CAREERFOUNDRY

Data Analytics Program

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Program details overview

	Full-time program	Part-time program
Program duration	30-40 hours per week for 5 months	15-20 hours per week for 10 months
Hours	743	743
Program language	English (minimum required level B2)	English (minimum required level B2)
Program location	Online only	Online only
Start dates	The program will start once **every two weeks**. Start dates here.	The program will start once **every two weeks**. Start dates here.
Total number of projects	8	8
Mentor model	1-1 Mentor calls and direct Tutor messaging	1-1 Mentor calls and direct Tutor messaging
Job Support	Job Preparation Course 1-1 Career Services Job Guarantee	Job Preparation Course 1-1 Career Services Job Guarantee

1.

Who is the program for and what are the requirements?

This program is for complete beginners who'd like to learn the skills needed to become a job-ready data analyst—no prior knowledge or experience is required!

The program is also suitable for complete career changers, as well as upskillers who need data analytics skills in their current role, or if they're hoping to go freelance.

You'll need a computer (macOS, Windows, or Linux) with a webcam, microphone, and an internet connection (see below for more on system requirements).

2.

Which tools will you use in the program?

Microsoft Excel

You'll use this tool for statistical evaluations and data visualizations

Tableau

You'll use this tool for statistical evaluations and data visualization

Python

You'll use this tool for advanced data analysis using libraries such as Pandas and NumPy, as well as visualization libraries for data dashboarding

Anaconda and Jupyter

You'll use this tool for writing your Python scripts

PostgreSQL

You'll use this tool for data querying and analysis

GitHub

You'll use this tool for hosting your code and your analysis project work

GeoPandas

You'll use this tool to add specific locations to your data set to analyze your project

For further tool requirements related to specialization courses, please view their respective courses:

Machine Learning with Python
Data Visualizations with Python

What are the costs associated for tools?

All tooling for this program is free to use, apart from Microsoft Excel, where you can get a free one-month trial through the Intro to Data Analytics Course. After the month trial, you'll be able to purchase one month only (as opposed to a full subscription) in order to continue on and complete the first Achievement in the Data Immersion Course.

Note: You will be required to invest some independent study time (approximately 1-2 hours per week) towards familiarizing yourself with the tools you'll use throughout the program, and learning how to use them.

System requirements:

- Operating system: Windows 10, macOS versions 10.13 and later, Ubuntu, Debian, CentOS, or Fedora (Linux)
- We recommend a minimum of 12 GB of RAM on your device, but 16 GB would be preferable
- Contact us for more information on system requirements for your specific operating system

3.
How does the program work?

The program provides a **100% online**, **asynchronous** learning experience—so while there is an overall completion deadline, you get to decide how to fit your study hours around other obligations. You'll be working through the program material in your own personal account on the CareerFoundry platform.

The program is broken into several larger modules called "**Achievements**," which are made up of smaller lessons. Each lesson is made up of reading material, videos, tutorials, a quiz, and a task—where you'll put your learning directly into practice. Each task will contribute to the **final projects** and deliverables that you'll finish the program with.

While there is **no final exam**, you'll have a dedicated **tutor** and a professional **mentor** (assigned based on your timezone) who will assess your submissions against our internal rubric. They'll let you know exactly how to improve your work to get it approved.

The program is counted as complete once all the Achievements have been reviewed and approved by your mentor. You will be able to download your **certificate** of completion directly from your dashboard. Take a look at a video of CareerFoundry's learning experience or read more on our How it Works Page.

You'll get free read-only access to our other career-change programs (web development, digital marketing, UX, and UI design) and after completing this program, will have lifetime access.

4.

What kind of support is available?

Tutor

Your tutor is a course expert who actively works in the field and provides individual feedback on your course assignments as you work through an Achievement. You'll communicate with them through the messaging tool in your account.

Mentor

Mentors are seasoned professionals who review the final task in your Achievements and provide detailed video reviews of each project you complete during the course. You'll have video calls with your mentor over the span of the program. You can schedule these calls via our learning platform's built-in calendar tool. Learn more about our mentors and our dual-mentorship model on our Mentors page.

Student Advisor

Student advisors ensure you have the best possible experience throughout the program. You can message them from your dashboard (within the platform)—they're always happy to answer any questions you have about the administration of your program.

Career Specialist

If you opt into the Job Preparation course, you'll also have a dedicated career specialist who will provide individualized feedback for your job search strategy and application package. Your career specialist will answer all your questions throughout the Job Prep course, and be there to support and advise you on how to get the most out of your job search, both as you work through the program, and beyond as you progress in your career.

Fellow students

As a CareerFoundry student, you'll be part of an extensive community of fellow students, both during the program and after graduation. You can reach out to this community on Slack to discuss your coursework, organize meetups, or find a study buddy.

5.

Program Outline

The Data Analytics Program is divided into three parts: Intro to Data Analytics, Data Immersion, and a specialization course of your choice out of Machine Learning with Python and Data Visualizations with Python.

Intro to Data Analytics

This course will take you through ten tasks leading up to one main project: a descriptive analysis of a video game data set to inform product development and sale strategies.

Learn to conduct a complete end-to-end analysis of a data set using an industry-standard tool. You'll start by exploring the ins and outs of what data is and how to prepare data sets for analysis before diving into a descriptive analysis. You'll use analytical methods to draw insights from your data, which you'll then present using data visualization and storytelling techniques. By the end of the course, you'll have a complete case study to demonstrate your newly developed analytical skills to clients and employers.

The Intro course will cover the following topics:

1. **Data Analytics in Practice**
2. **Introduction to Excel**
3. **Understanding Your Data Set**
4. **Cleaning Your Data**
5. **Grouping & Summarizing Your Data**
6. **Introduction to Analytical Methods**
7. **Conducting a Descriptive Analysis**
8. **Developing Insights**
9. **Visualizing Data Insights**
10. **Storytelling with Data**

See a more detailed course outline here.

Data Immersion

Immerse yourself into the mindset of a data analyst through hands-on application of the processes and tools that data professionals use every day.

Achievement 1 - **Preparing & Analyzing Data**

To start, you'll learn how to interpret business requirements to guide your data analysis and will begin developing and designing your data project. You'll review your available data sources for relevancy and address data integrity and quality issues. You'll then integrate your cleaned data into a cohesive data set before diving into some statistics fundamentals, conducting a statistical hypothesis test, and consolidating your findings in a stakeholder report.

Achievement 1 will cover the following topics:

1.1 **A Brief History of Data Analytics**
1.2 **Starting with Requirements**
1.3 **Designing a Data Research Project**
1.4 **Sourcing the Right Data**
1.5 **Data Profiling & Integrity**
1.6 **Data Quality Measures**
1.7 **Data Transformation & Integration**
1.8 **Conducting Statistical Analyses**
1.9 **Statistical Hypothesis Testing**
1.10 **Consolidating Analytical Insights**

Achievement 2 - **Data Visualization & Storytelling**

Here, you'll be exploring different types of data visualizations and what they can be used for, as well as how to ensure the visualizations you create are accessible and easily interpretable. You'll also be developing your skills with Tableau, an industry-standard visualization tool. To wrap up, you'll tie your project work together into a data story that you can present.

Achievement 2 will cover the following topics:

2.1 **Intro to Data Visualization**
2.2 **Visual Design Basics & Tableau**
2.3 **Composition & Comparison Charts**
2.4 **Temporal Visualizations & Forecasting**
2.5 **Statistical Visualizations: Histograms & Box Plots**
2.6 **Statistical Visualizations: Scatterplots & Bubble Charts**
2.7 **Spatial Analysis**
2.8 **Textual Analysis**
2.9 **Storytelling with Data Presentations**
2.10 **Presenting Findings to Stakeholders**

Achievement 3 - **Databases & SQL for Analysts**

Now you'll dive into databases, data storage, and data structures. In this Achievement, you'll develop database-querying skills while mastering SQL. You'll explore how data is structured in a relational database before performing increasingly complex queries against a given database. To finish up, you'll add advanced SQL techniques—such as common table expressions or data extraction—to your toolbox.

Achievement 3 will cover the following topics:

3.1 **Intro to Relational Databases**
3.2 **Data Storage & Structure**
3.3 **SQL for Data Analysts**
3.4 **Database Querying in SQL**
3.5 **Filtering Data**
3.6 **Summarizing & Cleaning Data in SQL**
3.7 **Joining Tables of Data**
3.8 **Performing Subqueries**
3.9 **Common Table Expressions**
3.10 **Presenting SQL Results**

Achievement 4 - **Python Fundamentals for Data Analysts**

Programming languages help you analyze large, complex data sets. In this Achievement, you'll be studying Python, the go-to language used by data analysts to conduct advanced analyses. You'll set up your environment, learn programming fundamentals, and master pandas, the popular Python library used to perform analytical tasks.

Achievement 4 will cover the following topics:

4.1 **Intro to Programming for Data Analysts**
4.2 **Jupyter Fundamentals & Python Data Types**
4.3 **Intro to Pandas**
4.4 **Data Wrangling & Subsetting**
4.5 **Data Consistency Checks**
4.6 **Combining & Exporting Data**
4.7 **Deriving New Variables**
4.8 **Grouping Data & Aggregating Variables**
4.9 **Intro to Data Visualization with Python**
4.10 **Coding Etiquette & Excel Reporting**

Achievement 5 - **Data Ethics & Applied Analytics**

> Here, you'll consider the important issues of data bias, data privacy, and data security when working with big data. You'll then dive into data mining and conducting predictive analytics—some of the more advanced tasks you'll be required to complete as an analyst. As you wrap up the Achievement, you'll be introduced to GitHub, and how you can use it to host your portfolio-ready analytics projects.
>
> Achievement 5 will cover the following topics:

5.1 **Intro to Big Data**
5.2 **Data Ethics: Data Bias**
5.3 **Data Ethics: Security & Privacy**
5.4 **Intro to Data Mining**
5.5 **Intro to Predictive Analysis**
5.6 **Time Series Analysis & Forecasting**
5.7 **Using GitHub as an Analyst**
5.8 **Preparing a Data Analytics Portfolio**

Achievement 6 - **Advanced Analytics & Dashboard Design**

> In this final Achievement, you'll work on an analysis project using data of your choosing. You'll familiarize yourself with the core visualization libraries used by Python analysts, and create engaging, accessible visuals to form an interactive data dashboard. You'll also continue to build on your advanced analytics skills by taking a dive into machine learning and regression analysis.
>
> Achievement 6 will cover the following topics:

6.1 **Sourcing Open Data**
6.2 **Exploring Relationships**
6.3 **Geographical Visualizations with Python**
6.4 **Supervised Machine Learning: Regression**
6.5 **Unsupervised Machine Learning: Clustering**
6.6 **Sourcing & Analyzing Time Series Data**
6.7 **Creating Data Dashboards**

See a more detailed course outline here.

Specialization courses

Machine Learning with Python: Learn some of Python's more complex capabilities, in order to create, test, and employ machine learning algorithms and models for data analytical purposes

Data Visualizations with Python: Process data, and build polished visualizations and dashboards with Python

6.

What kind of projects will you be working on?

Intro to Data Analytics

Project 1: You'll use Excel to analyze data on video game sales to inform the development of new games.

Data Immersion

Project 2: You'll use Excel and Tableau to conduct statistical evaluations and create data visualizations using multiple real world data sets from the health industry, in order to help a medical staffing agency that provides temporary workers to clinics and hospitals on an as-needed basis.

Project 3: You'll use SQL to query and analyze data on online movie rentals. You'll present the results of your queries, relying on the visualization techniques you've learned from the previous Achievements.

Project 4: You'll use Python to analyze data from an online grocery store.

Project 5: You'll use Python visualization libraries to build a data dashboard.

Project 6: You'll work on a big data project exploring the impact of bias and you'll explore some fundamentals of data science—as part of this project you'll also build your portfolio.

Take a look at some examples of projects created by Data Analytics Program graduates on our website.

Specialization courses (Project 7)

> Machine Learning with Python: You'll use machine learning to make long-term predictions about climate change for certain types of populations around the globe.
>
> Data Visualizations with Python: You'll process data, and build polished visualizations and dashboards with Python for an academic research organization and a bike-sharing company.

7.

Will you receive a certificate?

You'll finish the program with a certificate of completion and several projects and skills to showcase in your job applications. The certification is in place as an indication of the quality of the program, but in the end, it's the projects and skills that you develop throughout the program that are going to display the quality of your work to future employers and ensure that you find a job.

While the program is not university-accredited, it does undergo a rigorous quality assurance and certification process with the ZFU (Staatliche Zentralstelle für Fernunterricht)—the state body for distance learning in Germany. This process ensures that the program meets a high standard for an excellent and effective learning experience. On successful completion of this certification process, the program is assigned a unique approval number which can be checked against a public register.

8.

Finding a job with CareerFoundry

At CareerFoundry, we offer stellar career services for our students which include 1-1 career coaching as you search for your first job (and beyond), an exclusive Job Preparation Course, and a job guarantee.

Check out our Career Services and Job Guarantee pages for more information on Career Services, and to learn more about the terms of our job guarantee.

You can also check our latest Outcomes Report for job outcomes, which features our over 90% job placement rate.

Job Preparation Course

Our Job Preparation Course is included in the Data Analytics Program and has been designed to help you with all aspects of finding a job in the field. You'll work with your dedicated career specialist alongside your studies for the second half of the course.

The Job Preparation Course consists of two Achievements, each made up of several tasks.

Achievement 1 - **Curation of Your Application Package**

Achievement 1 will cover the following topics:

1.1 **Crafting Your Mission Statement**
1.2 **Developing Your Career Change Strategy**
1.3 **Defining Your Elevator Pitch**
1.4 **Showcasing Your Process and Skills**
1.5 **Creating Your Professional Resume**
1.6 **Building a Professional Portfolio**
1.7 **Establishing Your Professional Brand**

Achievement 2 - **Applying for Jobs and Beyond**

Achievement 2 will cover the following topics:

2.1 **Building Your Network**
2.2 **Searching for New Jobs**
2.3 **Applying for Jobs**
2.4 **Preparing for Interviews**
2.5 **Planning Your Professional Development**

9. What kinds of roles will you be qualified for?

Based on our comprehensive curriculum, you'll be qualified for junior data analytics jobs. If you have transferable skills from your past career, you can potentially get a more senior role—your assigned career specialist will help you to craft the right story with your previous experience to be able to find such a role. Learn more about our graduate outcomes on our Graduate Outcomes page.