




# Project Engineering and Controls

## Courses



## A. PMP and other Certification Courses

Course Title	Duration (Days)
1. Project Management Professional (PMP®)	5
2. Risk Management Professional (PMI-RMP®)	4
3. PMI Scheduling Professional (PMI-SP®)	4
4. PMI Professional in Business Analysis (PMI-PBA®)	5
5. Program Management Professional (PgMP®)	3
6. Portfolio Management Professional (PfMP®)	2
7. Project Scheduling Professional (PSP®) Exam Preparation Course	3
8. Certified Cost Professional (CCP) Exam Preparation Course	5
9. Certified Estimating Professional (CEP) Exam Preparation Course	3
10. Certified Scheduling Technician	3
11. Earned Value Professional (EVP) Exam Preparation Course	2

## B. Project Engineering and Controls Courses

Course Title	Duration (Days)
1. Project Management for Oil and Gas	3
2. Project Planning and Management	3
3. Effective Project Controls for Engineering & Construction Projects	5
4. Effective Project Controls for EPC Projects	5
5. EPC Life Cycle Management	3
6. Project Planning and Scheduling	3
7. Cost Estimation and Budgeting	5
8. Risk Management for EPC Projects	5
9. Procurement and Contract Management	3
10. Quality Control and Inspection	3
11. Engineering Management in Front-End Loading	5
12. Construction Project Management	3
13. Extension of Time Analysis	3
14. Value Methodology Fundamentals 1	5
15. Major Value Improvements Practices Overview	5
16. Earned Value Management	5
17. Commissioning and Start-up	3
18. Total Cost of Ownership	2
19. Project Planning using Primavera P6	5
20. Project Site Management (supervision, inspection, MOC)	3
21. FIDIC Silver Book for Lump-Sum Turn Key Contracts	5
22. FIDIC Red Book for construction contracts	5
23. Estimation and Execution	3
24. Construction Auditing Fundamentals	2
25. Project Controls for Start up, Turnaround and Outage Projects	2
26. Bill of Quantity Development and Implementation	5

# A. PMP and other Certification Courses

## 1. Project Management Professional (PMP®)

This course will teach the participants the logistics of the examination, how to apply for it, how to prepare for it and how to pass the exam. The course will provide the basic knowledge required, and cover all the steps needed to pass the exam and attain the PMP or CAPM certifications. The course is designed for professionals seeking to refresh their knowledge on the PMBOK before taking the PMP exam, as well as for those who are interested in understanding the science of Project Management and how it applies to their business. In other words, the course is important for experienced project managers and those who want to eventually become project managers. The course is based on PMI's latest Project Management Standard, the PMBOK Guide - 6th Edition.

## 2. Risk Management Professional (PMI-RMP®)

The course prepares attendees thoroughly for the PMI-RMP exam. It covers risk management from an initial foundation in risk concepts through to processes set up by PMI. Within this subset of the PMBOK framework, processes are broken down to explain them in a systematic way to establish comprehensive instruction of the various elements of project risk management in order to maximize applicant's performance in the exam.

## 3. PMI Scheduling Professional (PMI-SP®)

This course prepares attendees thoroughly for the PMI-SP Exam. It offers an in-depth look at project scheduling from the PMI® perspective. Within the subset of the PMBOK framework, the course is delivered in a workshop format and attendees will gain the needed knowledge on project scheduling in order to cover the five primary exam objectives.

## 4. PMI Professional in Business Analysis (PMI-PBA®)

This comprehensive workshop will prepare participants for the PMI Professional in Business Analysis (PMI-PBA)® exam. The course is delivered by PMI-PBA certified professionals and provides key insights into the exam and the critical areas to study.

## 5. Program Management Professional (PgMP®)

Many organizations are compelled to enter the project driven arena, initiate projects and capitalize on them in order to sustain market presence and growth in the current global economy as well as for other benefits. Program Management is a coveted skill and requires specific competencies. This course is a valuable milestone for new or experienced program managers who wish to test their knowledge and ability to practice all sides of program management and take their competencies to the next level.

## 6. Portfolio Management Professional (PfMP®)

Portfolio Management is the presentation of management actions to a collection of programs and projects to achieve strategic business objectives. Portfolio is about cohesively tying projects within the portfolio, so that they work in cycles to achieve high-level goals of the organization. The Portfolio Management Professional (PfMP)® is a globally recognized credential that will also give you an edge over your non-certified counterparts.

This course is a complete and practical guide to mastering Project Portfolio Management. We will help attendees become successful Portfolio Managers and gain the certification at the first attempt.

## 7. Project Scheduling Professional (PSP®) Exam Preparation Course

The AACE International program's intent is to recognize specialists who meet a demanding set of planning and scheduling criteria. The PSP certification will distinguish you as a Planning and Scheduling Professional who has the knowledge and skills that impact the bottom line.

## 8. Certified Cost Professional (CCP) Exam Preparation Course

This course is to be better prepared to take the Certification Examination beyond what they would likely achieve on their own. Professionals who attend this 4-day Certification Review Course & Examination are expected to be fairly well prepared to sit for the examination before arrival. This course is not intended to prepare a professional who routinely works in only one sub-element of cost engineering to pass the challenging Certification Examination, if they have done little study before the seminar. Attendees should have read and worked some problems in Skills and Knowledge of Cost Engineering, 6th Ed and Certification Study Guide, 3rd Ed, to become relatively comfortable with the contents of these books. They should also reacquaint themselves with college algebra, such as logarithms and exponents. Ideally, attendees would have completed, at some time in the past, a baccalaureate course in business or engineering statistics, as well as engineering economy or finance. You should bring a calculator with exponent and logarithm functions that meets certification examination specifications. A financial calculator is useful but not required.

## 9. Certified Estimating Professional (CEP) Exam Preparation Course

Recognition of the different international estimating systems and qualifications, inclusive of the Association for Advancement Cost Engineering (AACE) International Recommended Practices (RP), for estimating development and execution for Manufacturing, Engineering, Procurement and Construction programs. Estimating for international projects will review the checks of imperial vs metric, differing contingencies, rates location, norms, and standards. The Certified Estimator Professional Course will review the methodologies of the execution process of Estimating of AACE for the Certification Exam. A review of the planning steps and methodologies of the execution process will encompass the following: Planning, Types of Estimate, PDRI, and Estimate Contingency and Risk Review

## 10. Certified Scheduling Technician

In this course attendees will demonstrate proficiency in the basic skills, knowledge of total cost management, and they will take the necessary steps towards becoming Certified Cost Technicians. Moreover, knowing that becoming CCT is challenging, the course provides a complete scope of estimating, planning and cost control, the course also gives a great opportunity towards becoming a successful project manager.

## 11. Earned Value Professional (EVP) Certification

This course is a basis of lecture, case studies and instruction for the Earned Value Professional (EVP) Certification Exam. This system is provided with dedicated training that allows for candidates to be prepared for the proficiency required to pass the exam in demonstrating the Earned Value Program from the organization of the Project / Program / Portfolio into a structure in which the utilization of sound EVMS practices can be utilized. Organized in accordance to ANSI/EIA 748 C and ISO TC258 the program focus on the EVMS skills from WBS, OBS, Planning, Scheduling, Budgeting, preparation of the Performance Management Baseline (PMB), Integrated Baseline Review (IBR), Collection and Reporting of project actual cost, accruals, progress reporting, analysis, and management of data. The program incorporates the best international practices and upon completion Procedures and a methodology utilizing College of Performance Management (CPM), Project Management Institute Risk Management (PMI), International Standards Organization (ISO), Association Advancement Cost Engineering (AACE) International recommended practices, Construction Standards Index (CSI), International Project Management Association (IPMA), International Cost Engineering Council (ICEC), and Royal institute Charter Surveyors (RICS).

## B. Project Engineering and Controls Courses

### 1. Project Management for Oil and Gas

Oil and Gas projects are considered one of the very complex projects. Each project is considered sometimes a program: i.e. a group of projects managed in a coordinated way. This course will cover the overall project life cycle: identify, appraise, select, define and execute phases. It will cover the most important topics of portfolio, program and project management in relation to those phases.

### 2. Project Planning and Management

The course addresses how to identify, monitor, document and balance crucial information for the successful management of projects. It also covers the development of a baseline for the project that will allow the efficient compilation and the timely generation of performance comparisons. This is a highly interactive workshop that usually marks a milestone in the project management development roadmap. Participants will be required to develop a comprehensive project plan.

### 3. Effective Project Controls for Engineering Construction Projects

Today, and more than ever, project owners, consultants and contractors are required to adopt best practices when it comes to managing their engineering and construction projects. No organization can afford to have their projects going out of control. Projects that finish late and over budget are results from failure to manage and control those projects.

In an engineering and construction project, the organization that will have the highest exposure to the damages and losses associated with project delays and budget overrun,

is the organization with the weakest project controls. Why? Because this organization will be the least capable of the project organizations to support their claims for compensation or to defend themselves against claims raised against them.

So can your organization afford to be the weakest link in the project delivery process? Can your organization afford to be blamed for project delays? Can your organization afford to be blamed for project budget overrun?

### 4. Effective Project Controls for EPC Projects

In an engineering and construction project, the organization that will have the highest exposure to the damages and losses associated with project delays and budget overrun, is the organization with the weakest project controls. Why? Because this organization will be the least capable of the project organizations to support their claims for compensation or to defend themselves against claims raised against them.

### 5. EPC Life Cycle Management

Managing the EPC contracts are usually complicated and require special expertise and knowledge. This course covers the unique requirements related to EPC projects, Lifecycle, phases and gates. Moreover, participants will have an overview on project interfaces, procurement and its phases, pre-Commissioning, commissioning and start-up. Also major construction management activities are explained and tools and techniques to monitor and control project performance are introduced.

### 6. Project Planning and Scheduling

The course will cover key concepts of planning & scheduling. The course addresses how to identify, monitor, and balance information crucial for the successful management of projects. It will discuss the development of a baseline for the project that will allow the efficient compilation and the timely generation of quantitative performance comparisons. The comparisons highlight significant performance departures («actual vs. baseline») and allow for preventive and early remedial and corrective actions.

### 7. Cost Estimation and Budgeting

Cost management is one of the crucial aspects for project success. Projects are more and more facing the challenge of being planned and executed under limited budgets. Applying best practices for cost estimation, budgeting and control is essential to help organizations succeed in mastering this challenge.

This training program will provide the tools, techniques and practices that can be used to effectively estimate project costs in accordance with AACEI Cost Estimation Classification System as applied in Engineering, Procurement and Construction for the Process Industries.

### 8. Risk Management for EPC Projects

The Oil and Gas industry has its own particulars when it comes to risk management. Risks are classified into safety and operational risks (S&OR) or non-S&OR risks and it includes enduring, planned and emerging risks. Risk management is one of the important items considered in decision making process during the phase gates. This course shall consider these particulars when covering international project risk management practices such as ISO 31000 and the PMI-Risk management practice guide.

### 9. Procurement and Contract Management

This course is designed to effectively gain the essential understanding of engineering contracts and outlines the various elements, types and conditions with emphasis on the Conditions of Contract for Construction. Participants will gain a comprehensive overview of the key phases and elements of Contracts, Procurement, and Partnering. Participants will also learn strategies and techniques for improving the effectiveness of purchasing professionals

### 10. Quality Control and Inspection

The dilemma of project quality has always been the – or rather the lack of – adaptation of quality management tools into oil and gas projects management. The reason is mainly that these tools have been long customized for operational environments rather than projects. The aim of this course is to identify and integrate suitable tools for quality management in oil and gas projects. Tools and techniques presented in this course will be explained, appropriated, discussed and applied to various scenarios and cases having in mind utility and practicality.

### 11. Engineering Management in Front-End Loading

Project Engineering in Front-End Loading (or planning) starts with the Concept Engineering, establishing the Basis for Design (BFD), Front End Engineering and Design (FEED) and Project Specification forming one of the bases of the decisions taken in phase gates. The more developed the project engineering the more detailed is scope definition and the accuracy of schedule and cost estimates.

Typically, after the tenders are let, the bids are evaluated and the EPC contractor is selected, the detailed design and engineering is performed by the EPC contractor, but still need to be reviewed and consented by the Client based on the BOD and the FEED.

This course shall cover the Project Engineering activities throughout the project–life–cycle (Especially in FEL Phases) as well as the related support services such as Value Improvement Practices (VIP), project planning and cost estimating.

### 12. Construction Project Management

This course will provide the participant with the required skills needed to be a successful and effective construction or site manager. It offers a focused overview of the selected topics with emphasis on construction inspection, contract writing and material testing. The course also provides in depth discussion of construction management topics including cost estimation, safety/risk management, and a complete and thorough discussion of all the sections listed below with emphasis on what is essential for Project Managers, PMPs, and Resident Engineers for reducing liability and mitigating Claims.

### **13. Extension of Time Analysis**

Any Time Extension Request has to be entirely based on its own merit, well analyzed and emphasized, properly documented, and fully substantiated. This 3-day course will provide in-depth understanding of the concepts and art of preparing and defending Time Extension Requests. Topics will cover the basic concepts of delays, tracking delays, mitigating delays, baseline schedule as well as analyzing the impact of delay(s) on the baseline schedule. In addition, it is extended to give a detailed guide about preparing a comprehensive Extension of Time Request including the prolongation and disruption costs.

### **14. Value Methodology Fundamentals 1**

The course provides a comprehensive understanding of what value engineering actually entails and how it could be properly implemented. The main objective of this course is to acquaint participants with the value methodology along with its function-oriented and decision-making process, course benefits go beyond just getting academic knowledge by offering construction professionals opportunities to debate and define the methodology, various tools and solutions that value engineering utilize in enhancing the term of value.

This course is approved from "SAVE International" the premier and sole international society devoted to the advancement of value methodology, candidates would be eligible to take the VMA exam and become VMA certified after attending this course with an authorized trainer.

### **15. Major Value Improvements Practices Overview**

Value Improving Practices are special engineering practices aim at improving the project overall performance and functionality through scope optimization and adding value, the term Value Improving Practices might encompasses, a group of project and value management techniques such as Risk management, Lessons learned, earned value management, value engineering and others that collaborate in taking the extra step to improve the likelihood of success of a project.

### **16. Earned Value Management**

The EVM course provides hands-on overview of the process of EVM, from project development to execution. The course provides an excellent review of the studying requirements for applying for the Earned Value Professional (EVP) Certification exam by the American Association of Cost Engineers (AACE). AACE International's newest certification program is designed to recognize the Earned Value Management Professional. The EVP certification program offers specialty credentials for the professional who wants to validate his/her skills and be designated as an EVP. Many professionals practice earned value management principles during the project life cycle. Until now, there has been no certification effectively measuring the Earned Value Professional's capabilities - except through real-life performance. AACE's EVP certification provides an exam and experience validation that lets industry and users identify those who are competent professionals within the EVM discipline.

### **17. Commissioning and Start-up**

The aim of this course is to provide participants with a complete and up-to-date overview of the start-up and commissioning of Process plants. The course will also cover the troubleshooting of the start-up process. Participants will gain enough skills to anticipate and avoid problems associated with such start-up processes. Further, this course will provide participants with a satisfactory understanding of the commissioning strategy, organizational issues, estimation of required resources, CPM planning, mechanical integrity, troubleshooting, start-up operations, technical inspection, instrumentation/control systems, HSE and much other necessary knowledge associated with the process plant start-up and commissioning. Actual case studies from around the world will be demonstrated to highlight the topics discussed.

### **18. Total Cost of Ownership**

The concept of total cost of ownership is becoming more and more important for economic decisions regarding different alternatives. This training program provide the knowledge, skills and tools required for calculating and managing the total costs (idea-design-implement-operate-maintain-disposal) throughout the entire project life-cycle.

### **19. Project Planning using Primavera P6**

The course will cover key concepts of planning & scheduling; it addresses how to identify, monitor, and balance information crucial for the successful management of projects. This Primavera P6 Professional training leads participants through the entire project life cycle, from planning to execution. Participants will develop a thorough understanding of how to plan and schedule.

### **20. Project Site Management (Supervision, inspection, MOC)**

This course will provide engineers with the knowledge and skills to enable them managing of quality control and the inspection of work carried out healthy and safe conditions for construction site employees. It will cover areas such as developing and maintaining good working relationships; establishing, implementing and maintaining systems for managing construction sites; monitoring project activities; organizing, controlling and monitoring supplies of materials.

### **21. FIDIC Silver Book for Lump-Sum Turn Key Contracts**

The preferred contract form in the EPC based industries like Oil and Gas is the Lump-Sum-Turnkey (LSTK) contracts. FIDIC, the International Federation of Consulting Engineers, composed of national associations of consulting engineers, is offering many forms of standard contracts covering different contract types. This course will investigate the Silver Book (for Turnkey projects) in comparison to the Yellow Book (Plant and Design-Build) contracts.

### **22. FIDIC Red Book for Construction Contracts**

In today's global markets, international forms and models of contract are gaining more and more in importance in the Middle East. FIDIC, the International Federation of Consulting Engineers, composed of national associations of consulting engineers, is offering many forms of standard contracts covering different contract types. This course will investigate those forms and present the important highlights of them to the attendees and cover the Red Book 2017 in more details.

### **23. Estimation and Execution**

Recognition of the different international estimating systems and qualifications, inclusive of the Association for Advancement Cost Engineering (AACE) International Recommended Practices (RP), for estimating development and execution for Manufacturing, Engineering, Procurement and Construction programs. Estimating for international projects will review the checks of imperial vs metric, differing contingencies, rates location, norms, and standards. A review of the planning steps and methodologies of the execution process will encompass the following: Planning, Types of Estimate, PDRI, Estimate Contingency and Risk Review.

#### **24. Construction Auditing Fundamentals**

This course is a basis of lecture, case studies and instruction for introduction of construction auditing fundamentals for project controls and project management personnel. Based upon this course a candidate will have reviewed and understood the skills that will incorporate the introduction of auditing principals for private and state controlled programs. The program is orientated to incorporate the specifics of the construction auditing skills in alignment with ANSI 749 and ISO Auditing principals. The course is based on the development of a program with that values analysis and auditing on over 40\$ Billion of successful implementations in 6 continents and 42 countries. The program will help the programs focus on development of internal auditing process and other methodologies as well as preparation for programs such as a DCMA Audit. The program will help develop a project controls program to be the support and allow for project management to have a principal decision making process so they can review their programs and implement preventative techniques to support.

#### **25. Project Controls for Start up, Turnaround and Outage Projects**

This course is a basis of lecture, case studies and instruction for introduction of project controls skills and knowledge focused on Start-up and Outage Projects. Based upon this course a candidate will have the skills that will incorporate the introduction of earned value management principles for private and state controlled programs. The program is orientated to incorporate the specifics of the Start Up project, Turnaround Project or an Outage Project in the power, nuclear, or oil and gas industry with templates and programs, which can be utilized for project development, baseline, and progress measurement. The course is based on the development of a program of programs based upon case studies of over of successful implementations of Start Up, Turnaround or Outage programs in multiple projects in international. The program will help the programs focus on development of detailed resource and performance based power, nuclear, oil or gas programs with pipelines, refinery, process and other methodologies. The program will help develop a project controls program to be the support and allow for project management to have a principal decision making process that would qualify for IFRS and ISO Classifications.

#### **26. Bill of Quantity Development and Implementation**

This course is a basis of lecture, case studies and instruction for introduction of construction auditing fundamentals for project controls and project management personnel. Based upon this course a candidate will have reviewed and understood the skills that will incorporate the introduction of Bill of Quantity (BOQ) development, Quantity Surveying and auditing principals for private and state controlled programs. The program is orientated to incorporate the specifics of the construction auditing skills in alignment with ANSI 749 and ISO Auditing principals. The course is based on the development of a program with that values analysis and auditing on over 40\$ Billion of successful implementations in 6 continents and 42 countries. The program will help the programs focus on development of internal auditing process and other methodologies as well as preparation for programs such as a DCMA Audit. The program will help develop a project controls program that supports BOQ program from development to tracking and to be the support that allows for project management to have a principal decision-making process so they can review their programs and implement preventative techniques to support.