KOENIG SOLUTIONS · COURSE OUTLINE

Supply Chain Analytics: Python, Pandas & PyCaret

Learn to analyse, visualise and optimise supply chain data using Python, Pandas and PyCaret, from data cleaning to forecasting and simulation.

5 Days	8	19
DURATION	MODULES	TOPICS

COURSE OVERVIEW

This course covers the use of Python for supply chain analytics, starting with programming fundamentals, data structures and control flows relevant to supply chain data. It then addresses importing, cleaning and manipulating supply chain data, including time-series handling, followed by descriptive statistics, probabilistic analysis and visualisation with matplotlib and seaborn. Further modules cover segmentation, time-series forecasting, linear programming for optimisation, inventory management under uncertainty, and multi-product markdown strategies. The course concludes with consumer behaviour and pricing analysis, RFM segmentation, machine learning with Pandas and PyCaret, and supply chain simulation and scenario analysis.

WHO THIS COURSE IS FOR

- **Supply Chain Analysts**
- **Data Analysts**
- **Inventory Managers**
- **Operations Planners**
- **Pricing Analysts**

TOOLS AND REQUIREMENTS

Software Requirements

- Excel
- Anaconda
- Spyder

LEARNING OBJECTIVES

- Explain the role of Python in supply chain analytics
- Apply Python programming fundamentals to supply chain data
- Manipulate and clean supply chain data, including time-series
- Analyse descriptive statistics and probability in supply chains
- Visualise supply chain insights using matplotlib and seaborn
- Develop time-series forecasting and segmentation models
- Apply linear programming to supply chain optimisation problems
- Assess consumer behaviour, pricing strategies and RFM segmentation

COURSE SYLLABUS

8 Modules, 19 Topics

01

Introduction to Supply Chain Analytics and Python

TOPICS

- Overview of supply chain analytics
- Introduction to Python in the context of supply chain management

02

Python Programming for Supply Chain

TOPICS

- Python programming fundamentals
- Data structures, control flows, and functions relevant to supply chain data

03

Data Management in Supply Chain Using Python

TOPICS

- Importing, cleaning, and manipulating supply chain data
- Working with dates and handling time-series data

04

Data Visualization for Supply Chain Using Python

TOPICS

- Descriptive statistics and probabilistic analysis in supply chain
- Visualization with matplotlib and seaborn for supply chain insights

05

Advanced Supply Chain Analytics Using Python

TOPICS

- Segmentation and forecasting basics in supply chain
- Time-series modeling and forecasting segmentation

06

Inventory Management and Optimization Using Python

TOPICS

- Linear programming for supply chain optimization
- Inventory management with uncertainty and seasonal variations
- Multi-product optimization and markdown strategies

07

Consumer Behavior, Pricing, and Machine Learning

TOPICS

- Analyzing consumer behavior and pricing strategies (Logit price response function)
- RFM analysis for customer segmentation
- Introduction to machine learning in supply chain
- Forecasting-OTB-AutoML problem solving with Pandas and PyCaret

08

Simulation and Scenario Analysis

TOPICS

- Supply chain simulations for decision-making
- Inventory and demand simulations under different scenarios

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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