DATA SCIENCE CERTIFICATE

Program Description

From data to decision, R is quickly becoming one of the most popular and effective programming languages of data science.

In this program, you'll apply data science tools to the collection of data and the translation of data into information, constructing models that can be used to address the questions that you're investigating. You'll have the opportunity to apply data analytics as a four-part process: gathering data, looking for patterns in that data, finding insights in any patterns you discover, and using those insights to make decisions. This process does not make decisions for you, but it will help you to better understand the effects of the decisions you might make. Through an examination of real-world data sets and different modeling techniques, as well as an in-depth look at how the programming language R can be used to help you find patterns and derive insights, you will gain valuable experience working in each stage of the data analytics process, helping you and your organization to make better decisions – and gain a sound scientific understanding of why you're making the choices you're making.

In order to be successful in this program, you will need to have proficiency in R programming, prerequisite knowledge in basic probability and statistics concepts, and college-level calculus.

Key Takeaways

- Explore the data analytics process and examine the tools available to improve decision making
- Use unsupervised learning techniques to help identify patterns in data and create visualizations to better spot those patterns
- Categorize data using supervised learning algorithms
- Predict the value of continuous variables with linear regression
- Use neural networks to make predictions about new data
- Make forecasts from data collected over time and measure their accuracy
- Create linear programs and simulations to optimize system performance and dynamics

What You'll Earn

- Data Science Certificate from Cornell College of Engineering
- 160 Professional Development Hours (16 CEUs)

Who Should Enroll

- Current and aspiring data scientists
- Analysts
- Engineers
- Researchers
- Technical managers

Total Investment

4 months to complete the courses.

How to Enroll

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

Courses

Code	Title	Hours
eCornell CEEM581	Understanding Data Analytics	0
eCornell CEEM582	Finding Patterns in Data Using Association Rules, PCA, and Factor Analysis	0
eCornell CEEM583	Finding Patterns in Data Using Cluster and Hotspot Analysis	0
eCornell CEEM584	Regression Analysis and Discrete Choice Models	0
eCornell CEEM585	Supervised Learning Techniques	0
eCornell CEEM586	Neural Networks and Machine Learning	0
ECORNELL CEEM587		
ECORNELL CEEM[illegible]		