OVERVIEW

Year Up’s Job & Industry Training in Data Analytics provides opportunities for participants to develop the essential career readiness and business skills needed to navigate a modern, professional work environment. In combination with the Essential Skills Training, participants will also build technical foundational capabilities and are expected to demonstrate the following competencies by the end of the training phase of the program.

COMPUTER ARCHITECTURE & SYSTEMS FUNDAMENTALS:

• Computer Systems: Navigates computer systems with focus on operating systems (Windows, Linux and Mac), servers, and cloud infrastructure.

PROGRAMMING FUNDAMENTALS:

• Basic Program Writing: Writes and executes basic programs by employing concepts of a programming and scripting language such as Java, Python, C#, R or JavaScript.

• Programming Concepts Application: Utilizes different programming concepts to problem solving such as data types, variables, conditionals, methods, loops and data structures.

• Development Environment Navigation: Navigates and works with the common components of a software development environment, including IDE, frameworks, and libraries.

• Code Error Identification: Identifies software issues through code reviews and utilizes IDE tools to debug and resolve issues.

DATABASE MANAGEMENT:

• Database Design & Modification: Designs, builds, populates and edits relational databases, following data normalization practices and applying & utilizing appropriate keys and constraints.

• Query Writing: Constructs and executes basic SQL commands to answer questions against a database.

• Data Governance: Communicates the benefits of data governance and the methods by which an organization can ensure high quality governance throughout the lifecycle of data.

SOFTWARE DEVELOPMENT FUNDAMENTALS:

• Version Control System Navigation: Utilizes basic features of a version control system (e.g. Git, CVS, Subversion, etc.), including command line & GUI tools.

• Software Methodology Application: Utilizes basic concepts, tools and processes of common SDLC methodologies such as Agile/Scrum or Waterfall required to work within a software development team.

• Problem Analysis: Navigates a multilayer & ambiguous problem by clarifying the problem statement and objectives, breaking it down into discrete components, identifying assumptions, setting strategies/resources for validating, and building clarity, understanding audience, applying root cause analysis, and developing a set of possible solutions.

DATA MANAGEMENT, ANALYSIS & REPORTING:

• Big Data Navigation: Navigates the Big Data ecosystem, including data mining, data lakes, data warehouses, Extract-Transform-Load (ETL), NoSQL databases, and how this ecosystem uses Cloud Computing to process data.

• Data Visualization: Uses data visualization tools such as Tableau, Power BI and Excel to source data, create data visualizations and build interactive shareable dashboards.

• Data Loading, Cleaning & Organizing: Utilizes Excel to load, clean, validate and organize basic sets of data.

• Intermediate Data Analysis: Makes business-related inferences about data by identifying, analyzing, and interpreting trends, patterns, or insights utilizing data analysis tools, in Excel (e.g. Sorting, Filtering, Conditional Formatting, basic Formulas, Charts, Tables, VLOOKUPs, and PivotTables).

• Data Reporting & Storytelling: Develops & presents reports that demonstrate effective storytelling with data via common data visualization and business tools such as Tableau, Power BI, PowerPoint and Excel.
To best serve our partners and today’s in-demand jobs, Year Up has designed its Job & Industry Training to enable entry and succession across a variety of role pathways. These role pathways reflect the most common entry-level roles that Year Up participants are prepared for and that graduates obtain upon program completion.

## ROLE PATHWAYS

<table>
<thead>
<tr>
<th>ROLE PATHWAYS</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>DATA PREPARATION</td>
<td>These roles import data from spreadsheets or data storage systems, use data preparation tools and techniques to clean, validate, transform and load data into appropriate systems for analysis.</td>
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<tr>
<td>DATA ANALYSIS &amp; REPORTING/ BUSINESS INTELLIGENCE</td>
<td>These roles import data from spreadsheets or data storage systems, analyze data, and build reports or presentations to summarize findings and help businesses make decisions.</td>
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<tr>
<td>DATABASE DEVELOPMENT</td>
<td>These roles use SQL and programming languages such as Python to modify or edit databases, design and build new databases, build tools and scripts to query databases in an efficient manner and troubleshoot issues in databases.</td>
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## CREDENTIALING OPPORTUNITIES

*Details vary by location*

- Participants’ completion of Year Up’s Job & Industry Training may prepare them to sit for common industry-recognized certifications prior to or during the work-based experience phase of the program.

- While enrolled in the Year Up program, participants may also be eligible to receive college credits or transferrable credit recommendations.

## EXAMPLE TEAMS PARTICIPANTS SUPPORT

- Business Intelligence
- Big Data
- Sales/Marketing Operations

## EXAMPLE PARTNER COMPANIES

- Salesforce
- LinkedIn
- JPMorgan Chase & Co.
- BNY Mellon
- Facebook