



Softcrayons

DATA ANALYTICS

*Empowering minds
shaping futures*



PROFESSIONAL CERTIFICATION IN

DATA ANALYTICS



PROSPECTUS



Key Advantages of Choosing Softcrayons

FOR STUDENTS

Supplemental Learning Resources: Softcrayons offers offline and online courses, educational materials, and additional resources that can complement and enhance college students' learning.

Skill Development: Softcrayons offer courses and certifications focused on developing specific skills that are in high demand in the job market.

Career Exploration: Softcrayons offer a wide range of courses across various disciplines, enabling college students to explore different fields and potential career paths.

Industry Relevance: Softcrayons frequently collaborates with industry professionals and experts to ensure that the knowledge and skills imparted are relevant and aligned with current industry practices and trends.

FOR FREELANCER & JOB SEEKER

Flexibility: Softcrayons offers online courses and programs that can be accessed from anywhere.

Skill Development: To acquire in-demand skills according to the latest industry trends and technologies to stay competitive in the job market.

Key Advantages of Choosing Softcrayons

Certifications: Softcrayons provides you with Professional Certifications and helps you with Resume Enhancement.

Career Support: Softcrayons also offers career counseling and job placement assistance, which can be invaluable for freelancers seeking new projects or job seekers looking for employment.

FOR ENTREPRENEURS AND BUSINESS OWNER

Upskilling and Reskilling: As the business landscape evolves rapidly, Softcrayons ensure that you stay up-to-date with the latest trends, technologies, and best practices.

Flexible Learning: Online courses offered by Softcrayons allow you to learn at your own pace, fitting your studies around your busy schedules.

Entrepreneurial Skills Development: Softcrayons offers courses and programs specifically designed to help entrepreneurs develop essential skills.

Cost-effective: Softcrayons provides more affordable learning options that help you invest in your professional development without straining your budget.

About The Program



A data analyst collects, processes, and performs statistical analyses on large datasets to identify trends and support decision-making. They work with various tools like SQL, Excel, Python, R, and visualization software such as Tableau and Power BI. Key responsibilities include cleaning and organizing data, applying statistical techniques to interpret it, and creating visualizations and reports to present findings. Data analysts translate complex data into actionable insights, helping businesses develop strategies and improve operations. They require strong analytical skills, technical proficiency, attention to detail, and excellent communication abilities to explain findings to non-technical stakeholders. Typically, data analysts hold degrees in fields like statistics, mathematics, or computer science and have experience in data-related roles. Their work is essential in various sectors, including marketing, finance, healthcare, and technology, driving data-driven decision-making and business growth.



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- Statistical Data Visualization using Seaborn

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- **Branching and Merging**
- **Remote Repositories**
- **Collaborative Development**

DATA ANALYTICS

TRAINING CURRICULUM

1 PYTHON

– Introduction To Python

- What is Python? History and features of the language
- Installing Python and setting up the development environment
- Basic Python syntax and structure
- Python data types: integers, floats, strings, booleans, etc.
- Variables and assignment

– Python Operators and Expressions

- Arithmetic operators
- Comparison operators
- Logical operators
- Bitwise operators
- Operator precedence
- Type conversion and casting

– Python Collections (Data Structures)

- Lists
- Tuples
- Dictionaries
- Sets
- List/dictionary/set comprehensions

– Python Control Structures

- If, If-else, If-elif-else statements
- Nested if-else
- Loops (for, while)
- Break and continue statements
- Match-case statements

– Python Functions

- Defining and calling functions
- Function arguments and parameters
- Return statements
- Scope of variables
- Anonymous (lambda) functions
- Recursive functions

– Python Exception Handling

- Syntax errors and exceptions
- try-except blocks
- Raising and handling custom exceptions
- Context managers

– Python Modules and Packages

- Importing modules
- Creating and using custom modules
- Python standard library
- Third-party packages and libraries
- Virtual environments

– Python File Handling

- Opening and closing files
- Reading from and writing to files
- File modes (text, binary)
- Handling file paths
- Directories and folders

② Libraries in Python

Data Analysis using NumPy

– Introduction to NumPy

- Importance in scientific computing and data analysis
- Installation and setup

– NumPy Arrays

- Creating arrays (1D, 2D, and 3D)
- Array attributes and methods
- Indexing and slicing

– Array Operations

- Mathematical operations
- Broadcasting
- Universal functions (ufuncs)

– Array Manipulation

- Reshaping arrays
- Stacking and splitting arrays
- Copying and views

– Linear Algebra with NumPy

- Matrix operations
- Eigenvalues and eigenvectors
- Solving linear equations

Data Analysis using Pandas

– Introduction to Pandas

- Series and DataFrame objects
- Creating DataFrames from various data sources

– Data Inspection and Cleaning

- Viewing and selecting data
- Handling missing data
- Data type conversion

– Data Manipulation

- Filtering and sorting

- Grouping and aggregation
- Merging, joining, and concatenating DataFrames

– Time Series Analysis

- Working with datetime data
- Resampling and rolling windows
- Time series-specific functionality

– Advanced Pandas

- MultiIndex and advanced indexing
- Categorical data
- Pivot tables and cross-tabulation

Data Visualization using Matplotlib

– Introduction to Matplotlib

- Figure and Axes objects
- Basic plotting: line plots, scatter plots, bar plots

– Customizing Plots

- Colors, markers, and line styles
- Axes labels, titles, and legends
- Gridlines and ticks

– Multiple Plots

- Subplots
- Customizing subplot layouts

– Advanced Plot Types

- Histograms and density plots
- Contour plots and heatmaps
- 3D plotting

– Saving and Customizing Figures

- Saving plots in various formats
- Customizing figure size and DPI
- Animations basics

Statistical Data Visualization using Seaborn

– Introduction to Seaborn

- Seaborn vs. Matplotlib
- Seaborn styles and color palettes

– Relational Plot Types

- Scatter plots and line plots
- Regression plots

– Categorical Plot Types

- Bar plots and count plots
- Box plots and violin plots

– Distribution Plot Types

- Histograms and KDE plots
- Joint plots and pair plots

– Multi-plot Grids

- FacetGrid for conditional plots
- PairGrid for pairwise relationships

3 Statistics

- Categorical Data
- Numerical Data
- Mean

- Median
- Mode
- Outliers
- Range
- Interquartile range
- Correlation
- Standard Deviation
- Variance
- Box plot

4 SQL and MySQL

– Introduction to Databases and SQL

- Overview of database management systems
- Relational database concepts
- Introduction to SQL (Structured Query Language)

– MySQL Installation and Setup

- Installing MySQL on different platforms
- MySQL command-line client and GUI tools
- Connecting to a MySQL server

– SQL Basics

- Creating and managing databases
- Data types and table definition
- Inserting, querying, updating, and deleting data

– SQL Queries and Operators

- SELECT statements and filtering data
- Joins (inner, outer, cross, and self)
- Aggregate functions and grouping
- Subqueries and derived tables

– Database Design and Normalization

- Entity-Relationship (ER) modeling
- Normalization forms and principles
- Indexing and performance optimization

– Advanced SQL Topics

- Views and materialized views
- Stored procedures and functions
- Triggers and events
- Transactions and concurrency control

– MySQL Administration

- User management and security
- Backup and restore strategies
- Monitoring and performance tuning

– MySQL Programming

- Integrating MySQL with programming languages (e.g., Python)
- MySQL drivers and connectors
- Object-Relational Mapping (ORM) tools

5 MS Excel

– MS Excel Basics and Interface

- Ribbon interface and quick access toolbar
- Workbooks, worksheets, and cells
- Basic formatting and cell styles
- Keyboard shortcuts for efficiency

– Data Entry and Validation

- Data types in Excel
- AutoFill and Flash Fill
- Data validation techniques
- Custom data formats

– Formulas and Functions

- Basic arithmetic operations
- Commonly used functions (SUM, AVERAGE, COUNT, MIN, MAX)
- Text functions (LEFT, RIGHT, MID, CONCATENATE, TRIM)
- Date and time functions

– Logical and Lookup Functions

- IF, AND, OR, NOT
- VLOOKUP, HLOOKUP
- INDEX and MATCH

– Data Cleaning and Preparation

- Removing duplicates
- Text to columns
- Find and replace
- Handling missing data

– Data Visualization

- Chart types and best practices
- Customizing charts
- Sparklines
- Conditional formatting

– PivotTables and PivotCharts

- Creating and modifying PivotTables
- Calculated fields and items
- Slicers and timelines
- PowerPivot basics

– Working with Large Datasets

- Tables and structured references
- Advanced filtering techniques
- Data consolidation
- Subtotals and grouping

6 Business Intelligence and Visualization Tools

(Any one from these two: Power BI or Tableau)

Power BI

– Introduction to Power BI

- Overview of BI concepts
- Why we need BI?
- Why Power BI?
- What is Power BI?
- Building Blocks of Power BI
- Getting started with Power BI Desktop
- Get Power BI Tools
- Introduction to Tools and Terminology
- Dashboard in Minutes
- Interacting with your Dashboards
- Sharing Dashboards and Reports

– Power BI Desktop

- Power BI Desktop
- Extracting data from various sources
- Workspaces in Power BI

– Power BI Data Transformation

- Data Transformation
- Query Editor
- Connecting Power BI Desktop to our Data Sources
- Editing Rows
- Understanding Append Queries
- Editing Columns
- Replacing Values
- Formatting Data
- Pivoting and Unpivoting Columns

- **Splitting Columns**
- **Creating a New Group for our Queries**
- **Introducing the Star Schema**
- **Duplicating and Referencing Queries**
- **Creating the Dimension Tables**
- **Merging Queries**
- **Creating an Index Column**
- **Duplicating Columns and Extracting Information**
- **Creating Conditional Columns**
- **Performing Basic Mathematical Operations**
- **Improving Performance and Loading Data into the Data Model**

– **Modelling with Power BI**

- **Introduction to Modelling**
- **Modelling Data**
- **Manage Data Relationship**
- **Optimize Data Models**
- **Cardinality and Cross Filtering**
- **Default Summarization & Sort by**
- **Creating Calculated Columns**
- **Creating Measures & Quick Measures**

– **Power BI Desktop Visualisations**

- **How to use Visual in Power BI?**
- **What Are Custom Visuals?**
- **Creating Visualisations and Colour Formatting**
- **Setting Sort Order**
- **Scatter & Bubble Charts & Play Axis**
- **Tooltips and Slicers, Timeline Slicers & Sync Slicers**
- **Cross Filtering and Highlighting**
- **Visual, Page and Report Level Filters**
- **Drill Down/Up**
- **Hierarchies and Reference/Constant Lines**
- **Tables, Matrices & Conditional Formatting**
- **KPI's, Cards & Gauges**
- **Map Visualizations**

- Custom Visuals
- Managing and Arranging
- Drill through and Custom Report Themes
- Grouping and Binning and Selection Pane, Bookmarks & Buttons
- Data Binding and Power BI Report Server

Tableau

– Introduction to Tableau

- Overview of Tableau products (Desktop, Prep, Server, Online)
- Understanding data visualization principles
- Tableau interface overview

– Connecting to Data Sources

- Connecting to various file types (Excel, CSV, JSON)
- Database connections (SQL, Oracle, etc.)
- Web data connectors
- Live connections vs. extracts

– Data Preparation in Tableau

- Data interpreter
- Cleaning and shaping data
- Combining multiple data sources
- Creating calculated fields

– Building Basic Visualizations

- Understanding dimensions and measures
- Creating bar charts, line graphs, and scatter plots
- Working with dates and time series
- Geographic mapping

– Enhancing Visualizations

- Formatting and layout
- Color theory and usage in Tableau

- Using shapes, sizes, and labels effectively
- Adding analytics (trend lines, forecasting)

– Calculations and Expressions

- Creating calculated fields
- Level of Detail (LOD) expressions
- Table calculations
- Parameters and input controls

– Advanced Chart Types

- Dual axis charts
- Combination charts
- Bullet graphs
- Box plots and Gantt charts

– Building Basic Visualizations

- Understanding dimensions and measures
- Creating bar charts, line graphs, and scatter plots
- Working with dates and time series
- Geographic mapping

– Dashboard Design

- Creating interactive dashboards
- Layout containers and tiled vs. floating elements
- Adding interactivity with actions and filters
- Best practices for dashboard design

– Advanced Mapping

- Custom territories
- Dual axis maps
- Using background images and custom geocoding

– Tableau Prep

- Introduction to Tableau Prep Builder
- Data cleaning and transformation workflows
- Combining and reshaping data

– Mobile Design

- Designing for mobile devices
- Device-specific layouts
- Tableau Mobile app features

– Sharing and Collaboration

- Publishing to Tableau Server/Online
- Creating and managing workbooks and data sources
- Permissions and security settings

– Server Administration (for Tableau Server users)

- Server architecture and topology
- User management and authentication
- Performance monitoring and optimization

– Advanced Topics

- Python integration
- Advanced calculations (e.g., cohort analysis, market basket analysis)
- Custom SQL and initial SQL

7 Git and GitHub

– Introduction to Version Control

- Understanding version control systems
- Benefits of using Git and GitHub
- Setting up Git and GitHub accounts

– Git Basics

- **Git repositories and workflow**
- **Initializing a Git repository**
- **Staging and committing changes**
- **Viewing commit history**

– **Branching and Merging**

- **Understanding branches in Git**
- **Creating, switching, and merging branches**
- **Resolving merge conflicts**

– **Remote Repositories**

- **Working with remote repositories on GitHub**
- **Pushing and pulling code**
- **Cloning existing repositories**

– **Collaborative Development**

- **Contributing to open-source projects on GitHub**
- **Creating and managing pull requests**
- **Code reviews and discussions**

This comprehensive data analytics syllabus typically covers a range of essential skills and tools. It begins with foundational statistics, and then progresses to data manipulation and cleaning techniques. Programming languages like Python is core component, along with database management and SQL. The curriculum often includes data visualization tools such as Tableau or Power BI, and advanced Excel techniques. Business intelligence concepts, data warehousing, and big data technologies like Hadoop may be covered. The syllabus also emphasizes practical skills in data storytelling, report writing, and presenting insights to non-technical audiences. Real-world projects and case studies are typically integrated throughout the course to provide hands-on experience. This syllabus aims to prepare students for the multifaceted role of a modern data analyst.

PLACEMENT COMPANIES



Testimonials of Students



Sukhpreet Kaur

2 reviews

★★★★★ 2 weeks ago **NEW**

Hlo mam I'm Sukhpreet your Softcrayons tarining institute in student my training is digital marketing course 😊 I'm very becoz I'm digital marketing beginner but my experience to much becoz my trainer is very intelligent and supportive and nature is very friendly 😊



Manish Malik

1 review

★★★★★ 2 weeks ago **NEW**

I'm new student in softcrayons my starting classes all gud my softcrayons experience to much better becoz my trainer is very experienced



Aman Bhardwaj

2 reviews

★★★★★ 5 months ago

I am Aman Bhardwaj, Recently I completed a Digital Marketing course from Softcrayons. After completing my course I got a placement at SNVA Ventures with a good salary package. If you want to do a course and boost your career in the Digital Marketing field. I will recommend you visit Softcrayons. If I talk about the environment and faculty then Softcrayons have a very good and friendly environment and their faculty is highly experienced in the Digital Marketing field. Specifically, Yashvant sir is one of the best trainer and they have great experience in the Digital Marketing field. Thank you Softcrayons and all staff who helped me boost my career in the Digital Marketing field.



Shivam Sharma

1 review

★★★★★ 2 months ago

I got the chance to study with the best teacher and they provided me a good career guidance. a veryb great place to learn programming and start your career.



Lalita Tiwari

1 review

★★★★★ 5 months ago

I hearded about softcrayons through friends and I enroll myself here, and done my course. I suggest you all to join softcrayons. Hope you do great.



Tanish Chandrawal

5 reviews

★★★★★ 5 months ago

It is good institute, practical oriented practice is very good. This institute is very useful for graduate students to make carrier in IT. 100% job guarantee is available for all students. Very good Institute for Cloud Computing like Azure, AWS, GCP.



Aman Vishwakarma

2 reviews

★★★★★ 2 months ago

Hie guys I'm aman softcrayons institute students for AutoCAD.. softcrayons institute is best training institute sarfaraz sir is best teacher for softcrayons. And best institute softcrayons



SOFT CRAYONS®



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