



Data Science Career Track Prep

Syllabus & Course Overview

Introduction

More than six years after the Harvard Business Review dubbed it "the sexiest job of the 21st century," data scientist remains one of the most sought-after roles in business.

Growth in the volume of data has impacted every business sector, driving up the number of data science professionals required to help companies uncover the insights they need to stay competitive.

- Job postings for data scientists rose 75 percent on Indeed.com between January 2015 and January 2018.
- LinkedIn calculated that in August 2018 employers were seeking 151,717 more data scientists than existed in the U.S.
- By 2020, the number of jobs for all U.S. data professionals will increase by 364,000 openings to 2,720,000, according to research from IBM.

And these often prove to be tricky job openings to fill. It takes an average of five days longer to close data scientist and analyst roles than the market average, causing employers to pay premium salaries for qualified professionals.

That's partly why Glassdoor named data scientist the best job in America for the third consecutive year in 2018 (with the number of job openings and overall job satisfaction ratings also weighed in).

Clearly, this is the right time to transition into a data science role. And the Data Science Career Prep Course is your first step toward a full career as a data scientist.

Who is the course for?

The Data Science Career Track Prep Course is designed for go-getters who want to enroll in our Data Science Career Track, but need an introduction to, or refresher in, Python programming or statistics. This course is also for students who may already be qualified for our career track program, but first want to trial the Springboard learning experience. Students should have at least a firm understanding of high-school level mathematics and statistics.

See below for more on how this course differs from our Introduction to Data Science course.



Course Goals

- Teach you the programming and statistics skills needed to pass our admissions challenge and be accepted into our Data Science Career Track.
- Introduce you to the world of data science by completing a real-world case study.
- Let you try out the Springboard experience, which includes an expert-curated curriculum, one-on-one mentorship, and much more.

How It Works

1. **Cost and schedule:** The course is fully online, featuring a flexible pace so you can study anytime, anywhere — even with a full-time job. Most students complete the course in **4-6 weeks dedicating 10 to 15 hours per week**. You're welcome to complete the course in more or less time — whatever is best for you to learn the skills necessary to succeed. You will have **lifetime access to the curriculum** and exercises, but a limited number (6) of mentor calls to finish the curriculum. Tuition for the prep course is **\$490**.
2. **Enrollment:** We have **weekly cohorts** — with enrollment windows the week before each cohort starts. To enroll, all you need to do is pay tuition and fill out your student profile so you can be matched with an expert mentor. Each cohort starts on Monday, but you will get access to preview the curriculum as soon as you pay!
3. **Mentor-matching process and calls:** After you enroll and complete your student profile, which includes questions about your background, availability, and the skills you want to develop. Your student advisor will match you with a mentor who suits your specific needs. You'll then have **weekly calls with your mentor** for the next 6 weeks as you work through the course.
4. **A curriculum curated by experts:** We believe that diverse perspectives lead to better learning outcomes. Our online curriculum is packed with videos, articles, exercises, practice activities, and a mini-capstone project, all **created and curated by leading industry experts**. Our in-house instructional designers organize all resources to build a cohesive curriculum that guides you each step of the way, from writing your first line of code to completing your first portfolio project.



5. **Springboard's support team:** Your support team includes a student advisor, mentor, and community manager.
 - a. Your **student advisor** will match you with a mentor, help you prepare for the course, and answer your general questions.
 - b. You'll have 1-on-1 calls with your **mentor** each week. They'll provide feedback on projects, answer questions about the curriculum, and give you career advice and industry insight.
 - c. Your **community manager** can answer technical questions or connect you to helpful resources. He/she will also manage community through course-specific forums.
 - d. *[Only available once you join the full Data Science Career Track]* Your **career coach** will help you during your job hunt and give you tips about how to network, create a strong data science resume, ace take-home challenges, pass technical interviews, and more.
6. **The Springboard community:** While online learning may sound isolating, it's important to remember that you have a whole community learning alongside you. You'll get access to this community so you can share triumphs and trials, get feedback, and attend weekly live Office Hours. **Our students are family** and we love connecting them.
7. **Fast-tracked admissions to the Data Science Career Track:** Once you prove you are ready for the career track by passing the *Qualification Skills Check*, you'll be able to opt out of the remainder of the course (if desired) and **continue into the Data Science Career Track**.



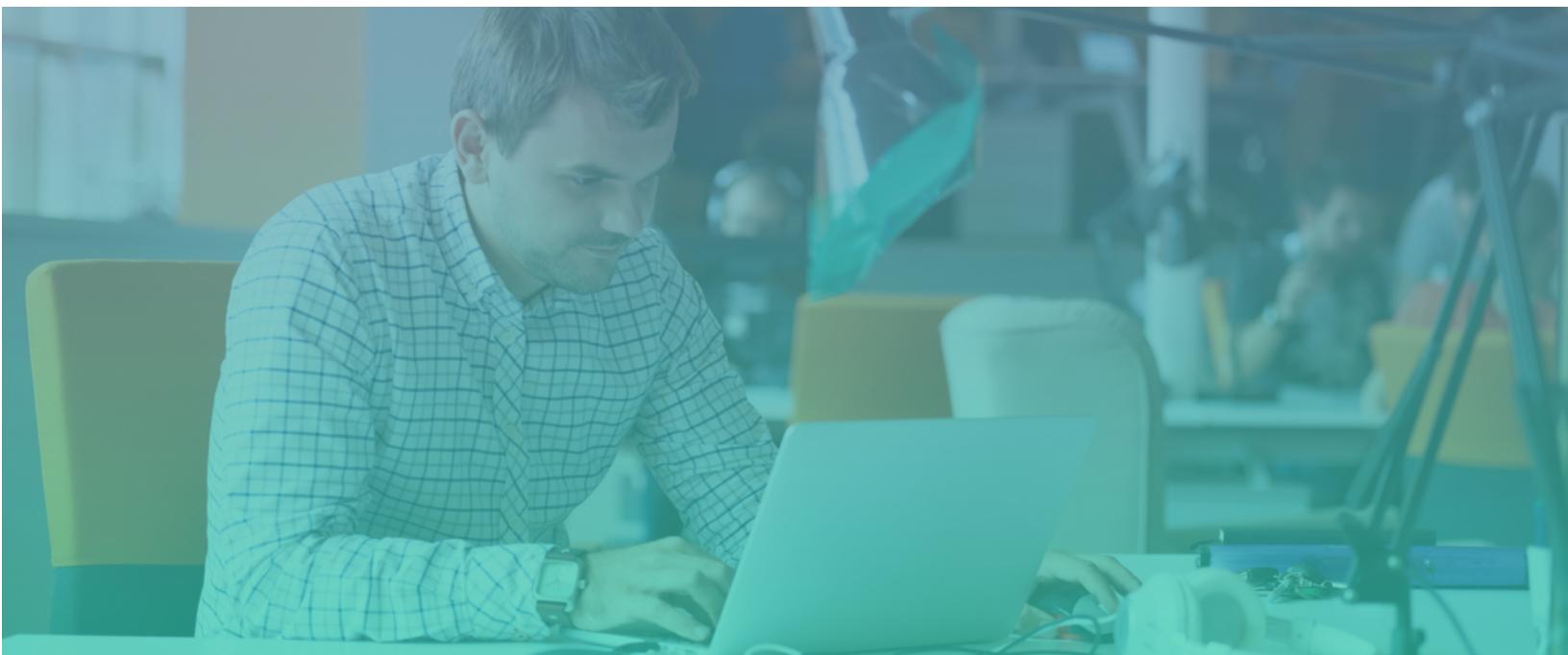
How Is This Different From Springboard's *Introduction to Data Science* Course?

The **Data Science Career Track Prep Course** is primarily designed for people who are **committed to changing careers** but do **not have the prerequisite programming or statistics skills** needed to succeed in the Data Science Career Track. This course is taught in Python and will best support students who have the goal of eventually enrolling in our Data Science Career Track.

The course is also useful for students who may already be qualified for the career track, but would like to first test out the Springboard learning experience, including our curated curriculum, platform, support team, and mentorship.

The **Introduction to Data Science** program is meant for current professionals who are looking to learn new skills to grow in their current roles, but are **not** looking for a career change or new job. It is also well suited for students who want to learn in **R**, as all other courses are in Python. Finally, it may be appropriate for students who have no data science or programming experience and are interested in introductory concepts, but aren't sure if it is right for them. The introductory course is ~3 months at \$499/month.

Feel free to contact us if you have any other questions about which course is right for you!



Course Syllabus

This 40+ hour course is broken up into units that feature a combination of materials, including interactive coding exercises, articles and videos, and mini-projects related to a case study. The recommended time allocation is roughly 40 hours, but it can be scaled up or down based on your needs.

The first four units will teach you the practical Python, statistics, and probability skills you'll need in order to be successful in the career track.

About halfway through the course, you'll be able to take our Data Science Skills Check.

If you pass that check (which you can take as many times as you like), we'll notify our Data Science Career Track admissions team, at which point you'll be able to choose to either leave this prep course and immediately enroll in the Data Science Career Track or hold off and complete the course before jumping over.

The latter half of this course, following the Data Science Skills Check, will explore some fundamental concepts that any data scientist should know. The last two units are project-focused (*in fact, all 7 of the project submissions for this course will come up in the last two units*) and will help you create the first piece of work you can show off in your data science portfolio.

Units Include:

Introduction to Data Science and Python (12 + hours)

This unit will introduce you to the data science industry: you'll learn about the common problems data scientists solve and the techniques they use to solve them. You'll also dive into the Python programming language and take your first crack at working with basic statistical concepts.

Topics Covered in This Unit Include:

1. An introduction to the world of data science
2. Reasons why Python is such a popular programming language
3. Common Python terms
4. An introduction to the Next.Tech platform (the coding platform we've partnered with to give you a great coding experience)
5. Python syntax
6. Python control flows
7. Python lists
8. Python functions
9. Data distributions
10. Displaying and describing quantitative data
11. Scatter Plots

Intermediate Python (5+ hours)

This unit will build on the foundational Python skills you learned in the previous unit. In addition to learning more advanced Python skills, you'll also get another chance to practice working with the functions and methods you learned in the last unit.

Topics Covered in This Unit Include:

1. Python dictionaries
2. Python strings
3. Part 2 of Python control flows
4. The difference between functions and methods
5. How to effectively interact with a program in Python



Foundations of Probability (3+ hours)

This unit was designed to help you get comfortable with aspects of basic probability. Anyone working in the fields of data science, machine learning, or AI has to be intimately comfortable with the concepts associated with probability. In this unit, you'll learn the basic concepts you'll need to know in order to be prepared for the Data Science Skills Check and the career track.

Topics Covered in This Unit Include:

1. Calculating basic probabilities
2. Bayes Theorem
3. Conditional probability

Computer Science Primer (7+ hours)

Programming is all about solving problems logically and efficiently, while programming languages can be used to express solutions to those problems. In the world of computer science, data structures and algorithms can be used to solve problems in programmable ways using a programming language.

Topics Covered in This Unit Include:

1. Data structures including stacks and queues
2. Search algorithms
3. Sort algorithms

Data Science Skills Check (1.5+ hours)

This unit is dedicated to the Data Science (DS) Qualification Skills Check. You'll have the opportunity to take the DS Skills Check to see if you're ready to move on to our Career Track. This Skills Check is designed to test key statistics and python programming skills, via **10 statistics multiple choice questions** and **2 open-ended coding questions**. You'll be able to take the skills check as many times as you like, and **once you pass, you'll be ready to move on to the full Career Track.**



Exploring Data (7+ hours)

This unit dives into the world of data science. The skills introduced in this unit will be applied to a case study in the following unit. The unit has been structured so that you learn foundational data science skills that you can build on and practice throughout the rest of the prep course and again in the Career Track.

Topics Covered in This Unit Include:

1. Using Anaconda and Conda
2. Working with Git and GitHub
3. An introduction to Jupyter Notebooks
4. NumPy and Matplotlib
5. Data manipulation with Pandas

Case Study: Yelp Marketing (5+ hours)

This unit was designed so that you get to experience solving a real business problem with data, practice using data science tools to analyze and visualize data, and learn how to present the insights you've drawn from your analyzed data. To achieve all of these learning objectives, you'll work on a case study that involves review data for Yelp.

Topics Covered in This Unit Include:

1. Approaching a dataset with a business problem in mind
2. Using common data science tools (like word clouds and GitHub)
3. Downloading and transforming data for analysis
4. Exploring data through the use of plots and statistics
5. Data storytelling

Career Components

As a student in our Data Science Career Track Prep Course, you unfortunately will **not** have access to our career support team just yet.

However, as soon as you transition into the full **Data Science Career Track** program, you will have access to the full career support team, and they will assist and guide you throughout the course and your subsequent job search.

In the full Data Science Career Track program, we provide you with career material at strategic points throughout the curriculum, as well as during calls with our expert career support coach. We'll help you create a tailored job search strategy based on your background and goals, teach you how to evaluate companies and roles, show you how to effectively get and ace interviews, and negotiate the best possible salary.

Career topics covered in the Career Track:

1. Creating a Job Search Strategy
2. Setting Up a LinkedIn Profile
3. Building a Data Science Network
4. Informational Interviews
5. Identifying Job Titles and Companies of Interest
6. Creating a Data Science Resume
7. Getting Referrals for Your Target Companies
8. Writing Cover Letters
9. Data Science Take-Home Challenges
10. Non-Technical Interviews
11. Technical Interviews (including a mock technical interview with an industry professional)
12. Negotiating



Ready for the next step?

[Enroll Here](#)



Questions about the course?

Email us at dscprep@springboard.com

Questions about Springboard?

Email us at hello@springboard.com

Check out our Data Science Career Track syllabus [here](#)