Tel No:+97126654546 | Fax No:+97126654182 | Email: training@cmc-me.com | www.cmc-me.com

PE123:
Principles of Operations Planning

Training Description:

This intensive course is designed to provide participants with a complete and up-to-date overview of the principles of operations planning. It covers the concepts of operational profitability including gross plant margin, net plant margin and contribution margin; the process plant configuration covering reactors, separators, product handling system, QA/QC system, feedstock and packing/packaging; the planning objectives that includes production plans, selecting feedstock, feasibility, optimality, optimal product mix, marginal economics, investment opportunities and planning versus scheduling; the various planning tools; the blending methods and process models; and the modeling tools covering simple stock balances (spreadsheet), linear programming (LP's), non-linear programming (NLP's), distributed error recursion and integer programming.

Further, the training course will also cover the various model types pertaining to mixing, multi-product and distribution, single product and time period; the product qualities; the product pricing; the practical plant modeling; the market dynamics covering the supply and demand vise as well as global versus local markets; managing risk using term contracts, hedging and risk versus reward; and the performance measures for benchmark margin analysis, model validation and back-casting.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Apply and gain a comprehensive knowledge on the principles of operations planning
- ✓ Discuss the concepts of operational profitability covering gross plant margin, net plant margin and contribution margin
- ✓ Carryout process plant configuration comprising of reactors, separators, product handling system, QA/QC system, feedstock and packing/packaging
- ✓ Identify and carryout planning objectives including production plans, selecting feedstock, feasibility, optimality, optimal product mix, marginal economics, investment opportunities and planning versus scheduling
- ✓ List the various planning tools, employ mixing methods and illustrate process models
- ✓ Enumerate modeling tools covering simple stock balances (spreadsheet), linear programming (LP's), non-linear programming (NLP's), distributed error recursion and integer programming
- ✓ Identify the various model types pertaining to mixing, multi-product and distribution, single product and time period
- ✓ Describe product qualities and pricing
- ✓ Illustrate practical plant modeling that includes simple LP construction, pooling problem, delta-base modeling, convexity constraints, marginal values or shadow prices, product ranking and evaluation as well as weight and volume basis
- ✓ Recognize market dynamics covering the supply and demand vise as well as global versus local markets
- ✓ Manage risk using term contracts, hedging and risk versus reward
- ✓ Employ performance measures covering benchmark margin analysis, model validation and back-casting

Tel No:+97126654546 | Fax No:+97126654182 | Email: training@cmc-me.com | www.cmc-me.com

Training Designed for:

This course is intended for planning engineers, process engineers, operations engineers, production engineers, scheduling engineers, marketing engineers and estimation engineers. Finance managers, commercial managers, estimation managers, section heads, supervisors and process plant consultants will gain an excellent knowledge from the operational aspects of this course.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- PRE-TEST
- Introduction
- Concepts of Operational Profitability
  - Gross Plant Margin
  - Net Plant Margin
  - Contribution Margin
- Process Plant Configuration
  - Reactors
  - Separators
  - Product Handling System
  - QA/QC System
  - Feedstock
  - Packing/Packaging

DAY TWO:

- Planning Objectives
  - Production Plans (Unit Operating Goals, Operations)
  - Feedstock Selection
  - Feasibility
  - Optimality (Minimum Cost, Maximum Profit)
  - Optimal Product Mix
  - Marginal Economics
  - Investment Opportunities
  - Planning versus Scheduling
- Planning Tools
  - Mixing Methods (Linear (Volume/Weight), Mixing Indices, Interaction Coefficients)
  - Process Models (Fixed Yield, Operational Modes, Simulation)

- Modeling Tools (Simple Stock Balances (Spreadsheet), Linear Programming (LP's), Feasibility, Linear Relationships, Non-Linear Programming (NLP's), Feasibility, Local Optima, Distributed Error Recursion & Integer Programming)

DAY THREE:

- ❖ Planning Tools
  - Model Types (Mixing, Single Product, Multi-Product and Distribution & Time Period)
- ❖ Product Qualities
  - Chemical Properties
  - Physical Properties
  - Product Specifications
  - Codes & Standards
  - Environmental Regulations
- ❖ Hands-on Practical Sessions
  - Practical sessions will be arranged for all participants throughout the course using MS Excel applications

DAY FOUR:

- ❖ Product Pricing
  - Pricing Basis (FOB, CIF & Import Parity)
- ❖ Practical Plant Modeling
  - Constructing a Simple LP
  - The Real World is Non-Linear (The Pooling Problem, Delta-Base Modeling & Convexity Constraints)
  - Marginal Values or Shadow Prices
  - Product Ranking & Evaluation
  - Weight versus Volume Basis
- ❖ Case Study

DAY FIVE:

- ❖ Market Dynamics
  - The Supply-Demand Vise
  - Global versus Local Markets
- ❖ Managing Risk
  - Term Contracts
  - Hedging (Futures & Arbitrage)
  - Risk versus Reward
- ❖ Performance Measures
  - Benchmark Margin Analysis
  - Model Validation
  - Back-Casting
  - "The Farmer & the Bale of Hay"
- ❖ Case Study
- ❖ Course Conclusion
- ❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:
Aisha Relativo - Training & Career Development Manager
aisha@cmc-me.com / training@cmc-me.com
Tel.: +971 2 665 3945 or +971 2 643 6653 | Mob.: +971 52 2954615