AI and Work Productivity using M365

A comprehensive program designed to equip professionals with the skills necessary to leverage Generative AI for business transformation, effectively integrate AI-powered tools in Microsoft 365 applications, and use data analytics to drive strategic decision-making. Participants will gain hands-on experience, practical skills, and strategies for implementing AI solutions in their daily workflows.

Program Outcomes

- Underst and foundational concepts of AI and generative AI and their applications in business
- Develop prompt engineering skills to create effective generative AI prompts for business use
- Integrate AI within Microsoft 365 to enhance productivity and streamline workflows

Program Coverage

Mode of Delivery: Virtual (30 hours)

VILT (Virtual Instructor Led)

40%

60%

SDL (Self Directed Learning)

S.No	Topic	Subtopic	Duration (hrs)
1	Generative AI and Prompt Engineering	Generative AI and Prompt Engineering	9 hrs
		Prompt art for AI Adoption	
		Ultimate-Prompting-Guide	
2	M365 Word and PowerPoint	AI for Everyday Work with M365 Word	4 hrs
		AI Powered M365 PowerPoint	
3	Decision Making with Excel and AI	Basics of Statistics	17 hrs
		Working with MS Excel	
		Microsoft Excel 365 Feature	
		Data Analytics for Decision Making	
Total			**30 hrs**
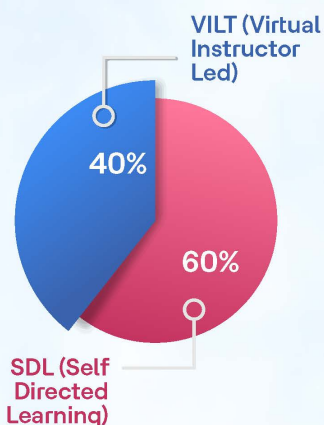
Tools Required: Microsoft M365, GenAI tools like ChatGPT, Copilot, MS Excel / Power BI

HCLTech
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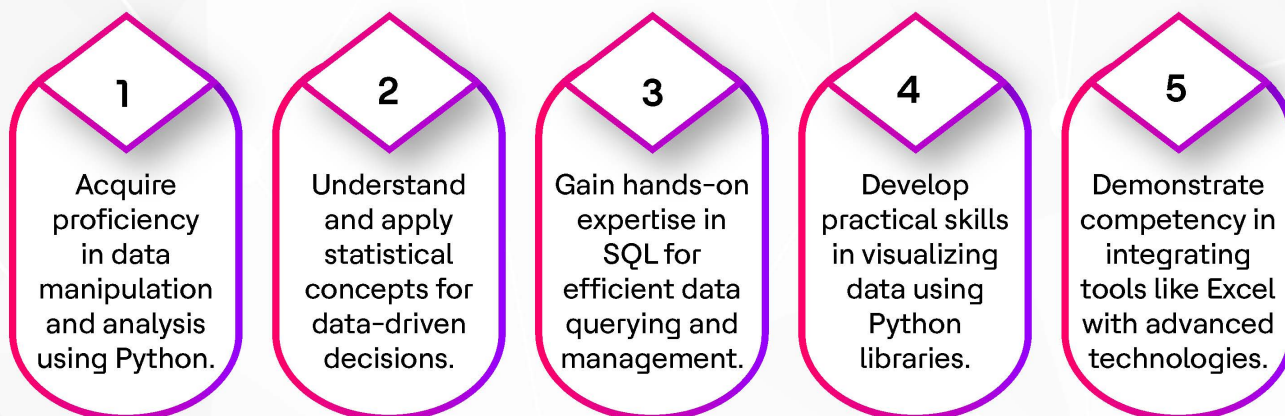
Business Analytics and Visualization

This program equips learners with business analytics and visualization skills, covering data manipulation, statistical analysis, SQL, Python-based visualization, and Excel integration for effective data-driven decision-making.
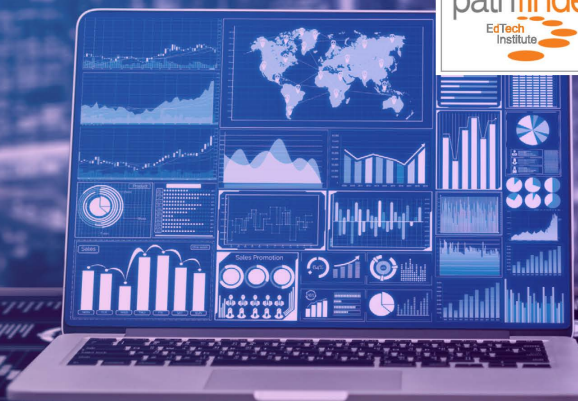
Prerequisites and Weightage

- Basic understanding of mathematics and statistics
- Familiarity with Excel and spreadsheets
- Basic programming concepts (preferably Python)
- Knowledg of database structures (SQL basics)

Program Outcomes

1. Acquire proficiency in data manipulation and analysis using Python.
2. Understand and apply statistical concepts for data-driven decisions.
3. Gain hands-on expertise in SQL for efficient data querying and management.
4. Develop practical skills in visualizing data using Python libraries.
5. Demonstrate competency in integrating tools like Excel with advanced technologies.

Program Coverage

Mode of Delivery: Virtual (60 hours)

- VILT (Virtual Instructor Led) — 40%
- SDL (Self Directed Learning) — 60%

S.No	Module Name	Topics & Sub-topics	Duration (hrs)
1	Excel	Basic Functions, Data Entry, Data Cleaning, Pivot Tables, Visualization Techniques	7 hrs
2	Probability and Statistics	Descriptive Statistics, Probability Distributions, Hypothesis Testing, Sampling Techniques	8 hrs
3	SQL Concepts	Basic SQL Commands (SELECT, JOIN, WHERE), Normalization, Data Aggregation, Subqueries	8 hrs
4	Python	Python Syntax, Data Structures, Pandas, Numpy, File Handling, Data Analysis Techniques	19 hrs
5	Data Manipulation and Visualization using Python	Data Wrangling, Matplotlib, Seaborn, Data Visualization, Exploratory Data Analysis (EDA)	15 hrs
6	Practice	Review of Excel, SQL, Python, Visualization with Practical Exercises and MCQs	3 hrs
		Total Duration	**60 hrs**

Cybersecurity & AI for All

This program emphasizes the importance of cybersecurity and secure practices while introducing fundamental AI concepts, showcasing how AI can enhance threat detection, prevention, and response in cybersecurity. It empowers individuals to understand AI's role in securing digital environments and safeguarding data.

Prerequisites

- Basic understanding of digital technologies and internet usage.
- Familiarity with common software applications and online platforms.
- Awareness of the importance of protecting personal and organizational information.
- No prior cybersecurity and AI experience required, as the course covers foundational concepts.

Program Outcomes

- Ability to recognize and apply key cybersecurity practices to protect digital systems and data from threats.
- Demonstrate a solid understanding of AI concepts and how they can be leveraged for enhancing security measures.
- Identify and evaluate the role of AI in cybersecurity applications, including threat detection, risk mitigation, and incident response.
- Develop an awareness of the ethical implications of AI in cybersecurity and the best practices for ensuring secure, responsible use of AI technologies.

Program Coverage

S.No	Topic	Subtopic	Duration (hrs)
1	Importance of Cybersecurity and AI	Overview of AI and Cybersecurity	6 hrs
		Comprehending the Significance of Cybersecurity and Artificial Intelligence	
		Key Objectives and Terminologies	
		Consequences of Cyber-Attacks	
		Intersection of AI and Cybersecurity	
2	Secure Cyber Practices	Common Cyber Threats	8 hrs
		Secure Internet Practices	
		Data Protection and Privacy	
		Secure Email Practices	
		Cyber Safety at Workplace	
3	AI Concepts	Overview of Machine Learning	9 hrs
		Definition and types of AI, How AI works	
		Key Domains of AI	
		Introduction to Gen AI	
		Prompt Techniques (Prompt Art for AI Adoption)	
		AI for Everyday Work (Effective Use of AI at Work)	
4	AI for Cybersecurity	Benefits, Risks, and Challenges in Using AI	7 hrs
		Ethical and Privacy Concerns of AI in Cybersecurity	
		AI for Secure Cyber Practices	
		Emerging Trends in AI and Cybersecurity	
		Use cases and Best Practices	
		Total	30 hrs

Mode of Delivery: Virtual (30 hours)

40%
VILT (Virtual Instructor Led)

60%
SDL (Self Directed Learning)

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		Key Domains of AI	
		Introduction to Gen AI	
		Prompt Techniques (Prompt Art for AI Adoption)	
		AI for Everyday Work (Effective Use of AI at Work)	
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		Ethical and Privacy Concerns of AI in Cybersecurity	
		AI for Secure Cyber Practices	
		Emerging Trends in AI and Cybersecurity	
		Use cases and Best Practices	
		Total	30 hrs

Mode of Delivery: Virtual (30 hours)

40% VILT (Virtual Instructor Led)

60% SDL (Self Directed Learning)

Data Engineering with Python

This program equips learners with Python-based data engineering skills, covering data structures, SQL, NoSQL, data warehousing, pre-processing, and visualization, enabling efficient data management, modeling, and analysis for real-world applications.

Pre-requisites

- Basic Programming Knowledge
- Understanding of Databases
- Familiarity with Data Structures
- Basic Knowledge of SQL
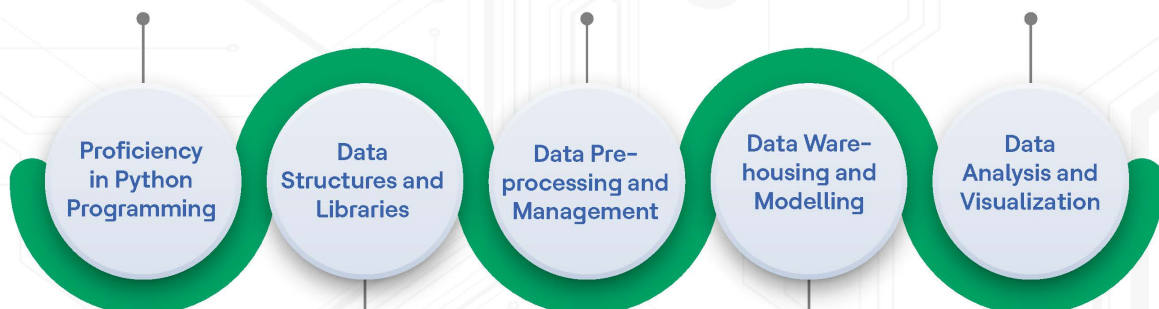- Introduction to Cloud Platforms

Program Coverage

Ability to implement Python program structure, data types, expressions, and logic to solve problems.

Skills to pre-process data using advanced Python libraries and manage data using SQL and NoSQL databases.

Competence in analysing data, creating dashboards, and understanding data handling policies.

- Proficiency in Python Programming
- Data Structures and Libraries
- Data Pre-processing and Management
- Data Warehousing and Modelling
- Data Analysis and Visualization

Capability to select and apply appropriate data structures and built-in libraries for problem-solving.

Understanding of data warehouse architecture, data marts, OLAP concepts, and data modelling.

Program Coverage

| S.No	Module Name	Sub-Topics	Duration (hrs)
1	Getting familiar with Python programming	Python program structure, data types, expressions, logic application	8 hrs
2	Explore Python Data structures	Modules, packages, data structures, problem-solving	8 hrs
3	Explore Python built-in libraries and OOPs concepts in Python	Built-in libraries, OOPs concepts, encapsulation, abstraction, inheritance, polymorphism	8 hrs
4	Pre-process data using advanced Python libraries	Data observation, pre-processing methods, data cleaning	4 hrs
5	Working with Oracle SQL and PL/SQL	Schema, tables, relations, keys, stored procedures, functions	2 hrs
6	Manipulate unstructured data using NoSQL	Data sources, metadata, data integration, scalability, availability	4 hrs
7	Data Warehouse Architecture	Data flow, data management blueprint	2 hrs
8	Working with Datamarts and OLAP concepts	Data storage, data retrieval, datamarts scope	2 hrs
9	Understand data modeling concepts and ETL operations	Fact table, dimension table, in-memory processing, fault tolerance	4 hrs
10	Explore PySpark for handling distributed data	Spark architecture, PySpark functionality	4 hrs
11	Explore different ways to Analyze data	Data analytics, patterns, trends	4 hrs
12	Create and Publish dashboards	Visualization tools, dashboard creation, automation	8 hrs
13	Understanding Data handling policies	GDPR principles, data categorization, data validation	2 hrs
		Total Duration	**60 hrs**

**Mode of Delivery:
Virtual (60 hours)**

40%
VILT (Virtual Instructor Led)

60%
SDL (Self Directed Learning)
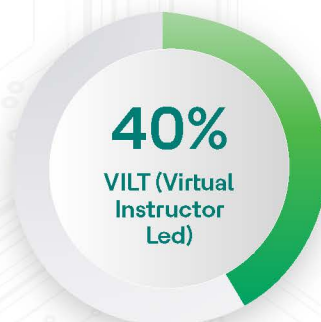
Java & Mobile Development

This program equips learners with Java-based Android development skills, covering OOP, database integration, web technologies, Android APIs, best practices, and deployment to create scalable, interactive mobile applications.
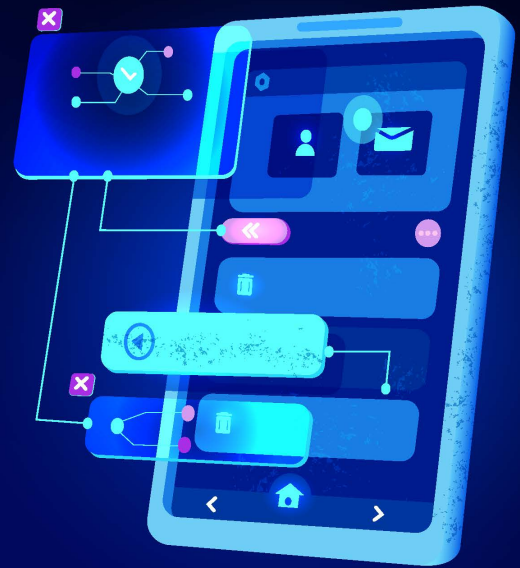
Pre-requisite

Basic Programming Skills: Knowledge of programming concepts (variables, loops, control structures).

Basic Java Programming: Understanding of Java OOP concepts, classes, objects, inheritance, etc.

Basic Web Development Knowledge: Basic knowledge of HTML, CSS, and JavaScript.

Database Understanding: Basic knowledge of relational databases and SQL.

Program Outcomes

Mastery in developing Android applications using Java, with the ability to create functional, interactive mobile apps.

Proficiency in integrating various modules like exception handling, SQL, and web technologies (HTML, CSS, JavaScript) into Android applications.

Knowledge and application of industry standards, guidelines, and best practices for Android mobile app development.

Ability to work with Android APIs, JDBC, and relational databases to build efficient and scalable mobile applications.

Understanding the process of mobile application deployment and maintenance, along with troubleshooting techniques.
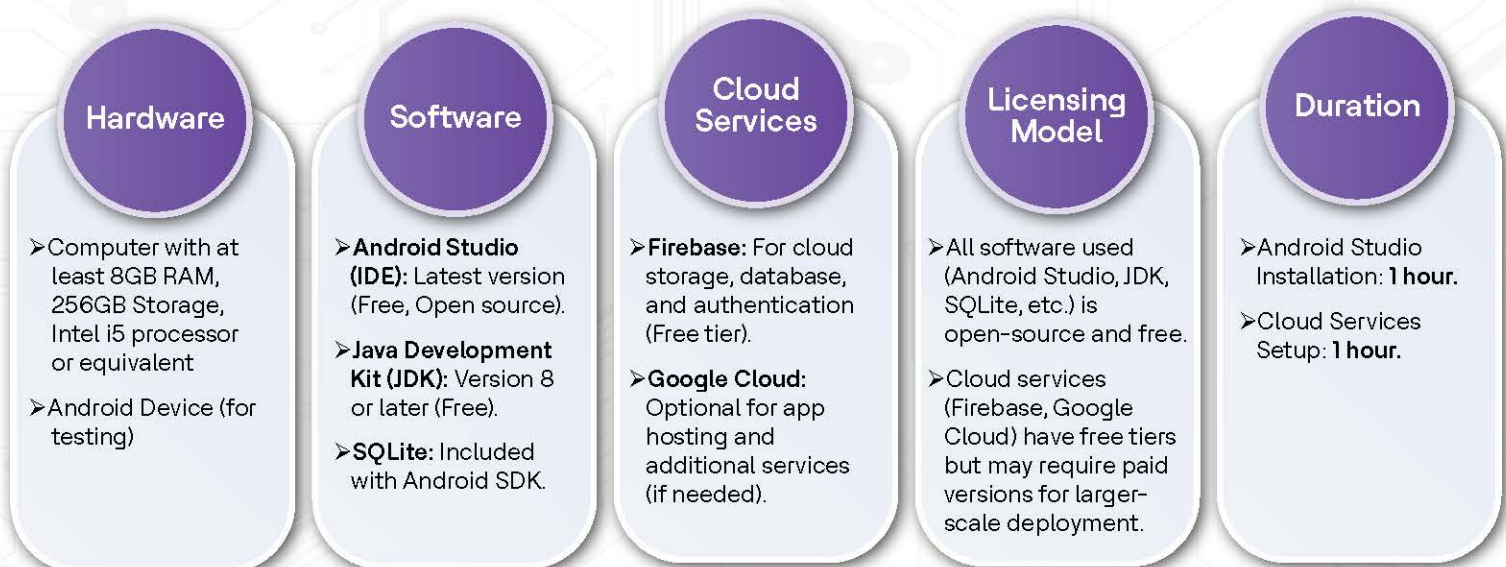
Mode of Delivery:
Virtual (60 hours)

VILT (Virtual Instructor Led)
40%

60%

SDL (Self Directed Learning)
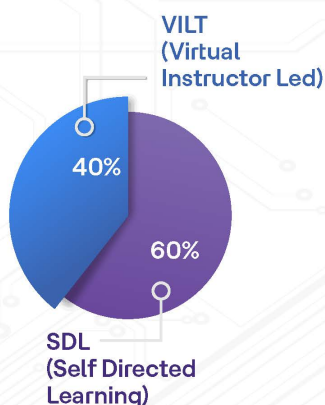
Program Coverage

S.No	Module Name	Detailed List of Topics and Sub-Topics	Duration (hrs)
1	Introduction to Android Development	Introduction to Android	6 hrs
		Android SDK and Development Tools	
		Setting up Android Studio	
		Emulator Setup	
2	Basic Android UI and Layouts	Views and ViewGroups	6 hrs
		UI Components: TextView, Button, ImageView, etc.	
		LinearLayout, RelativeLayout, ConstraintLayout	
3	Event Handling and Listeners	Event Listeners (OnClickListener)	6 hrs
		Input Handling (Text fields, Buttons)	
		Handling gestures (swipe, touch)	
4	Android Intents and Activities	Activities and Activity Lifecycle	6 hrs
		Intents and Intent Filters	
		Passing Data Between Activities	
5	Exception Handling in Android	Android-specific Exceptions (e.g., Network, File I/O)	6 hrs
		Crash Reporting Tools	
6	Working with Databases (SQLite & JDBC)	Introduction to SQLite	6 hrs
		Creating and Managing Databases	
		CRUD Operations	
		Integrating JDBC for server connections	
7	Web Integration (HTML, CSS, JavaScript)	WebView Usage	6 hrs
		Embedding HTML, CSS, JavaScript	
		Accessing Online Resources in Apps	
8	Advanced Android Features	Background Processing (AsyncTask)	6 hrs
		Notifications (Push, Local)	
		Android Services and Broadcast Receivers	
9	Deployment and App Maintenance	Preparing App for Release	6 hrs
		Signing APKs	
		Publishing on Google Play Store	
		Handling App Updates	
10	Project Work and Case Study	Individual or Group Project	6 hrs
		Real-world Mobile App Case Study	
		Final Presentation and Demo	
		Total	**60 hrs**

Hardware, Software, and Licensing Requirements

Hardware
- Computer with at least 8GB RAM, 256GB Storage, Intel i5 processor or equivalent
- Android Device (for testing)

Software
- **Android Studio (IDE):** Latest version (Free, Open source).
- **Java Development Kit (JDK):** Version 8 or later (Free).
- **SQLite:** Included with Android SDK.

Cloud Services
- **Firebase:** For cloud storage, database, and authentication (Free tier).
- **Google Cloud:** Optional for app hosting and additional services (if needed).

Licensing Model
- All software used (Android Studio, JDK, SQLite, etc.) is open-source and free.
- Cloud services (Firebase, Google Cloud) have free tiers but may require paid versions for larger-scale deployment.

Duration
- Android Studio Installation: **1 hour.**
- Cloud Services Setup: **1 hour.**

Java & Web Development

This program equips learners with Java and web development skills, covering OOP, advanced Java concepts, frameworks like Spring and Hibernate, best practices, and real-world application development using industry standards.

Pre-requisite

Basic Programming Concepts (Variables, Data Types, Loops)

Object-Oriented Programming (OOP) basics

Familiarity with basic algorithms and data structures

Problem-solving ability and debugging skills

Understanding of software development practices (Version control, IDE usage)

Program Outcomes

Java Programming Proficiency: Understand and apply fundamental Java concepts, including Object-Oriented Programming (OOP), data types, control structures, and exception handling.

Advanced Java Concepts: Gain expertise in advanced topics like collections, multithreading, networking, and database connectivity (JDBC).

Framework Knowledge: Understand and use popular Java frameworks like Spring, Hibernate, and JavaFX for building enterprise-level applications.

Best Practices: Develop applications with a focus on software engineering best practices such as modular design, code reusability, and performance optimization.

Real-world Application: Implement the learned concepts in real-world Java projects, contributing to team-based software development activities.

Program Coverage

S.No	Module Name	Detailed List of Topics and Sub-Topics	Duration (hrs)
1	Java Fundamentals	Java Environment Setup	6 hrs
		Introduction to Java Syntax	
		Variables and Data Types	
		Control Flow Statements (if, for, while, switch)	
2	OOPS Concepts	Classes and Objects	9 hrs
		Methods	
		Inheritance and Polymorphism	
		Encapsulation	
		Arrays and Strings	
3	Exception Handling	Errors & Exceptions	6 hrs
		Type of Exceptions	
		Handling Exceptions	
		Custom Exceptions	
4	Collections Framework	Introduction to Collections	6 hrs
		List, Set, and Map Interface	
		Iterators	
		Collections Utility Methods	
5	Oracle SQL	SQL Data Types	6 hrs
		DDL	
		DML	
		Constraints	
6	JDBC	JDBC Drivers	6 hrs
		Statement, Prepared Statement, Callable Statement	
		ResultSet	
7	UI - HTML, CSS & Java Script	HTML	9 hrs
		CSS	
		JavaScript Fundamentals	
		Forms and Validations	
8	JEE - Introduction to JEE and Servlets	Intro to JEE	6 hrs
		Java Web Servers	
		Servlets & LifeCycle	
		Bacek end connectivity with Servlets	
9	Java Server Pages (JSP)	JSP LifeCycle	9 hrs
		Servlets vs JSP	
		JSP session handling	
		JSP Standard Actions and TAGs	
	Total		**60 hrs**

Mode of Delivery: Virtual (60 hours)

VILT (Virtual Instructor Led)
40%

SDL (Self Directed Learning)
60%
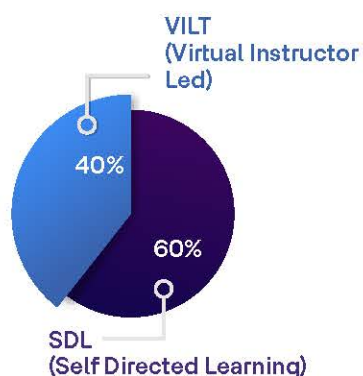
Hardware, Software, and Licensing Requirements

Hardware
➢Computer with at least 4GB RAM (8GB preferred)
➢Minimum 2GHz CPU (Quad-Core)

Software
➢Java Development Kit (JDK) 11 or later
➢Integrated Development Environment (IDE): IntelliJ IDEA, Eclipse

Licensing
➢Open-source software (Eclipse, IntelliJ IDEA Community Edition)

# Media Tools for Digital Marketing

The Foundations of Visualization and Media Tools program is designed to provide participants with a comprehensive understanding of visualization techniques, media tools, and design principles. This 30-hour program is divided into three modules, each focusing on different aspects of visualization and media tools.

Program Outcomes

1 Understand the importance and applications of visualization and media tools across various industries.

2 Apply basic design principles, including color theory, typography, and layout.

3 Utilize graphic design software effectively.

4 Identify and create different types of visualizations.

5 Use various tools and software for data visualization.

Program Coverage

Mode of Delivery: Virtual (30 hours)

VILT (Virtual Instructor Led)
40%

60%

SDL (Self Directed Learning)
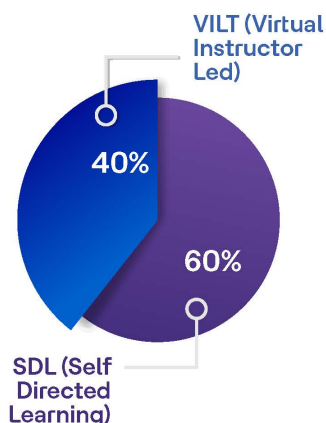
S.No	Topic	Subtopic	Duration (hrs)
1	Introduction to Visualization and Media Tools	Overview of Visualization and Media Tools	10 hrs
		Importance and Applications in Various Industries	
		Key Trends and Innovations	
2	Basic Design Principles	Color Theory, Typography, Layout	10 hrs
		Introduction to Graphic Design Software	
3	Principles of Data Visualization	Types of Visualizations	10 hrs
		Tools and Software for Data Visualization	
	Total		**30 hrs**