Microsoft® Project & Earned Value: Using Microsoft® Project to Collect & Report Earned Value Metrics

This hands-on instructor-led course will provide participants with a clear step-by-step process for setting up, tracking and reporting earned value using Microsoft Project. Although a general overview and purpose of earned value management (EV) will be presented, this course is not an earned value management “theory” class and a comfortable understanding of topic is required to fully benefit from this class. This intense two-day class will focus on a methodology that leverages the standards of the Project Management Institute (PMI®) with industry best practices, and couple those with requisite industry experience to deliver process driven solution that allows project managers, schedulers and controllers as well as general managers and cost account managers to incorporate tracking of earned value metrics into their use of the scheduling tool. Edwards Project Solutions’ own methodologies and custom tools created using Microsoft® Project will be presented through class discussion as well as group and individual sample projects. Students will learn a step-by-step process to create and manage a project resource pool; set up and manipulate project and resource calendars; create and modify task relationships; set up performance and level-of-effort tasks; resolve conflicts; baseline projects; track earned value metrics at detailed and summary task levels; and, much more.

Details & Syllabus

Section 1: Introduction and Overview. This section, based on PMI® principles and doctrine, provides an introduction to project scheduling and Earned Value Management history and management process, along with the techniques that are utilized to create a comprehensive and manageable project schedule. This section also provides an introduction and overview to the Edwards Project Solutions method for developing comprehensive work plan, defining and estimating task and milestones and determining the interdependencies and constraints of the tasks.

Section 2: Properties and Options. This section begins the use of Microsoft® Project. The MS Project property and option settings are discussed in detail. Each property and option is defined with an explanation of how MS Project reacts to the setting of the property or option. This section provides recommendations for the setting of each property and option.
Section 3: Templates and Calendars. This section defines the templates and calendars available in Project and provides insight on how and when to use these features. The uses of global and local templates are reviewed with discussions on defining and applying them. Custom scheduling templates, developed by Edwards Project Solutions to support our PMI-based methodology, are presented and discussed. These templates, which are provided on media (floppy or CD) to each student taking the course, have been developed by Edwards Project Solutions over many years of managing projects using MS Project to present schedule and status data to customers and senior management. Calendars are also discussed in this section of the course. The instructor demonstrates how to define, apply and maintain project “master” calendars, resource calendars, task calendars and special purpose calendars. A complete explanation of each type of calendar and recommendations on which types to use under different scheduling scenarios is provided.

Section 4: Setting up a New Project. In this section, a sample project will be introduced to the students. The students will begin to exercise the Edwards Project Solutions methodology for using Microsoft Project. The students, working at their workstations, will follow along with the instructor and translate the information resulting from a planning session for our sample project into an MS Project schedule. The students will learn to begin to establish the schedule in MS Project by entering the properties and general project information into MS Project. Next the students will learn to define the resource pool in MS Project including defining the financial information and resources calendar information, including resource rates, rate increases, company holidays and shift work.

Section 5: Entering Project Data. While still following the methodology and following the lead of the instructor, the students will enter the tasks and milestones, including Level of Effort (LOE) tasks, for our sample project; the students will define the tasks, the task interdependencies and constraints in MS Project. Earned Value tracking will be set up at both detailed and summary task levels. In this section, the instructor will lead the students through assigning resources from the resource pool to the tasks and entering the "work" required to complete each task. Once the project task data and assignment data for our sample project is entered, the instructor will conduct discussions on how to read and understand the critical path and slack time (lag time) of the project. This is followed by an exercise on "resource leveling" to ensure that no resource is working more than their planned availability during the project. The section concludes with setting the baseline on the exercise project and a discussion of the tools that can assist in communicating the schedule and Earned Value Performance Measurement Baseline.

Section 6: Tracking Project Progress. Now that the students have completed building and base lining the schedule for our sample project, the sample project is ready to begin. In this section, the students will learn to record the actual progress of project tasks and actual work schedule for project resources. Tracking techniques will be applied to both detailed tasks as well as Summary level tracking. Resource status information for our sample project, which is not executing according to plan, is presented to the class. The students use the status information to follow along with the instructor and record the task and resource status into MS Project. This section provides step-by-step instructions for recording the Actual Start, Percent Completion, and the Actual Work performed for the tasks of our sample project and
also for recording sick and vacation time for project resources and will include update of Earned Value. Once the entry process is completed, the students will learn to examine the resource and task expenditures using the "Usage" views. The student will learn techniques for adjusting the resource leveling based on the actual progress that is entered and applying adjustments to project LOE tasks and handling of Earned value.

**Section 7: Reporting Project Progress.** Now that the students have built a schedule and recorded status for a schedule, this section provides tools and techniques that can be utilized to analyze and report the status of the project. This analysis will be performed using (a) standard and custom views such as the various "Usage" views and the Project Statistics screen; (b) Creation of Visual Reports to create reports in Microsoft Excel (c) Using custom fields to calculate additional project metrics and linking the calculated data to graphical indicators to create "Stop-Light" charts; Several examples and reports will be generated for the project schedule developed in sections 4, 5 and 6. An overview of the various "canned" reports available in MS Project will be discussed and demonstrated in this section. The Visual Reports offered in Project 2007 will also be discussed.

**Section 8: Earned Value Best Practices.** Now that the students have built a schedule, tracked progress and performed analysis, it is time to learn some best practices and techniques for handling those various changes that affect the Earned Value Management plan. Discussed will be practices around Resource Management, Scope and Baseline Management and things you should know. How to handle planning packages. Understanding Earned Value methods and the best way to use them. Obtaining CAM level earned value reporting, setting up a field for drilling into CAM level EV details.

**Section 9: Class Exercise.** Now that the class has completed the entire process with the instructor, it is time to try it on their own. Section 9, allows each student to use the principles from the previous sections to build a schedule on their own with individual oversight and guidance from the instructors. Each student, working independently, will use MS Project and the step-by-step methodology to set up, create, baseline and communicate this new project schedule. Once the student has completed creating the schedule, the project status information for the third week into the project is provided. Using this status information, each student will update his/her schedule with the status and analyze the results.

**Section 10: Supplemental Information on Microsoft Project.** In this final section of the course, the class will review some of the lessons learned from the 2-days of training. The instructor will share with the class some of the nuances and anomalies in MS Project and how to avoid or work around them. Techniques for EV tracking in hours is summarized. Finally the course will discuss some of the additional benefits and features available in the next release Microsoft Project.

Materials Received
- Professionally bond 540+ page full color instruction manual written by Edwards Project Solutions. This manual is rich with color screen captures and process details to walk you through the step-by-step process.
- Laminated Desktop Reference illustrating the step-by-step process taught in the class
- Laminated Desktop Reference for Earned Value Management
- CD containing
  - Microsoft® Project Macros and Add-Ins written by EdwPS
  - “Check-Point” project schedules from the course, as well as other practice schedules
  - Other supplemental information
* Professionally bound course material available for Microsoft® Project versions 2007 and later.

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Course Length: 2-days

Microsoft® Project 2010
  - R.E.P. Program #: 1918-P10EV | PMI PDUs: 15
  - A.E.P. Program #: 7014-P10EV | AACE PDHs: 15

Microsoft® Project 2007
  - R.E.P. Program #: 1918-P2K7EV | PMI PDUs: 15
  - A.E.P. Program #: 7014-P2K7EV | AACE PDHs: 15

Microsoft® Project 2003
  - R.E.P. Program #: 1918-P2K3EI | PMI PDUs: 15

*Note: Earlier versions of this course are available upon request*