



# Certified Professional in Demand Forecasting Workshops

## CPDF<sup>®</sup> I (Basic Level - Forecasting Principles and Best Practices)

### Key Learning Objectives:

1. Establish a framework for demand forecasting in the supply chain
2. Introduce a four-step process for streamlining the forecasting cycle
3. Define, interpret, visualize major demand forecasting techniques.
4. Identify appropriate accuracy measures for evaluating demand forecasting methods and models.
5. Complement established approaches with non-traditional methods in forecasting model development and evaluation



Program is endorsed by  
the International Institute  
of Forecasters (IIF)  
[www.forecasters.org](http://www.forecasters.org).

# CPDF\_I Basic Level Program

## WHY STUDY WITH US?

1. International trainers
2. Trainers have long and global experience in demand management and forecasting.
3. High quality and excellent style of delivery with participative debate and discussion, case studies.
4. E-learning service through a unique Online Web Platform designed exclusively for CPDF Students.
5. 100% Student pass rate, endorsed by past and present students in the region.
6. Abilities to enhance local demand data with international experience and theories.
7. Interchange demand forecasting experience management with local culture and knowledge.



## Our Training Partner

Delphus Inc. ([www.delphus.com](http://www.delphus.com)) is a privately held corporation, headquartered in Morristown, New Jersey.

Established in 1987, the company has been dedicated to providing strategic market analyses, forecasting software tools and data mining solutions for sales and marketing managers, inventory and production planners in manufacturing, distribution, retail firms and hospital management operations. Delphus clients list contains names like: Kodak, Lucent Technologies, IBM, TAP Pharmaceutical, Pfizer, and more.

## Program Leader

**Dr. Hans Levenbach** is the founder and President of Delphus Inc., which specializes in predictive-analytic solutions for demand planning in supply chain organizations. He is also an elected Fellow, former President and Treasurer of the International Institute of Forecasters (IIF). He has been a member of the editorial board of Foresight Journal, the practitioner journal published by the IIF. He is also a member of APICS, INFORMS, American Statistical Association and an elected member of the International Statistics Institute.



Hans has been instrumental in designing the "Certified Professional iDemand Forecaster" (CPDF®) curriculum

[.www.cpdftraining.org/curriculum.htm](http://www.cpdftraining.org/curriculum.htm)

## Who Should Attend?

Demand Forecasters  
Supply Chain Managers  
Demand planners  
Supply planners  
Production Managers  
Operations Managers  
Financial analysts  
Market analysts  
Researchers

## What is The CPDF®?

This is a certification program for demand forecasters and planners working in supply chain industries. The International Institute of Forecasters (IIF), a thirty-four year-old non-profit membership organization whose purpose is to advance knowledge and research in forecasting, has endorsed it. The CPDF program is a 200 hours curriculum comprised of three modules, Basic, Master and Pro. Certification can be earned at each of the three levels. The CPDF qualification will address multidimensional job roles in demand forecasting such as data display and validation, database management, dashboard display, understanding quantitative and qualitative projection techniques, model creation and execution, forecast accuracy measurement, model and forecaster performance analysis, organization, and collaborative planning.

# CPDF\_I Basic Level: Hands-on workshop overview

## Day 1

### Part 0 - Pre-course Computer Workshop

#### Part I - Demand Forecasting in the Supply Chain

- ◇ What is demand forecasting?
- ◇ Demand Forecasting and the evolution of Supply Chain
- ◇ Who will use the forecast and what are their data needs?
- ◇ Forecasting as a structured process- The PEER Model

#### Workshop 1: Uncovering Drivers of Demand for New Product/ Services Forecasting

#### Part II - Framing the Demand Forecasting Job

- ◇ Data exploration- Learning from actual examples
- ◇ Judging the quality of data
- ◇ Handling unusual events and outliers
- ◇ What are forecasting models?- Quantitative vs. qualitative methods
- ◇ Evaluating forecasts and forecasting models
- ◇ Combining and reconciling the final forecast

#### Workshop 2: Exploring Trend and Seasonal Variation. Cases: Ice Cream and Tourism Industry

#### Part III - How To Use Components of a Time Series

- ◇ Moving averages for smoothing kinks out of data
- ◇ Finding the lift in promotions with moving medians
- ◇ Identifying day-of-week effects through ANOVA methods
- ◇ Creating additive and multiplicative seasonal factors
- ◇ Seasonal adjustment of time series

#### Workshop 3: Creating Projections with the RMA Decomposition Technique. Cases: Automobile and Energy Industry

#### Part IV - Forecasting with Exponential Smoothing Models

- ◇ Why use Naïve forecasting techniques?
- ◇ Types of smoothing weights
- ◇ Forecasting profiles for exponential smoothing
- ◇ Applying univariate time series techniques
- ◇ Handling special events with exponential smoothing models
- ◇ Scenario forecast
- ◇ Product lifecycle

#### Workshop 4: Forecasting with Short-term Forecasting Models : State Space Forecasting Applications

## Day 2

#### Part V - Measuring Forecast Accuracy

- ◇ Basis of accuracy measurement: Bias and Precision
- ◇ Forecasting accuracy vs. forecasting errors
- ◇ Goodness of fit versus forecast performance
- ◇ Cost of inaccurate forecasts
- ◇ Waterfall charts and accuracy measurement

#### Workshop 5: Root Cause Analysis and Exception Reporting. Case: Motorcycle Industry

#### Part VI - Tracking Tools

- ◇ Ladder chart for monitoring forecast model results
- ◇ Prediction-Realization Diagram and the business cycle
- ◇ Prediction intervals for time series forecasts
- ◇ Cumulative tracking signals- Trigg's tracking signal

#### Workshop 6: Creating a Time-Phased Order Forecast for Replenishment Planning

## CPDF Certification Curriculum Overview

Each Level of the CPDF program consists of both instructor-led workshop training hours, and independent hours to be accomplished through self-paced e-learning environment. The successful completion of each level will qualify participants to earn a certificate, CPDF levels & certificates are described below:

#### Level I : CPDF Principles and Best Practices - Certificate in Demand Forecasting Practice

90 Training Hours	15 hours hands-on workshop
	75 hours, 6 work sheets E-learning

#### Level II : CPDF Master - Certificate in Demand Forecasting Proficiency

60 Training Hours	15 hours hands-on workshop
	45 hours, 6 work sheets E-learning

#### Level III : CPDF Pro - Certificate in Demand Forecasting Professionalism

50 Training Hours	20 hours hands-on workshop
	30 hours, 6 work sheets E-learning

### Program Requirements:

- College degree or Job experience
- Reasonable experience in MS Excel
- Acceptable level of English language

### Program Assessment:

- Full attendance of hands-on workshops is required
- Successful submission of required worksheets through e-learning system
- CPDF is not a test-based program.

**It's a hand-on workshop. Please bring your own laptops to run the computer exercises!!**



#### Part VII - Practical Uses of the Forecast

- ◇ Marketing - Promotion planning
- ◇ Sales- Pricing: Elasticities
- ◇ Operations - Safety stock and inventory forecasting
- ◇ Finance - Rolling forecasts

#### Workshop 07: Simulated Forecasting Work Cycle. Case - Consumer Electronics Industry

#### Part VIII - Implementing a Forecasting Process

- ◇ Successful Implementation Strategies
- ◇ Integration with Supply Chain
- ◇ Sales and Operations Planning (S&OP)
- ◇ Best-in-breed demand management

Review and Open Questions