



Data Analytics

CAREER TRACK SYLLABUS

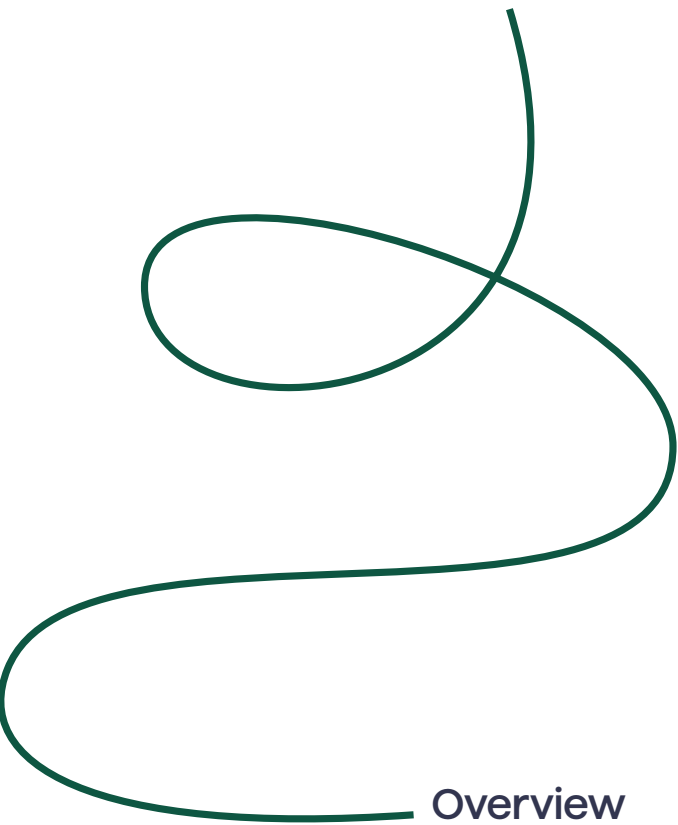
2023

In partnership with

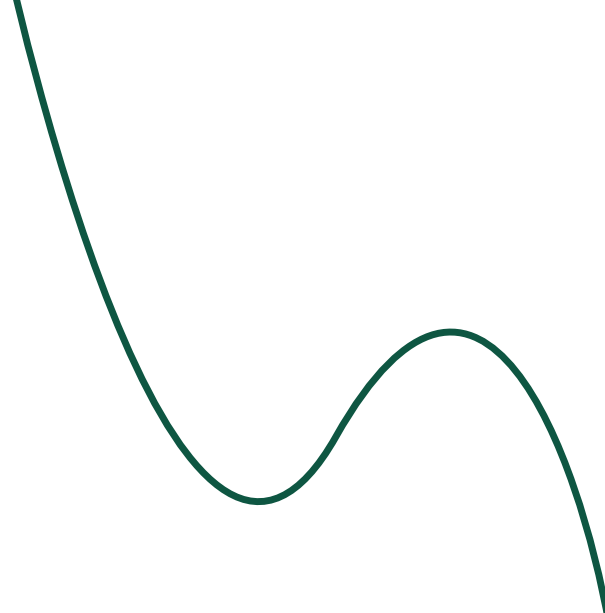


Microsoft

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Overview

The role of the data analyst is changing. In the past, possessing the right technical skills was enough to flourish in this job. But today, employers are increasingly looking for analysts with both the technical qualifications and the business acumen needed to problem-solve and communicate insights effectively.

The **Springboard Data Analytics Career Track** — in partnership with Microsoft — offers a unique approach to an analytics curriculum:

- You'll master the standard technical skills, such as fundamental business statistics concepts, analytics, and visualization tools (Excel, SQL, Python, Microsoft Power BI, and Tableau).
- In addition, you'll train to develop a strategic thinking mindset to become a successful analyst. In fact, 50% of the curriculum is devoted to this critical training.

Overview

What You'll Learn

Over the course of six months, you'll:

- Build a solid foundation in structured thinking that will help tackle critical business problems.
- Be able to perform systematic analyses of data to identify insights.
- Transform insights into actionable recommendations.

How You'll Learn

- **An online curated curriculum** will help you deeply understand industry principles, tools, and best practices.
- **Project-based learning** means you'll apply your learning through two capstone projects that bring all of your skills together: You'll choose your own data set, conduct end-to-end analysis, synthesize insights in a presentation, and share your findings.

What You'll Gain

- **1-on-1 mentor support:** You'll be matched with a mentor who will help you tackle the curriculum, provide regular feedback, and answer your questions. Your mentor will keep you accountable and give you an insider's perspective.
- **Career coaching:** You'll work through career-specific units with a career coach guiding you — from defining your strategy, and developing your resume and LinkedIn profile to networking, mock interviews, and salary negotiation.
- **A certificate of completion and our Job Guarantee:** You'll graduate with a certificate from Springboard backed by our Job Guarantee — if you don't land a job after graduating, we'll give you a full refund. [Terms apply.](#)

Key Program Details

 **6 months**
Program length

 **15-20**
Hours per week

 **31 total projects**
29 mini-projects
2 guided capstone

 **Prerequisites**

- 2 years of professional experience regularly working with either Microsoft Office or G-Suite
- Must pass technical skills survey prior to enrollment

 **Tools & skills learned**

 Excel  + a b l e a u

 Power BI  python™

SQL

Syllabus

Core Units

1. Structured Foundations

All data analysis starts with a question. But how do you ask the right question so your results translate into a tangible business strategy that your team and executives adopt? Structured thinking is the foundation of robust business analysis that can be used to identify the macro and micro value drivers of any business problem, regardless of industry.

In this unit, you'll learn to think in a structured manner and break down problems into bite-sized chunks, which can be tested via hypothesis trees. This type of thinking will guide your analysis and prevent you from analyzing data for the sake of analysis.

Topics Covered:

- Structured thinking through case studies and problem statement worksheets
- Problem-solving frameworks and processes, such as the HDEIP Framework, 7-Step Problem Solving Framework, and others
- Issue trees, hypothesis trees, and value driver trees

2. Microsoft Excel for Business Analytics

Excel is an essential tool every data analyst needs in their toolbox. You'll use it in your daily tasks to create detailed dashboards and complete simple investigations. In this unit, you'll practice key areas and functions of Excel. You'll also be introduced to the first phase of your Capstone project by generating ideas for your project and finding a dataset.

Topics Covered:

- Use logical operands and advanced Excel formulas and functions
- Apply statistical functions
- Use pivot tables for well-structured data
- Create basic visualizations using tools like bar charts, waterfall charts, and column charts

Core Units

3. Financial Analysis

A key skill analysts should have is the ability to structure their efforts around a central theme and present it to an executive with tangible business insight.

In this unit, you'll learn common financial concepts to make you more fluent in business terminology. You will apply your problem-solving and analytical skills to real-life data sets to derive business insights.

Topics Covered:

- Financial concepts, including revenue, cost of goods sold, profit, balance sheets, cash flow statements, and EBITDA
- Work on a case study covering creating a problem statement, value driver trees, revenue analysis, total operating expenses, EBIT calculations, and presenting your visualized data

4. Economics for Data Analysis

In this unit, you'll study the basics of economics and review the micro and macro value drivers that ultimately inform decisions. You'll also review the economics of supply, demand, and market equilibrium and continue the case study you began by completing a cost-effectiveness analysis and presenting it.

Topics Covered:

- High-level economic principles like demand, supply, elastic goods, inelastic goods, monopolies, market supply, and cost curves
- Examine assets, liabilities, and equity
- Develop business insights based on data analysis and economic principles



Core Units

5. Statistics for Data Analysis

Whether you notice or not, you use or interact with statistics every day: from the weather forecast to looking up what's trending on Netflix. In this unit, you'll uncover how it's all done. You'll walk through two different kinds of statistics — descriptive stats and inferential stats. You'll continue with the case study and provide descriptive and inferential stats to determine why an asset is failing.

Topics Covered:

- Descriptive statistics concepts like mean, median, mode, spread, histograms, and box plots
- Inferential statistics concepts like correlation, confidence intervals, margins of error, and regression



6. Visualization Tools

This unit moves away from upfront analysis and focuses on how you can make your work tangible to others. Leveraging visualization tools can make a difference in determining if your analysis will be adopted or shelved.

Using tools like Power BI and Tableau, you'll learn to convert your analysis into a strategic insight that impacts your audience.

Topics Covered:

- Developing an advanced ability to use two visualization tools: Tableau and Power BI
- Preparing data: Reshaping and removing bad data
- Learning the basics of Data Analysis Expressions (DAX)
- Work on a case study using the visualization tools you've learned

Core Units

7. The Art of Storytelling

Data analysts need to be adept at presenting the results of their analysis to the appropriate stakeholders. Storytelling is a high-demand skill that separates effective business-oriented data analysts from the rest of the pack.

This unit covers best practices for presenting to both technical and non-technical audiences, ranging from front-line employees to executives. You'll learn how to prepare your presentations based on your audience and goal.

Topics Covered:

- Effective communication strategies, formats, and templates
- Presentations to technical and non-technical stakeholders, including C-suite executives, through case studies
- Presentation practice across different forms

8. Data Connectivity

As a business-oriented data analyst, you are expected to pull data from databases and write structured queries to extract the information you need. SQL is the default language used to interact with a traditional Relational Management Database (RMDDB).

In this unit, you'll develop a high-level understanding of what databases are, learn about the databases you can use in your work, and learn how to communicate with databases. You'll consolidate what you learn in this unit with the skills you've developed throughout the rest of the program to complete a mini-project that will focus on extracting data from a database via SQL, analyzing it, and creating a presentation of your business insights.

Topics Covered:

- Introduction to SQL, best practices in writing queries (including common table expressions)
- Introduction to structured and unstructured databases
- Introduction to set theory
- Case studies and hands-on exercises in writing SQL with real data

Core Units

9. Data Analysis in Python

Coding skills — especially the ability to analyze data in Python — can set you apart from your peers in the job market. As the world places more importance on collecting and analyzing data to make decisions, data sets continue to grow in size and complexity. The tools you previously learned, like Excel, are limited in their ability to deal with large data sets.

In this unit, you'll learn the basics of Python and key Python libraries, including Pandas, NumPy, Matplotlib, Seaborn, and more. You will learn how to import and wrangle data and visualize it. You'll learn to use Git, GitHub, and Jupyter Notebooks, including how to set them up, work in them, and share your code and projects. You'll practice all these skills through relevant mini-projects and hands-on exercises.

Topics Covered:

- Basic Python syntax
- Introduction to Jupyter and Jupyter Notebooks
- Data cleaning
- Visualizing data and trends with Seaborn and Matplotlib
- Practical exercises in Python with real data to extract insights that could be presented to an executive audience





Building Your Portfolio Projects



Capstone One

Your first capstone will be implemented in phases throughout the course. You will work with your mentor to choose a data set from a diverse set of options across different industries; you'll also have the opportunity to use a data set outside the options provided.

You'll conduct an end-to-end analysis of this data set, which will involve structuring relevant and valuable problems, stating a hypothesis, analyzing the information to prove or disprove the hypothesis, synthesizing insights, and creating a slide deck that you will present.

The capstone focuses on showing executives how your analysis will help shape the organization's strategic or financial drivers. The capstone project will be a central piece of your portfolio and will allow you to showcase your skills during your job search.

Topics Covered

- Analytical frameworks
- Statistics using Excel
- Data visualization
- Executive presentation skills using PowerPoint

Capstone Two

At the end of the program, you'll work with your mentor to choose a data set to focus on for this final project. The premise of this project will focus on providing recommendations to executives that will showcase your business analysis skills and help to shape the organization's strategic or financial drivers.

You will need to clearly state your hypotheses to outline the value of your analysis before proceeding. Then you'll package up your insights and analysis into a structured document that you'll present live to your mentor.





Career Support

Career units throughout the bootcamp will help you create a tailored job search strategy based on your background and goals. Learn to craft a resume that stands out from the pack, evaluate companies and roles, ace interviews, and negotiate the best possible salary.

Your career coach will be with you every step of the way, offering feedback and providing personalized tips based on your goals.

Topics Covered

- Types of industry roles
- Job search strategies
- Building a network and using it to land interviews
- Creating a high-quality resume, linkedin profile, and cover letter
- Preparing for technical and non-technical interviews
- Successful negotiation

Build the Skills and Confidence to Transform Your Career

Learn through projects. Work 1-on-1 with a mentor and career coach.
Land a job or your money back.

HANDS-ON LEARNING

A high quality, project-based curriculum designed by industry experts helps students master their area of study so they're career ready.

REAL HUMAN SUPPORT

Students receive the dedicated support of a personal mentor, career coach, and student advisor, plus 24/7 access to a peer community.

MORE FREEDOM

100% online classrooms give students the flexibility they need to continue working while attending Springboard.

JOB GUARANTEE

Students who are job-qualified will get a job after graduating, or get a full refund of their tuition. [Terms apply.](#)

Springboard Students Achieve Life-Changing Outcomes

NUMBER OF ENROLLED STUDENTS

2,684

Enrolled students in the Data Analytics Career Track since August 2019.¹

September 2022

12 MONTH JOB PLACEMENT RATE

92.4%

Of job-qualified individuals who reported an offer, received it within 12 months of graduation.²

September 2022

AVERAGE SALARY INCREASE

\$18,859

Average salary increase of Data Analytics students who provided pre- and post-course salaries.³

September 2022

¹ Number of students refers to all students who enrolled in the career track excluding any that were refunded due to cancellation in the first 7 days following course start.

² Job-qualified individuals defined as all graduates who maintained Job Guarantee eligibility (terms are from the Data Analytics Career Track Job Guarantee) throughout their job search ("Job-Qualified Graduates"), or Job Guarantee-eligible students who receive a job regardless of completion status ("Early Offerees").

³ Data on compensation was not self-reported by 123 students who reported receiving offers.

Ready for the next step?

Learn more and apply [here](#)



Questions? We're here to help

Email us at hello@springboard.com
or call [+1.415.966.2533](tel:+14159662533)