



Python For Data Analytics

Skillkoder is an AI-driven skilling platform designed to make high-quality learning affordable and accessible to everyone, everywhere.



20 hours



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Data Analyst Course

Power BI for Data Analysis

Module 1: Power BI Course

- Introduction to Power BI and its importance in analytics.
- Understanding the Power BI interface and components.
- Setting up data sources and initial dashboard creation.
- Overview of Power BI architecture and workflow.

Module 2: Power BI Ecosystem & Report Design

- Exploring the Power BI ecosystem: Desktop, Service, and Mobile.
- Designing effective and professional reports.
- Understanding visuals, themes, and templates.
- Report formatting for storytelling and insights.

Module 3: Visual Interaction, Grouping & Hierarchies

- Customizing visual interactions for better insights.
- Creating visual hierarchies and drill-down functionality.
- Grouping and binning data in visuals.
- Enhancing report usability with bookmarks and slicers.

Module 4: Data Transformation with Power Query

- Understanding Power Query Editor and M language basics.
- Cleaning and reshaping raw data.
- Performing joins, merges, and appends.
- Building automated transformation workflows.

Module 5: Power BI Service & Cloud Features

- Publishing reports to Power BI Service.
- Managing datasets and scheduled refreshes.
- Sharing and collaborating through workspaces.
- Exploring cloud-based analytics and security settings.

Module 6: Data Analysis Expressions (DAX) & Data Modeling

- Introduction to DAX syntax and logic.
- Calculated columns, measures, and tables.
- Creating relationships and building data models.
- Using time intelligence functions for analytics.

Module 7: Power BI Administration & Security

- Understanding Power BI governance and roles.
- Managing permissions and data access.
- Performance optimization and monitoring usage.
- Implementing best practices for Power BI security.

Python for Data Analysis

Module 1: Introduction to Python

- Overview of Python and its applications in analytics.
- Installing Python and setting up Jupyter environment.
- Writing and executing simple Python programs.
- Understanding variables, data types, and operators.

Module 2: Core Python Concepts

- Working with strings, lists, tuples, and dictionaries.
- Conditional statements and loops.
- Functions, arguments, and scope.
- File handling and exception management.

Module 3: Essential Libraries for Data Science

- Introduction to NumPy and Pandas.
- Using Matplotlib and Seaborn for visualization.
- Understanding data structures in NumPy arrays.
- Importing and analyzing datasets efficiently.

Module 4: Data Handling & Preprocessing

- Cleaning and formatting data.
- Handling missing and duplicate values.
- Merging, joining, and aggregating data.
- Preparing datasets for analytics and visualization.

SQL for Data Analysis

Module 1: Introduction to SQL

- Understanding relational databases and SQL syntax.
- Creating, reading, updating, and deleting records (CRUD).
- Filtering data using WHERE, LIKE, and BETWEEN.
- Sorting and limiting query results.

Module 2: Working with Multiple Tables

- Performing INNER, LEFT, RIGHT, and FULL joins.
- Using subqueries and nested queries.
- Understanding primary and foreign keys.
- Creating relationships between tables.

Module 3: Probability for Data Analysis

- Basics of probability and statistical relevance.
- Applying probability to real-world datasets.
- Understanding random variables and distributions.
- Calculating mean, median, mode, and variance.

Module 4: Inferential Statistics for Decision Making

- Sampling and hypothesis testing.
- Understanding confidence intervals.
- t-tests, chi-square, and ANOVA analysis.

- Making business decisions with data evidence.

Module 5: Exploratory Data Analysis (EDA) for Better Insights

- Understanding the purpose of EDA.
- Generating summary statistics using SQL and Python.
- Identifying patterns and anomalies in datasets.
- Data visualization for exploratory insights.

Module 6: Statistical Methods for Data Modeling

- Correlation and regression techniques.
- Building linear models for data prediction.
- Understanding multicollinearity and residuals.
- Interpreting model outputs for decision making.

Machine Learning for Data Analysis

Module 1: Introduction to Machine Learning

- Understanding machine learning and its importance in analytics.
- Types of ML: Supervised vs. Unsupervised learning.
- Workflow of a machine learning project.
- Data preparation and feature understanding.

Module 2: Supervised Learning

- Linear and logistic regression models.
- Decision trees and random forests.
- Model training, testing, and validation.
- Case study: Predicting business metrics.

Module 3: Unsupervised Learning

- Clustering methods: K-Means and Hierarchical clustering.
- Dimensionality reduction using PCA.
- Anomaly detection techniques.
- Case study: Customer segmentation analysis.

Module 4: Model Evaluation & Optimization

- Performance metrics: accuracy, precision, recall, F1-score.
- Cross-validation and hyperparameter tuning.
- Avoiding overfitting and underfitting.
- Model deployment best practices.

Module 5: Feature Engineering

- Importance of feature selection and transformation.
- Encoding categorical and text data.
- Normalization and scaling techniques.
- Building improved models through engineered features.

Tools & Platforms



An interactive coding environment for writing, testing, and visualizing Python code, commonly used for data analysis.



A professional-grade Python IDE with robust debugging, testing, and package management features for data analytics projects.



A lightweight, extensible code editor with Python and FastAPI support.



A cloud-based Jupyter Notebook for Python with free GPU/TPU support for ML projects.



A fundamental Python library for numerical computations, supporting large arrays, matrices, and mathematical functions.



A data manipulation and analysis library for working with structured data, including DataFrames and Series.



A Python framework for building interactive web-based dashboards with live data visualizations.



An AI-enhanced code editor built on VS Code, offering smart completions and debugging



AI-powered tools and APIs for coding, automation, and natural language processing.



Google's AI model for assisting in code generation, debugging, and research.



Get **Skilled** to Reach Your Goal

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