



Management Courses for Engineers

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COEN-SA-03-01 COST CONTROL OF ENGINEERING PROJECTS

The main objective of this course is to familiarize engineers with the costing principles and techniques and how to detect the cost variances and investigate their causes.

Course Outline

- The concept of cost
- Principles of costing
- Cost estimation
- Cost scheduling
- Principles of cost control
- Investigating causes of cost variance
- Case studies

COEN-SA-03-09 SUCCESSFUL PROJECT MANAGER SKILLS

The course discusses the project manager's roles and responsibilities to both the organization and the Project team. It develop and enhances the valuable skills needed such as technical and administrative credibility, political sensitivity and in ability to get others to commit to the project .In addition to the leadership skills to handle the variety of project demands effectively.

Course Outline

- Criteria for project manager
- Project Manger rules and responsibilities
- Selection of project manager required skills
- Project manager and organization structure
- Project manager and time control
- Project manager and Cost Control
- Project manager and Quality Control
- Project manager and Resources Allocation
- Solving common problems for project manager



COEN-SA-05-02

MANAGERIAL AND LEADERSHIP DEVELOPMENT FOR ENGINEERS

Successful management of people and projects is both art and skill. This course focuses on upgrading and developing these managerial skills from communicating, planning techniques, controlling, decision making to managing organization change and career advancement.

Course Outline

- **Manager challenges: functions, roles and responsibilities**
- **Communication as a management tool**
- **Strategic Planning: quantitative and qualitative approaches**
- **Information technology and decision making system**
- **Styles of leadership**
- **Staffing and human resources management**
- **Control: preventive, feed - forward, and feed-back**
- **Organizational conflict and risk managing**
- **Managing organizational change**
- **Survival and advancement**
- **Case studies**

COEN-SA-05-03

QUALITY MANAGEMENT

Any manufacturing process would possess in hereunto introduces variable which affect the quality of the end product. The sources of such variability could be the design material, the manufacturing resources, maintenance condition. This courses an understanding of how to get a system to produce the required product quality.

Course Outline

- **Scope of quality control**
- **Design of a total quality management system**
- **Product quality from designer to customer**
- **Quality assurance through design, production control and manufacturing**
- **Quality circles and human factors**
- **Organization for quality**
- **Setting standards and specifications**
- **Case studies**



COEN-SA-05-05

**HEALTH-SAFETY-ENVIRONMENT (HSE) MANAGEMENT
FOR ENGINEERS**

This course is designed to safety & maintenance engineers, project engineers and other practitioners concerned with safety and risk assessment in government, industrial and services sectors. The course qualify the engineers to know about safety management & risk assessment and how to enhance his managerial career. The participants will train on how to use and apply these techniques in practice. Also will help the participants to enhance the experience by discussing some real problems and how to deal with them.

Course Outline

- **Importance of industrial safety & risk assessment**
- **HSE management & Risk assessment**
- **Hazard classification and hazard control & Job Hazard analysis**
- **Global performance evaluation**
- **Risk based inspection (RBI) & Reliability catered maintenance overview (RCM)**
- **International standards overview (ISO 14001 & OHSIS 18001)**
- **Videos and case studies.**

COEN-SA-05-07

PROJECT FEASIBILITY STUDY

This course aims to define concepts, methods and indicators of feasibility study and to develop the participant's capabilities in feasibility study in different areas. By end of this course the participant should be able to raise their skills in market analysis, technical analysis and economical analysis this course is to the project managers and senior staff members in public and private sector companies

Course Outline

- **Feasibility study overview**
- **Feasibility study elements & cycle**
- **Market feasibility study**
- **Technical feasibility study**
- **Economic feasibility study**
- **Total project management**
- **PMBOK and ISO 10006**
- **Case studies**



Risk and uncertainty are fundamental elements of modern life which must be managed effectively to protect people from injury and to permit the development of reliable, high - quality products. systems involve the assessment and management of some aspects of risk. This course will address the risk assessment / management process, which comprises both quantitative / empirical and qualitative / normative analyses

Course Outline

- Risk identification
- Risk quantification
- Risk evaluation
- Risk acceptance or aversion
- Risk control / management

The course satisfies the engineer needs to know about business management and how to enhance his managerial career by learning how to: 1. Develop effective and comprehensive marketing plan, 2. Understand ethics topics and their impact on the business, 3. Understand accounting rules and methods, 4. Manage and improve working environment for workers, and 5. Use quantitative techniques to evaluate projects.

Course Outline

- **Marketing:** marketing strategy development, Buying process, Segmentation, Product life cycle, Margins Marketing mix
- **Ethics:** Relativism, Stakeholder analysis, Layoffs, Bribery, insider trading, antitrust action, pollution
- **Accounting:** Accounting rules, Accounting Concepts, Balance sheet, Income statements, Cash flow statements, Ratio analysis, Managerial accounting
- **Organizational Behavior:** Psychology lesson, Motivation, Leadership, Creativity, Power, Problem solving model, On-the-job office procedure,



The organizational model and structure, System theory, organizational evolution and revolution,

- Quantitative Analysis: Decision tree analysis, Cash flow analysis, Net present value, Probability theory, Regression analysis and forecasting.

COEN-SA-05-10

BUSINESS MANAGEMENT FOR ENGINEERS (PART 2)

The course offers what every engineer needs to know about business management and how to enhance his managerial career by learning how to: 1. Formulate corporate strategies, 2. Compute the internal rate of return, 3. Value stock, bond, and option investments, 4. Perform a Wall Street leveraged buyout analysis, 5. Obtain information on competitors.

prerequisite: BUSINESS MANAGEMENT FOR ENGINEERS (PART 1) Course Outline

- Finance: Business structures, Beta risk, Efficient frontier, Capital asset pricing model, Efficient market hypothesis, Investment valuation, Discounted cash flow, Dividend growth model, Capital budgeting and structure
- Operations: The history of operation research, Problem solving framework, Flow diagram, Linear programming, Gantt chart, Critical path method, Inventories
- Economic order quantities, Material requirements planning, Quality, Information technology
- Economics: Supply and demand, Microeconomics, Opportunity costs, Marginal utility, Elasticity, Market structures, Macroeconomics, Keynesian and Monetarist theory, Gross national product accounting, International economics
- Strategy: The value chain, Integration and expansion strategies, Industry analysis, Competitive strategies, Signaling, Portfolio strategies, Globalization



COEN-SA-05-13

TOTAL PROJECT MANAGEMENT (LEVE I)

To provide the participants with the modern concepts and technique in projects planning and control. To train the participants on how to use and apply these techniques in practice. To enhance the participants experience by discussing some planning and control problems and how to deal with them.

Course Outline

- Modern Project Management (MPM)
- Project Management Information System (PMIS)
- Project Management Body of Knowledge (PMBOK)
- Total Project Management (TPM)
- Project Portfolio Management (PPM)
- ISO 1 006: Quality Management in Projects
- Computer applications in project planning and control
- Practical cases.

COEN-SA-05-14

STATISTICS FOR TOTAL QUALITY MANAGEMENT
(STATISTICAL TECHNIQUES FOR DECISION MAKING AND
QUALITY IMPROVEMENT)

To gain deep understanding of the role of statistical methods in the effective application of total quality management. To deliver practical training on how to use statistical tools for quality control and for quality improvement to reduce waste ,improve productivity and enhance customer satisfaction.

Course Outline

- Quality definition and development.
- Quality improvement cycle (PDCA)
- Basic statistics and probability concepts for quality applications.
- The role of Statistics in Problem solving and Decision Making
- Quality improvement tools (Process flow chart Cause and effect diagram Data collection and stratification . Pareto analysis . Histograms . Scatter diagrams . Control Chart (Variable Charts and Attribute Charts)
- Inspection sampling techniques
- Case studies and practical examples



COEN-SA-05-16

GLOBAL MAINTENANCE MANAGEMENT: (LEVEL I) "Traditional Maintenance Management"

To provide the participants with the modern concepts and techniques in maintenance planning and control. To train the participants on how to use and apply these techniques in practice. To enhance the participants experience by discussing some maintenance management problems and how to deal with them.

Course Outline

- Machine Failure Analysis.
- Maintenance Management Overview
- Preventive Maintenance Management
- Maintenance Control.
- Computer Applications.
- PM Case Studies

COEN-SA-05-21

TOTAL PROJECT MANAGEMENT (Level II)

This course is designed to define concepts, methods and indicators of total project management, to develop the participant's capabilities in total project management in different areas. Also to raise the skills of participants in planning, implementing and improvement programs. This course is for project managers and senior staff members in public and private sector companies.

Course Outline

- Strategic project management (SPM)
- Project management information systems (PMIS)
- Total project control
- Project management body of knowledge (PMBOK)
- Quality assurance standard for PM (ISO 100006)
- Case studies (real projects).