COURSE SYLLABUS

Data Analytics Technologies Bootcamp

Master the industry-standard tools and programming languages used by Data Analysts, including Excel, SQL, and Tableau, in this comprehensive classroom training program. Gain hands-on experience working on real-world projects and learn to organize, analyze, summarize, and visualize data to present actionable insights.

For more information, visit
https://www.creativelive.com/classes/data-analytics-technologies



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Course Outline

This package includes these courses

- Excel Level I: Fundamentals (6 Hours)
- Excel Level II: Intermediate (6 Hours)
- Excel Level III: Advanced (6 Hours)
- SQL Level 1 (6 Hours)
- SQL Level 2 (6 Hours)
- SQL Level 3 (6 Hours)
- Tableau Level I (6 Hours)
- Tableau Level II (6 Hours)

Excel Level I: Fundamentals

In this beginner Excel course, you will learn the essentials of Microsoft Excel, including calculations, basic functions, graphs, formatting, and printing. This comprehensive course is perfect for those with limited experience looking to expand their proficiency.

- Become familiar with the interface and data entry
- Learn essential formulas and functions
- Format and print your work
- Create charts, including line, column, and pie charts
- Learn tips and tricks for easy workbook management
- Review key concepts in a final project

Excel Level II: Intermediate

Learn intermediate Excel functions like VLOOKUP and SUMIFS, and how to summarize data with Pivot Tables, Sort & Filter

databases, and split and join text. Gain the skills needed to utilize complex Excel functions and prepare for more advanced training.

- Learn to split and join text, add data validation, and named ranges
- Use database functions such as VLOOKUP & HLOOKUP
- Add logical statements, including AND, OR, and IF statements
- Create Pivot Tables to quickly summarize large databases
- Use statistical functions such as Ranking, COUNTIFS, and SUMIFS
- Create advanced combo charts from multiple charts
- Review key concepts by creating a final project

Excel Level III: Advanced

Learn all of the most complex features of Microsoft Excel in this advanced training course—Excel functions, macros, and data analysis to improve efficiency and manage complex data in any job setting. This advanced course is ideal for Excel power-users.

- Cell management including cell locking, auditing, and hot keys
- Special formatting for calculating dates
- Use advanced functions such as nested IF statements
- Learn advanced analytical tools for data consolidation, conditions to exclude data, and pivot charts
- Use advanced database functions including MATCH, VLOOKUP-MATCH, and INDEX-Double MATCH
- Record macros and relative reference macros for ad hoc reporting
- Create a project that applies key concepts from the class

SQL Level 1

This beginner-level SQL course introduces the foundational concepts of structured query language and relational databases. Through hands-on exercises and the use of SQL Server Management Studio, you'll learn how to write, filter, and structure queries to extract meaningful insights from data.

- Understand core database concepts, including tables, rows, columns, and different types of SQL
- Connect to databases and navigate SQL Server Management Studio using tools like Object Explorer and Query Editor
- Write SELECT statements to retrieve data, specify columns, sort results, and eliminate duplicates
- Use WHERE, AND, OR, IN, and NOT clauses to filter data and apply pattern matching with wildcard characters
- Explore data types, comparison operators, and case sensitivity to refine queries with greater control
- Learn how to join tables using INNER JOIN and understand relational database concepts with ER diagrams and table aliases

SQL Level 2

This intermediate SQL course expands your ability to analyze and manipulate data through advanced querying techniques. Learn to work with joins, data types, aggregate functions, and date/time operations to uncover deeper insights and organize complex datasets.

- Compare INNER and OUTER JOIN types and use LEFT, RIGHT, and FULL JOINs to combine data across tables
- Identify and work with NULL values to ensure complete and accurate data analysis
- Use the CAST function to convert data types and make your queries more flexible

- Perform calculations with aggregate functions like SUM, COUNT, AVG, MAX, and MIN to summarize data
- Apply date functions to extract, format, and compare dates for time-based analysis
- Group results using GROUP BY and filter grouped data using the HAVING clause for advanced segmentation

SQL Level 3

This advanced SQL course is designed for professionals ready to deepen their expertise in data querying, logic, and database development. Learn to write sophisticated queries using subqueries, CASE statements, views, functions, and stored procedures, all key skills for roles in data analysis, data science, and database management.

- Write subqueries to create layered queries using single-value, multi-value, and table-value structures
- Use window functions with `OVER` and `PARTITION BY` to apply aggregate logic across rows without grouping
- Implement conditional logic with `CASE` and `IIF` statements to dynamically transform query results
- Manipulate text data using string functions like `SUBSTRING`, `CHARINDEX`, `UPPER`, and more
- Apply self joins to compare records within the same table and understand their unique structure and use cases
- Build and query views, user-defined functions, and stored procedures to modularize your SQL code

Tableau Level I

This beginner Tableau course introduces the core concepts of data visualization and gives students the hands-on experience needed to create impactful charts, dashboards, and stories using Tableau Public. Learn to connect, clean, and transform your data into visuals that drive insights and decision-making.

- Understand the types, formats, and sources of data and how to connect them to Tableau
- Create foundational visualizations such as bar charts, line graphs, and treemaps using the “Show Me” panel
- Use built-in functions and custom calculations to analyze and manipulate your data within visualizations
- Clean and organize raw data using tools like the Data Interpreter, pivoting features, and filters
- Build interactive dashboards and stories that combine multiple views for dynamic storytelling
- Format and publish your visualizations to Tableau Online or export them for sharing and presentation

Tableau Level II

This advanced Tableau course is designed for users ready to elevate their data visualization skills with custom charts, interactive dashboards, and powerful geographic mapping tools. Learn to work with complex datasets and tailor your visualizations for deeper insights and dynamic storytelling.

- Format geographic data and build a variety of interactive map types, including heat maps, spider maps, and choropleth maps
- Integrate custom visuals using background images, polygon data, and Mapbox maps for enhanced design and functionality
- Create advanced charts such as dual-axis (layered) maps, alluvial diagrams, ranking visuals, and circular area charts
- Add interactivity to dashboards through sheet swapping, filtering actions, and dynamic content controls
- Track and display time-based data trends spatially using map animations and proportional symbols
- Prepare and publish high-quality map visualizations for presentation, sharing, and Tableau Online distribution