



DATA ANALYTICS

Online Certificate Program

OVERVIEW

Data analytics is among today's fastest-growing and highest-paid professions as organizations increasingly rely on data to drive strategic business decisions.

Whether you are gathering data or analyzing it to make recommendations, this certificate is designed to provide functional literacy in critical business analytics. The courses are accessible to learners with fundamental statistical background, yet also structured to provide benefit to analysts who interface directly with raw data. You'll learn statistical and scientific methods for data analysis through hands-on exercises and video instruction from Cornell University faculty expert Chris Anderson, preparing you to make sound, evidence-based decisions that drive business performance in any function.

Students with familiarity in statistics and excel will be most successful in this program.



COURSES

3



COURSE LENGTH

3 weeks



FORMAT

100% online

COURSES

- Understanding and Visualizing Data
- Implementing Scientific Decision Making
- Using Predictive Data Analysis



INSIDE *the* PROGRAM

KEY TAKEAWAYS

- Create and interpret statistical summaries and data visualizations that support understanding and guide decision making
- Use data and key performance indicators to build a dashboard that uses visuals to improve your understanding of complex business situations
- Formulate a business question as a scientific hypothesis that can be tested using statistical methods
- Create and validate regression models that can be used to determine the effect of attributes on a decision and predict likely outcomes
- Use data to describe and reduce uncertainty in decision making

WHO SHOULD ENROLL

- Analysts
- Functional Managers
- Executives
- Consultants
- Any professional that uses data to make business decisions



WHAT YOU'LL EARN

- Data Analytics Certificate from Cornell SC Johnson College of Business
- 45 Professional Development Hours (4.5 CEUs)
- 26 Professional Development Units (PDUs) toward PMI recertification



COURSE DESCRIPTIONS

UNDERSTANDING AND VISUALIZING DATA

Important business decisions require justification, and while we often have data that can help us make those decisions, the skill with which we analyze the data can make the difference between a good and bad outcome. This course, developed by Professor Chris Anderson, is designed to move learners beyond making decisions focused solely on averages. In this course, you will develop a working familiarity with the grounding principles of data analysis. You will learn to derive the greatest benefit possible from the data available to you while ensuring that the conclusions you draw remain valid. You will apply a decision-making framework within which you'll interact with the data to achieve the best outcome.

This course includes valuable tools and help sheets for data handlers along with the insight and perspective you need as a data consumer. While this course is not a replacement for a full-length statistics course, you will have a basic grounding in many statistics concepts by the time the course is over. You should be able to complete this course without any prior knowledge of statistics.

IMPLEMENTING SCIENTIFIC DECISION MAKING

Summary statistics are one way to forecast uncertain outcomes, and the statistical results can be used to make decisions or guide strategy. Since summary statistics are based on a data sample, they typically inform intuitive decision-making. That is, the model requires interpretation which relies on the business intuition of the person using it.

You'll learn how to examine sample data scientifically to limit any generalizations to only the patterns that have the strongest statistical support. As always, intuition and business knowledge play an important role in the process, but this course will prepare you to apply a level of scientific rigor that will lead to better results.

The course Understanding and Visualizing Data is required to be completed prior to starting this course.



COURSE DESCRIPTIONS

USING PREDICTIVE DATA ANALYSIS

The sheer variety of sources and types of data that can aid in decision making are almost overwhelming. The key to making good use of the data lies in knowing what specifically to pay attention to, understanding the relationships and variables among the data, and making the right connections.

Experience is essential to knowing and making educated guesses about what to pay attention to. Familiarity with statistical methods will provide you with a significant advantage over relying on gut instinct alone.

In this course you will learn to identify uncertainty in a business decision, and to choose variables that help reduce uncertainty. By the end of this course, you will have a robust decision model that you can use to make predictions related to your decision. Along the way, you will clarify and enhance your understanding of the factors that influence possible outcomes from the decision.

The course Understanding and Visualizing Data is required to be completed prior to starting this course.