
PRACTICAL PROJECT MANAGEMENT FOR ENGINEERS AND TECHNICIANS



YOU WILL LEARN HOW TO:

- Plan to meet deadlines and complete projects within budget and on time
- Manage resources effectively
- Develop the personal skills critical to effective project management
- Organise and improve performance to create a productive and competent team
- Evaluate and make use of project management software packages
- Create quality project plans
- Generate effective work breakdown structures
- Create computerised PERT and Gantt charts for your projects, add and level resources, and monitor/report on your project effectively
- Define appropriate cost reporting mechanisms for your projects
- Define, analyse and manage the risks associated with your projects
- Introduce appropriate quality management procedures
- Keep your projects on track using the 'Earned Value Analysis' method
- Exercise an appropriate leadership style and keep team members creative and motivated
- Avoid the pitfalls caused by a lack of understanding of the legal issues pertaining to projects
- Use appropriate software to leverage your time and expertise
- Deal with projects that have a large degree of inherent uncertainty and/or a strong emphasis on timely completion

The Workshop

More and more engineering and technical professionals are making career transitions from product design into project management. This, however, requires formal training and a willingness to learn new skills. All the technical know-how in the world will not deliver a project successfully, without proper project management skills. Unfortunately very few engineering professionals have any degree of formal project management training, which results in a great deal of personal stress as well as cost blowouts and other woes.

To address this problem, the workshop will focus on the critical project related activities such as work breakdown, scheduling, cost control and risk management, and show how these can be performed with software to lighten the project manager's workload. The 'soft' (but equally important) aspects such as team leadership and contract law are also covered in detail. All topics will be supplemented with practical exercises focussing primarily on the areas of electrical/electronic (including instrumentation) and mechanical engineering. If delegates wish to do so, they can choose small projects from their work environment as a basis for the practical exercises.

Pre-requisites

A basic appreciation for the concepts involved is desired but not essential.

Practical Sessions

This is a practical, hands on workshop enabling you to work through practical exercises which reinforce the concepts discussed.

To gain full value from this workshop, please bring your laptop/notebook computer.

Who Should Attend

- Engineering professionals
- Technical personnel
- Information technologists
- Maintenance/supervisory managers
- Project team members in
 - Manufacturing
 - Process industries
 - Research & development
 - Utilities
 - Local authorities

The Program

INTRODUCTION TO PROJECT MANAGEMENT

FUNDAMENTALS OF PROJECT MANAGEMENT

- Overview of the project environment
- Project life cycle and phases
- Project organisations
- Project success
- Project definition
- Project planning

Case study - An exercise in developing a work breakdown structure

TIME MANAGEMENT

- The Precedence Method of schedule analysis
- Presentation of the schedules
- Resource analysis
- Monitoring and reporting achieved progress
- Selection of software

Case study - Application of the Precedence Method analysis technique

COST MANAGEMENT

- Cost estimating
- Budget presentation
- Financial control
- Change control
- Cost reporting
- Value management

Case study - Preparation of a project cost report with variance analysis

INTEGRATED TIME AND COST MANAGEMENT

- The Performance Measurement System (PMS) defined
- Determining cost and schedule variance
- Computer software PMS tools

Case study - An exercise in integrated time/cost analysis

CONSTRUCTION CONTRACTS

- Procurement strategies
- Responsibilities of the parties
- Tender and contract documentation
- Conditions of contract
- Contract disputes

MANAGEMENT OF THE PROJECT TEAM

- Management and leadership
- Organisation and project team cultures
- Motivation and employment
- Authority and power of the project manager
- Required attributes and essential functions

QUALITY MANAGEMENT

- Defining quality and quality management
- Quality systems
- ISO 9000
- Project quality assurance
- Preparation of ITFs

Case study - Preparation of inspection and test plans

RISK MANAGEMENT

- Risk management defined
- Risk identification
- Risk analysis
- Risk management responses

AN INTRODUCTION TO CONTRACT LAW

- The legal system
- Essential elements of contracts
- Factors destroying the legal force of contracts
- Termination of contracts
- Breach of contracts
- Time extensions and liquidated damages

Case study - Analysis of contractual situations

PROJECT PLANNING SESSION

Working in teams you will develop an outline project quality plan for a defined engineering scenario.

SUMMARY, OPEN FORUM AND CLOSING