

# Business Analytics Mastery Course





# Detailed Curriculum



# DATA & ANALYTICS - FUNDAMENTALS



## Data Basics

- What is Data?
- How data is generated in businesses?
- What are data types?
- What is a variable?

## Data Basics

- What are tables?
- What is Pivot?
- What is Unpivot?
- What is Transpose?
- What is data aggregation?

## Relationships & Schemas

- What is cardinality?
- What is a relationship?
- 1:1, 1:Many, Many:1, Many:Many
- Establish Relationships
- Star Schema

## Joins

- What is a primary key?
- What is a foreign key?
- What is meant by merging tables?
- Types of Joins - Left, Right, Inner etc

# BUSINESS ANALYTICS - FUNDAMENTALS



Requirement Gathering



Data Documentation



Design Principles



Insights Generation



Data Visualization Framework



Business Use Cases



# POWER BI



🕒 **30+ Hours**



## Introduction

- The Power of Visualization
- Why Power BI?
- Installation & Setup guide
- Components of Power BI

## Power Query Editor


- Loading Data
- Applied Steps
- Changing Data Types
- Column Functions - Split and Merge
- Create Columns - Custom columns and conditional columns
- Append and Merge Queries
- Transformation functions - Transpose, Pivot, Unpivot, Group By
- Joins - Left, Right, Outer, Inner, Left-anti and Right-anti joins
- Date and Time functions
- Sort and Filters
- Connect to GSheets
- Create tables by entering Data
- Column quality and profiling
- Remove errors and nulls
- M Code basics
- Parameters and Custom functions

## Visualizations

- Basic Visuals - Bar charts, Line Chart, Pie/Donut Charts, Cards, Area charts, Tables and Matrix
- Advanced Visuals - Scatter Plots, Waterfall Charts, Funnel Charts, Treemaps, Geo Maps, Ribbon charts, Gauge and KPIs
- AI Visuals - Q&A, Decomposition Tree, Narratives and Key Influencers
- Characteristics and properties of all the visuals
- Formatting options for visuals
- Canvas formatting
- Tooltips
- Filters and Slicers
- Hierarchy and Drill-downs
- Drill-through
- Bookmarks
- Selection Pane
- Insert elements - Shapes, Images, Buttons and Text Box
- Page and Bookmark Navigator
- Row level security
- Mobile layout
- Themes

# POWER BI



 **30+ Hours**



## DAX

- Table View
- Measures vs Columns
- Summarisation functions - SUM, SUMX, COUNT, COUNTX, COUNTA, COUNTAX, DISTINCTCOUNT
- Row context vs Filter Context
- Filter Modifiers - CALCULATE, REMOVEFILTERS
- Create Tables - ALL, FILTER, VALUES
- Conditional functions - IF, SWITCH
- Date functions - DATEDIFF, EOMONTH, EDATE, WEEKDAY, NETWORKDAYS
- String Functions - CONCATENATE, CONCATENATEX, String Operator '&'
- Math Functions
- Home Table

## Relationships

- Cardinality - One to One, One to Many, Many to One, Many to Many
- Schemas
- Establishing Relationships
- Model View
- Cross-filters
- Filter Propagation

## Power BI Service


- Introduction to Power BI Service
- Layout and Workspaces
- Reports
- Dashboards
- Semantic Models
- Row Level Security
- Report Sharing
- Custom Visuals

## Data Visualization Framework

- How to choose right charts?
- Requirement Gathering
- Characteristics of Data
- Data Preparation Steps
- How to plan the report layout?
- Colors theory and Designs principles

# MYSQL



 **9+ Hours**



## Introduction

- Understanding the basics of Data
- What is SQL and what are the applications
- What is MySQL
- How to install MySQL

## Query Fundamentals

- Writing your first SQL query
- SELECT statement
- Filtering data using WHERE clause
- Sorting the data using ORDER BY (desc/asc)
- Manipulate the output using LIMIT and OFFSET
- Handling computations on columns

## Data Types


- What are Data Types in MySQL
- Validate and update the data types of a given dataset using ALTER TABLE and MODIFY column

## Operators & Functions

- Arithmetic/Numeric Operators - +, -, /, \*, DIV, MOD,
- Comparison Operators - =, >, >=, <, <=, !=, BETWEEN AND, NOT BETWEEN AND, IN, NOT IN, IS NULL, IS NOT NULL
- Logical Operators - OR, ||, AND, &&
- String Comparisons - like, not like
- Mathematical Functions - truncate(), round(), ceiling(), floor(), sign(), abs(), sqrt(), power()
- Date & Time Functions - year(), quarter(), monthname(), dayname(), day(), hour(), week(), now(), datediff(), adddate(), subdate(), curdate(), curtime()
- String Functions - substring(), replace(), length(), upper(), lower(), left(), right(), concat()
- Nuances of String Comparisons - Compare using % and \_
- Aggregate Functions - min(), max(), avg(), count()
- Distinct Function
- Flow Control Functions - If, Nested If, Case
- How to use CASE statements inside aggregate functions
- User-Defined Functions - Write your own functions
- Window Functions - row\_number() over(), rank() over(), dense\_rank() over(), Partition by

# MYSQL



 **9+ Hours**



## Granularity & Aggregation

- What is the concept behind Data Granularity and Aggregation
- Queries using the GROUP BY Clause

## Subqueries and Joins

- Mastering Subqueries
- Understand the concept of Cardinality, Schema, and Joins
- Joins - Left Join, Right Join, Inner Join, Cross Join

## Advanced Functionalities

- Common Table Expressions (CTE)
- Advanced Window Functions
- Working with Variables
- Using the UNION Operator

## Create, Update and Delete Tables

- Creating, Inserting, and Altering Tables
- Auto-increment feature
- Updating and Deleting Data
- Modifying and Dropping Tables
- Autocommit, Commit, and Rollback Operations
- TRUNCATE vs DELETE vs DROP
- Understanding Views
- Working with Temporary Tables

## Import & Export

- How to import csv files?
- How to export tables?

## Others

- What is Data Normalization?
- Types of SQL Commands - DDL, DML, DQL, DCL, TCL
- Order of Execution vs Order of Writing in SQL Queries



# PYTHON



🕒 **8+ Hours**



## Introduction

- What is Python?
- What are the applications of Python?
- Dynamically Typed Language
- Writing your first code

## Data Types

- What is a variable
- Variable Naming Convention
- Integer
- Float
- String
- List
- Tuples
- Dictionary
- Casting

## Operators

- Arithmetic Operators - +, -, /, \*, %, \*\*, //
- Comparison Operators - !=, ==, >, <, >=, <=
- Logical Operators - AND, OR, NOT
- Membership Operators - IN, NOT IN
- Identity Operators - IS, IS NOT

## Built-in Functions & Methods

- |                |             |
|----------------|-------------|
| • print()      | • upper()   |
| • round()      | • lower()   |
| • abs()        | • strip()   |
| • dir()        | • replace() |
| • is_integer() | • append()  |
| • pow()        | • sort()    |
| • len()        | • sorted()  |

## Lists, Tuples, Dictionary

- List vs Tuples vs Dictionary
- Nested Lists
- Nested Dictionary
- append()
- insert()
- sort()
- remove()
- clear()
- count()
- index()
- keys()
- values()

# PYTHON



🕒 **8+ Hours**



## Loops & Conditions

- If.. Else Condition
- Elif
- For Loop - Range(), enumerate()
- Nested For Loop
- For Loop - Break, Continue
- While Loop

## Functions

- What are functions?
- Definition, Arguments
- \*args, \*kwargs
- lambda
- User Defined Functions

## Modules

- Math
  - sqrt()
  - pi
  - floor()
  - ceil()
  - pow()
  - trunc()
- Calendar
  - month()
  - isleap()
  - calendar()
  - monthrange()

## Data Analytics

### Numpy

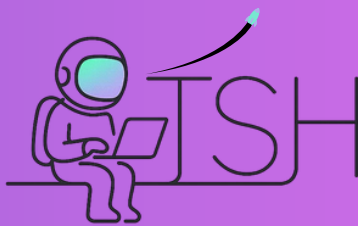
- 1D Arrays
- 2d Arrays
- Matrix Operations
- Stacking
- Splitting
- Flagging values
- Reshape Arrays

### Pandas

- Data Frames
- Filtering Data
- Descriptive Statistics
- Data Cleaning
- Merging Tables
- Group by
- File Handling - csv, Excel

## Data Visualization

- Matplotlib and Seaborn packages
- Line Chart
- Pie Chart
- Bar Chart
- Scatter Plot
- Histogram
- Heatmap
- Formatting Charts



# Projects



## Sales Analytics

Using Power BI

Analyze overall business performance, deep-dive into country-wise sales trends, and evaluate product performance to uncover key revenue drivers and growth opportunities



## HR Analytics

Using MYSQL

Analyze promotion recommendation data to identify patterns and anomalies. Analyze how promotions are recommended across different departments and demographic segments



## Bank Customer Churn Analysis

Using Python

Analyze customer data to identify the key factors responsible for churn. Identify high-risk customer segments based on data-driven insights



Work on industry-standard projects that mirror **real-world analytics workflows**, from data extraction to business insights. Gain **hands-on experience** following the full lifecycle of analytics projects as executed in top companies



# Virtual Internship Guidance

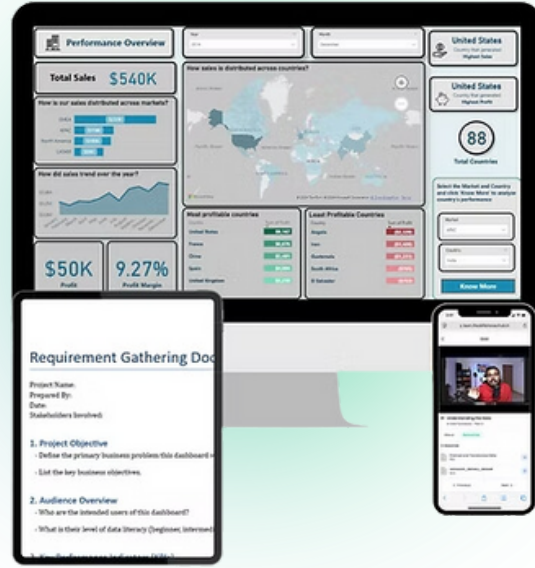


*We will guide you on getting virtual internships from reputed organizations, offering real-world job simulations that mirror actual industry tasks. These hands-on experiences will help you build credibility, enhance your resume, and gain practical exposure to business analytics roles*

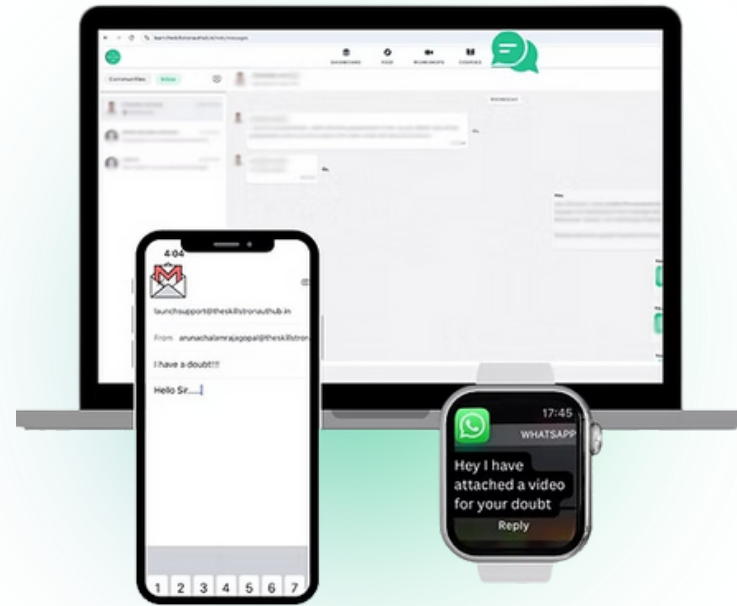


# Why choose The Skillstronaut Hub ?

**Learn Anytime Anywhere**



**Lifetime 1:1 Support**



**Get Certified**



**Fully delivered in Tamil**

**தமிழ்**

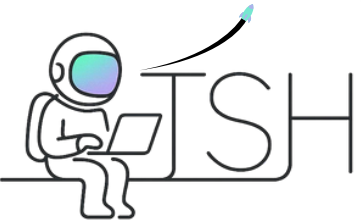
**Business Focused Curriculum  
Designed by Industry Experts**



**No prior experience needed  
Covers all basic fundamentals**



**✓ Access to all future updates**



# What our learners say? ★★★★★



”

The Skillstronaut Hub has provided valuable insights. Sustaining a career in Power BI requires thinking from the user's perspective and aligning with business objectives. Mr. Arun's practical teaching approach in the course has been especially beneficial.



Mohanaraj R D, Dindigul

”

It's really good that I chose The Skillstronaut Hub. Learning in Tamil is a very good experience



Arunkumar T, Chennai

”

I have learnt a lot of new things. The presentations help me recap the learnings quickly



Chandru Anand, Singapore

”

It feels like a Live class and as if Arun sir is talking to me directly. The experience is way better than other options that I have explored



Vimalanandan, Erode



# Course Curators & Mentors



in

**Arunachalam Rajagopal**

Founder and Coach - The Skillstronaut Hub

Ex Sulekha, Zeta, Temenos, Amazon

MBA - Great Lakes Institute of Management



in

**Shanmuga Priyanka Elangovan**

Co-founder and Coach - The Skillstronaut Hub

Ex Tiger Analytics, Daimler, L&T

MBA - Great Lakes Institute of Management





**THANK  
YOU**

**See you soon  
inside the Course!!!**



***Have more Queries?***



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