

CHARTERED 
INSTITUTE OF PROFESSIONAL CERTIFICATIONS

CERTIFIED PREDICTIVE ANALYTICS AND AI IN INVENTORY OPTIMIZATION, DEMAND PLANNING AND FORECASTING

**Fully Accredited
By:**

Chartered Institute of
Professional Certifications

CPD
Certification Service

PROGRAM OVERVIEW



Predictive Analytics and Artificial Intelligence (AI) have emerged as game-changers in the field of supply chain management, revolutionizing the way companies optimize their inventory, demand planning, and forecasting processes. As businesses continue to navigate the complexities of today's global supply chains, the need for skilled professionals who can harness the power of these cutting-edge technologies has never been greater.

This certified program is designed to empower you with an in-depth exploration of the applications of predictive analytics and AI in inventory optimization, demand planning, and forecasting. You will learn **advanced forecasting techniques, such as time series analysis, regression models, and neural networks, enabling you to generate accurate and reliable demand forecasts**. You will also learn how to incorporate external factors, such as market trends, economic indicators, and social media sentiment, into your forecasting models, providing a holistic view of future demand.

Through a combination of theoretical concepts and practical case studies, you will learn how to **leverage advanced algorithms, machine learning techniques, and statistical models to accurately predict demand, optimize inventory levels, and minimize costs**. You will discover how to integrate predictive analytics and AI into your existing supply chain processes, ensuring seamless implementation and maximum impact. Additionally, you will explore the **latest trends and best practices in inventory optimization, such as multi-echelon inventory systems, safety stock calculations, and replenishment strategies, empowering you to develop robust and resilient supply chains**. By mastering the art of demand planning and forecasting, you will be able to anticipate customer needs, reduce stockouts, and improve overall customer satisfaction.

Upon completing the program and passing the Chartered exam, you will attain the **Certified Predictive Analytics and AI for Inventory & Demand Planning** certification. This credential will validate your expertise and proficiency in **leveraging advanced analytics tools to optimize inventory management, enhance demand forecasting accuracy, and drive strategic decision-making**. This credential will set you apart as an expert in adopting AI and predictive models in developing a robust inventory management and expand your career opportunities within the industry.

ACCREDITATIONS



4.8



4.6



KEY SKILLS YOU WILL GAIN

From This Program



**DEMAND FORECASTING MODELS
ADVANCED TIME SERIES FORECASTING
CUSTOMER SEGMENTATION
PREDICTIVE ANALYTICS**

**INVENTORY OPTIMIZATION
SAFETY STOCK ANALYSIS
SUPPLY CHAIN ANALYTICS
ARIMA MODELS**

**RISK MITIGATION
MARKET BASKET ANALYSIS
CRISIS MANAGEMENT
CONTINGENCY PLANNING**

**OPTIMAL INVENTORY LEVELS CALCULATION
ACCURACY AND ERROR MEASUREMENT
REGRESSION ANALYSIS
DATA PRIVACY AND ETHICAL CONSIDERATIONS
DECISION TREES AND SCENARIO ANALYSIS**

**DATA VISUALIZATION
EXPONENTIAL SMOOTHING**

YOUR FACULTY DIRECTOR



Dr. Mark Rodgers

Award-Winning Supply Chain Management Professor
and Faculty Director

Dr. Mark Rodgers is an award-winning **Assistant Professor for the Supply Chain Management Department** of the Rutgers Business School and over 15 years of experience in leadership and advisory roles. With a focus on power grid expansion planning, simulation-based optimization, and quantitative methods to assess supply chain disruptions and risk, **Dr. Rodgers' research has been widely recognized and presented at numerous academic conferences.** His passion in supply chain and teaching has led him to be awarded several research and teaching awards that include Junior Faculty Teaching Award in addition to being awarded the NJ Small Business Development Center Grant and NJDEP Recycling Enhancement Grant.

OUR PARTICIPANTS

Over 70% of FORTUNE 500 Companies Have Attended Our Accredited Programs Before



Goldman Sachs



SAMSUNG



ExxonMobil



BURBERRY



citi



IKEA



VOLVO



HYUNDAI



Pfizer

Life is our life's work



Nestlé



PROGRAM AGENDA

MODULE 1 - FOUNDATIONS OF PREDICTIVE ANALYTICS IN SUPPLY CHAIN

- Overview - Foundations of Predictive Analytics in Supply Chain
- Understanding Predictive Analytics and its Role in Supply Chain
- Introduction to Data Analysis Using Excel
- Overview of Supply Chain Management Concepts

MODULE 2 - DATA MANAGEMENT IN EXCEL FOR SUPPLY CHAIN

- Overview - Data Management in Excel for Supply Chain
- Excel Strategies for Collecting, Cleaning, and Analyzing Supply Chain Data
- Basics of Data Visualization in Excel
- Data Visualization in Excel (contd.)

MODULE 3 - EXCEL-BASED DEMAND FORECASTING

- Overview - Excel-Based Demand Forecasting
- Naive Methods & Moving Averages
- Exponential Smoothing
- Trend Adjustments
- Holt's Exponential Smoothing
- Winter's Exponential Smoothing
- Forecast Errors

MODULE 4 - INVENTORY OPTIMIZATION STRATEGIES IN EXCEL

- Overview - Inventory Optimization Strategies in Excel
- Inventory Management
- Single Period & Multi Period Inventory Models
- Fixed Order Quantity Model
- Safety Stocks
- Applying Excel Techniques to Calculate Optimal Inventory Levels
- Case Study

MODULE 5 - AI AND MACHINE LEARNING FOR SUPPLY CHAIN IN EXCEL

- Overview - AI and Machine Learning for Supply Chain in Excel
- Empowering Excel with AI: From Basics to Advanced Applications and Limitations
- Implementing Regression Analysis and Classification in Excel
- Understanding the Potential and Limitations of AI in Excel
- Potential and Limitations of AI in Excel (contd.)



PROGRAM AGENDA

MODULE 6 - ADVANCED FORECASTING TECHNIQUES IN EXCEL

- Overview - Advanced Forecasting Techniques in Excel
- Advanced Time Series Forecasting Methods in Excel
- Using ARIMA Models in Excel
- Seasonal Adjustments in Forecasting
- Case Study

MODULE 7 - ETHICS AND COMPLIANCE IN DATA ANALYTICS

- Overview - Ethics and Compliance in Data Analytics
- Data Privacy and Ethical Considerations
- Ethical Data Analytics: Navigating Compliance and Decision-Making

MODULE 8 - CUSTOMER SEGMENTATION IN EXCEL

- Overview - Customer Segmentation in Excel
- Techniques for Customer Segmentation Using Excel
- Analyzing Customer Data for Market Segmentation
- Application of Market Basket Analysis

MODULE 9 - BUILDING RESILIENCE IN SUPPLY CHAINS

- Overview - Building Resilience in Supply Chains
- Strategies for Supply Chain Resilience
- Ensuring Supply Chain Resilience in Globalized Economy

MODULE 10 - STRATEGIC DECISION-MAKING WITH PREDICTIVE ANALYTICS

- Overview - Strategic Decision-Making with Predictive Analytics
- Integrating Analytics into Business Strategy
- Analyzing Data for Effective Decision-Making
- Aligning Predictive Analytics with Business Goals

EXAMINATION

YOUR CHARTER DESIGNATION



Chartered Institute of Professional Certifications' programs are unique as they provide you with professional charter designations and marks that can be used across your lifetime once you have completed our programs.

Upon completion of the program and successfully passing the Chartered exam, you will be awarded the prestigious **Certified Predictive Analytics and AI for Inventory & Demand Planning** designation. Developed by the esteemed **Chartered Institute of Professional Certifications**, a leading authority in professional certifications, this industry-recognized certification distinguishes your profound expertise in integrating predictive analytics and AI models to enhance your inventory management, demand planning and forecasting framework. The program's content has been independently accredited and certified by **CPD**, ensuring that it meets the highest standards in continuing professional development. This distinguished designation will not only elevate your credibility but also enhance your marketability to potential employers or clients, making you stand out as a highly skilled and knowledgeable expert in the field of supply chain and inventory management.

ABOUT US

49,525

Business Leaders Have
Attained Their Chartered
Certifications Since 2009

390

Certified and Fully
Accredited Programs

87%

Chartered Leaders Have
Reported Career Promotions
and Enhancements

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CONTACT US TODAY

We Thank You for Your Ongoing Support
of Our Programs

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