DATA SCIENCE ESSENTIALS CERTIFICATE

Program Description

In recent years, the field of data science has taken off, as every industry and function increasingly relies on data-driven insights to make decisions.

The statistical programming language R is widely used in data science and understanding the fundamentals of how it works can be helpful, whether you're considering a career in data science or looking to better communicate with data scientists on your team. In this certificate program, you will develop an essential foundation in R programming skills, then use those skills to understand and summarize data.

In the first course, you will study R programming principles and use R for data manipulation, visualization, and sampling. Building on your skills, you will summarize and visualize real data sets, draw conclusions from those data, and evaluate the uncertainty surrounding those conclusions. Throughout the process, you will develop hypotheses about your data, then use simulations and statistical techniques to evaluate your hypotheses. You will also practice using the Tidyverse open-source R packages to clean and organize your data sets. Finally, you will have the opportunity to manipulate and visualize data using more advanced techniques.

This certificate will ultimately introduce you to the fundamentals of data science and enhance your ability to draw meaningful conclusions from data.

System requirements: This course contains a virtual programming environment that is compatible with Chrome, Firefox, or Internet Explorer.

The courses in this certificate program are required to be completed in the order that they appear.

Key Takeaways

- Use R to perform mathematical operations, create sets of data, and perform functions on data
- Summarize a data set with the appropriate visualizations and statistics
- Use summarization techniques to interpret data, develop conclusions, and measure the uncertainty of those conclusions
- Answer questions by formulating hypotheses and testing them with real data
- Use simulation techniques to assess uncertainty
- Use linear regression to measure the strength of association between variables
- Clean a data set to answer specific questions
- Create data visualizations for exploratory data analysis and presentations

What You'll Earn

- Data Science Essentials Certificate from Cornell Ann S. Bowers College of Computing and Information Science
- 64 Professional Development Hours (6.4 CEUs)

Who Should Enroll

- Current and aspiring data scientists and analysts
- Business decision makers
- Marketing analysts
- Consultants
- Executives
- Anyone seeking to gain deeper exposure to data science

Total Investment

2 months to complete courses.

How to Enroll

For more information and to enroll, please visit Data Science Essentials Certificate (https://ecornell.cornell.edu/certificates/data-science-analytics/data-science-essentials/).

Courses

Code	Title	Hours
eCornell CIS445	Exploring Data Sets With R	0
eCornell CIS446	Summarizing and Visualizing Data	0
eCornell CIS447	Measuring Relationships and Uncertainty	0
eCornell CIS448	Data Cleaning With the Tidyverse	0