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Al 360 Course Design - Data Science

Course Title: Data Science PowerTrack

Duration: 120 Hours (12 Weeks x 10 Hours per Week)

Format: Hybrid (Online) + Project-driven Labs + Hands-on projects

Target Audience: College Students, Working Professionals, Career Switchers

Prerequisites: Basic math and logic; no prior coding experience required

Course Fee: ₹80,000 (includes all modules, mentoring, certification, and project

review)

Course Overview:

This comprehensive 120-hour Data Science PowerTrack takes learners from beginner-level foundations to advanced Al-driven decision-making. The course includes real-world case studies, capstone projects, and global free certifications from Microsoft and Google to build credibility and job readiness.

Module Breakdown (Week-wise)

Week 1-2: Python for Data Science & Data Handling

- Core Python Programming + Libraries (NumPy, Pandas, Matplotlib)
- Data types, file operations, functions, data visualization
- Jupyter Notebooks, GitHub basics
- Mini Project: Exploratory Data Analysis (EDA) on COVID/Netflix dataset

Week 3-4: Statistics, Probability & Data Wrangling

- Descriptive & Inferential Statistics
- Probability distributions, central tendency
- Hypothesis Testing, Correlation, Sampling
- Hands-on: Real-world survey & dataset cleaning exercises

Week 5-6: Machine Learning Algorithms (Supervised & Unsupervised)

- Regression, Classification, Clustering, Dimensionality Reduction
- Model evaluation metrics (accuracy, precision, recall, AUC)
- Tools: Scikit-learn, MLflow, joblib
- Mini Project: Credit Risk Prediction / Customer Segmentation

Week 7-8: Advanced ML, Time Series & NLP

- Ensemble Models (Random Forest, XGBoost, AdaBoost)
- Feature Engineering + Hyperparameter Tuning
- Time Series Forecasting with ARIMA, Prophet
- Introduction to NLP (TF-IDF, NER, Sentiment Analysis)
- Mini Project: Product Review Classifier

Week 9: Big Data & Cloud Tools

- Hadoop, Spark, and PySpark Introduction
- BigQuery Basics
- Cloud Platforms: Google Cloud, Azure ML Studio
- Project: Build and query large datasets using BigQuery

Week 10: Data Visualization & BI Tools

- Tableau, Power BI Looker hands-on
- Data Storytelling Techniques
- Creating dashboards, filters, drilldowns
- Mini Project: Business KPI Dashboard (Finance/Retail domain)

Week 11: Capstone Project Week

- Choose from 3 themes: Healthcare Analytics, E-Commerce Trends, Al in Education
- Mentored project building (Python + SQL + Visualization)
- Final Review & Peer Evaluation

Week 12: Certification, Resume Building & Interview Prep

- Build a professional LinkedIn + GitHub presence
- Resume, mock interviews, and use case presentations
- Global Free Certifications:
 - o Google: Data Analytics Professional Certificate
 - Microsoft: Azure Data Fundamentals (DP-900)
 - Google Cloud Skill Badges
- Graduation Day + Certificate from Al 360 + Placement Support

Tools & Platforms

- Python, Pandas, NumPy, Scikit-learn, Spark, BigQuery
- Power BI, Tableau, SQL, Matplotlib, Seaborn
- Jupyter Notebooks, VS Code, GitHub
- Google Cloud Platform, Microsoft Azure

Certifications Included (Free or Assisted)

- Google Data Analytics Certificate (via Coursera free access via Al 360 partnership)
- Microsoft Azure DP-900 Certification (voucher supported)
- Google Cloud Skill Badges (BigQuery, ML APIs)
- Al 360 Verified Certificate (Downloadable + Shareable)

Why Choose This Course

- Covers full data science lifecycle: from raw data to insights
- ✓ Includes AI, Big Data, BI, and Cloud elements
- ✓ Built-in support for real-world projects and certification
- ✓ Tailored for both job seekers and professionals in upskilling mode