Participant Handbook to help you remember and retain what you learned in class and apply it on your job.

Revised   *April 13, 2008f*