CareerByteCode
Learning Made simple

CareerByteCode Admissions
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CAREERBYTECODE PROGRAM

Decision Intelligence: Business Analytics Professional

The CareerByteCode Decision Intelligence - Business Analytics Professional is an intensive, beginner-friendly program that develops practical skills across the data analysis lifecycle. Learners start with data concepts and analytical thinking, then progress through Excel, SQL, Python and Power BI.

Learn data. Find insights.
Drive decisions.

Mentors: Jenefer Rexee George & Daisy Grace Thomas

8 weeks · 24 live classes · 48 instructor-led hours · 4 major projects · Hybrid: classroom + online

Course Overview

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The CareerByteCode Decision Intelligence - Business Analytics Professional is an intensive, beginner-friendly program that develops practical skills across the data analysis lifecycle. Learners start with data concepts and analytical thinking, then progress through Excel, SQL, Python and Power BI. A dedicated AI for Data Analysis module introduces responsible ways to use AI assistants to accelerate exploration, query writing, explanation and reporting.

The program uses business questions and practical datasets from sales, finance, HR, healthcare and e-commerce. It prepares learners to practise tasks relevant to entry-level Data Analyst, Business Analyst and BI Analyst pathways.

The program includes 24 live classes of 2 hours each (48 instructor-led hours). Learners must complete independent practice between sessions. It builds foundational and applied capability; it does not promise mastery of every tool or guarantee employment.

8	24	48	8	4
WEEKS	LIVE CLASSES	HOURS	MODULES	PROJECTS

Your Mentors

LEARN FROM PRACTITIONERS



Jenefer Rexee George

AI ML DATA CONSULTANT

Jenefer Rexee George is an AI and ML Data Consultant and Software Engineer (AI/ML) who builds intelligent systems that combine data, machine learning and modern AI to solve real-world problems.



Daisy Grace Thomas

AI CONSULTANT · AI PRODUCT & AUTOMATION ENGINEER

Daisy Grace Thomas is an AI Product and Automation Engineer and Business Analyst with 9+ years delivering enterprise solutions across IT services, EdTech, finance and aerospace.

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How every class works

Each class combines concept explanation, a live instructor demonstration, guided practice and a short recap. You practise between classes and finish four projects for your portfolio. Delivery: Hybrid, classroom + online. Next batch dates are shared on enrolment.

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Program at a Glance

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ITEM	DETAILS
Duration	8 weeks / 2 months
Classes	3 per week; 24 total
Class length	2 hours
Instructor-led hours	48
Delivery	Hybrid: classroom + online
Entry level	Absolute beginners; no coding knowledge required
Tools	Excel, SQL, Python and Power BI
Additional learning	Basic + intermediate statistics; dedicated AI module
Projects	4 major practical projects
Career directions	Data Analyst, Business Analyst and BI Analyst
Career support	Certificate subject to completion criteria, resume, portfolio, mock interviews and interview preparation
Fee	₹40,000 + applicable GST

Who This Course Is for

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- College students and final-year students seeking practical analytics skills.
- Fresh graduates entering data, reporting or BI roles.
- Working professionals who want to use data in their current roles.
- Non-IT professionals and career switchers.
- Professionals in operations, sales, finance, HR, customer support or administration.

Before You Start: Prerequisites

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No prior coding or analytics experience is required. The course begins from the fundamentals. Learners should have:

- Basic computer literacy: files, folders, browser, downloads and documents.
- Basic arithmetic comfort: percentages, ratios, averages and reading simple tables.
- Interest in problem-solving and asking questions about data.
- A laptop/desktop suitable for Excel, SQL tools, Python and Power BI Desktop. Windows is recommended for Power BI Desktop.
- Stable internet access for hybrid classes and software installation.
- Commitment to 3-5 hours of independent practice weekly in addition to live classes.
- An email account for relevant software and AI-tool accounts. Do not purchase paid credits without trainer guidance.

Recommended setup: Excel, Power BI Desktop, Python 3, VS Code or Jupyter, and a SQL environment such as PostgreSQL or MySQL. Installation instructions will be provided. macOS learners should confirm a Windows environment or trainer-approved Power BI alternative before enrolment.

What You'll Achieve: Learning Outcomes

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After attending, practising and completing the projects, learners should be able to:

- Explain the data analysis lifecycle and translate a business question into an analysis task.
- Use Excel to organise, clean, calculate, summarise and visualise tabular data.
- Write SQL queries to retrieve, filter, join, group and aggregate relational data.
- Interpret descriptive statistics and selected intermediate concepts: distributions, correlation, sampling and basic hypothesis testing.
- Use Python and Pandas to import, clean, transform, summarise and visualise datasets.
- Prepare data in Power BI using Power Query, create relationships and write basic DAX measures.
- Build interactive dashboards and explain KPIs, trends and exceptions.
- Use AI assistants to draft formulas, SQL, code explanations and insight summaries while validating outputs.
- Communicate findings through charts, concise reports and recommendations.
- Present project work and explain its problem, data, methods, insights and limitations.

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Eight-Week Curriculum at a Glance

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WEEK	MODULE(S)	CLASSES	FOCUS
1	M1 - Foundations & Statistics	1-3	Analytics lifecycle, data types, business questions, descriptive and applied statistics
2	M2 - Excel for Data Analysis	4-6	Formulas, cleaning, lookups, PivotTables, charts and reporting
3	M3 - SQL Foundations	7-9	Databases, SELECT, filtering, sorting, aggregation, grouping and joins
4	M3 - SQL Applied Analysis	10-12	Joins, subqueries, CTEs, CASE, window functions and business KPIs
5	M4 - Python for Data Analysis	13-15	Python basics, Pandas, data cleaning, EDA and visualisation
6	M5 - Power BI & Dashboards	16-18	Power Query, modelling, relationships, DAX basics and dashboards
7	M6 + M7 - Business Analysis & AI	19-21	Requirements, KPIs, storytelling, AI-assisted analysis and responsible use
8	M8 - Capstone & Career Readiness	22-24	End-to-end project, presentation, portfolio, resume and interviews

SQL is intentionally spread across Weeks 3 and 4 so beginners can practise core queries before progressing to joins and analytical queries.

WEEK 01 — Module 1: Data Analytics Foundations & Statistics

Goal: Understand data analysis, business use cases and how to interpret basic data.

Class 1 – Introduction to Data Analytics

- What are data, information and insight?
- Data Analyst vs Business Analyst vs BI Analyst
- Use cases in sales, finance, HR, healthcare and e-commerce
- Descriptive, diagnostic, predictive and prescriptive analytics (overview)
- Analytics lifecycle: question → data → preparation → analysis → visualisation → recommendation
- Structured vs unstructured data; rows, columns, records and fields
- Reading a sample business dataset and forming analysis questions

Class 2 – Statistics Fundamentals

- Population, sample, variable and observation
- Numerical vs categorical; discrete vs continuous data
- Mean, median and mode; when to use each
- Minimum, maximum, range, quartiles and percentiles
- Variance and standard deviation conceptually
- Frequency tables, distributions and outliers
- Percentages, ratios, rates and growth calculations

Class 3 – Applied Statistics & Analytical Thinking

- Reading distributions and basic skew
- Sampling and sample bias
- Correlation vs causation
- Probability and practical uncertainty
- Confidence intervals and hypothesis testing: introductory interpretation
- Comparing groups and interpreting trends responsibly
- Turning business questions into measurable analysis questions

✓ Weekly exercise: Explore a retail dataset, calculate summary statistics and write five questions an analyst could investigate.

WEEK 02 Module 2: Excel for Data Analysis

Goal: Clean, calculate, summarise and present business data in Excel.

Class 4 – Excel Foundations

- Workbook, worksheet, cells, ranges, rows and columns
- Import CSV and Excel data; format tables
- Sorting, filtering, freeze panes and data validation
- Data types, date and number formats
- Basic formulas and relative/absolute references
- SUM, AVERAGE, COUNT, COUNTA, MIN and MAX
- IF, AND, OR and IFERROR

Class 5 – Cleaning & Analytical Formulas

- Find/remove duplicates; handle blanks and inconsistent text
- TRIM, CLEAN, LEFT, RIGHT, MID, LEN, UPPER and PROPER
- Date functions and Text to Columns
- Conditional formatting
- COUNTIF/COUNTIFS and SUMIF/SUMIFS
- XLOOKUP or VLOOKUP
- Power Query introduction for repeatable cleaning

Class 6 – PivotTables & Reporting

- Create and format PivotTables
- Group dates and summarise by category
- PivotCharts and slicers
- Choose charts for comparisons and trends
- Build a management summary sheet
- Validate totals and formulas
- Explain findings from an Excel report

✓ PROJECT 1 - Excel Sales Performance Analysis: clean sales data, analyse product and regional performance, create PivotTables/charts and write key findings.

WEEK 03 Module 3: SQL Foundations

Goal: Understand relational databases and retrieve information with SQL.

Class 7 – Database & SQL Basics

- Database, DBMS and relational database concepts
- Tables, rows, columns, primary and foreign keys
- SQL environment and sample database
- SELECT, choosing columns and DISTINCT
- Aliases
- WHERE and comparison operators
- AND, OR, NOT, IN, BETWEEN, LIKE and IS NULL

Class 8 – Sorting, Aggregation & Grouping

- ORDER BY and sorting
- LIMIT/TOP
- COUNT, SUM, AVG, MIN and MAX
- GROUP BY and HAVING
- Basic date and text functions
- NULL values and common query errors
- Readable SQL query structure

Class 9 – Combining Tables

- Why business data is split across tables
- Primary/foreign key relationships
- INNER JOIN and LEFT JOIN
- RIGHT/FULL JOIN concepts where supported
- Joining multiple tables
- UNION and UNION ALL
- Practice with customers, orders and products

✓ Weekly exercise: Answer business questions about monthly sales, top products, repeat customers and regional performance using SQL.

WEEK 04 — Module 3 Continued: SQL Applied Analysis

Goal: Answer business questions and prepare reusable analytical query outputs.

Class 10 – Intermediate SQL

- Subqueries and nested queries
- Common Table Expressions (CTEs)
- CASE WHEN for conditional categories
- Date functions and date differences
- String functions and formatting
- COALESCE for NULL handling
- Views and reusable query logic

Class 11 – Analytical SQL & KPIs

- Window-function concepts
- ROW_NUMBER, RANK and DENSE_RANK
- PARTITION BY and ORDER BY in window functions
- Running totals and ranking
- Month-on-month comparison concepts
- Average order value, revenue and customer counts
- Validate results and detect duplicate joins

Class 12 – SQL Business Case Lab

- Translate business question into a query plan
- Analyse sales, e-commerce orders and customer behaviour
- Find top products and regions
- Identify inactive and repeat customers
- Prepare result sets for Excel or Power BI
- Explain query results in business language

✓ PROJECT 2 - E-commerce SQL Analysis: analyse customers, orders, products and payments; produce KPI queries and a short insight report.

WEEK 05 — Module 4: Python for Data Analysis

Goal: Start Python from basics and use Pandas to analyse structured data.

Class 13 – Python Fundamentals

- Why Python is useful in analytics
- Install Python; use VS Code or Jupyter
- Variables, strings, numbers and Boolean values
- Lists, tuples and dictionaries
- Conditions and loops
- Functions and basic error handling
- Read/write simple CSV files

Class 14 – Pandas & Data Preparation

- DataFrame and Series
- Import CSV and Excel with Pandas
- Inspect with head, tail, info, shape and describe
- Select, filter and sort rows/columns
- Handle missing values and duplicates
- Change data types and work with dates
- Create columns and apply transformations

Class 15 – EDA & Visualisation

- Descriptive summaries with Pandas
- GroupBy and aggregation
- Merge and join DataFrames
- Pivot and reshape data
- NumPy introduction and basic numerical operations
- Matplotlib: bar, line, histogram and scatter plots
- Exploratory Data Analysis and communicating patterns

✓ PROJECT 3 - HR or Healthcare Data Analysis: clean a synthetic or approved de-identified dataset, explore patterns, calculate metrics and create charts.

WEEK 06 — Module 5: Power BI & Dashboard Development

Goal: Build an interactive BI report from prepared business data.

Class 16 – Power BI & Power Query

- BI and Power BI in the analytics lifecycle
- Power BI Desktop interface
- Connect to Excel, CSV and database sources
- Import data and understand refresh
- Power Query Editor
- Change data types, rename columns and remove errors
- Filter, split, replace, append and merge queries

Class 17 – Data Modelling & DAX Basics

- Fact and dimension tables
- Relationships, cardinality and filter direction
- Star schema concept
- Calculated columns vs measures
- DAX: SUM, COUNTROWS, DISTINCTCOUNT and DIVIDE
- CALCULATE introduction and simple filter context
- Date tables and basic time comparisons

Class 18 – Reports & Dashboards

- Choose visuals for the question
- Cards, tables, matrices, bar/column, line and map visuals
- Slicers, filters, drill-down and interactions
- Report layout, labels and accessible design
- KPI cards and summary pages
- Power BI Service publishing/sharing overview
- Check accuracy and explain dashboard findings

✓ PROJECT 4 - Power BI Business Performance Dashboard: clean sales or finance data, create a model, define KPIs and build an interactive management dashboard.

WEEK 07 — Modules 6 & 7: Business Analysis, Storytelling & Ai

Goal: Connect analysis to business decisions and use AI as a responsible productivity assistant.

Class 19 – Business Analysis & KPI Thinking

- Stakeholders and business objectives
- Gather and clarify analytical requirements
- Define business questions and measurable KPIs
- Sales: revenue, profit, margin and conversion
- HR: attrition, headcount and time-to-hire
- Healthcare: appointment volume and waiting time
- Finance: budget vs actual and expense trends
- Write a simple analysis brief and acceptance criteria

Class 20 – AI Tools for Data Analysis

- Where AI fits in the analyst workflow
- Ask AI to explain datasets, columns and business terms
- Draft Excel formulas and explain formula errors
- Draft SQL queries and explain joins/aggregations
- Explain Python and Pandas code
- Suggest chart types and first-draft summaries
- Validate generated queries, calculations and conclusions

Class 21 – AI-Assisted Reporting & Responsible Use

- Summarise findings and draft management narratives
- Turn analysis into presentation outlines and executive summaries
- AI-assisted exploration and anomaly investigation
- Hallucinations, incorrect assumptions and fabricated insights
- Privacy and safe handling of business information
- Human verification, source checks and reproducibility
- Build a repeatable AI-assisted analyst workflow

✓ Weekly exercise: Compare manual analysis with an AI-assisted draft and validate every important calculation and insight.

WEEK 08 **Module 8: Capstone, Portfolio & Career Readiness**

Goal: Consolidate learning into an end-to-end analysis story and prepare to present it.

Class 22 – Capstone Workshop

- Choose a business problem and dataset
- Define stakeholder, objective, scope and KPIs
- Inspect, clean and validate data
- Select appropriate tools: Excel, SQL, Python and/or Power BI
- Perform analysis and identify patterns
- Build/refine visualisations and dashboard pages
- Document assumptions, limitations and method

Class 23 – Capstone Presentation & Storytelling

- Structure: problem, data, method, findings and recommendation
- Explain metrics, trends and exceptions without overclaiming
- Create executive summary and actionable recommendations
- Present dashboard and answer stakeholder questions
- Peer review and trainer feedback
- Improve project README and portfolio documentation

Class 24 – Career Preparation & Assessment

- Data Analyst, Business Analyst and BI Analyst role expectations
- Common Excel, SQL, Python and Power BI interview topics
- SQL query-writing and data interpretation practice
- Explain projects using problem - action - result structure
- Resume positioning and portfolio walkthrough
- Mock interview and individual feedback
- Final practical assessment and completion review

Final deliverable: documented project with dataset description, business question, analysis steps, dashboard/visuals, findings, recommendations and presentation.

Four Major Practical Projects

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PROJECT	SCENARIO	TOOLS	EXPECTED OUTPUT
1. Sales Performance	Analyse sales by product, region, month and salesperson.	Excel	Clean workbook, PivotTables, charts and written insights.
2. E-commerce SQL	Analyse customers, orders, payments, products and repeat purchases.	SQL	Reusable SQL scripts, KPI tables and explanations.
3. HR / Healthcare	Explore a synthetic HR or de-identified healthcare dataset.	Python, Pandas, Matplotlib	Clean notebook, EDA, charts and insight summary.
4. BI Dashboard	Create a sales or finance management dashboard.	Power BI, Power Query, DAX	Interactive report, data model and presentation.

The four projects are milestone-based. The final Week 8 capstone should extend or combine earlier work rather than require a completely new large project.

Technology Stack

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AREA	TOOLS / CONCEPTS	EXPECTED COVERAGE
Spreadsheet analysis	Excel formulas, lookups, PivotTables, charts, Power Query basics	Hands-on
Database querying	SQL; PostgreSQL or MySQL learning environment	Hands-on

AREA	TOOLS / CONCEPTS	EXPECTED COVERAGE
Programming	Python fundamentals, Jupyter/VS Code	Beginner
Data manipulation	Pandas, basic NumPy	Hands-on foundations
Visualisation	Excel charts, Matplotlib, Power BI visuals	Hands-on
Business intelligence	Power Query, relationships, basic DAX and reports	Hands-on
Statistics	Descriptive statistics, distributions, sampling, correlation, hypothesis-testing concepts	Applied foundations
AI for analysis	AI assistant for formula/query/code explanation, exploration and reporting	Dedicated module

Teaching Methodology & Assessment

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CLASS COMPONENT	TIME	PURPOSE
Concept explanation	25 min	Plain-language explanation and business example.
Trainer demonstration	25 min	Show workflow and decisions.
Guided hands-on lab	55 min	Learners implement with a dataset.
Recap, questions and assignment	15 min	Check understanding and set practice.

Assessment should include weekly assignments, short knowledge checks, four project milestones, SQL exercises, dashboard review, final capstone presentation and mock-interview participation. CareerByteCode should publish attendance and assessment thresholds before enrolment.

Expected Portfolio & Learner Outputs

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- Excel workbook with cleaned data, formulas, PivotTables and charts.
- SQL scripts demonstrating filtering, aggregation, joins and KPI queries.
- Python notebook using Pandas for cleaning, EDA and visualisation.
- Power BI report with a documented data model and basic DAX measures.
- Four project summaries with business problem, approach, findings and recommendations.
- Final presentation and portfolio/GitHub links containing no confidential data.
- Resume updated to accurately describe skills and completed projects.
- Practice answering common entry-level analytics interview questions.

Career Pathways

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ROLE DIRECTION	RELEVANT COURSE SKILLS	FURTHER SKILLS COMMONLY NEEDED
Junior Data Analyst	Excel, SQL, Python basics, cleaning, EDA, charts and reporting	More SQL practice, domain knowledge, data quality and deeper analysis.
Reporting / BI Analyst	Power BI, Power Query, modelling, basic DAX and dashboard design	Advanced DAX, semantic models, Power BI Service and governance.

ROLE DIRECTION	RELEVANT COURSE SKILLS	FURTHER SKILLS COMMONLY NEEDED
Junior Business Analyst	Requirements, KPI definition, stakeholder communication and insight presentation	Process modelling, UAT, documentation methods and domain knowledge.

This program supports preparation for entry-level pathways but does not guarantee employment or meet every employer's requirements.

Course Fee & Commercial Details

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FEE COMPONENT	AMOUNT
Course fee	₹40,000
GST	Additional at applicable rate
Total payable	₹40,000 + applicable GST

The applicable GST amount will be calculated and shown on the official CareerByteCode invoice. Before enrolment, confirm batch dates/timings, venue or online access, payment/refund terms, software/licence requirements, possible AI/cloud usage charges and certificate criteria.

Scope & Responsible Data Use

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- This is an intensive 48-hour instructor-led program; independent practice is essential.
- Python is taught for data analysis, not as a general software engineering course.
- Statistics covers practical foundations; advanced statistical modelling, machine learning and forecasting are outside the core scope.
- Power BI covers core preparation, modelling, basic DAX and reporting; advanced enterprise administration and Fabric engineering are outside scope.
- AI-generated formulas, queries, code and summaries must be checked against source data.
- Never upload confidential employer, customer, patient or personal data to public AI services. Use synthetic, public or authorised data.
- Some features require specific operating systems, licences, accounts or internet access.
- Completion does not guarantee a job, salary, placement, external vendor certification or mastery of every tool.

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THANK YOU

CareerByteCode aims to help learners move beyond learning individual tools. By practising with business datasets, students learn to ask useful questions, prepare data, analyse it with the right tool, build understandable reports and communicate findings responsibly.

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