STUDY PLAN

Module 1 : Excel (27 Hr)											
Week	**Date**	**Session Type**	**Session**	**Duration(hrs)**	**Session Title**	**Session Topics**					
Week 0	16-May-2026	Founder's Session									
	17-May-2026	Orientation Session									
Week 1		Recorded Sessions	Rec- Session 1	1.5	Prerequisite	**Video 1: Intro to MS Excel** **Topics :** Role of Excel in Data Analytics Excel interface and navigation **Video 2: Data types** **Topics:** Text, Number, Date, Boolean **Video 3: Excel Formatting basics** **Topics:** cell styles, number formats **Video 4: Introduction to tables** **Video 5: Rule-based formatting** **Topics:** greater than, top 10%, duplicates Color scales, data bars, icon sets Custom formula-based formatting **Video 6: Basic Charts** **Topics:** Column, Bar, Line, Pie Combination charts and formatting options Choosing the right chart for data type	Video Link	Self Paced Agenda for Excel	Notes 1	Quiz 1	W-1 Assignment
	23-May-2026	Live Session	Session 1	3	**Introduction to Data Analysis with Excel** **Excel Functions (Basic to Intermediate)**	**Text: LEFT, RIGHT, MID, LEN, TRIM, UPPER, LOWER, CONCAT, TEXTJOIN** **Sorting & Filtering data** **Logical: IF, IFS, AND, OR, NOT** **Date: TODAY, NOW, DATE, EDATE, DATEDIF, NETWORKDAYS** **Math/Stat: SUM, AVERAGE, COUNT, COUNTA, ROUND, INT, MOD**					

	24-May-2026	Live Session	Session 2	3	Lookups and Pivot Tables	VLOOKUP, HLOOKUP, Xlookup - their comparisons Creating Pivot Tables from structured data Row, Column, Filter, Values fields Summarization techniques (Sum, Count, Average) Grouping (dates, numbers) Sorting and filtering in Pivots Drill-down features					
	27-May-2026	DC + Focus	Practice Set/assignment for supporting Mini Project	3							
Week 2		Recorded Session	Rec- Session 3	2.5	Prerequisite	**Video 1: Handling errors with IFERROR** **Video 2: Approximate match and wildcard match** **Video 3: Comparison with VLOOKUP, INDEX-MATCH** **Video 4 : Two-way lookup use cases** **Topics:** Use cases: sales, employee performance, stock movement Advanced summarization using nested formulas with Pivots **Video 5: Introduction to Power Query** (basic transformations) **Video 6: Creating dynamic ranges with Excel Tables** **Video 7: Layout, color schemes, interactivity** **Video 8: Dashboard design do's and don'ts** **Video 9: Recap of key functions and features**					
	30-May-2026	Live Session	Session 3	3	Corss Sheet Lookups - Data Cleaning Techniques	Combining XLOOKUP with Pivot Table summaries Building cross-sheet dynamic reports Using XLOOKUP inside calculated fields Identifying and removing duplicates Detecting and handling blanks, nulls TRIM, CLEAN, SUBSTITUTE for cleanup					

						Data validation for drop-downs and checks Text to Columns, Flash Fill					
	31-May-2026	Live Session	Session 4	3	End To End Excel Project - Dashboard Building	End to End Excel Project - End-to-end project: Clean raw data Apply transformations Use lookups Summarize using Pivots Linking Pivot Charts to Pivot Tables Using Slicers and Timelines, KPI Cards Present with dashboard					
	3-June-2026	DC + Focus	Practice Set/assignment for supporting Mini Project	3							
Week 3		Rec- Session 3	Rec- Session 4	2	**Google Sheet for Data Analysis**	Transitioning from Excel Reference Logic & Operations Data Cleaning & Text Wrangling Summary Stats & Conditional Logic Advanced Lookups & Power Tools	Google Sheets for Data Analysis				
Week 3		**Generative AI Masterclass**	**MC 1**	**3**	**Prompt Engineering for Analytics**	**The Art of Prompting** **Business questions formulation** **Using AI in Excel work** **Checking and improving AI answers** **Explaining insights clearly**					
	6-June-2026	Live Session	Mini Project Discussion	3							
	10-June-2026	DC + Focus	*Doubt Clarification about Prompt Exercises, One small project Hands on with trainer on Gen AI + Excel (Ideally GPT/Copilot)" + Mini Project Submission*	3							
Module 2 : SQL (33 Hr)											
Week		**Session Type**	**Session**	**Duration(hrs)**	**Session Title**	**Session Topics**					
Week 4		Recorded Sessions	Rec- Session 4	1	Prerequisite	**Video 1: Installing MySQL or SQLite** **Topics:** INT, FLOAT, CHAR, VARCHAR, DATE **Video 2: Intro to DBMS**					

						Topics: What is a DBMS and how it differs from a file system RDBMS vs NoSQL (brief mention for contrast) **Video 3: Codd's 12 Rules** **Topics:** Codd's 12 Rules and their significance **Video 4: Relational Models and Normalization** **Topics:** Real-world examples of relational models Importance of normalization principles **Video 5 : Concept of Keys** Primary Key, Composite Key, Foreign Key, Candidate Key Surrogate Key, Natural Key									
	13-June-2026	Live Session	Session 1	3	DBMS Concepts	Introduction to SQL for Data Analytics SQL Language Categories: DDL, DML, DCL, TCL Common SQL syntax and structure Creating a database Creating tables with CREATE TABLE Altering tables using ALTER TABLE Dropping and renaming columns									
	14-June-2026	Live Session	Session 2	3	Constraints in SQL Dropping, Truncating & Modifying Tables	NOT NULL, UNIQUE, PRIMARY KEY, FOREIGN KEY, CHECK Default values and AUTO_INCREMENT Column-level vs table-level constraint declaration Modifying constraints Difference between DROP, TRUNCATE, DELETE Impact on storage, rollback, and auto-increment counters Modifying column names, data types Adding/removing columns using ALTER TABLE Renaming tables									

						INSERT single and multiple records												
	17-June-2026	DC + Focus		3		SQL Lab/Excel Lab												
Week 5	20-June-2026	Live Session	Session 3	3	Aggregation and Group by	SELECT basics with column filtering WHERE clause and logical operators UPDATE and DELETE commands Using DISTINCT, ORDER BY, LIMIT, Group by Aggregate functions: COUNT, SUM, AVG, MIN, MAX GROUP BY and HAVING												
	21-June-2026	Live Session	Session 4	3	SQL Joins	INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL OUTER JOIN Self JOIN, CROSS JOIN Understanding primary-foreign key relationships Joining more than two tables NULL handling in joins Windows Functions - row_number(), rank(), dense_rank(), lag(), lead()												
	24-June-2026	DC + Focus		3														
Week 6	27-June-2026	Live Session	Session 5	3	Windows Functions, Views and Import/Export of Data	Windows Functions - row_number(), rank(), dense_rank(), lag(), lead() Views: creation, use cases, and limitations Connecting SQL databases to Excel / Python / Power BI Running SQL queries from external tools Exporting and importing data via CSV												
	28-June-2026	Live Session	Session 6	3	Subqueries,CTEs and EDA	Nested queries and subqueries CASE statements Common Table Expressions(CTEs) Using simple dashboards to display query results Use case: exploratory data analysis with SQL												
	1-July-2026	DC + Focus	DC + SQL Scriptwriting Practice	3		SQL Script Writing Practice Session												

Week 7		**Gen AI Masterclass**	**MC 2**	**3**	**MC-2: NL-to-SQL + Query Optimization with AI**	**Industry context and SQL interview expectations** **Natural language to structured SQL translation** **Identifying joins, filters, aggregations from business questions** **Query optimization fundamentals and performance improvement** **AI-assisted SQL drafting, refactoring, and validation**						
	5-July-2026	Live Session	Mini Project Discussion	3		MINI PROJECT DISCUSSION						
	8-July-2026	DC + Focus	Gen AI Practice + Doubt + Project submission	3								
Module 3 : Statistics - 1 (9 Hr)												
Week		**Session Type**	**Session**	**Duration(hrs)**	**Session Title**	**Session Topics**						
Week 8		Recorded Sessions	Rec- Session 5	1.5	Prerequisite	**Video 1: Intro to Statistics** **Topics:** What is statistics: Descriptive vs Inferential **Video 2: Types of Data** **Topics:** Types of data: Qualitative vs Quantitative **Video 3: Scales of measurement** **Topics:** Scales of measurement: Nominal, Ordinal, Interval, Ratio Population vs Sample **Video 4: Sampling methods** **Topics:** Sampling methods: Random, Stratified, Cluster, Systematic **Video 5: Data sources** **Topics:** Surveys, Experiments, Observational studies **Video 6: Biases in data collection**						

Week 8	11-July-2026	Live Session	Session 1	3	Measures of Central Tendency and Measures of Dispersion (using Excel ideally with business problems)	Mean (Arithmetic, Weighted) Median Mode When to use which measure Impact of outliers on central tendency Practice with real datasets (e.g., salary, sales) Range Variance & Standard Deviation (sample vs population) Mean Absolute Deviation Coefficient of Variation Use of dispersion in comparing datasets					
	12-July-2026	Live Session	Session 2	3	Descriptive Statistics & Forecasting in Excel (Analysis ToolPak Applications)	Using Analysis ToolPak for summary statistics & regression output Data distribution analysis (Histogram & normality check) Time series forecasting using Excel Forecast tools Business interpretation of statistical outputs					
	15-July-2026	DC + Focus		3							
ET 1 (After DC Class From the coming Sat to next Friday ET window is open) (Week 9)											
Module 4 : PowerBI (24 hr) + Tableau (Pre Recorded)											
Week		**Session Type**	**Session**	**Duration(hrs)**	**Session Title**	**Session Topics**					
Week 10		Recorded Sessions	Rec- Session 6	1.5	Prerequisite	**Video 1: Definition of Business Intelligence** **Topics:** Definition of Business Intelligence and its industry applications **Video 2: Types of BI tools** **Topics:** Types of BI tools and landscape overview **Video 3: Installing Power BI Desktop** **Video 4: Overview of Power BI interface**					

						Topics: Overview of Power BI interface: ribbons, panes, canvas **Video 5: Workflow overview** **Topics:** Workflow overview: data, model, report views **Video 6: PowerBI with Excel** Connecting to Excel, CSV, Web, and SQL sources Import vs Direct Query vs Live connection											
	18-July-2026	Live Session	Session 1	3	Power Query Editor	Navigating the Power Query Editor Transforming data types, trimming, replacing, splitting Steps applied, query folding and refresh Understanding measures vs dimensions Discrete vs continuous fields Data shaping: renaming, removing, pivoting, unpivoting columns Transforming data types, trimming, replacing, splitting Creating relationships, understanding cardinality and cross-filter direction											
	19-July-2026	Live Session	Session 2	3	DAX Fundamentals, DAX modelling and DAX Operations	Star vs Snowflake schema Role of fact and dimension tables Introduction to DAX: syntax and use cases Calculated columns vs measures Basic DAX functions: SUM, AVERAGE, COUNT, DISTINCTCOUNT Working with filters in DAX: CALCULATE, FILTER, ALL Logical and text functions in DAX Conditional expressions using IF and SWITCH											
	22-July-2026	DC + Focus		3													
Week 11	25-July-2026	Live Session	Session 3	3	DAX Operations Visualizations & Interactions	Row context vs filter context explained Error handling and debugging DAX expressions											

						Using core visuals: bar, line, pie, scatter, table, matrix Customizing visuals: formatting, themes, tooltips Setting up slicers and filters Drill-through and drill-down navigation Cross-highlighting and interactivity between visuals												
	26-July-2026	Live Session	Session 4	3	Advanced Measures & Time Intelligence Reports, Bookmarks, Tooltips & Navigation,	Cumulative totals and running totals YOY, MOM comparisons DATEADD, DATESYTD, SAMEPERIODLASTYEAR Using CALCULATE with time intelligence Date table creation and relationships Creating multi-page reports Adding bookmarks for storytelling and dynamic views Using buttons and images for navigation. Custom tooltips and drill-through pages Setting up page navigation and back buttons											
	29-July-2026	DC + Focus		3														
	2-August-2026	Live Session	Mini Project Discussion	3	Mini Project Discussion Publishing, Sharing & Deployment	Publishing reports to Power BI Service Creating and managing workspaces Setting refresh schedules and gateway setup Sharing reports with stakeholders Row-level security and access control basics	Mini Project Lab											
Week 12		**Gen AI Masterclass**	**MC 3**	**3**	**MC-3: AI-Enhanced Dashboarding + Automated Insights**	**Using AI to design KPI-driven dashboards** **Generating DAX measures with AI support** **Automating insight summaries from visuals** **Identifying trends and anomalies using AI**												

						Improving dashboard storytelling and clarity					
	5-August-2026	DC + Focus	Genai + Doubts	3							
		Rec- Session 6	1	Introduction to Tableau	Introduction to Tableau, Installation & Interface Navigation Connecting to Data Sources Building Basic Charts						
		Rec- Session 7	1	Basic & Advanced Charts & Highlighting	Building Basic Charts Advanced Chart Types and Highlighting Techniques						
		Rec - Session 8	1	Maps, Time Series, Dashboards	Geospatial Charts and Time-Series Visuals Dashboards, Filters and User Interactivity						
		Rec - Session 9	1	Filters, Joins, Blends, Calculations	Filtering Logic, Joins, Blends and Calculations	Need to give small dashboard as Assignment	**Two Dashboards in Class + One as Assignmnet (Non Graded)**				
Module 5 : Python (42 hours)											
Week		**Session Type**	**Session**	**Duration(hrs)**	**Session Title**	**Session Topics**					
		Recorded Sessions	Rec- Session 6	1.5	Prerequisite	**Video 1: Intro to Programming Languages and Python** Topics: Definition of Programming Languages Why we need Programming Languages Introduction to Python Python Syntax Data Types Variables **Video 2: Type Casting, Conversion and I/O Functions** Topics: How Python is different from other languages (Dynamically Typed) Type Casting and Type Conversion	Video 1 - Intro to Python, Datatypes, Variables, Typecasting, input function Video 2 - Fstring, Inbuilt Python Functions, List Functions	Videos to subvideos		

						Implicit and Explicit Type Conversion Input and Output Functions Overview of Concatenation **Video 3: F-Strings Method (Part 1 & Part 2)** Topics: Introduction to F-Strings F-Strings Syntax and Examples String Formatting using F-Strings **Video 4: Deep Dive into F-Strings and Code Structure** Topics: Advanced F-String Usage Creating a Calculator using Python Indentation in Python Block of Code Concept **Video 5: Inbuilt Functions, Lists and List Functions** Topics: Common Inbuilt Functions (len, max, min, sum, sorted, round, abs) Introduction to Lists List Functions (append, extend, insert, remove, pop)				
Week 13	8-August-2026	Live Session	Session 1	3	Python Intro & Control Structures	Intro to Python Coding Environment with Jupyter Notebooks How to write effective code in Python if, elif, else statements Nested conditions				
	9-August-2026	Live Session	Session 2	3	Python Intro & Control Structures Part 2	for loops with range() while loops and loop control: break, continue, pass else clause with loops				
	12-August-2026	DC + Focus		3						
		Recorded Sessions	Rec- Session 6	1.5	Prerequisite	**Video 1: File Handling & Types of Files in Python** Topics: Introduction to File Handling in Python	Video 3 - File Handling Video 4 - Exception Handling Video 5 - Inbuilt Modules in Python	Videos to subvideos		

						Types of Files (.txt, .csv, .json) File Modes Read Method Write Method Append Method **Video 2: CSV & JSON File Handling** Topics: Working with CSV Files CSV Functions (writer, writerow, reader) Working with JSON Files JSON Functions (dump, load, append) **Video 3: Exception & Error Handling in Python** Topics: What is Exception Handling Importance of Exception Handling Try Block Except Block Else Block Finally Block Types of Errors and Exceptions ValueError FileNotFoundError Other Common Exceptions **Video 4: Python Inbuilt Modules & Module Functions** Topics: Introduction to Python Modules Math Module (sqrt, pow, pi, factorial) Random Module (random, randint, uniform, sample, randrange) Datetime Module (now, today, now().date, now().time) Timezone Module Overview Using dir() Function to Explore Module Functions											
Week 14	15-August-2026	Live Session	Session 3	3	Data Structures in Python	Creating, accessing, slicing lists List comprehension Tuples: declaration, immutability, use cases Tuple unpacking and zip() basics string methods and tuple methods											

						Creating sets, uniqueness in keyword and set membership add(), remove(), discard() Use cases in de-duplication											
	16-August-2026	Live Session	Session 4	3	Data Structures in Python Part 2	Set operations: union(), intersection(), difference(), symmetric_difference() Creating and accessing key-value pairs get(), items(), keys(), values() Updating and deleting entries in operator, nested dictionaries Dictionary comprehension (basic intro)											
	19-August-2026	DC + Focus		3													
Week 15	22-August-2026	Live Session	Session 5	3	**Data Manipulation with Numpy Arrays**	What is NumPy & why use it Creating arrays: array(), zeros(), ones(), arange(), linspace() Array properties: shape, ndim, dtype Basic element-wise operations: +, -, *, / Aggregation: sum(), mean(), std() Creating Series from lists, dictionaries Indexing, slicing, vector-style operations											
	23-August-2026	Live Session	Session 6	3	Creating and Accessing DataFrame using Pandas	Creating DataFrames from dict, list of dicts, CSV head(), tail(), info(), describe() Selecting data: loc[], iloc[] Adding/removing columns Filtering rows with conditions Renaming columns, updating values Sorting by column(s) Handling missing data: isnull(), dropna(), fillna()											
	26-August-2026	DC + Focus		3													
Week 16	29-August-2026	Live Session	Session 7	3	Pandas Groupby and Sorting	groupby() with mean(), sum(), count() Using agg() for multi-aggregation Multi-index results Pivot tables with pivot_table() Merging/joining DataFrames											

						Load & explore dataset Clean missing and inconsistent data Derive new columns Use groupby(), filtering, sorting Visualize insights using Pandas .plot() Save cleaned & visualized outputs											
	30-August-2026	Live Session	Session 8	3	**Plotting with Matplotlib**	Line plot, bar chart, histogram, pie chart using Pandas .plot() Customizing plots: labels, titles, colors Plotting directly from groupby results Intro to matplotlib.pyplot: plot(), bar(), scatter() Styling and subplot basics										
	2-September-2026	DC + Focus		3													
Week 17	6-September-2026	Live Session	Mini Project Discussion	3	**EDA with Pandas + Numpy +Seaborn**	Visualization using Seaborn library, variety of charts. Lambda Functions User Dedfined Functions Reshaping Data Date and Time Handling Exporting Data EDA Project											
		Gen AI Masterclass	**MC 4**	**3**	**MC-4 : AI-Assisted Python Code Generation & Debugging**	**Writing Python scripts using AI assistance** **Debugging errors with structured AI prompts** **Optimizing data manipulation logic (Pandas/Numpy)** **Improving code readability and documentation** **Validating AI-generated code outputs**	**Using Google Collab and with Genai integration**										
	9-September-2026	DC + Focus		3													

Module 6 :Statistics and EDA - 2 (24 hr)										
Week		**Session Type**	**Session**	**Duration(hrs)**	**Session Title**	**Session Topics**				
Week 18	12-September-2026	Live Session	Session 1	3	Percentiles, Quartiles, and IQR Univariate Analysis	Percentiles and interpretation (e.g., 90th percentile) Quartiles: Q1, Q2 (median), Q3 Interquartile Range (IQR) Box plot interpretation Outlier detection using IQR Histogram, Bar chart, Pie chart Frequency distribution tables KDE (Kernel Density Estimation) plot				
	13-September-2026	Live Session	Session 2	3	Understanding Patterns and Relationship using Univariate,Bivariate, Multivariate Analysis	Basic Bivariate analysis Bivariate Analysis Implementation Pearson's correlation & covariance Rank Correlation Correlation & Causation				
	16-September-2026	DC + Focus		3						
Week 19	19-September-2026	Live Session	Session 3	3	Probability & Distributions	Basics of probability: Classical, Empirical Complementary, Joint, and Conditional probability Discrete distributions: Binomial Continuous distributions: Normal distribution Central Limit Theorem (basic concept)				
	20-September-2026	Live Session	Session 4	3	Hypothesis Testing – Foundations	Population vs sample recap Concept of hypothesis: Null vs Alternative One-tailed vs Two-tailed test Type I and Type II errors p-value concept Confidence Intervals (basic interpretation) t-test: One-sample, Two-sample Z-test basics Chi-square test (intro) for independence				

						Hands-on: Interpret test results using Python/Excel output Decision-making from statistical tests												
	23-September-2026	DC + Focus		3														
Week 20		Gen AI Masterclass	MC 5	3	AI-Powered EDA & Statistical Storytelling	AI-assisted exploratory data analysis (EDA) Generating summary statistics and visual insights Identifying patterns, correlations, and anomalies Automating statistical interpretation Converting analysis into structured data stories												
	27-September-2026	Live Session	Mini Project Discussion	3	Mini Project Discussion	EDA Project (EDA Assignment with GEN AI included)	Note : No DC session, rather ask learners to watch pre-recorded Tableau videos during weekdays											
	30-September-2026	DC + Focus		3		EDA Assignment Review	Assignment											
ET 2 (Week 21)																		
Module 7: Project Work																		
Week		**Session Type**	**Session**	**Duration(hrs)**	**Session Title**	**Session Topics**	**Self Paced Links**											
Week 22	3-October-2026	Live Session		3		Capstone Project Building Session												
Week 23	4-October-2026	Live Session		1.5		Capstone Project Doubts												
Week 24	10-October-2026	Live Session		1.5		Capstone Project Doubts												