

CONSTRUCTION PROJECT MANAGEMENT EDUCATION SERIES

A seven-part video-based education series from SmartPros Ltd. designed to provide both new and experienced construction project managers with fresh approaches to their project planning and tracking, and to share little-known tips and techniques for creating and updating effective schedules in Microsoft Project and other project management software packages as well.



Featuring Experts:

*Frank Walker,
P.Eng., PMP*

*Ann M. Tomalavage, P.E.,
PMP, LEED AP, M.ASCE*

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Construction Project Management Series Course Catalog

Course Descriptions & Session Overviews

PDU Eligible / 8 Credit Hours

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About Us:

SmartPros Engineering - Online Education

Whether you are preparing for an engineering exam, like the FE Exam or the PE Exam; developing your skill in Project Management, preparing for the LEED GA exam or sharpening your technical skills in any number of areas, SmartPros professional education has the engineering specific courses for you or your firm. Our courses are developed with the assistance of the best experts in their field, the most up to date content, and the best designed interactive course platform. Partners, such as ASCE, NSPE, and other organizations, engineering firms and instructors help us provide the best content available. Most courses are approved for PDH and CEU credit for continuing education.

Construction Project Management Series

Session 1 through 7 Overview and Goals:

The Construction Project Management course consists of an seven-part video-based education series designed to provide both new and experienced construction project managers with fresh approaches to their project planning and tracking, and to share little-known tips and techniques for creating and updating effective schedules in Microsoft Project. The software tips apply to other project management software packages as well. At the end of each session, participants are offered a five to ten question multiple choice test to assess knowledge gained.

Upon successful completion of each session participants should be able to:

1. Create a work breakdown structure for any project.
2. Create and maintain a powerful schedule.
3. Develop cost estimates “for free”, using software features.
4. Use Earned Value Management (EVM) comfortably to monitor and control projects.
5. Feel confident updating Microsoft Project files, and creating meaningful templates for other projects.

The course is divided into seven individual sessions as follows:

- Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling
- Session 2: Project Management Resources & Breakdown Structures
- Session 3 / Part A: Techniques for Effectively Managing Time
- Session 3 / Part B: Techniques for Effectively Managing Time
- Session 4 / Part A: Project Cost Management
- Session 4 / Part B: Project Cost Management
- Session 5: Updating the Project, Change Management, Earned Value
- Session 6: Updating – Using Microsoft Project
- Session 7: Risk, Other Knowledge Areas & Series Conclusion

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

PDU:

8

Construction Project Management Education Series Author/Expert Biographies



Frank Walker, P.Eng., PMP is president of TWG Project Management, LLC and was co-founder of Gates, Taylor, Walker, Corp., where he was president from 1988 to 1997. TWG supports clients through all the stages of the program or project life cycle. Frank received his Bachelors degree in Civil/Structural Engineering from the University of Sydney, Australia, his Professional Engineer certificates in BC, Canada and Turkey and his Project Management Professional (PMP) certification - # 189. Frank has worked for thirty plus years on many unique and challenging projects worldwide for many different industries and public agencies. He is adept in all the aspects of project management (PM) including the management of time, resources, cost, risk, scope, procurement, quality and communication. Specialties include, team planning, fast-track project management, management by exception using earned value, litigation avoidance and mediation.

He also helps implement PM Offices (PMOs). He has given classes and seminars on PM, PMP certification & PM software to more than 9,000 people, worldwide. Frank has lived long-term in Sydney, Vancouver, BC, Turkey (where he was found equal to a donkey by a Turkish magistrate), Seattle, and Dallas. He currently lives in Washington Crossing, PA.

Construction Project Management Education Series Author/Expert Biographies, cont'd



Ann M. Tomalavage, P.E., PMP, LEED AP, M.ASCE, has over 30 years of professional experience, and has been a practicing project manager since 1984. Ann holds B.S. and M.S. degrees in Civil Engineering from the University of Delaware. Ann is a registered professional engineer, and is a certified Project Management Professional (PMP) . Ann works with organizations and individuals who are frustrated by overrun projects, missed deadlines, and dissatisfied clients. Ann's specialty is helping technical personnel understand, embrace, and apply project management principles. Ann also assists firms with strategizing, planning, and costing proposals, and facilitating project kick-off meetings and LEED goal-setting meetings. She also helps organizations revamp their workflow.

Ann has been a key provider of project management training for American Society of Civil Engineers (ASCE) since 1999 and has consistently been rated among the top 4 of all ASCE trainers. Ann has trained over 3000 project managers since 1992. Ann has taught project management at Penn State, Temple, NYU, Wharton, Drexel and Villanova. Ann is qualified to administer the Myers-Briggs Type Indicator (MBTI). She applies the MBTI to projects, including influencing and communicating with clients, peers, management, and project team members.

Session 1:
Program Overview, Basic Process & Concepts in Project Management & Scheduling

Overview:

In this first of seven sessions, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, first offer a brief history of the Project Management Institute (PMI). Next, they discuss the evolution of project management from the mainframe to the PC. Our experts then talk about total float and the logic that ties activities together. They show participants how to break down a project into activities and tie those activities together using logic. In addition, the use of milestones is considered, as well as constraints and how they affect the project schedule. The session ends with a review of negative float, planning and templates.

Learning Objectives

After successful completion of this session students should gain an understanding of:

- The history of Project Management (PM)
- PM Software Tools such as Microsoft Project (concepts apply to other project management software)
- The Critical Path Method (CPM), Critical Path and Total Float
- Predecessors and Successors
- Milestones, Constraints and Negative Float
- Planning, templates and how to check logic

Authors:

Frank Walker, P.Eng., PMP
Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

None

PDUs:

1.25

Session 2:
Project Management Resources & Breakdown Structures

Overview:

In the second session of the course, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, discuss project management resources as well as breakdown structures. The goal of this session is to offer participants a better understanding of the many resources that are available to project managers. In addition, the instructors will define work breakdown structure, project breakdown structure, cost breakdown structure, explain their benefits and how they are associated.

Learning Objectives:

After successful completion of this session, students should gain an understanding of:

- Project management resources such as the American Society of Civil Engineers (ASCE), AACE International, Construction Management Association of America (CMAA), Construction Specifications Institute (CSI), Project Management Institute (PMI)
- The definitions of Work Breakdown Structure (WBS), Project Breakdown Structure (PBS), and Cost Breakdown Structure (CBS)
- The interrelations and benefits of WBS, PBS and CBS

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling

PDUs:

1.25

Session 3 / Part A:
Techniques for Effectively Managing Time

Overview:

In this first half of Session 3, course project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, discuss Microsoft Project and other project management software packages that offer similar features. The instructors offer a detailed discussion of the critical path method (CPM) and total float. They talk about Work Breakdown Structure (WBS) by phase or location and deliverable and offer insight into planning and the use of reusable templates. They also discuss the Advantages and disadvantages of Bar Charts and offer helpful solutions.

In addition, TWG's "Rule of Six" for scheduling is explained, as well as filtering and sorting, a key requirement for effectively executing and controlling projects. Participants will also benefit from an overview of leads and lags, contingency, fast tracking and crashing, impacts and scheduling related claims and litigation. Our experts conclude the session with a review of the benefits of project management tools and techniques.

Learning Objectives:

After successful completion of this session students should gain an understanding of:

- Microsoft Project and other similar PM Software packages
- Critical Path Method (CPM) and Total Float
- WBS by Phase or Location and Deliverable
- Planning and templates
- Advantages and disadvantages of Bar Charts
- TWG's "Rule of Six"
- Filtering and Sorting
- Leads and Lags
- Contingency
- Fast tracking and Crashing
- Impacts
- Schedule related claims and litigation
- Benefits of Project Management Tools and Techniques.

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling

Session 2: Project Management Resources & Breakdown Structures

PDU's:.50

Session 3 / Part B:
Techniques for Effectively Managing Time

Overview:

In this second half of Session 3, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, engage in a lively discussion on several real-world engineering projects, including the Port of Tacoma in Washington State and the massive Hibernia oil drilling platform.

In addition, participants will benefit from the practical information offered on reusable templates, portfolio management, fast tracking, scope change and scheduling. Our experts conclude the session with a review of the benefits of project management tools and techniques.

Learning Objectives:

After successful completion of this session students should gain an understanding of:

- Fast tracking and Crashing
- Impacts
- How the PM Tools can be used in Offense, Defense and Marketing
- Portfolio Management
- Other issues raised in the Case Studies
- Schedule related claims and litigation
- Benefits of Project Management Tools and Techniques.

Authors:

Frank Walker, P.Eng., PMP
Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling
Session 2: Project Management Resources & Breakdown Structures
Session 3 / Part A: Techniques for Effectively Managing Time

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PDU:

.50

Session 4 / Part A:
Project Cost Management

Overview:

In this first half of session 4, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, explain how PM software tools handle resources and cost estimating. In addition, they will compare traditional cost estimating with schedule templates. They will also show participants how to use the total float to resource level and cash flow level.

Learning Objectives:

After successful completion of this session students should gain an understanding of:

- How PM Software Tools handle resource / cost estimating
- Traditional cost estimating vs. Schedule templates
- How to use Total Float to resource and cash flow level
- The importance of checking your logic before you level
- How PM Software is used in Defense, Offense and Marketing
- How many companies are producing “free” cost estimates from their schedules.
- The importance of saving your baseline after you resource level
- The benefits of the above approaches

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling

Session 2: Project Management Resources & Breakdown Structures

Session 3 / Part A: Techniques for Effectively Managing Time

Session 3 / Part B: Techniques for Effectively Managing Time

PDUs:

.50

**Session 4 / Part B:
Project Cost Management**

Overview:

In this second half of Session 4, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, go through the homework from the previous session and demonstrate the defaults in Microsoft Project. They explain more thoroughly how PM software tools handle resources and cost estimating and discuss Baselines and the benefits of PM and CPM when they are done properly. It is little wonder that so many people get promoted when they master these tools and techniques.

Learning Objectives:

After successful completion of this session students should gain an understanding of:

- How PM Software Tools handle resource / cost estimating
- Traditional cost estimating vs. Schedule templates
- How to use Total Float to resource and cash flow level
- The importance of checking your logic before you level
- How PM Software is used in Defense, Offense, Marketing and Negotiation
- How many companies are producing “free” cost estimates from their schedules.
- The importance of saving your baseline after you resource level
- The benefits of the above approaches

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling

Session 2: Project Management Resources & Breakdown Structures

Session 3 / Part A: Techniques for Effectively Managing Time

Session 3 / Part B: Techniques for Effectively Managing Time

Session 4 / Part A: Project Cost Management

PDU

.50

Session 5:

Updating - Change Management, Earned Value Theory, etc.

Overview:

In the fifth session of the course, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, discuss the theory of updating schedules and Earned Value, specifically, how to update and control, time, cost and resources. In addition, they talk about the magic of earned value, “managing by exception” just what goes wrong and diminishing returns. They also share key facts about schedule impacts, Schedule Performance Index (SPI) and Cost Performance Index (CPI) and the increasing use of CPM in defense, offense, negotiation and marketing.

Learning Objectives:

After successful completion of this session students should gain an understanding of:

- How to update & control time, resources, cost, etc.
- The magic of Earned Value (EV), Schedule Performance Index (SPI). How to “Manage by Exception” just what’s important
- Diminishing returns - What’s easy and what’s not
- Stay on schedule - stay on budget
- Schedule Impacts. Do SPI before CPI
- Saving Target Schedules if you are impacted
- Schedule related claims – Defense, Offense, Negotiation
- CPM in Marketing
- The benefits of the above

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling

Session 2: Project Management Resources & Breakdown Structures

Session 3 / Part A: Techniques for Effectively Managing Time

Session 3 / Part B: Techniques for Effectively Managing Time

Session 4 / Part A: Project Cost Management

Session 4 / Part B: Project Cost Management

PDUs: 1.0

Session 6:
Updating – Using Microsoft Project

Overview:

In the sixth session of the course, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, continue the discussion on the updating of schedules. However, this time, our experts will drill down and get very hands-on in the software tools. In session five we explored the theory, but session six gets very practical. Please note, in this session we talk primarily about Microsoft Project, but keep in mind that most of this information also applies to Primavera and other project management software.

Learning Objectives:

After successful completion of this session participants should gain an understanding of:

- How to update and control their schedules for time, resources and cost, relative to the project status date.
- The importance of an Updating Checklist.
- Utilizing the schedule performance index (SPI) and using filters to manage by exception just what is going wrong.
- The power of the Turnaround Document.
- Diminishing returns - What's easy and what's not. Why you should use the schedule performance index first and then the cost performance index.
- Adding specific activities for schedule impacts and saving baseline and target schedules.
- Analyzing the schedule, proving impact, what to look for as an owner

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling

Session 2: Project Management Resources & Breakdown Structures

Session 3 / Part A: Techniques for Effectively Managing Time

Session 3 / Part B: Techniques for Effectively Managing Time

Session 4 / Part A: Project Cost Management

Session 4 / Part B: Project Cost Management

Session 5: Updating - Change Management, Earned Value Theory, etc

PDUs:

1.25

**Session 7:
Risk, Other Knowledge Areas, Wrap-up**

Overview:

In the seventh and final session of the course, project management experts, Ann Tomalavage, P.E., PMP, LEED AP, and Frank Walker, P.Eng., PMP, talk primarily about project risk management, communications and negotiations. They also discuss other key knowledge areas that were not addressed in the previous sessions. They conclude with a Q&A session on Microsoft Project, a summary of the course and ask what participants will do differently, following the class.

Learning Objectives:

After successful completion of this session students should gain an understanding of:

- Integrating other areas, e.g. Risk, Procurement, etc.
- Schedule related claims and litigation
- Checklists
- Benefits of project management tools
- Series conclusion and wrap-up

Authors:

Frank Walker, P.Eng., PMP

Ann Tomalavage, P.E., PMP, LEED AP, M.ASCE

Prerequisites:

Session 1: Program Overview, Basic Process & Concepts in Project Management & Scheduling

Session 2: Project Management Resources & Breakdown Structures

Session 3 / Part A: Techniques for Effectively Managing Time

Session 3 / Part B: Techniques for Effectively Managing Time

Session 4 / Part A: Project Cost Management

Session 4 / Part B: Project Cost Management

Session 5: Updating - Change Management, Earned Value Theory, etc

Session 6: Updating – Using Microsoft Project

PDU:

1.25

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\$495.00 per head

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PDU Eligible / 8 Credit Hours

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