

3-MONTH ONLINE COURSE

Data Analytics: From Foundations to Job-Ready

A practical, industry-aligned 12-week program designed for early professionals, graduate students, and career-transitioners ready to break into the world of data analytics. This course bridges the gap between theory and real-world application — building skills that employers actually hire for.

Foundation Phase Weeks 1–4	Intermediate Phase Weeks 5–8	Advanced & Application Weeks 9–12
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WHY THIS COURSE MATTERS

Data Analytics Is the Skill of the Decade

The Market Reality

Data analytics roles are among the fastest-growing in every major industry. Organizations of every size are drowning in data but starving for insight. Professionals who can collect, clean, analyze, and communicate data findings are commanding premium salaries and accelerated career growth.

- Data Analyst roles projected to grow **23% by 2031** (U.S. Bureau of Labor Statistics)
- Average starting salary: **\$65,000–\$85,000** for entry-level analysts
- In-demand across finance, healthcare, tech, retail, and logistics

What This Course Delivers

- A structured, **week-by-week learning path** with clear outcomes
- Hands-on experience with **industry-standard tools** like SQL, Python, and Tableau
- Real-world case studies and **portfolio-ready projects**
- Live mentoring and **career alignment support**

PROGRAM OVERVIEW

Course Format & Weekly Structure

Every week follows a consistent, learner-friendly rhythm that balances self-paced concept learning with live mentoring for accountability and depth.



Recorded Weekend Session

2–3 hours of concept-focused, pre-recorded content covering that week's core topics, tools, and walkthroughs. Watch at your own pace, pause and replay anytime.



Live Mentoring Session

A 60–90 minute weekend live session for doubt clearing, case discussions, code reviews, and personalized feedback. Available in 1:1 or small-group format.



Weekly Assignment

Each week closes with a practical exercise or mini-project tied directly to that week's learning objectives — building toward a final capstone portfolio.



Content Mix

70–80% core concepts and fundamentals, 10–15% industry use cases and real-world applications, with consistent emphasis on tools, workflows, and implementation.

 PHASE 1

Foundation Phase — Weeks 1–4

Build the essential analytical mindset and technical groundwork. No prior experience required — just curiosity and commitment.

1

Week 1 — Introduction to Data Analytics

- What is data analytics and why it matters
- Types of analytics: descriptive, diagnostic, predictive, prescriptive
- The data analyst's role in an organization
- Overview of the analytics workflow
- Introduction to the data ecosystem (databases, warehouses, lakes)
- Setting up your analytics environment (tools overview)

2

Week 2 — Data Collection & Data Types

- Primary vs. secondary data sources
- Structured, semi-structured, and unstructured data
- Introduction to databases and spreadsheets
- Data collection methods: surveys, APIs, web scraping basics
- Data storage formats: CSV, JSON, Excel
- Ethics in data collection and data privacy fundamentals

3

Week 3 — Data Cleaning & Preprocessing

- Why data quality matters: the "garbage in, garbage out" principle
- Identifying and handling missing values
- Detecting and removing duplicates and outliers
- Data type conversion and normalization
- Using Excel and Python (Pandas) for data cleaning
- Mini project: clean a real-world messy dataset

4

Week 4 — Excel & Spreadsheet Mastery

- Advanced Excel functions: VLOOKUP, INDEX-MATCH, SUMIF
- Pivot Tables and Pivot Charts for summarizing data
- Conditional formatting and data validation
- Building dynamic dashboards in Excel
- Introduction to Google Sheets for collaboration
- Assignment: Build an Excel dashboard from a sample business dataset

Intermediate Phase — Weeks 5–8

Develop technical fluency in SQL and Python, and learn to visualize and communicate data stories with confidence.

1

Week 5 — SQL for Data Analysis

- Introduction to relational databases and SQL syntax
- SELECT, WHERE, GROUP BY, ORDER BY, HAVING clauses
- JOINS: INNER, LEFT, RIGHT, FULL OUTER
- Subqueries and Common Table Expressions (CTEs)
- Window functions: RANK, ROW_NUMBER, LAG, LEAD
- Assignment: Answer 10 business questions using SQL on a real dataset

2

Week 6 — Python for Data Analysis

- Python fundamentals for analysts: variables, loops, functions
- Working with Pandas: DataFrames, Series, indexing
- Data manipulation: merge, groupby, apply, pivot_table
- Exploratory Data Analysis (EDA) workflow
- NumPy for numerical operations
- Assignment: Perform EDA on a public dataset (Kaggle or government data)

3

Week 7 — Data Visualization

- Principles of effective data visualization
- Chart selection: when to use bar, line, scatter, heatmap, etc.
- Matplotlib and Seaborn in Python
- Introduction to Tableau: connecting data, building views
- Building an interactive Tableau dashboard
- Storytelling with data: structure a data narrative for stakeholders

4

Week 8 — Statistics for Analysts

- Descriptive statistics: mean, median, mode, variance, standard deviation
- Probability basics and distributions (normal, binomial)
- Hypothesis testing: t-tests, chi-square tests
- Correlation vs. causation — a critical thinking framework
- Confidence intervals and p-values explained plainly
- Assignment: Run a statistical analysis and write a 1-page interpretation report

 PHASE 3

Advanced & Application Phase — Weeks 9–12

Apply everything you've learned to real-world problems, build your portfolio, and prepare to step into a professional analytics role.

1

Week 9 — Intro to Machine Learning for Analysts

- Machine learning vs. traditional analytics: where analysts fit in
- Supervised vs. unsupervised learning — practical overview
- Linear regression and logistic regression for prediction
- Decision trees and random forests: concept and application
- Using Scikit-learn for model building and evaluation
- Assignment: Build a predictive model on a business dataset

2

Week 10 — Business Intelligence & Reporting

- BI tools landscape: Tableau, Power BI, Looker, Google Data Studio
- Deep dive: Power BI — data modeling, DAX basics, report design
- KPI frameworks and metric design for business reporting
- Building executive-level dashboards that drive decisions
- Scheduling, sharing, and automating reports
- Assignment: Build a Power BI report from a business scenario brief

3

Week 11 — Cloud & Big Data Fundamentals

- Cloud platforms for analytics: AWS, GCP, Azure — key services
- Introduction to Google BigQuery: querying large datasets
- Big data concepts: Hadoop, Spark (conceptual overview)
- Data pipelines and ETL/ELT workflows
- Version control with Git for analytics projects
- Assignment: Run queries on a BigQuery public dataset and interpret results

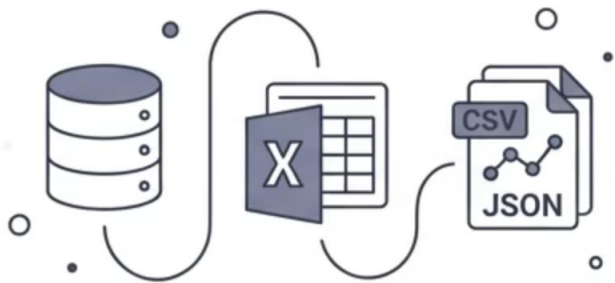
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Week 12 — Capstone Project & Career Prep

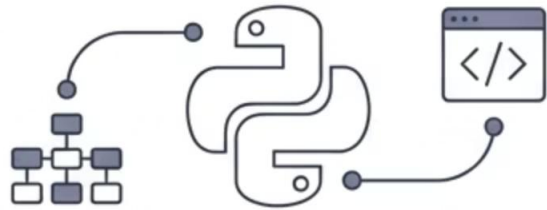
- End-to-end capstone project: define → collect → clean → analyze → visualize → present
- Building your analytics portfolio on GitHub
- Resume and LinkedIn optimization for analytics roles
- Interview prep: SQL challenges, case studies, behavioral questions
- Presentation of capstone to mentor panel (live demo)
- Final outcome: job-ready analyst with a complete portfolio

Your Analytics Toolkit

This course introduces and builds proficiency across the tools that appear most frequently in real job descriptions. By graduation, you'll have hands-on experience with each layer of the modern analytics stack.



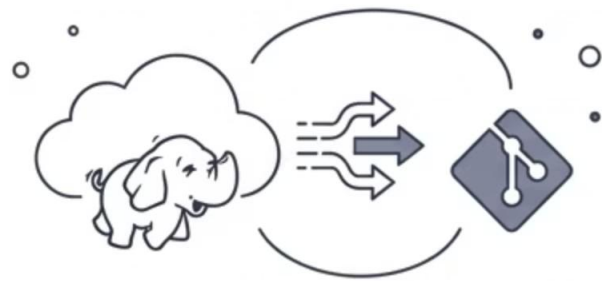
Data & Storage
(SQL, Excel, Google Sheets, CSV/JSON)



Programming
(Python with Pandas, NumPy, Scikit-learn)



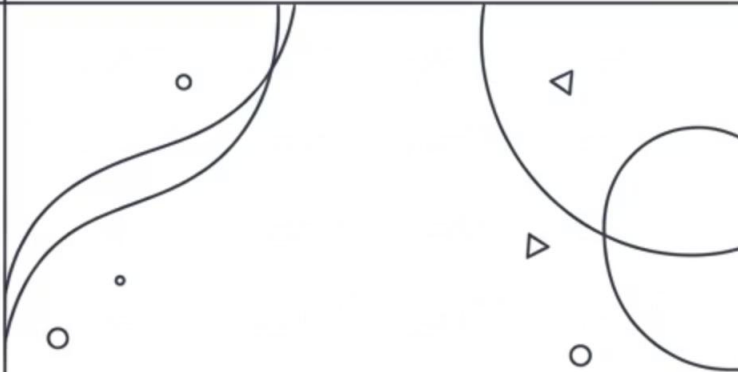
Visualization
(Tableau, Power BI, Matplotlib, Seaborn)



Cloud & Big Data
(Google BigQuery, AWS basics, Git/GitHub)



Collaboration & Productivity
(Jupyter Notebooks, Google Colab, Notion, Slack)



(Examples for analytics workflow)

Retail Analytics: Reducing Stockouts at Scale

The Business Problem

A national retail chain was experiencing frequent stockouts of high-demand items during peak seasons, causing an estimated **\$4M in lost annual revenue**. Store managers were ordering inventory based on gut feel, with no systematic demand forecasting in place.

How Analytics Was Applied

The analytics team pulled two years of POS transaction data, seasonal trends, and external factors (holidays, local events) into a demand forecasting model built with Python and SQL. Tableau dashboards were deployed to store managers for weekly inventory decisions.

Tools Used

- **SQL** — Extracting and joining sales + inventory data
- **Python (Pandas, Scikit-learn)** — Building the forecasting model
- **Tableau** — Stakeholder-facing dashboards
- **Excel** — Initial exploratory analysis

Measurable Impact

- Stockout incidents reduced by **38%** within two quarters
- Inventory holding costs reduced by **12%**
- Revenue recovery estimated at **\$1.5M in Year 1**

Role of Early Professionals

Junior analysts owned the data extraction scripts, cleaned the raw POS data, built initial visualizations, and prepared the presentation deck for the supply chain leadership team.

INDUSTRY EXAMPLE 2

Healthcare Analytics: Reducing Patient Readmissions

The Business Problem

A regional hospital network faced high 30-day patient readmission rates — a key quality metric that also triggers financial penalties under CMS regulations. The clinical team lacked visibility into which patient profiles were most at risk after discharge.

How Analytics Was Applied

An analytics team built a **risk scoring model** using historical patient records, diagnosis codes, discharge summaries, and socioeconomic data. The model flagged high-risk patients at discharge so care coordinators could prioritize follow-up calls.

Tools & Technologies

- **SQL** — Querying electronic health records (EHR) database
- **Python** — Logistic regression and random forest models
- **Power BI** — Weekly readmission dashboard for clinical leadership
- **Google Colab** — Collaborative model development environment

Measurable Business Impact

- 30-day readmission rate dropped from **18% to 12%**
- Avoided over **\$2M in CMS penalties** annually
- Improved patient satisfaction scores by **9 points**

Early Professional's Role

Junior data analysts were responsible for data cleaning, feature engineering, and building the Power BI reporting layer. They also conducted weekly data validation checks and prepared executive summary reports.

INDUSTRY EXAMPLE 3

FinTech Analytics: Detecting Fraudulent Transactions

The Business Problem

A growing digital payments company was experiencing a surge in fraudulent transactions that traditional rule-based systems were failing to catch. False positives were also blocking legitimate customers, creating churn and support overhead worth **millions annually**.

Analytics Approach

The analytics team built an anomaly detection pipeline using transaction features like velocity, location deviation, device fingerprint, and time-of-day patterns. They used Python for model development and BigQuery to process millions of daily transactions in near real-time.

Tools Used

- **Python (Scikit-learn, XGBoost)** — Fraud classification model
- **Google BigQuery** — Large-scale transaction data querying
- **Tableau** — Fraud operations dashboard
- **Git/GitHub** — Version control for model iterations

Measurable Impact

- Fraud detection accuracy improved from **71% to 94%**
- False positive rate reduced by **45%** — fewer blocked legitimate users
- Estimated annual fraud losses cut by **\$3.2M**

Role of Early Professionals

Junior analysts were embedded in the fraud operations team. They built SQL queries to surface suspicious patterns, created the daily monitoring dashboards, and wrote Python scripts to automate the data pipeline. They also prepared bi-weekly reports for the risk management committee.

- 📄 **Key Takeaway:** Early analysts in fraud teams often own the reporting layer and data pipeline automation — critical work with direct business impact.

SKILLS PROGRESSION

Skills Mapping: Beginner → Job Ready

Track your growth across three progressive skill levels throughout this 12-week program. Each phase builds intentionally on the last.

1

Beginner (Weeks 1–4)

- Understanding data types and sources
- Excel pivot tables and dashboards
- Basic data cleaning concepts
- Analytical thinking fundamentals
- Data ethics and privacy awareness

2

Intermediate (Weeks 5–8)

- SQL query writing (intermediate level)
- Python EDA with Pandas
- Statistical analysis and interpretation
- Tableau dashboard creation
- Data storytelling for stakeholders

3

Job Ready (Weeks 9–12)

- Predictive modeling with ML basics
- Power BI and BI tool proficiency
- Cloud data querying (BigQuery)
- End-to-end project execution
- Portfolio + interview preparedness

Job Roles This Course Prepares You For

This course is deliberately designed around the skills and tasks that hiring managers look for across a broad range of entry-to-mid-level analytics positions.



Data Analyst

The most direct path. Own dashboards, reports, and data insights for business teams. SQL + Excel + Tableau are core requirements.



Business Intelligence Analyst

Focus on building and maintaining BI infrastructure — Power BI or Tableau dashboards, data models, and KPI tracking systems.



Junior Data Scientist

Build on the Python and ML foundations from this course to move into predictive modeling and experimentation roles.



Analytics Consultant

Use analytics skills to solve client problems across industries. Strong communication and visualization skills are essential.



Data Operations Analyst

Maintain data pipelines, monitor data quality, and support reporting systems — a growing role in data-mature organizations.



Marketing / Product Analyst

Apply analytics to user behavior, campaign performance, A/B testing, and product funnel analysis in tech or marketing teams.

KEY TAKEAWAYS

What You'll Walk Away With

By the end of this 12-week program, you'll have more than just knowledge — you'll have a portfolio, a skill set, and a clear career path.

1 A Hands-On Portfolio

A GitHub portfolio with 3–5 real analytics projects — cleaned datasets, SQL queries, Python notebooks, and Tableau/Power BI dashboards — that you can show to any employer.

2 Full-Stack Analyst Skills

Proficiency across the complete analytics workflow: data collection → cleaning → analysis → visualization → communication. You won't just know theory — you'll have done it.

3 Industry Context & Business Acumen

You'll understand how analytics is applied in retail, healthcare, finance, and tech — and how to frame your work in terms of business impact, not just technical output.

4 Interview & Job Search Readiness

Resume and LinkedIn guidance, SQL interview practice, and case study frameworks so you can walk into any entry-level analytics interview with confidence.