



# **DATA ANALYTICS WITH PYTHON AND SQL COURSE CURRICULUM**

# ABOUT TRANSFOTECH ACADEMY

Transfotech Academy is a New York-based coding bootcamp academy, headquartered in Queens, NY. We specialize in offering academically styled IT courses at our New York campuses and globally via our online platform.

Our Data Analytics with Python and SQL course is part of our comprehensive IT curriculum. We employ a unique six-step process that sets us apart from other boot camps nationwide, ensuring our students receive personalized, industry-specific training that prepares them to thrive in the evolving world of technology.

We are proud to be ranked #1 in Cybersecurity within New York City by major media outlets. Our partnership with Queens College under the City University of New York (CUNY) further enhances the quality of education and career opportunities we offer.

At Transfotech Academy, we are committed to delivering hands-on, tailored courses designed by industry experts with decades of experience. Whether you're pursuing Data Analytics with Python and SQL, Business Analyst, QA Engineering, Mastering Ethical Hacking, or Web Application Security, our courses are designed to help you achieve success in less than six months.

Our experts have developed a specialized curriculum for Data Analytics with Python and SQL that blends in-depth programming knowledge with real-world applications. This course equips you with essential skills in data manipulation, visualization, and analysis, making you highly sought after in the rapidly growing field of data analytics.

Transfotech Academy is supported by its parent company, Transfotech Inc., an authorized employment agency in New York. We collaborate with over 100 mid- to large-sized staffing agencies across the US, including Fortune 500 companies like Capital One, JP Morgan Chase, IBM, Nationwide Insurance, Bank of America, TCS, Collabera Inc., Dell, HP, and more.

We provide job placement assistance to all our graduates, offering personalized support throughout their job search process. Our experienced recruitment staff assists in building standout resumes, provides interview coaching, and offers guidance every step of the way.

At Transfotech Academy, we are dedicated to helping you achieve your career goals. Whether you aim to become a Data Analyst, Business Analyst, QA Engineer, or Cybersecurity Professional, we are here to help you make a smooth transition into your desired field.



# OUR UNIQUE SIX-STEPS PROCESS

We have earned our rank and reputation through our academic approach, comprehensive course curricula, unique six-step process, internship opportunities at the end of training, and strong job placement record. Recently, we partnered with one of the most prestigious university systems, the City University of New York (CUNY) – Queens College, to offer joint courses.

Allow us to introduce our six-step process, the key to why our students achieve the highest success rate!

## #1

### Career Counseling and Goal Setting

Students meet with one of our experienced career advisors, who evaluates their current situation and discusses goals and roadmaps. The meeting's intent and purpose are to provide personalized attention and plan a realistic and achievable roadmap. Even after the class starts, career advisors remain available on an on-demand basis.

## #2

### Enrollment

Students meet with one of our experienced career advisors, who evaluate their current situation and discuss goals and roadmaps. The purpose of the meeting is to provide personalized attention and create a realistic, achievable plan. Even after classes begin, career advisors remain available on an on-demand basis.



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# #3

## Lectures and Labs

All our courses are instructor-led and follow a set class schedule. The classes often blend pre-class content sharing with live lectures. Each session lasts 2 to 3 hours and is typically held twice a week.

# #4

## Internship

After completing the training, we arrange a two- to four-week internship with a real company where students collaborate with a full software development team on a complete project. We currently work closely with 12-15 mid-sized software development firms that hire our students for these mini-internship projects.

# #5

## Resume Building and Interview Prep Session

A resume is key to securing an interview. 40% to 60% of highly qualified candidates don't make it to the interview stage due to AI-based resume scanning tools and processes used by employers. Our resume coaches have in-depth industry knowledge and know how to highlight the skills and achievements employers are looking for. During interview preparation sessions, students meet with our interview coaches, who conduct technical screenings to assess each individual's strengths. They analyze technical skills, communication abilities, and confidence levels. Based on that analysis, they provide the necessary guidelines. Students also receive instructions about the current job market, interview etiquette, and the differences between client and vendor interactions.

# #6

## Resume Marketing & Job Placement

Resume marketing and job placement are among our strengths. Over the last eight years, we have developed working relationships with 100+ staffing partners and 30+ clients, including Capital One, Chase, IBM, Capgemini, Collabera, Tech-System, and Apex Systems. Once a student is ready to enter the job market, we assign a recruiter who provides guidance throughout the job-hunting process. To increase the chances of getting hired, we create online profiles on LinkedIn, Dice, Monster, Indeed.com, and other platforms.



# Course Overview

**Course Title:** Data Analytics with Python and SQL

**Course Type:** Intensive Boot Camp

**Duration:** 12 weeks

**Prerequisite:** Highschool Math

**Level:** Bachelors and Masters

**Weekly Engagement:** Min-20 hours

## Course Summary

1. Data analytics overview
2. Data visualization with Excel
3. SQL basic
4. Python Programming
5. Web Crawling with Python
6. Python Library for Data Analytics
7. Data visualization with Python
8. Machine learning overview with Python



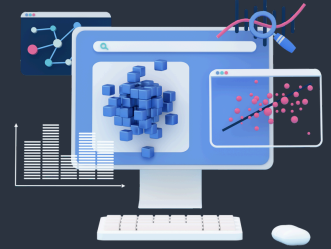


# Course Curriculum Overview

## Session 1: Introduction to Data Analytics

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- 1.Introduction to Data Analytics
- 2.Responsibilities of a Data Analyst
- 3.The Data Ecosystem
- 4.Spreadsheet Basics – Part 1
- 5.Spreadsheet Basics – Part 2
- 6.Analyzing Data Using Spreadsheets
- 7.Career path in Data analytics and prospects with python
- 8.What do Employers look for in a Data Analyst



## Session 2: Data visualization with Excel

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- 1.Data Visualization and Dashboards
- 2.Using Visualizations to Tell a Data Story
- 3.Creating Basic Charts in Excel (Line, Pie, and Bar Charts)



## Session 3: SQL Basic

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- 1.Overview of SQL and its importance in data science
- 2.Creating databases and tables
- 3.Inserting data into tables, import data
- 4.SELECT queries and Filtering rows (where, and, or , not, like)
- 5.Querying Multiple Tables with JOINS
- 6.Understanding table relationships
- 7.INNER JOIN, LEFT JOIN, RIGHT JOIN
- 8.Using aliases for table names



# Advance SQL

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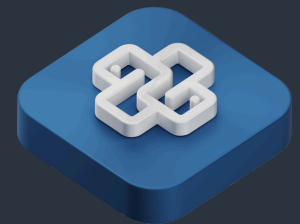
1. Aggregate functions (COUNT, SUM, AVG, MAX, MIN)
2. Grouping data with GROUP BY and Having
3. ROW\_NUMBER(), RANK(), DENSE\_RANK()
4. Understanding PARTITION BY and ORDER BY clauses
5. Common Table Expressions (CTEs)
6. Bulk operations with BULK INSERT and BULK DELETE



## Session 4: Introduction to Python

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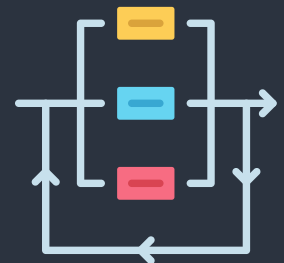
1. Automation Testing Basic, Tools, Technology
2. Installation (Python, IDE, Selenium)
3. Your first Python program: Hello World!
4. Basic syntax: variables, operators, and expressions



## Session 5: Control Flow and Looping

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1. Conditional statements: if, else-if
2. Loop: for, while, break, continue
3. Problem Solving Fibonacci Sequence
4. Problem Solving Prime Number



## Session 6: Continue with Python

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1. Introduction to arrays, tuple, list, dictionary
2. Method, parameters and return type
3. Problem Solving : Range or prime number



## Session 7: Continue with Python

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1. Introduction to Object-Oriented Programming (OOP)
2. Classes and Objects
3. Constructor
4. OOP Principals
5. Creating classes



## Session 8: File and Libraries

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1. File Handling
2. Python Libraries
3. Numpy
4. Pandas
5. Loading data from csv, Excel and SQL



## Session 9: WebScrapping

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1. Extracting Stock Data Using a Python Library
2. Intro to Web Scrapping Using BeautifulSoup
3. Analyzing Historical Stock



## Session 10: Data Analysis with Python

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1. Using libraries such as Pandas, Numpy and Scipy
2. Develop Python code for cleaning and preparing data for analysis
3. Missing values, formatting, normalizing, and binning data
4. Exploratory data analysis and apply analytical techniques
5. Manipulate data using dataframes, summarize data
6. Understand data distribution, perform correlation and create data pipelines



## Session 11: Data visualization with Python

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1. Python libraries: Matplotlib, Seaborn, and Folium
2. Create different types of charts: line, area, histograms, bar, pie, box, scatter, and bubble
3. Create advanced visualizations: waffle charts, word clouds, regression plots, maps with markers, & choropleth maps

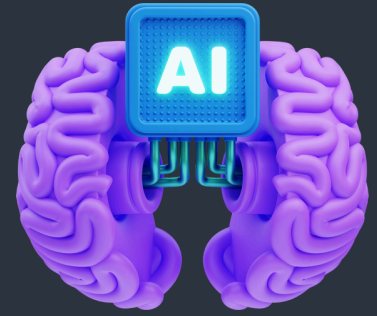




# Session 12: AI and Machine Learning with Python

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1. Introduction to Machine learning
2. Data distribution
3. Training dataset and Test Dataset concept
4. Creating Model
5. Training model
6. Predicting with Model
7. Advance concept of ML (NLP, Machine Learning, Deep Learning)



# Course Instructor



**Zakir Hossain**


Professor


International American University (IAU), LA, USA

Zakir Hossain is a seasoned professional with extensive experience in Data Analytics with Python and SQL, having worked with several Fortune 500 companies. Currently a Professor at International American University (IAU), Zakir is passionate about helping individuals secure employment in the tech industry. As an instructor at Transfotech Academy, he has empowered numerous non-coders to successfully transition into tech careers. His dedication to student success and industry expertise make him an invaluable asset to our team.


# Contact Us

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## To Set a Meeting With Us

Book Now





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